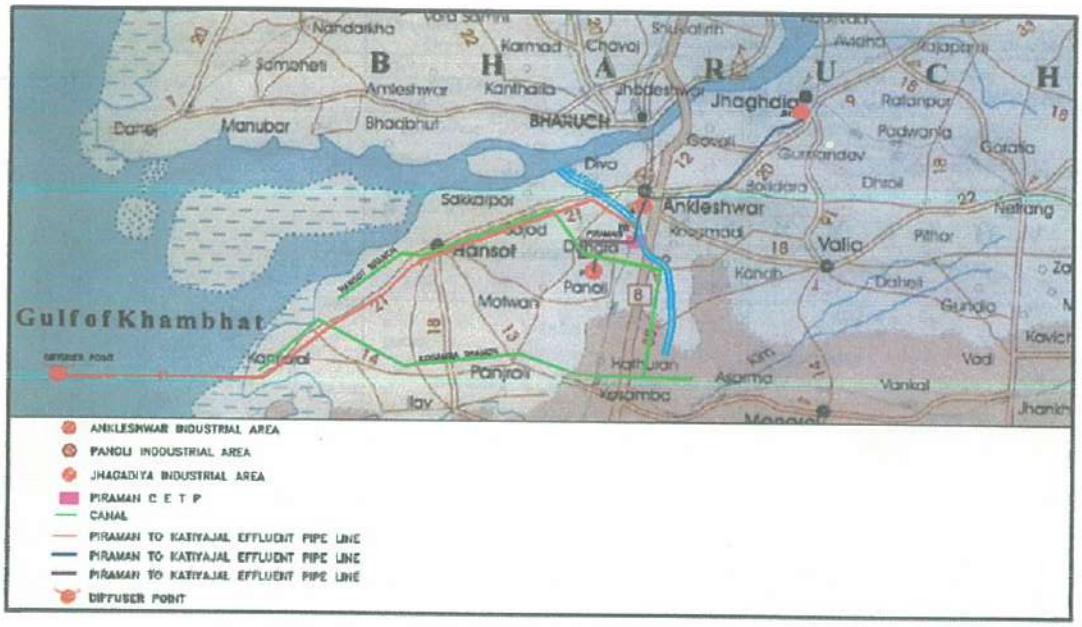
JOINT INSPECTION-CUM-MONITORING REPORT ON

JHAGADIA PIPE LINE & DEEP SEA DISCHARGE

(IN COMPLIANCE OF ORDER OF HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI IN THE MATTER OF JAYESH PATEL, NPNS, ANKLESHWAR Vs STATE OF GUJARAT [O.A. NO. 902/2019]



CENTRAL POLLUTION CONTROL BOARD
Regional Directorate
Vadodara

GUJARAT COSTAL ZONE MANAGEMENT AUTHORITY
Gandhinagar

GUJARAT POLLUTION CONTROL BOARD
Regional Office
Ankleshwar

November 2019

CONTENT

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1.0 BACKGROUND

Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi passed an order (**Annexure-I**) in Original Application No. 902/2019 (Jayesh Patel, Secretary, Narmada Pradushan Nivaran Samitee, Ankleshwar Versus State of Gujarat) on 31.10.2019. The Application is registered based on a complaint received by post. The order is re-produced here....

..."Grievance in this application is that effluents are being discharged into the sea through a pipeline from Jhagadia to Kantiyajal in violation of environmental norms. The effluents discharged do not meet the prescribed norms. Provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1974, the Environment (Protection) Act, 1986 and the CRZ Notification, 2018 are clearly violated. Conditions of consent require establishment of guard pond which has not been done. There is also violation of standards for marine discharge polishing threat to coastal environment.

Let a joint Committee of Central Pollution Control Board (CPCB), Gujarat Coastal Zone Management Authority (GCZMA) and Gujarat State Pollution Control Board (State PCB) look into the matter and take appropriate action in accordance with law and furnish a joint factual and action taken report to this Tribunal within one month from the date of receipt of copy of this order by e-mail at judicialngt@ gov.in. The State PCB will be the nodal agency for coordination and compliance.

In compliance to the order, a joint committee comprising following members along with GPCB, RO, Ankleshwar officials carried out inspection-cum-monitoring on 19.11.2019:-

- Shri Pratik Bharne, Scientist 'E',
  Central Pollution Control Board, Regional Directorate, Vadodara

- Shri K. N. Vaghamsi, Dept.Env. Engineer,
  Forest & Environment Dept, Gujarat Coastal Zone Management Authority (GCZMA), Gandhinagar
- Shri F. M. Modi, In-charge Regional Officer, Gujarat Pollution Control Board (GPCB)-Regional Office, Ankleshwar

2.0 ABOUT JHAGADIA INDUSTRIAL ESTATE-

Jhagadia Industrial Estate is situated in the golden corridor of south Gujarat which is developed by Gujarat Industrial Development Corporation (GIDC) in 1993 at Jhagadia, Taluka Jhagadia, Dist. Bharuch. It is one of the largest agglomerations of industrial units and classified as MEGA INDUSTRIAL ESTATE which spread over an area of about 1700 hectares of land. Out of about 1700 hectares of land, about 1300 hectares' area is allotted. There are total 285 plots in GIDC, out of which 274 plots are allotted and 11 plots are not allotted. It is located @ 16 km in north-east direction from Ankleshwar Industrial Area.

Google Image of GIDC Jhagadia is given below:

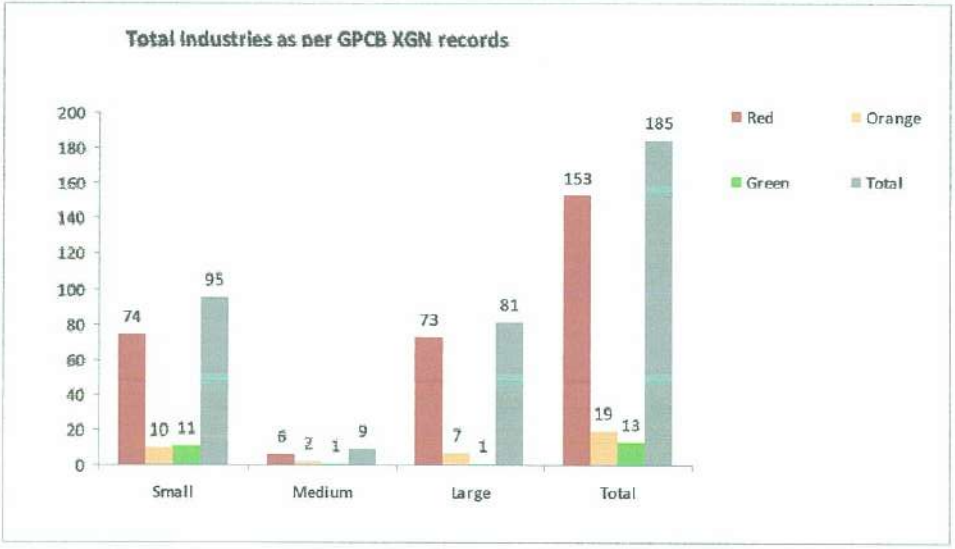
Google Image of Jhagadia Industrial Estate (GIDC, Jhagadia)

2.1 Industrial Statistics- GIDC Jhagadia

As per GPCB record, statistics of industries-category and scale wise is given in following **Table 01:**

Table 01: Statistics of industries-category and scale wise, GIDC, Jhagadia

Scale→ Category	Small	Medium	Large	Total
Red	74	6	73	153
Orange	10	2	7	19
Green	11	1	1	13
Total	95	9	81	185

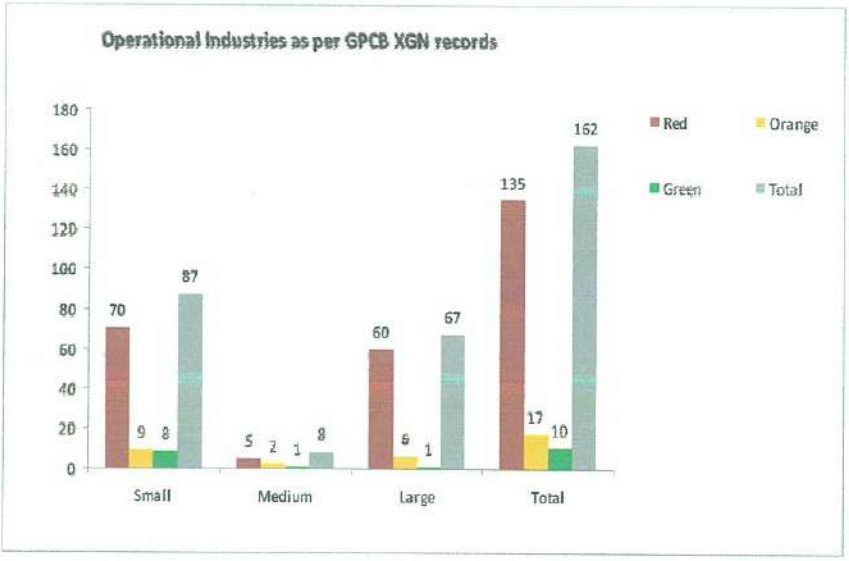


Graphs showing industrial statistics in Jhagadia Industrial Estate

The Operational Industries as per GPCB XGN records are given in following **Table 02:**

Table 02: Statistics of Operational industries-category and scale wise, GIDC, Jhagadia

Scale→ Category	Small	Medium	Large	Total
Red	70	5	60	135
Orange	9	2	6	17
Green	8	1	1	10
Total	**87**	**8**	**67**	**162**



Graphs showing Operational Industrial statistics in Jhagadia Industrial Estate

3.0 WASTEWATER MANAGEMENT AT JHAGADIA INDUSTRIAL ESTATE

Individual industries located at Jhagadia Industrial estates discharge their treated effluent into GIDC Drainage network form where it is collected in collection Sump at Jhagadia from where it is transferred to Booster Pumping Station at Kantiajal. Booster Pumping Station at Kantiyajal also receives effluent from Final Effluent Treatment Plant (FETP) at Ankleshwar which receives industrial effluent from Ankleshwar and Panoli Industrial estates. Further, mixed effluent (Jhagadia, Ankleshwar& Panoli) from collection Sump at kantiajal, discharge to deep sea through marine outfall.

Earlier, industrial wastewater from Jhagadia Industrial estate was collected in common sump at Jhagadia and then it was pumped to FETP at Ankleshwar.

Since the quality of treated effluent stream from Jhagadia was conforming to discharge norms, exclusive conveyance system (Jhagadia Pipeline project) for treated effluent directly from collection sump at Jhagadia to Booster Pumping Station (BPS) for Jhagadia Industrial Estate is provided. This measure also reduced the hydraulic load at FETP.

The project was undertaken by Narmada Clean Tech in late 2009, as it was already operating a central polishing treatment facility (FETP) at Ankleshwar and conveyance pipeline to deep sea, for the three Industrial Estates of Jhagadia, Ankleshwar and Panoli since 2006.Pipeline Commissioning trials carried out in mid-November-2016 and now it is in operation and used since January-2017.

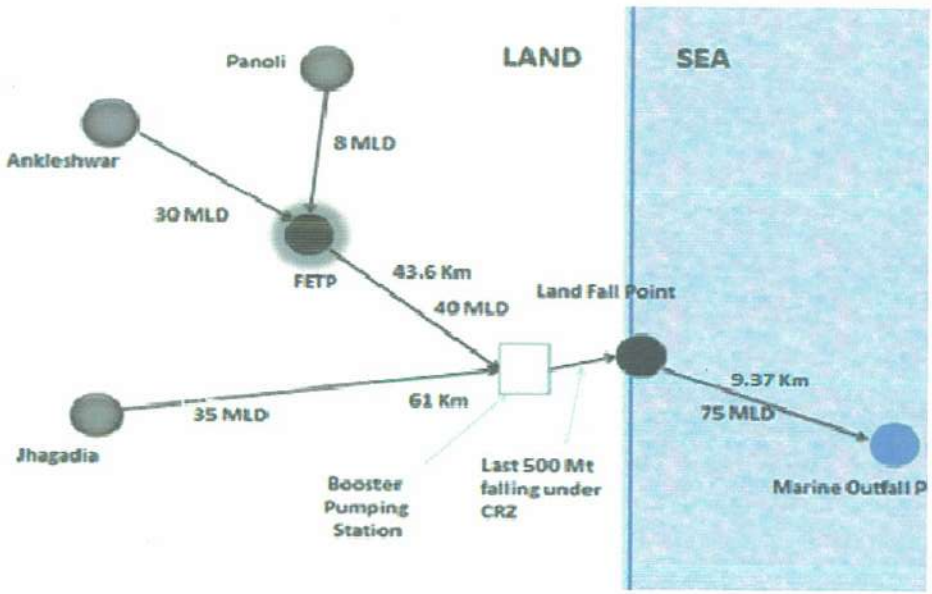
Narmada Clean Tech (formerly known Baruch Eco Aqua Infrastructure Limited), is a company in the business of wastewater management and disposal. It is based on PPP model, and is a subsidiary of Gujarat Industrial Development Corporation (GIDC) and also jointly promoted by Member Industries of Ankleshwar, Jhagadia and Panoli Industrial Estates.

3.1 Details of Present Infrastructure:

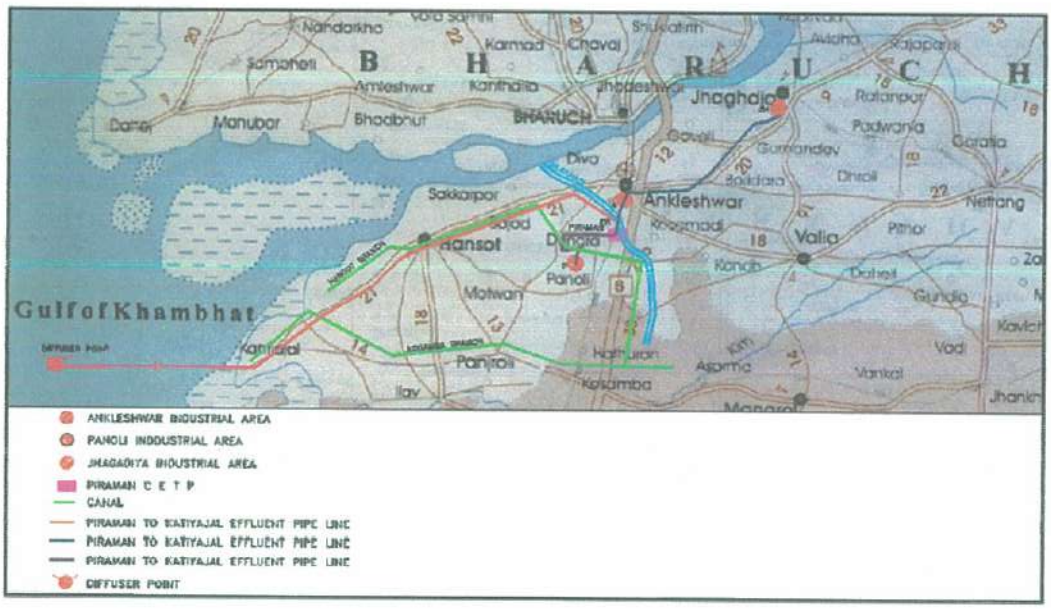
- Final Pumping Station,Collection Sump (4 ML) &Guard Pond (35 ML) **at Jhagadia**
- Pipeline (35 MLD, 61 km) from Jhagadia to Booster Pumping Station (BPS) at Kantiyajal
- FETP at **Ankleshwar** (40 MLD) for Ankleshwar & Panoli GIDC
- Pipeline (43.6 KM, 40 MLD) from FETP Ankleshwar to Kantiyajal BPS
- Booster Pumping Station, Collection Sump (4ML)at **Kantiyajal**
- Booster pumping discharge line (1.8 km length) from BPS to landfall point
- Off-shore pipeline (75 MLD, 9.37 KM) from Landfall Point upto Diffuser as marine Outfall

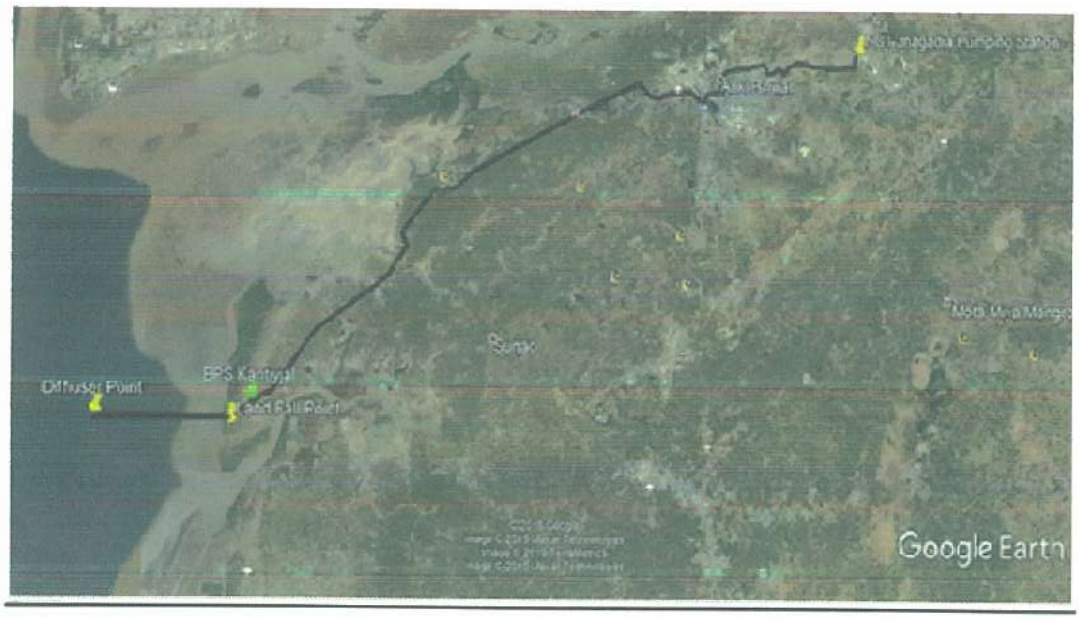
The details of pipelines, collection sump, pumps, MOC &Dia of pipes are given in ***Annexure-II.***

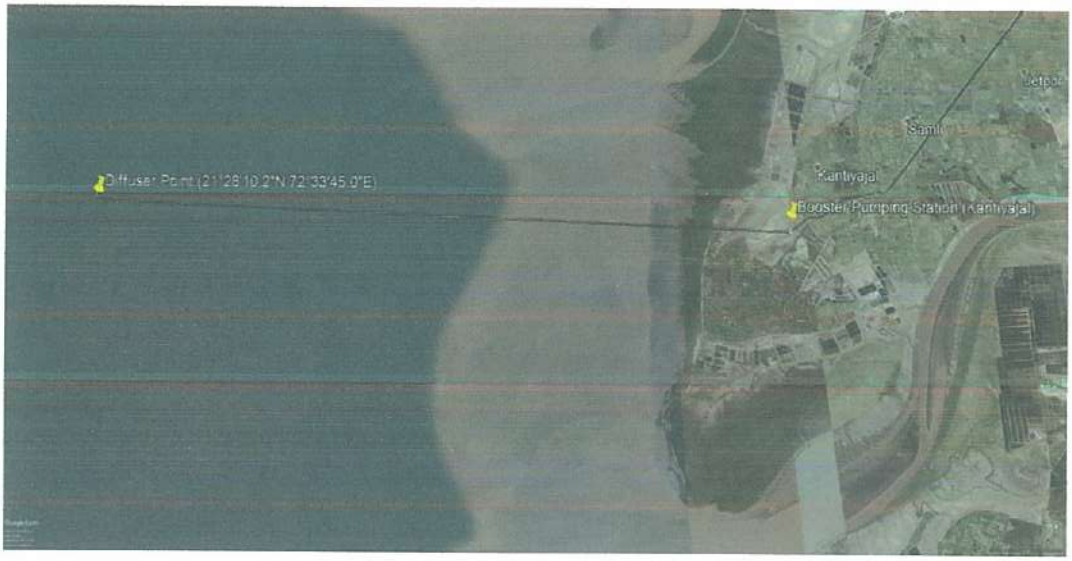
Flow Diagram of Effluent conveyance pipe line



Ankleshwar, Panoli, Jhagadia Industrial estates, FETP and Effluent Discharge Pipeline are shown in following images-







3.2 Status of Consents For Jhagadia Pumping Station &Pipe Line Project and CRZ Clearances for Deep Sea Pipeline (Off-shore pipeline & Diffuser)

The status of Consents and CRZ Clearances forJhagadia Pumping Station & Pipe Line Project and CRZ Clearances for Deep Sea Pipeline (Off-shore pipeline & Diffuser) are given in **Table: 03.**

Table: 03 Statuses of Consents for Jhagadia Pumping Station & Pipe Line Project and CRZ Clearances for Deep Sea Pipeline

Sr. No.	Permission	Details	Annexure
		Final Pumping Station & Pipe Line Project, Jhagadia	
1	EC	SEAC has clarified vide letter dt .24-05-2010, EC is not applicable for this project.	**Annexure-III**
2	CTE (NOC)	GPCB had issued NOC (Consent to establish) vide letter dated 04.03.2011 for 15 MLD which was further amended vide letter dated 03.03.12 for 35 MLD in 1st phase & 60 MLD in 2nd phase GPCB had issued amendment of NOC vide letter dated 04/09/2015	**Annexure-IV A** (04.03.2011) **Annexure-IV B** (03.03.2012) **Annexure-IV C** (04.09.2015)
3	CCA	CCA issued on 27.01.2017 valid up to 16/05/2021 for the treated effluent norms are: TSS-100 mg/l, BOD: 100 mg/l, **COD-500 mg/l**, NH3-N-50 mg/l etc for the discharge through pipeline project. GPCB has issued the Amendment in CCA order AWH-88798 issued dt.09.03.2017 for revision of effluent discharged norms, **COD-250 mg/l** in	**Annexure-V A** (27.01.2017) **Annexure-V B** (09.03.2017)

		place of **COD-500 mg/l** for Jhagadia	
		Deep Sea Pipeline **(Off-shore pipeline & Diffuser)** **(Ankleshwar, Panoli & Jhagadia)**	
4	CRZ Clearance	MOEF &CC has issued CRZ clearance vide letter no J-17011/25/2002-IA.III dated 07/03/2003 for 60 MLD pipe line. EC/CRZ clearance was issued vide letter No. F.No. 11-76/2012-IA-III, dated: 21/08/2015 for "Enhancing effluent quantity from 60MLD to 75MLD treated effluent pipeline for discharge of effluent from Kantiyajal in to deep sea through existing offshore pipeline and diffuser in District Bharuch (Gujarat) by M/S Narmada Clean Tech Ltd.	**Annexure- VI-A** (07.03.2003) **Annexure- VI-B** (21.08.2015)

4.0 SITES INSPECTION AND MONITORING :

The committee along with officials of GPCB, Regional Office, Ankleshwar visited Jhagadia Pumping Station (Collection Sump, Guard Pond) which receive effluent from Jhagadia Industrial Area and starting point of pipeline, Kantiyajal Booster Pumping Station, landfall point, beach/coast near Kantiyajal. The committee travelled, wherever possible parallel to the pipeline, from Jhagadia to Kantiyajal. The representatives of NCT were present during the visit. The photographs are provided at **Annexure-VII**

The team collected effluent samples (4 nos) from following locations-

- Final Pumping Station (Collection Sump), GIDC Jhagadia
- Pipeline of Jhagadia FPS at Booster Pumping Station (Collection Sump), Kantiyajal
- Pipeline of FETP outlet (Ankleshwar + Panoli) at Booster Pumping Station, Kantiyajal
- Marine Discharge Pipeline (Outlet of Booster Pumping Station) (Mix effluent of Ankleshwar + Panoli + Jhagadia) at Kantiyajal.

The Analysis results of are given at following Tables.

The monitoring results of past monitoring carried out CPCB, GPCB and NCT are provided at **Annexure-VIII (A) CPCB**, **Annexure-VIII (B) GPCB** and **Annexure-VIII (C) NCT.**

TABLE:04 ANALYSIS RESULTS OF SAMPLING CARRIED OUT DURING COMMITTEE VISIT ON 19.11.2019

Sr. No	Sampling point	BOD	Cl	COD	Colour	FDS	NH3-N	O&G
1.	Final Pumping Station (Collection Sump), GIDC Jhagadia	25	2807	180	10	9012	1.79	0.4
2.	Pipeline of Jhagadia FPS at Booster Pumping Station (Collection Sump), Kantiyajal	27	2548	203	70	8632	1.9	0.4
	GPCB prescribed Norms	**100**	**NS**	**250**	**NS**	**NS**	**50**	**10**
3.	Pipeline of FETP Outlet (Ankleshwar + Panoli) at Booster Pumping Station, Kantiyajal	20	3533	471	750	7908	49	1.6
4.	Marine Discharge Pipeline (Outlet of Booster Pumping Station) (Mix effluent of Ankleshwar + Panoli + Jhagadia) at Kantiyajal.	18	3258	387	625	8246	39.42	1.2
	GPCB Prescribed Norms	**100**	**NS**	**500**	**NS**	**NS**	**50**	**10**

Sr. No	Sampling point	pH	Phenols	TSS	Sulphide	SO_4	TDS
1.	Final Pumping Station (Collection Sump), GIDC Jhagadia	7.26	BDL	36	BDL	2007	9594
2.	Pipeline of Jhagadia FPS at Booster Pumping Station (Collection Sump), Kantiyajal	7.01	BDL	184	BDL	2065	9090
	GPCB prescribed Norms	**6-9**	**5**	**100**	**5**	**NS**	**NS**
3.	Pipeline of FETP Outlet (Ankleshwar + Panoli) at Booster Pumping Station, Kantiyajal	6.58	0.45	46	1.6	1293	8990
4.	Marine Discharge Pipeline (Outlet of Booster Pumping Station) (Mix effluent of Ankleshwar + Panoli + Jhagadia) at Kantiyajal.	6.89	0.68	140	1.2	1468	9218
	GPCB prescribed Norms	**6-9**	**5**	**100**	**5**	**NS**	**NS**

5.0 OBSERVATIONS & FINDINGS WITH REFERENCE TO GRIEVANCES RAISED IN COMPLAINT & MENTIONED IN THE HON'BLE NGT ORDER

5.1 Establishment of Guard pond, Its capacity & Final Effluent Treatment Plant (FETP) at Jhagadia Industrial Estate for final treatment/polishing treatment.

Jhagadia Final Pumping Station receives treated effluent from member industries through above ground pipe line from 14 member industries and through tankers from 2 member industries. GPCB has prescribed outlet norms-BOD: 100 mg/l, COD: 250 mg/l along with other norms in the individual consents.

It is mentioned in the first Consent to Establish (NOC) dated 04.3.2011 (**Annexure-IV A**) issued to NCT (then BEAIL) for collection of treated effluent from GIDC Jhagadia and conveyance of collected effluent for discharge into deep sea that the quantity of effluent shall not exceed 15 MLD, guard pond to hold the effluent for at least 48 hrs in case of maintenance of any other unforeseen circumstances. The member industries also have to provide effluent storage facility for at least 48 hrs in their premises.

There was amendment in Consent to Establish (NOC) dated 28.03.2012 (**Annexure-IV B**) issued to NCT (then BEAIL) and it was mentioned that the quantity of effluent shall not exceed 35 MLD in first phase and 60 MLD in second phase, guard pond to hold the effluent for at least 24 hrs in case of maintenance of any other unforeseen circumstances.

There was amendment in Consent to Establish (NOC) dated 04.09.2015 (**Annexure-IV C**) for validity which was extended up to 02.06.2016.

Further, Consolidated Consents & Authorization (CCA) dated 09.03.2017 (**Annexure-V A & B**) issued to NCT, for operation of 61 km onshore effluent carrying underground pipeline and for collection of treated effluent from member industries in Jhagadia industrial estates and conveyance of collected effluent up to Booster Pumping Station at Kantiyajal, having capacity 35 MLD the quantity of effluent. It is mentioned that NCT shall provide Final Effluent Treatment Plant (FETP) at GIDC Jhagadia & treated wastewater having conforming norms shall be discharged in to Effluent Conveyance System and NCT shall provide guard pond to hold the effluent for at least 72 hrs in case of maintenance of any other unforeseen circumstances.

As per information provided by NCT and included in **Annexure-VII(C)** that the flow received at Jhagadia Final Pumping Station is average 9.91 MLD with minimum 4.22 MLD and maximum 14.18 MLD. The guard pond provided at Jhagadia is of capacity 35 MLD which about 2.5 times of maximum effluent received presently. Therefore, committee is of the opinion that considering present scenario present guard pond (35 MLD) is found adequate.

Regarding FETP, considering past records of results of sampling carried out at Jhagadia Final Pumping Station (**Annexure- VIII(A),VIII(B) & VIII(C**) for CPCB, GPCB & NCT respectively) most of the times meeting with GPCB prescribed permissible limits (BOD:100 mg/l, COD:250 mg/l). The

analysis results of sampling carried out during the visit of the committee shows the concentrations of analyzed parameters are within the prescribed norms. Further, member industries are prescribed in their consent the norms-BOD: 100 & COD: 250 mg/l. Therefore, FETP/Polishing treatment does not warranted at this stage at Jhagadia.

It is informed that FETP with primary treatment is planned for capacity 35 MLD, additional Guard Pond 70 MLD near existing Final Pumping Station/Collection Sump at Jhagadia and separate 75 MLD pipeline are planned. DPR for the FETP and the guard pond is prepared and the same is put up for financial approval in the office of the Industries Commissioner, Govt. of Gujarat.

5.2 Hydro test of entire pipeline from Jhagadia to Kantiajal (61 km), leakages of Pipelines, Contamination of water canal, Monitoring/checking of pipeline etc

It is informed that Hydro test is required to be done during the laying of the pipeline for particular stretches/sections of the pipeline during the laying of pipeline. NCT has carried out Trial Flow Test of Effluent Pipeline from M/S MaRS Planning and Engineering Services Pvt Ltd during 24.10.2016 to 26.10.2016. The report of the same is attached at **Annexure-IX.** The design capacity of the pipeline is 60 MLD, however, pipeline is tested for 35 MLD. Presently, average flow @ 10 MLD with max 14.44 MLD effluent is conveying through this pipeline.

The initiation of work on the pipeline project was done in December 2009. Owing to Issues on acquiring Right of Use of necessary land for laying the pipeline, the actual pipe laying work could get completed by end of June 2015. The Project commissioned only in December 2016, after water filling exercise 72 times.

There were issues occurred in the laying of the pipeline ranging from acquiring of land, delay, abrupt change of contractor, missing pipe sections, quality of poor material pipeline, quality of execution, leakages at number of locations etc.

NCT maintained record for leakages/breakdown occurred since commissioning the pipe line. As per the records of total 27 leakages were occurred since Dec 2016 to Nov 2019 details of the same is provided in **Annexure – X.**

With the experience of issues related to pipeline, a new feasibility study has been awarded for a future pipeline route to Engineers India Ltd. The report is expected by end of December, 2019.

Monitoring Mechanism of NCT- It is reported that NCT is doing daily 24x7(365Days) surveillance of Onshore Pipeline in which a team of four workers along with one supervisor with jeep is exclusively deployed for the daily surveillance and Inspection of Onshore pipeline works in three shifts. All tools and tackles are available in the above vehicle for Inspection of Valve chambers. The methodology adopted by NCT is attached as **Annexure- XI**

NCT has provided SCADA System for operation of pumps, sump level and monitoring parameters like TOC, pH, TSS, Pressure, Flow and other electric details like frequency, Amp. of motors etc and these parameters are visible at all the three locations Jhagadia, Ankleshwar and BPS Kantiyajal. Based on any deviation in pressure, flow & electric details due to leakage/stoppage of machineries, immediate corrective action is taken, as informed.

There is no any contamination of nearby water canal due to leakages from pipeline reported as per GPCB record. Then committee has inspected approachable points along the pipe line route. No leakage was noticed from pipeline in to Amlakhadi and also up to landfall point, during the visit.

5.3 Overburden of Pipeline (with 75 MLD) from Kantiyajal to the deep sea beyond its carrying capacity (60 MLD), provisions of various Environmental Laws including CRZ Notification, Violation of Standards for marine discharge polishing threat/impact to coastal/marine environment.

The CRZ clearance from MoEF &CC was obtained vide letter No. J-17011/25/2002-IA.III dated 07.03.2003 for laying effluent disposal pipeline for 60 MLD discharge to the deep sea. The pipeline is commissioned in the December 2016 for disposal from FETP, Ankleshwar. This pipeline is having off-shore length 9.37 km.

Further, CRZ clearance for enhancing effluent quantity from 60 MLD to 75 MLD accorded vide F.No. 11-76/2012-IA-III dated 21.08.2015 to M/s NCT. As mentioned CRZ clearance,

As per para 5 of the clearance-

"The EAC examined the proposal in detail in its 128th meeting held on 20-11-2013. It was not convinced that there would be no change or replacement of pipeline in the offshore area because of the substantial increase in the effluent. The EAC after deliberation suggested the project proponent to submit the effluent balance, modelling and dispersion details a fresh. Along with the effluent balance and modelling and dispersion details, the proponent has submitted and undertaking that the existing off-shore pipeline can withstand the pressure generated through proposed discharge of 75 MLD instead of earlier discharge of 60 MLD"

As per para 6 of the clearance-

"The EAC in its meeting held on 19-21.05.2014, observed that the CRZ clearance was issued by Ministry vide letter No. J-17011/25/2002-IA.III dated 07.03.2003 whose validity has been expired in the year 2008 therefore the ministry has considered the issue of enhancement as a fresh proposal and instead of amendment in the earlier CRZ clearance accorded by the Ministry."

As per para 7 of the clearance-

" The EAC after deliberations recommended the project the grant of CRZ clearance ....."

As per the flow data/information given by NCT, shows the average flow 40.13 MLD (min 32.79 MLD & maximum 49.53 MLD) discharged to the deep Sea during January 2018 - Oct 2019. (Monthly average). Also during the day of visit to Kantiyajal BPS, the flow to the deep Sea was 49.42 MLD. Therefore, there is no overburden of the pipeline carrying effluent to the deep Sea.

As per para 6 of the CRZ clearance, the ministry has considered the issue of enhancement as a fresh proposal and instead of amendment in the earlier CRZ clearance accorded by the MoEF & CC. It is informed that the offshore pipeline is same; however, the Booster Pumping Station is constructed to enhance the capacity from 60 MLD to 75 MLD.

As per new CRZ clearance there is no change in existing offshore pipeline length of 9.37 km i.e. up to land fall point, NCTL has laid new pipeline from Buster pumping station (BPS) to Land fall point length of 1.8 km hence existing old pipe line of this portion made non-functional. As informed, old pipeline removed and back filled the trench. Only some masonry works of old chambers are observed between land fall point to BPS.

There is no leakage observed in on shore CRZ area (up to land fall point)and no damage to mangroves was noticed. Dense mangrove belt is observed on sea coast. NCTL has informed that mangrove plantation was carried out in consultation with Gujarat Ecology Commission.

STUDIES CARRIED OUT BY NCT FOR IMPACT ON MARINE ENVIRONMENT:

NCT has carried out detailed studies of impact on marine environment through different national reputed Institutes (CSIR) such as National Institute of Oceanography (NIO) 2008, Central Salt & Marine Chemicals Research Institute (CSMCRI), Bhavnagar 2010 and National Environmental Engineering Research Institute (NEERI), Nagpur, 2013 and NIO, 2018. NCT has awarded work of study work order (vide no. NCT/WO/262/18-19 dt. 29-03-2019) to NEERI for marine monitoring to establish prevailing water quality, sediment quality and biological characteristics of Gulf of Khambat near Kantiyajal. The Summary and Conclusions of these studies are provided at **Annexure-XII.**

Summary and Conclusion of Report 2008 by NIO:

"The Overall results suggest that the status of water quality, sediments quality and Biological characteristics off Kantiyajal recorded during present study are similar to that of base line data and suggest no impact of the effluent on the ecology. However the release of such effluents in the near shore costal water off Kantiyajal doesn't show any mortality in the region which may be due to sufficient dilution available there"

Conclusion of Report 2010 by CSMCRI, Bhavnagar:

"Comparing the average value of physico- chemical and biological variables, deduced from the previous environmental surveys, it can be concluded that any significant changes were not observed."

Conclusion of Report 2013 by NEERI, Nagpur:

"The overall quality is good with respect to level of organic and heavy metals indicating that the surrounding areas not affected with the discharge of treated waste water as more dilution is available to assimilate the pollution load in the area."

Dilution & Reconditions of Report 2018 by NIO

"From the above results it was found that the dilutions varied from approximately 500-1550 times and near ambient conditions have been attained within 100 m distance.

From the above study it is concluded that gross deviations in the water quality are not found either at effluent release site or in the surrounding places in the present monitoring. Hence it is recommended that the effluent having quantity of 75 MLD can be discharged at the present location."

5.4 Violation of environmental norms/discharge norms (through pipeline from Jhagadia to Kantiajal and then to the sea),

As per latest monitoring carried out at **Jhagadia Pumping Station** by CPCB on 05.09.2019 (**Annexure- VIII A**), the analysis results show- pH:7.19, TSS: 107 (Std: 100 mg/l), COD: 160mg/l (Std; 250 mg/l), BOD: 31 mg/l (Std: 100 mg/l), NH3-N: 8.96 mg/l (Std-50 mg/l), phenol: 0.13 mg/l (std-5 mg/l), sulphide-0.12 mg/l (std-5 mg/l), Cyanide-0.065 mg/l (std-0.2 mg/l) O&G-2.0 mg/l (std-10 mg/l). It is revealed that parameters are within standards except TSS (slightly).

As per sampling carried out at **Jhagadia Final Pumping Station** by the Committee on 19.11.2019 (analyzed at GPCB laboratory), the analysis results show- pH:7.26, TSS: 36 (Std:100 mg/l), COD: 180 mg/l (Std; 250 mg/l), BOD: 25 mg/l (Std: 100 mg/l), NH_3-N: 1.79 mg/l (Std-50 mg/l), Phenol: BDL (std-5 mg/l), Sulphide-BDL (std-5 mg/l), O&G-0.4 mg/l (std-10 mg/l).

As per sampling carried out at **Pipeline of Jhagadia at Kantiyajal Booster Pumping Station** by the Committee on 19.11.2019 (analyzed at GPCB laboratory), the analysis results show- PH:7.01, TSS: 184 mg/l (std:100 mg/l), COD: 203 mg/l (Std; 250 mg/l), BOD: 27 mg/l (Std: 100 mg/l), NH_3-N: 1.9 mg/l (Std-50 mg/l), phenol: BDL mg/l (std-5 mg/l), sulphide-BDL mg/l (std-5 mg/l), O&G-0.4 mg/l (std-10 mg/l). It is revealed that parameters are within standards except TSS.

The analysis results of samples of effluent, from Jhagadia industrial area, **at Jhagadia Final Pumping Station & at Kantiyajal Booster Pumping Station** during the visit (19.11.2019) of the committee shows the concentrations of analyzed parameters are within the prescribed standards except TSS at sample collected Kantiyajal Booster Pumping Station.

As per sampling carried out of **effluent going to the deep Sea at Kantiyajal Booster Pumping Station** by the Committee on 19.11.2019 (analyzed at GPCB laboratory), the analysis results show- pH:6.89, TSS: 140 mg/l (std:100 mg/l), COD: 387 mg/l (**Std; 500 mg/l**), BOD: 18 mg/l (Std:

100 mg/l), NH_3-N: 39.42 mg/l (Std-50 mg/l), phenol: 0.68 mg/l (std-5 mg/l), sulphide-1.2 mg/l (std-5 mg/l), O&G-1.2 mg/l (std-10 mg/l).

The analysis results of samples of **effluent which is discharging to the deep seafrom Kantiajal Booster Pumping Station** during the visit (19.11.2019) of the committee show that the concentrations of analyzed parameters are within the prescribed normsexcept TSS.

As per on-line monitoring System (analyzer) on 19.11.2019, **the concentration of pollutant discharged to the deep sea** are within prescribed permissible limits (pH-7.06, TSS: 39 mg/l and TOC: 166 mg/l (COD: 415 mg/l).

6.0 ACTIONS TAKEN BY GPCB:

GPCB has issued Notice of Direction U/S 33 (A) of Water Act on 04.11.2019 to M/s NCT Vide letter No. GPCB/ANK-CCA-1835(4)/ID:28312/525998, dated: 04.11.2019 with reference to various leakage incidents in the Jhagadia pipeline, copy of Notice of Direction is attached herewith as **Annexure-XIII**. Further, Direction U/S 33(A) of Water Act on 18.11.2019 issued to M/s NCT with reference to leakage copy of Direction is attached herewith as **Annexure-XIV** and also imposed Rs. 10 Lac interim Environment Damage Compensation which is deposited by M/s.NCT on dated: 22.11.2019, copy of acknowledgment of payment is attached herewith as **Annexure-XV**.

7.0 CONCLUSION & RECOMMENDATIONS:

Guard pond for 72 hrs i.e 105 ML (35 ML x 3 days– 72 hrs) is to be provided at Jhagadiaas per CCA condition. The flow received at Jhagadia Pumping Station is average 9.91 MLD with minimum 4.22 MLD and maximum 14.18 MLD. The guard pond provided is of capacity 35 ML which is about 2.5 times of maximum effluent received presently. Therefore, committee is of the opinion that considering present scenario present guard pond (35 ML) is found adequate.The member industries also have to provide effluent storage facility for at least 72hrs in their premises as per their respective CCA. Moreover, NCT is planning to provide guard pond of additional 70 ML at Jhagadia.

As per CCA , FETP is required to be provided at Jhagadia, however, considering past records of results of sampling carried out at Jhagadia Final Pumping Station most the times meeting with GPCB prescribed permissible limits (BOD:100 mg/l, COD:250 mg/l). The analysis results of sampling carried out during the visit of the committee shows the concentrations of analyzed parameters are within the prescribed norms. Further, member industries are prescribed in their consent the norms-BOD: 100 & COD: 250 mg/l. Therefore, FETP/Polishing treatment is not warranted at this stage at Jhagadia.Moreover, NCT is planning to provide primary treatment (FETP) atJhagadia.

It is inferred from flow data given by NCT, the average 40.13 MLD (min 32.79 MLD & maximum 49.53 MLD) effluent discharge to the deep Sea during January 2018-Oct 2019 (Monthly average). Also during the day of visit to Kantiyajal BPS, the flow to the deep sea was 49.42 MLD. Therefore, there is no overburden of the pipeline carrying effluent to the deep sea as claimed by the complainant. The capacity of the pipeline is 75 MLD as per NCT and reflected in CRZ clearance.

As per the various studies carried out by NCT through Institutes of national repute (CSIR-NIO, NEERI & CSMCRI), regarding impact of effluent discharge to the deep Sea on marine environment, the status of water quality, sediment quality and biological characteristics are similar to that of base line data and suggest no impact on ecology (CSIR-NIO, 2008), any significant changes not observed (CSIR-CSMCRI, 2010), surrounding areas not affected with discharge (CSIR-NEERI, 2013) and gross deviations in the water quality not found either at effluent release or in the surrounding places (CSIR-NIO, 2018).

The MoEF & CC has considered the issue of enhancement as a fresh proposal, instead of amendment in the earlier CRZ clearance accorded by the Ministry on 21.08.2015, for the enhancing effluent quantity from 60 MLD to 75 MLD treated effluent pipeline for discharge of effluent from Kantiyajal into the deep Sea though existing off-shore pipeline and diffusers. It is informed that the offshore pipeline is same; however, the Booster Pumping Station is constructed to enhance the capacity from 60 MLD to 75 MLD.

The analysis results of samples of effluent which is discharging to the deep sea from Kantiyajal Booster Pumping Station during the visit (19.11.2019) of the committee shows the concentrations of analyzed parameters are within the prescribed norms except TSS.

It is informed that Hydro test is required to be done during the laying of the pipeline for particular stretches/sections of the pipeline during the laying of the pipeline. NCT has carried out Trial Flow Test of Effluent Pipeline from M/S MaRS Planning and Engineering Services Pvt Ltd. The Project commissioned only in December 2016, after water filling exercise 72 times. There were issues occurred in the laying of the pipeline ranging from acquiring of land, delay, abrupt change of contractor, missing pipe sections, quality of poor material pipeline, quality of execution, leakages at no of locations etc.

NCT is doing daily surveillance of On-shore Pipeline under the Monitoring Mechanism of NCT. NCT has provided SCADA System for operation of pumps, sump level and mentoring parameters like TOC, pH, TSS, pressure and Flow and other electric details like frequency, Amp. of motors etc and and these parameters are visible at all the three locations Jhagadia, Ankleshwar and BPS Kantiyajal. Based on any deviation in pressure, flow & electric details due to leakage/stoppage

of machineries, immediate corrective action is taken, as informed. There is no any contamination of nearby water canal due to leakages from pipeline reported as per GPCB record. No leakage was noticed from pipeline in to Amlakhadi and also up to landfall point, during the visit. A new feasibility study has been awarded for a future separate pipeline route and the report is expected by end of December, 2019.

Considering the leakage issues of the Jhagadia pipe line, NCT needs to-

- check/ test for it's stability, unstable portion should be strengthen to reduce frequent leakages.
- provide isolation valves along the pipeline to isolate the portion of pipeline which will reduce de-watering effluent quantity so as to minimize effluent spread in nearby land/drains and provide proper collection & conveyance system wherever feasible along the pipeline for transfer of de-watering effluent back to pumping station or disposal point which ever nearby.
- Scope of the present marine monitoring (work given to NEERI) should also include the area near mouth of Narmada River to see impact.

F. M. Modi, In-charge,Regional Officer,GPCB, Ankleshwar	K. N. Vaghamsi Dept Env Engineer, F&ED, GCZMA, Gandhinagar	Pratik Bharne Scientist 'E', CPCB,RD, Vadodara

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Annexure - I

Item No. 11 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 902/2019

Jayesh Patel, Secretary, Narmada
Pradushan Nivaran Samitee, Ankleshwar Applicant(s)

Versus

State of Gujarat Respondent(s)

Date of hearing: 31.10.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. SATYAWAN SINGH GARBYAL, EXPERT MEMBER

Application is registered based on a complaint received by post

ORDER

Grievance in this application is that effluents are being discharged into the sea through a pipeline from Jhagadia to Kantiyajal in violation of environmental norms. The effluents discharged do not meet the prescribed norms. Provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1974, the Environment (Protection) Act, 1986 and the CRZ Notification, 2018 are clearly violated. Conditions of consent require establishment of guard pond which has not been done. There is also violation of standards for marine discharge polishing threat to coastal environment.

Let a joint Committee of Central Pollution Control Board (CPCB), Gujarat Coastal Zone Management Authority (GCZMA) and Gujarat

State Pollution Control Board (State PCB) look into the matter and take appropriate action in accordance with law and furnish a joint factual and action taken report to this Tribunal within one month from the date of receipt of copy of this order by e-mail at judicial-ngt@gov.in. The State PCB will be the nodal agency for coordination and compliance.

A copy of this order, along with complaint, be sent to the CPCB, GCZMA and State PCB by e-mail for compliance.

Needless to say that order of National Green Tribunal is binding as a decree of Court and non-compliance is actionable by way of punitive action including prosecution, in terms of the National Green Tribunal Act, 2010.

List for further consideration on 04.03.20.20.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Satyawan Singh Garbyal, EM

October 31, 2019
Original Application No. 902/2019
A

Annexure-II

DETAILS OF JHAGADIA PIPELINE PROJECT, BPS AT KANTIYAJAL & OFF-SHORE PIPELINE:

Jhagadia Industrial Estate:

- New Final Pumping Station, Collection Sump (4 ML) & Guard Pond (35 ML)- Industrial Estate for collection and pumping of treated effluent into the new pipeline.
- The Pumping Station- 2 nos of 100 HP pumps, 2 nos of pumps 30 HP capacity- for pumping effluent from collection sump to pipeline which carry effluent to Kantiyajal Booster Pumping Station.
- SCADA system for monitoring flow & pressure in pipe line.
- On-line Analyzers (i.e for TOC, TSS, pH etc)

Booster Pumping Station at Kantiyajal:

It receives effluent from FETP-Ankleshwar and Jhagadia both onshore pipelines in a common sump, which is pumped to the deep sea through the off-shore pipeline and discharged by a NIO designed diffuser.

- New Booster Pump House, Collection Sump (4 ML) at Kantiyajal.
- The Pumping Station- 6 nos of 420 HP pumps
- SCADA system for monitoring flow & pressure in pipe line.
- On-line analyzers (i.e for TOC, TSS, pH etc)

Conveyance Facilities:

On Shore Pipe Line - FETP to Kantiyazal

44 Km long having 800 mm diameter , MOC: GRP - 40 MLD

On Shore Pipe Line – Jhagadia to Kantiyazal

61 Km long having 1000/900 mm diameter, MOC: GRP – 35 MLD

Off Shore Pipe Line

9.4 Km long having 750 mm diameter – 75 MLD

MOC: Carbon Steel internal epoxy lined, outer protection by cement mortar

- Starting point of pipe-line project (0 chainage) - Jhagadia Pump house.
- End point of pipe-line project (61.324 chainage):- Booster pumping station.

•MOC /size of pipe line:-

1. 1000/900 mm dia GRP (Glass reinforced pipe) pipe line having stiffness of 5000 N/mm2 and Pr. Rating of 9KG/cm2, ISO 14002-1996. Thk 12/11 mm
2. 1000/900 mm dia MS pipe as per code & STD- IS 3589 Fe: 410 MS pipes, Thk-10 mm.

•Section wise Pipe-line Utilization:-

1. Utilization of 1000mm dia GRP pipes: - 18.400 KM (Jhagadia to Ankleshwar)
2. Utilization of 900 mm dia GRP pipes:- 37.700 Km. (Ankleshwar to Kantiyajal BPS)
3. Utilization of 900 mm dia MS pipes:- 2.900 KM (especially in Amlakhadi And Vankhadi)
4. Utilization of 1000 mm dia MS pipe:- 640 RM (at vulnerable place in Ankleshwar to piraman area)
5. Utilization of 750 mm dia CS pipes :- 1.924 KM BPS to LFP

Safety /Emergency measure provided in pipe line:

- Kinetic Air Breather valve (150 MM NB) :- 99 Nos.
- Scour (De-watering) valve :- 03 Nos.
- Butter fly valve 900mm/1000mm :- 07 Nos.
- Surge valve :- 03 Nos.

Annexure III

HARDIK SHAH
SECRETARY
State Level Expert Appraisal Committee

STATE LEVEL EXPERT APPRAISAL COMMITTEE, GUJARAT.
Forests & Environment Department
Block No. 14/8, Sachivalaya
Gandhinagar-382 010, GUJARAT.
Phone : 079 -23251071, 23252655.
Fax : 079 -23251071.
Email : jcio-fed@gujarat.gov.in

Ref. No. : EIA-10-2009-648-E

Date: May 24, 2010.

To,
Shri K R Desai –Chief Operating Officer
Bharuch Eco Aqua Infrastructure Ltd
Suarati Bhagor, Near Gujarat Gas Office,
Umarwada Road, Ankleshwar, Dist Bharuch-393002.

Sub: Environment Clearance under the EIA Notification 2006 for your proposed project – Effluent Conveyance Pipeline from Jhagadia to Kantiajal, Dist Bharuch..

Dear Sir,

This refers to your application on the subject mentioned above and the meeting held with the State Level Expert Appraisal Committee, Gujarat, on 26th February, 2010.

During the said meeting with the SEAC, you mentioned that the project does not fall under the purview of the EIA Notification, 2006 and wanted to withdraw the application filed with the SEAC and requested to close the said file.

In view of the above, your application is treated as closed at our end.

In the meantime, please ensure that no project activity falling in the schedule of the EIA Notification, 2006, is commenced without obtaining the prior Environment Clearance from the competent authority under the EIA Notification, 2006.

With regards,

Yours sincerely,

(Hardik Shah)
Secretary, State Level Expert Appraisal Committee

Copy to :

Shri R.G. Shah, Member Secretary, State Level Environmental Impact Assessment Authority, Gujarat Pollution Control Board, Sector- 10-A, Gandhinagar.... For kind information please.

Shri R.G. Shah, Member Secretary, Gujarat Pollution Control Board, Sector- 10-A, Gandhinagar.... For kind information and necessary actions please.

Annexure IV - A

GUJARAT POLLUTION CONTROL BOARD
Paryavaran Bhavan
Sector-10-A, Gandhinagar-382 010.
Phone : (079) 23226295
Fax : (079) 23232156
Website : www.gpcb.gov.in

BEAIL
05 MAR 2011

CONSENT TO ESTABLISH (NOC)

NO.GPCB/BRCH/NOC-3977/ID-28312/ 74245

- 4 MAR 2011

To,
M/s. Bharuch Eco Aqua Infrastructure Ltd.,
Surati Bhagol, Nr.Gujarat Gas Office,
Umarwada Road,
Ankleshwar, Dist.: Bharuch.

Sub.: Consent to Establish (NOC) under Section 25 of Water Act 1974 and Section 21 of Air Act 1981.

Ref.: Your Application No. NIL, dated 03/06/2010

Sir,

Without prejudice to the powers of this Board under the Water (Prevention and Control of Pollution) Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986 and without reducing your responsibilities under the said Acts in any way, this is to inform you that this Board grants **Consent to Establish (NOC)** for collection of treated effluent from the GIDC Estate of Jhaghadia, conveyance of the collected effluent for the discharge of effluent into deep sea through a marine outfall subject of the following conditions.

The CTE No.39365 and Validity period of the under will be 02/06/2015.

CONDITIONS UNDER WATER ACT 1974:

1. The quantity of the effluent shall not exceed 15 MLD.
2. The treated effluent confirming to the standards shall be discharged into deep sea through an underground on shore pipeline that shall be connected to existing pipeline for discharge of effluent.

3. The Industrial effluent shall conform to the following standards.

PARAMETERS	PERMISSIBLE LIMIT
pH	5.5 to 9
NCT Temperature	45° C at the point of discharge

GUJARAT POLLUTION CONTROL BOARD ANKLESHWAR

~~Clean Gujarat Green Gujarat~~

00019

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Colour & odour	All efforts shall be made to remove colour & unpleasant odour as far as practicable
Suspended Solids	100 mg/l
Particulate size of suspended solids	Floatable Solids max, 3 mm Settleable solids max, 850 microns 20 mg/l
Oil and Grease	10 mg/l
Fluorides	15 mg/l
Sulphides	5 mg/l
Pesticides	Absent
Ammonical Nitrogen	50 mg/l
Total Kjeldahl nitrogen	100 mg/l
Free ammonia (as NH_3)	5 mg/l
Copper	3 mg/l
Zinc	15 mg/l
BOD (5 days at 20 ^{0}C)	100 mg/l
COD	250 mg/l
Arsenic	0.2 mg/l
Mercury	0.01 mg/l
Lead	1 mg/l
Cadmium	2 mg/l
Hexavalent Chromium (Cr + 6)	1 mg/l
Total Chromium (as Cr)	2 mg/l
Nickel	5 mg/l
Cyanide (as CN)	0.2 mg/l
Phenolic Compounds (as C6H5OH)	5 mg/l
Selenium (as Se)	0.05 mg/l
Manganese (as Mn)	2 mg/l
Iron (as Fe)	3 mg/l
Vanadium (as V)	0.2 mg/l
Nitrate Nitrogen	20 mg/l
Bio-assay test	90 % Survival of fish after 96 hours in 100 % effluent.

LDO & HSD shall be utilized as fuel at rate of 100 lits/day & 1600 lits/day DG sets.

There shall be no process emission from the treatment process as well as any other ancillary process.

Stack monitoring facilities like port hole, platform/ladder etc., shall be provided with stacks / vents chimney in order to facilitate sampling of gases being emitted into the atmosphere.

Ambient air quality within the premises shall conform to the following standards

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PARAMETERS	PERMISSIBLE LIMIT
PM 10	100 mg/nm^3
PM 2.5	60 mg/nm^3
SO_2	80 mg/nm^3
NO_X	80 mg/nm^3
HCL	200 mg/nm^3
CL_2	100 mg/nm^3
Ammonia	850 mg/nm^3
Hydrocarbon	160 mg/nm^3
H_2S	500 mg/nm^3

8. In order to enable the Board to perform its functions of ascertaining the standards of effluent laid down by it for the discharge of the effluent under the condition no.4 of this order are complied with by the members while causing discharge of effluent, the applicant shall have to submit every month the analysis report of the samples of effluent got collected and analyzed by one of the laboratories recognized by the State Board.
9. BEAIL Ankleshwar shall be totally responsible for collection of treated effluent from the GIDC estates of Jhagadia & subsequent conveyance of the collected effluent to deep sea.
10. Collection of treated effluent from the GIDC estates of Jhagadia subsequent conveyance of the collected shall be through underground pipeline.
11. Regular maintenance of the underground pipeline shall be carried out to avoid any spillage or leakage during conveyance of the effluent.
12. BEAIL Ankleshwar shall instruct & make sure that every member shall make stroage facilities to store the effluent for at least 48 hours in an impervious acid proof brick lining tank/HDPE tank.
13. BEAIL Ankleshwar shall instruct & make sure that every member provides online pH meter with recorder & magnetic flow meters for flow measurement of treated waste water.
14. Bharuch Eco-Aqua infrastructure Limited shall constitute a monitoring committee for monitoring of the effluent discharged by its members in the GIDC underground drainage system.
15. The Final effluent treatment collection point shall be provided with on-line monitoring instruments alongwith SCADA system & pH actuated valve at the final sump. Furthermore a third party monitoring shall be conducted regularly.

Clean Gujarat Green Gujarat 00021

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16. BEAIL Ankleshwar shall provide impervious tanks/HDPE tanks /impervious guard ponds to hold effluent for at least 48 hours in lose of maintenance of any other unforeseen circumstances.
17. BEAIL Ankleshwar shall inform immediately to the GPCB regarding the termination/suspension of the membership of Pipelines of their member unit, if any.
18. BEAIL Ankleshwar shall have only one outlet for the discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with the GPCB norms. Convenient easy approach shall be provided at the outlet for ease of sampling. The unit shall not keep any bypass line or system, or loose or flexible pipe for discharge effluent outside or even within the effluent treatment plant.
19. The ground water quality around the impervious guard ponds shall be monitored regularly & data shall be submitted to the Board once in six months and shall also comply with the instruction of GPCB in case of deterioration.
20. Handling, manufacturing, storage and transport of hazardous chemicals shall be in accordance with the manufacture, storage and import of Hazardous Chemicals Rules, 2008.
21. Transportation of effluent, solid waste or any other goods pertaining to treatment activities shall be carried out as per central Motor Vehicle Rule-2008.
22. The hazardous wastes shall be handled as per the Hazardous Waste (Management and Handling) Rules of the Environment (Protection) Act, 2008.
23. On site and off site emergency plan as required under the Rules 13 & 14 of handling, Manufacturing, storage and import of the Hazardous Chemicals Rules, 1989 shall be prepared and approval from the Board shall be obtained.
24. Periodic medical checkup of the workers shall be done and records maintained as a measure and approval from the Board shall be obtained.
25. BEAIL Ankleshwar shall provide state of the art composite samplers & set up testing laboratory facilities for collection, analysis of samples under the supervision of competent technical persons who shall report to the chief executive.
26. The Environmental Management unit / Cell shall be setup to ensure implementation and monitoring of environmental safe guards and other conditions stipulated by statutory authorizes. The Environment Management Unit/Cell shall directly report to the Chief Executive of the organization and shall work as a focal point for Internalizing environmental issues. These Cells/Units shall also coordinate the exercise of the environmental audit and preparation of the environmental statements.

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27. The Environmental audit shall be carried out half yearly and the environmental statements pertaining to the previous year shall be submitted to the GPCB latest by 30th September every year. through schedule–I auditor only.
28. Storm waster shall not be mixed with the industrial effluent. Disposal system for storm water shall be provided separately.
29. Good housekeeping shall be maintained within the individual units premises and along the pipeline. All pipes, valves and drains shall be leak proof. Floor washing shall be admitted in to the effluent collection system for subsequent treatment and disposal.
30. BEAIL, shall intimate the occurrence of any accident, event resulting in discharge of poisonous, noxious or polluting matter or the likely hood of the same into a stream or well to the Regional Office under the intimation to the Member Secretary in accordance with the Section 31(1) of the Water Act.
31. Bharuch Eco-Aqua Infrastructure Limited shall implement the Action Plan for Ankleshwar region prepared by Gujarat Pollution Control Board.
32. The pipeline to be laid shall comply with all seismic design parameters based on the guidelines for the seismic design of pipelines systems. The must be complied in right perspective & true spirit.
33. The impact during the pipeline phase [Mainly trenching] as well as the impact during the operational on the marine ecology of the Gulf shall be minimal.
34. The effluent release shall be through an adequately, designed multiport submerged diffuser to achieve characteristic dilution in deep sea.
35. The onshore pipeline shall be adequately buried to a safer depth after making a trench along with proposed route. The trench shall be back filed later.
36. Internationally accepted codes and practices shall be followed through proper inspection, frequent evaluation and intensive testing of all critical components of the pipeline system, similarly, the vulnerable units such as flanges, couplings, joints etc shall be rigorously tested and certified for their reliability and safety over the design life of the pipeline.
37. Due care shall be taken to minimize damage to marine ecology due to improper design, lack of maintenance, faulty operation and release into shallow waters due to unforeseen accidents.
38. The entire pipeline shall be protected from external corrosion.
39. Pretreatment to the pipes such as coating, concreting etc. and other fabrication jobs shall be undertaken in a yard on land located sufficiently away from the CRZ and the

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transfer of materials to the site shall be through a predecided corridor. Similarly, the movement of construction barges, machinery etc shall be restricted to the predecided operational area. However, the region shall not be crowded with too many vessels and construction machinery to avoid accidents and subsequent spillages of materials and fuel.

40. Temporary colonies of the work force involved in the pipe laying phase shall be established sufficiently away from HTL and proper sanitation including toilets and bathrooms shall be provided to the inhabitants to prevent abuse of the intertidal area.

41. After completion of the job work, the intertidal and supratidal area shall be restored to their original contours after the pipe-laying activities are completed. General clean-up along the corridor, adjacent area and intertidal and subtidal regions shall be taken up and extraneous materials such as drums, sacks, metal scrap, topas, ecess sediment make shift huts and cabinet shall have to be cleared from the site.

42. Training for work safety and efficiency shall be imparted to the operations personnel for day-to-day operations as well as handling emergency situations.

43. It shall be ensured that valves, pumps, sub-sea pipeline, MOF system etc are periodically inspected for their integrity and to guarantee their proper functioning. Accurate records of all Inspections, unusual findings, actions taken etc shall be strictly maintained as a part of the overall record system.

44. A comprehensive marine and estuarine quality monitoring programme shall be implemented.

45. Pump station, seafloor stability, navigational aids, pipelines, diffusers, valves etc shall be regularly inspected as per standard codes and practices. Records of all inspections, unusual findings, actions taken etc shall be maintained properly.

46. The efficiency of the marine outfall (diffuser) shall be ascertained periodically through tracer studies. The efficiency of the diffuser shall be ascertained regularly alongwith cleaning of the diffusers & port openings for biofoulers and sediment that might settle inside.

47. For efficient operation of pipeline supervisory control and data acquisition, (SCADA) shall be employed to facilitate instant data acquisition, visual display and remote control. These supervisory systems shall also facilitate continuous monitoring of various parameters like pressure, temperature leakage detection and automatic/remote shut down of the valves in case of emergency.

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48. Control rooms equipped with SCADA computers, wireless system, telephone system emergency vehicle, shall be provided. The control room will be manned for 24 hours round the clock.
49. Isolation valves shall be provided on the pipeline for better monitoring and control of flow operation.
50. Necessary clearances for the adequacy & safety measures shall be obtained from the concerned authority.
51. BEAIL, shall comply with the provisions of all the laws of land including safety, disaster management.
52. Bharuch Eco-Aqua Infrastructure Limited shall submit regular progress reports to the Gujarat Pollution Control Board and other concerned authorities regarding construction, progress, commissioning and operation of the pipeline.
53. The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act-1977.
54. In case of change of ownership/management the name and address of the new owners/partners/directors/proprietor shall immediately be intimated to the Board.
55. The applicant also comply with the General conditions as per Annexure – I attached herewith (No.1 to 38) (whichever applicable).
56. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provision of the Water Act-1974, the Air Act -1981 and the Environment (Protection) Act-1986.
57. All members, having effluent discharge ETP wherein they shall meet the standard of 250 mg/l for COD and other applicable standards for new pipeline in FETP & BEAIL shall not pump effluent having COD higher the 250 mg/l.
58. BEAIL shall submit drawing of route of pipeline.
59. BEAIL shall give break up of 15 KL of effluent industry wise.
60. The project proponent must submit feasibility report including study for 75 MLD with details of pipeline material.
61. The project proponent must provide online monitoring system for pH, TOC and ammonical nitrogen.

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62. All pipeline members must have online monitoring system for Ph. TOC and ammonical nitrogen.
63. The case may be taken up with GPCB of CCA for capacity enhancement.
64. They shall study and submit about futuristic load.
65. All members shall have only one authorized outlet over the ground with full access from outside the premises. as per design approved by BEAIL.
66. The total effluent generation and disposal into the pipeline of Jhagadia shall not exceed the total quantity of 15 MLD in any case.
67. The expert opinion regarding design area shall be obtained by GIDC to determine the exact capacity of the off-site portion of the existing BEAIL pipeline and to work out the modalities to connect the two pipelines.
68. The GPCB shall consider and issue the consent to establish in Jhagadia area till the total effluent generation reaches to 15 MLD for which the data shall be maintained by GIDC and GPCB.
69. The zero discharge units coming up in Jhagadia shall in no case be given any kind of outlets into GIDC drain even for their domestic discharge, which they will have to treat and reuse within their premise or shall have to dispose of through any other appropriate and approved methods. The GIDC in such case shall ensure that no outlet is given to such units; and BEAIL shall strictly monitor and report to GPCB for this matter.

For and on behalf of
Gujarat Pollution Control Board
Yours faithfully,

(R.G.Shah)
Sr.Environment Engineer

NO.GPCB/BRCH/NOC-3977/ID-28[illegible]2/

Issued to :
M/s Bharuch Eco-Aqua Infrastructure Limited
Plot No.618-619
GIDC Estate
Ankleshwar-393002, Dist : Bharuch.

Annexure IV-B

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector 10-A, Gandhinagar 382010
Phone : (079) 23226295
Fax : (079) 23232156
website : www.gpcb.gov.in

GPCB

NCTL
28 MAR 2017
Inward No. 1109

BY R.P.A.D.

NO:GPCB/BRCH/NOC-3977/ID-28312/ 106058 DT: 31/3/12

Amendment to Consent to Establish Order issued vide letter NO: GPCB/BRCH/NOC-3977/ID: 28312/74245, DATED: 04/03/2011.

M/s. BHARUCH ECO AQUA INFRASTRUCTURE LTD.,
SURTI BHAGOL, NR. GUJARAT GAS OFFICE,
UMARWADA ROAD, ANKLESHWAR,
DIST. BHARUCH

SUB: Amendment Consent to Establish under various Environmental Acts/ Rules
REF: 1) Previously issued NOC vide letter NO: GPCB/BRCH/NOC-3977/ID: 28312/74245, DATED: 04/03/2011 under various Environmental Acts/Rules.
2) Your application letter No: BEAIL/SR.EE-GPCB/2011/Apr: 17, dated-02/04/2011.

Dear Sir,

This has reference to the NOC issued vide letter **NO: GPCB/BRCH/NOC-3977/ID: 28312/74245, DATED: 04/03/2011** under the provisions of the various Environmental Act/ Rules, which stands amended as under.

1. The No Objection Certificate Order **NO: GPCB/BRCH/NOC-3977/ID: 28312/74245, DATED: 04/03/2011,** where in mentioned **condition no. 1** is amended & shall now be read as **" the quantity of the effluent shall not exceed 35 MLD in 1st Phase & 60 MLD in 2nd Phase."**

2. **Condition no.4 1 is amended & shall now be read as "LDO and HSD shall be utilized as fuel at rate of 500 Lit/day & 6000 Lit/day for 1050 KVA D.G. Sets."**

3. **Condition no. 10 & 11 is amended & shall now be read as "Collection of treated effluent from the GIDC estates of Jhagadia subsequent conveyance of the collection shall be operated & maintained by GIDC."**

4. **Condition no. 15 is amended & shall now be read as "The final effluent treatment collection point shall be provided with on-line monitoring instruments along with TOC, pH, TKN and flow meter actuated valve at the final sump. Furthermore a third party monitoring shall be conducted regularly."**

5. **Condition no. 16 is amended & shall now be read as "NCTL Ankleshwar shall provide impervious tanks/HDPE tanks/ impervious guard ponds to hold effluent for at least 24 hours in lose of maintenance of any other unforeseen circumstances."**

6. **Condition no. 18 is amended & shall now be read as " NCTL Ankleshwar shall have only one outlet for the discharge of its effluent and ensured that no effluent shall be discharged without requisite treatment at its member industries' end and without**

meeting with the GPCB norms. Convenient easy approach shall be provided at the outlet for ease of sampling. The unit shall not keep any bypass line or system, or loose or flexible pipe for discharge effluent outside or even within the effluent treatment plant."

7. Condition no. 31 is amended & shall now be read as "NCTL-Jhagadia shall implement the action plan for Jhagadia region prepared by Gujarat Pollution Control Board."

8. Condition no.47 & 48 shall be deleted,

9. Condition no.57 is amended & shall now be read as "All member industries must have suitable ETP and shall not discharge effluent having COD higher the 250 mg/lit to GIDC effluent collection network leading to pumping station, NCTL-Jhagadia."

10. Condition no.58 is amended & shall now be read as" NCTL shall give break up of 35 MLD of effluent industry wise."

11. **Condition no. 61 is amended & shall now be read as" The project proponent must provide online monitoring system for pH, TOC and TKN."**

12. **Condition no. 62 is amended & shall now be read as "All pipeline members must have online monitoring system for pH, TOC and TKN."**

13. **Condition no.66 is amended & shall now be read as "The total effluent generation and disposal into the pipeline of Jhagadia shall not exceed the total quantity of 35 MLD in any case in I phase."**

14. **Condition no. 68 the total effluent generation shall be read 35 MLD in place of 15 MLD.**

15. All other conditions of NOC order issued vide letter NO: GPCB/BRCH/NOC-3977/ID: 28312/74245, DATED: 04/03/2011 shall remain unchanged.

SPECIFIC CONDITIONS:

- CTE to be granted specifically to obtain CRZ clearance.
- NCTL have to keep provisions for CETP if required in future.
- Individual units should have guard pond with a capacity to store 48 hours of effluent and NCTL to have adequate capacity guard pond too.

For and on behalf of
GUJARAT POLLUTION CONTROL BOARD

(R.G.SHAH)
SR. ENVIRONMENTAL ENGINEER

Annexure IV-C

GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar-382 021.
Website : www.gpcb.gov.in

GPCB

Consent to Establish (NOC)

NO: GPCB /ANK/NOC-3977/ID-28312/ DT:

TO,
M/s. BHARUCH ECO AQUA INFRASTRUCTUES LTD.,
SURTI BHAGOL,
NR. GUJARAT GAS OFFICE,
BMARWADA ROAD, ANKLESHWAR,
DIST: BHARUCH.

SUB: Amendment to (NOC) under Section 25 of Water Act 1974 and Section 21 of Air Act 1981

REF: 1) Your No. NCTL/GPCB/2015/SEPT-04 dated 02/09/2015.
2) CTE issued vide letter No. GPCB/BRCH/NOC-3977/ID-28312/74245 dated 04/03/2011.
3) CTE Amendment issued vide letter No. GPCB/BRCH/NOC-3977/ID-28312/106058 dated 31/03/2012.

Sir,

This has reference to the NOC issued vide letter NO: GPCB/BRCH/NOC-3977/ID-28312/74245 DATED: 04/03/2011 and amendment letter No. GPCB/BRCH/NOC-3977/ID-28312/06058 DATED: 03/03/2012 under the provisions of the various Environmental Act/ Rules, which stands amended as under.

1. The Validity of CTE No. 39365 is extended for another 1 year now. Validity of CTE No. 39365 shall be up to dated 02/06/2016.

2. All other conditions of Consent to Establish Order NO: GPCB/BRCH/NOC-3977/ID-28312/74245 DATED: 04/03/2011 and amendment letter No. GPCB/BRCH/NOC-3977/ID-28312/06058 DATED: 03/03/2012 shall remain unchanged.

For and on behalf of
GUJARAT POLLUTION CONTRO BOARD

(T. B. SHAH)
ENVIRONMENTAL ENGINEER

NARMADA CLEAN TECH LTD. NCTL Ankleshwar

Outward NO: 326492 /09/2015

Clean Gujarat Green Gujarat ...
ISO - 9001 - 2008 & ISO - 14001 - 2004 Certified Organisation

00017

Annexure V A

GUJARAT POLLUTION CONTROL BOARD

GPCB

PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar-382 010
Phone : (079) 23226295
Fax : (079) 23232156
Website : www.gpcb.gov.in

NO.GPCB/ANK/CCA-1835(2)/ID-28312/ BY R.P.A.D.

DT: /03/2017

CCA NO: AWH-83798

In exercise of the power conferred under section - 25 of the Water (Prevention and Control of Pollution) Act-1974, under section 21 of the Air (Prevention and Control of Pollution) Act-1981 and Authorization under rule 6(2) of the Hazardous & Other Waste (Management and Trans-boundary Movement) Rule-2016, framed under the E(P)Act-1986.

And whereas Board has received consolidated application dated **13/12/2016** with inward **no. 115365** for the Consolidated Consent and Authorization (CC & A) of this Board under the provisions / rules of the aforesaid Acts, Consent & Authorization is hereby granted as under.

CONSENT AND AUTHORISATION:

(Under the provisions / rules of the aforesaid Environmental Acts)

To,
M/s. NARMADA CLEAN TECH (NCT),
(OLD NAME: BHARUCH ECO AQUA INFRASTRUCTURE LTD).,
JAGHADIA PIPELINE PROJECT.,
SURTI BHAGOL, NR. GUJARAT GAS OFFICE,
UMARWADA ROAD, ANKLESHWAR,
DIST: BHARUCH.

1. **Consent Order No: AWH-83798, Date of Issue 27/01/2017, Valid up to 16/05/2021.**
2. The consent to operate under Water Act -1974, Air Act - 1981 and Authorization under the Hazardous Waste (Management and Handling) Rules - 1989 framed under the Environment (Protection) Act, 1986 for operation of 61 km onshore effluent conveying underground pipeline for collection of treated effluent from member industrial units of Jhagadia industrial estates and conveyance of the collected effluent upto the Kantiyajal booster (Jhagadiya-to- Kantiyajal) Pumping Station, Village Kantiyajal, Dist. Bharuch having capacity of 35 MLD.
3. This pipeline will convey treated industrial effluent from Jhagadia to Booster pumping station at Kantiyajal Ultimately this treated effluent after mixing with treated industrial effluent from FETP will be in Booster Pumping Sation (BPS) Sump at Kantiyajal pumped in to deep sea discharge pipeline from there it will be at the point designated by NIO i.e. Latitude 21º 28' 10 2" N Longitude 72º 33' 45" E
4. NCT shall provide finishing final effluent Treatment Plant at GIDC Jhagadia & treated waste water having Norms specified in Condition No. 7.3 shall be discharges in to effluent conveying pipeline.

5. **SPECIFIC CONDITIONS:**

5.1 NCT shall provide impervious tanks/ impervious guard ponds to hold effluent for at least 72 hours in case of maintenance or any other unforeseen circumstances

5.2 NCT shall implement communication plan involving each member unit at Jhagadia / Stack holder so that respected work can be done in minimum response time in case of emergencies

5.3 Hydraulic Load given to each member unit of Jhagadia & given permission to discharge treated effluent in this pipe line is non-transferable i.e. member unit can not sell or buy hydraulic load to/from any other units.

Outward

GPCB

GUJARAT POLLUTION CONTROL BOARD

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5.4 NCT shall freeze hydraulic load as per list of member units with their booking quantity as on dated 01/01/2017 No addition / alteration of the booked volume shall be done without permission of the board.

5.5 NCT shall seal old underground pipeline leading to FETP and there shall not be any discharge of wastewater into old pipeline network

5.6 NCT shall stop collection of wastewater through under ground pipe line network of Jhagadia GIDC and shall collect wastewater by above ground pipeline

5.7 List of member units freezed by NCT vide letter dated 10/01/2017 is enclosed herewith as Annexure - 1 No addition / Alteration of the booked volume shall be done without permission of the board.

6. SPECIFIC CONDITIONS:

6.1 GIDC / NAA shall be totally responsible for collection of treated effluent from the GIDC estates of Jhagadia upto NCT sump & subsequent conveyance of the collected effluent upto Kantiyajal Pumping Station.

6.2 Regular maintenance of the underground pipeline shall be carried out to avoid any Spillage or leakage during conveyance of the effluent

6.3 NCT shall instruct & make sure that every member provides online pH meter with recorder & magnetic flow meters for flow measurement of treated waste water

6.4 NCT shall constitute a monitoring committee for monitoring of the effluent discharged by its members in the GIDC drainage system.

6.5 The Final effluent treatment collection point shall be provided with on-line monitoring instruments along with TOC, pH, TKN and flow meter actuated valve at final pumping station, furthermore a third party monitoring shall be conducted regularly.

6.6 NCT shall inform immediately to the GPCB regarding the termination/ suspension of the membership of Pipelines of their member unit, if any.

6.7 NCT shall have only one outlet for the discharge of its effluent and ensured that no effluent shall be discharged without requisite treatment at its member industries end and without meeting with the GPCB norms Convenient easy approach shall be provided at the outlet for ease of sampling The unit shall not keep any by-pass line or system or loose or flexible pipe for discharge of effluent outside.

6.8 The ground water quality around the impervious guard ponds shall be monitored regularly & data shall be submitted to the Board once in six months and shall also comply with the instruction of GPCB in case of deterioration.

6.9 Handling manufacturing, storage and transport of hazardous chemicals shall be in accordance with the manufacture, storage and import of Hazardous Chemicals Rules, 2008.

6.10 Transportation of effluent, solid waste or any other goods pertaining to treatment activities shall be carried out as per central Motor Vehicle Rule- 2008.

6.11 The hazardous wastes shall be handled as per the Hazardous & Other Wastes (Management and Transboundary Movement) Rules-2016

6.12 On site and off site emergency plan as required under the Rules 13 & 14 of handling, Manufacturing, storage and import of the Hazardous Chemicals Rules, 1989 shall be prepared and approval from the Board shall be obtained.

6.13 NCT shall provide state of the art composite sampler & set up testing laboratory facilities for collection, analysis of sample under the supervision of competent technical persons who shall report to the chief executive

6.14 Storm waster shall not be mixed with the industrial effluent Disposal system for storm water shall be provided separately.

GPCB

GUJARAT POLLUTION CONTROL BOARD

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6.15 Good housekeeping shall be maintained within the individual units premises and along the pipeline. All pipes, valves and drains shall be leak proof Floor washing shall be admitted in to the effluent collection system for subsequent disposal

6.16 NCT, shall intimate the occurrence of any accident, event resulting in discharge of poisonous, noxious or polluting matter or the likely hood of the same into a stream or well to the Regional Office under the intimation to the Member Secretary in accordance with the Section 31(1) of the Water Act

6.17 NCT shall implement the Action Plan for Jhagadia region prepared by Gujarat Pollution Control Board

6.18 The pipeline to be laid shall comply with all seismic design parameters based on the guidelines for the seismic design of pipelines systems. This must be complied in right perspective & true spirit.

6.19 The impact during the pipeline phase [Mainly trenching] as well as the impact during the operational on the marine ecology of the Gulf shall be minimal.

6.20 Internationally accepted codes and practices shall be followed through proper inspection, frequent evaluation and intensive testing of all critical components of the pipeline system, similarly, the vulnerable units such as flanges, couplings, joints etc shall be rigorously tested and certified for their reliability and safety over the design life of the pipeline

6.21 Due care shall be taken to minimize damage to marine ecology due to improper design. lack of maintenance, faulty operation and release into shallow waters due to unforeseen accidents.

6.22 The entire pipeline shall be protected from external corrosion.

6.23 Training for work safety and efficiency shall be imparted to the operations personnel for day-to-day operations as well as handling emergency situations.

6.24 It shall be ensured that valves, pumps, sub-sea pipeline, MOF system etc are periodically inspected for their integrity and to guarantee their proper functioning. Accurate records of all Inspections, unusual findings, actions taken etc shall be strictly maintained as a part of the overall record system.

6.25 A comprehensive marine and estuarine quality monitoring programme shall be implemented.

6.26 Isolation valves shall be provided on the pipeline for better monitoring and control of flow operation

6.27 The application shall have to submit the returns in prescribed from regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act – 1977.

6.28 All pipeline members must have online monitoring system for pH, TOC and TKN

6.29 They shall study and submit about futuristic load.

6.30 All members shall have only one authorized outlet over the ground with full access from outside the premises, as per design approved by NCT.

6.31 All the conditions specified in NOC, CRZ Clearance shall be complied with by the operating authority.

6.32 There shall not be any industrial wastewater discharge into Amlakhadi from pipeline directly or indirectly.

6.33 NCT shall comply & follow time bound action plan (Short term & Long term).

6.34 NCT shall be responsible for the collection of the treated effluent from GIDC estate of Jhagadia and its disposal up to the Kantiyajal Pumping Station

6.35 NCT shall maintain the record of the member industries regarding the quality of effluent discharged into pipeline

6.36 NCT shall inform immediately to the GPCB regarding termination/ suspension of the membership of their member units, if any.

6.37 NCT shall have to carry-out post project monitoring for effluent quality at pipeline outlet at Kantiyajal Pumping Station & shall have to submit the reports to Head Office, GPCB & Regional office -Ankleshwar and CPCB every month

6.38 NCT shall have to abide by the norms evolved by the concern authority for marine disposal time to time.

GPCB

GUJARAT POLLUTION CONTROL BOARD
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6.39 NCT shall have to install the required system, keeping the provisions, with built-in measures for retrofitting, in case of the eventualities of unacceptable pollution load.
6.40 NCT shall have to take up a study to ascertain COD contributed by chlorides & Sulphates in the untreated and treated effluent at pipeline outlet at Kantiyajal Pumping Station & to submit a report.
6.41 The recommendation made by NEERI in their study report shall be complied with.
6.42 NCT shall obtain CRZ clearance if required at any stage
6.43 NCT shall keep provision for CETP if required in future.
6.44 Individual member units should have guard pond with a capacity to store 72 hrs of effluent.

7. CONDITION UNDER THE WATER ACT:

7.1 Effluent conveying capacity of pipline shall be 35 MLD.
7.2 NCT shall affix of water meters as per Section 4 (1) of the water (Prevention and Control of Pollution) Cess Act - 1977 for the purpose of measuring and recording the quantity of water consumed at such places as may be required, within 15 days and it shall be presumed that the quantity indicated by the meter has been consumed by the NCT until the contrary is proved
7.3 NCT shall operate the effluent conveying pipeline system in order to achieve the quality of the treated effluent conforming to the following standards

Parameters	Max. permissible values (in milligram/liter except for pH and Temperature) for discharge of treated effluent into sea
pH	6-9
Biological Oxygen Demand, BOD_3, 27° C	100
Chemical Oxygen Demand (COD)	500
Total Suspended Solids (TSS)	100
Temperature, ° C	Shall not exceed more than 5° C above ambient water temperature
Oil & Grease	10
Ammonical -Nitrogen	50
Total Kjeldahl Nitrogen (TKN)	50
Nitrate- Nitrogen	50
Flouride	15
Sulphides, as S	5
Phenolic compounds (as C_6H_5OH)	5
Total Residual Chlorine	1
Zinc	15
Iron	3
Copper	3
Trivalent Chromium	2
Manganese	2
Nickel	3
Arsenic	0.2
Cyanide, as CN	0.2
Vanedium	0.2
Lead	0.1

Parameters	Max. permissible values (in milligram/liter except for pH and Temperature) for discharge of treated effluent into sea
Hexavalent Chromium	0 1
Selenium	0.05
Cadmium	0.05
Mercury	0 01
Bio-assay test	90 % Survival of fish after 96 hours in 100 % effluent.
Colour & Odor	All efforts shall be made to remove Colour & unpleasant odour as far as possible
Insecticides / Pesticides	Absent

7.4 The above parameters are prescribed with following conditions:

a) Discharge of treated effluent into sea shall be through proper marine outfall.

b) There shall be minimum initial dilution of 150 times at the point of discharge and a minimum dilution of 1500 times at a point 100 m away from discharge point In this regards, NCT shall carry out periodical (atleast once in three years) study for ensuring the above parameters & submit a report to the Board.

7 5 The effluent conforming to the above standards shall be discharged in to Kantiyajal Pumping Station through an underground on-shore pipeline of 61 kms length

7 6 NCT shall receive the treated effluent from member units located in GIDC estate of Jhagadia conforming to the designed norms only so as to achieve the norms of the finally treated effluent as specified in the condition above

7 7 NCT shall have to monitor performance of ETP of every member unit by collecting effluent samples on a daily bases & shall have to maintain records & to submit the same as and when asked.

7.8 All pipes, valves & drains shall be leak proof.

7.9 NCT shall constitute a monitoring committee for monitoring of the effluent discharged by member units.

7.10 NCT shall ensure that valves, pumps, sub-sea pipeline, MOF system etc are periodically inspected for their integrity and to guarantee their proper functioning Accurate records of all inspections, unusual findings, actions taken etc shall be strictly maintained as a part of the overall record system

7 11 NCT shall inspect pump station, seafloor stability, navigational aids, pipelines, valves etc regularly as per standard code and practices. Records of all inspections, unusual findings, actions taken etc shall be maintained properly

7.12 A comprehensive marine and estuarine quality-monitoring programme shall be implemented as recommended by NIO.

7 13 NCT shall ensure that there shall be no unauthorized discharge of their member units and in no circumstances.

7.14 The printed logbooks shall be maintained and got it certified for

a) Energy/Fuel consumption/ Consumption of chemicals for treatment of effluent if any
b) Waste water flow at inlet & outlet of Pipeline
c) Quality of treated effluent being discharged into the Kantiyajal Pumping Station
d) Quantity of sludge generated
e) Laboratory analysis/ reports for each of the specified parameters of liquid effluents and solid sludge samples

8. **CONDITIONS UNDER AIR ACT:**

8.1 The following shall be used as fuel

Sr. No.	Name of Fuel	Quantity
1	Diesel	200 Lit/Hr

8.2 The flue gas emission through stack shall conform to the following standards.

Stack No.	Stack Attached To	Stack Height in Meter	Air Pollution Control Measure	Parameter	Permissible Limit
1	DG set- 1 No Cap. 1010 KVA	9	---	PM SO_2 NO_x	150 mg/NM^3 100 ppm 50 ppm

8.3 There shall be no process emission from the manufacturing process as well as any other ancillary process

8.4 NCT shall install & operate comprehensive adequate air pollution in order to achieve prescribed norms control system so as to achieve standards

8.5 NCT shall operate air pollution control equipment very efficiently and continuously so that the gaseous emission always conforms to the standards specified in condition no. 5 2 & 5 4 above

8.6 The consent to operate shall lapse if at any time the parameters of the gaseous emission are not within the tolerance limits specified in the condition no 5 2 & 5.4 above

8 7 NCT shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection to/and for use of Board's staff The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification

8.8 NCT shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and70 dB(A)during night time Daytime is reckoned in between 6a m. and10 p.m. and nighttime is reckoned between 10 p.m and 6 a.m.

8 9 NCT shall provide arrangement for acoustic enclosure to keep noise level within norms

8 10 NCT shall take precautionary measures to avoid fugitive emission

9 **GENERAL CONDITIONS:**

9 1 Any change in personnel, equipment or working conditions as mentioned in the consent forms/order should immediately be intimated to this Board.

9 2 In case of change of ownership/management, the name and address of the new owners/ partners/ directors/ proprietor should immediately be intimated to the Board

9.3 NCT shall provide all the staff with face shield gas mask, hand gloves, gumboots, helmet of green colour having logo of NCT and adequate training for operation of pipeine

9 4 Periodic medical checkup of the workers shall be done and records shall be maintained as a measure to provide occupational health protection to the workers.

9 5 NCT shall carry out The Environmental Audit half yearly and the Environmental Statements pertaining to the previous year shall be submitted to the GPCB latest by 30th September every year

9 6 The Environmental Management Cell shall be set up to ensure implementation and monitoring of environmental safe guards and other conditions stipulated by the statutory authorities The

GPCB

GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar-382 010
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Environmental Management Cell/Unit shall directly report to the Chief Executive of the organization and shall worked as a focal point for internalizing environmental issues This Cell/Unit also coordinate the exercise of the Environmental Audit and preparation of the Environmental Statements

9.7 The funds earmarked for the environmental protection measures should not be directed for any other purpose and year wise expenditure should be reported to this Board & to the Government

10. AUTHORISATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTE Form-2 (See rule 6 (2).

10.1 Number of authorization. **AWH-83798**, **Date of Issue 27/01/2017, Valid up to 16/05/2021.**

10.2 M/s. NARMADA CLEAN TECH (NCT) is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at JAGHADIA PIPELINE PROJECT., SURTI BHAGOL, NR. GUJARAT GAS OFFICE, UMARWADA ROAD, ANKLESHWAR, DIST: BHARUCH.

Sr. No.	Name of Hazardous Waste	Quantity/ Year	Category	Facility
1	ETP Sludge / Waste	500 MT/Year	35.3	Collection, storage, Transportation, Disposal at TSDF-BEIL- Ankleshwar
2	Used Oil	1 KL/Year	5 1	Collections, storage, transportation, Disposal by selling to Registered Re-refiners or Reuse

10 3 The autorization is hebeby granted to operate a facility as above

10 4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986

11. TERMS AND CONDITIONS OF AUTHORISATION:

11.1 The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under

11 2 The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the Gujarat Pollution Control Board

11 3 The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.

11.4 Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation

11.5 The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc and their possible impacts and also carry out mock drill in this regard at regular interval of time;

11.6 The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"

11 7 It is the duty of the authorised person to take prior permission of the Gujarat Pollution Control Board to close down the facility

11.8 The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation

Outward

GPCB

GUJARAT POLLUTION CONTROL BOARD
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11 9 The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
11 10 The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11 11 The importer or exporter shall bear the cost of import or export and mitigation of damages if, any.
11.12 An application for the renewal of an authorisation shall be made as laid down under Hazardous & Other Wastes (Management and Transboundary Movement) Rules-2016
11.13 Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time
11 14 Annual return shall be filed by June 30th for the period ensuring 31st March of the year
11 15 Unit shall have to display the relevant information with regard to hazardous waste as indicated in the Court's order in W.P. No. 657 of 1995 dated 14th October 2003

For and on behalf of
Gujarat Pollution Control Board

D.M. Thaker 9/3

(D. M. Thaker)
Environment Engineer

Annexure V-B

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar 382 010
Phone : (079) 23222425
(079) 23232152
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Website : www.gpcb.gov.in

GPCB

By R.P.A.D.

CONSOLIDATED CONSENT AND AUTHORIZATION (CC & A – Amendment)

NO: GPCB/ANK/CCA-1835(3)/ID-28312/ Date: /07/2018

Amendment in CCA order No: AWH-83798, issued dated 09/03/2017 for revision of effluent discharge norms.

To,
M/S. NARMADA CLEAN TECH (NCT)
(OLD NAME: BHARUCH ECO AQUA INFRASTRUCTURE LTD).,
JAGHADIA PIPELINE PROJECT.,
SURTI BHAGOL, NR. GUJARAT GAS OFFICE,
UMARWADA ROAD, ANKLESHWAR,
DIST: BHARUCH.

SUB: Amendment in Consolidated Consent & Authorization (CC&A) under various Environmental Acts/ Rules – Reg. revision of **effluent discharge norms.**
REF: (1) Your previous CCA No. **AWH-83798,** issued dated 09/03/2017

Sir,

The Board has issued a Consent to Operate (CC&A) for your industry/ operation vide No. AWH-83798, issued dated 09/03/2017 **having validity up to 16/05/2021.**

The norms / standards were prescribed in the said consent to operate (CC&A) for the discharge of treated effluent in to Kantiyajal booster (Jhagadiya-to- Kantiyajal) Pumping Station, Village: Kantiyajal, Dist: Bharuch.

Now, based on the recommendations of the norms committee, the Board has revised outlet norms for the Jhagadia pipeline project of NCT.

A. CONDITION UNDER THE WATER ACT:

(1) Condition no. 7.3 shall be read as under:

The effluent conforming to the below standards shall be discharged into Kantiyajal booster (Jhagadiya-to- Kantiyajal) Pumping Station, Village: Kantiyajal, Dist: Bharuch, Ultimately this treated effluent after mixing with treated industrial effluent from FETP will be in Booster Pumping Sation (BPS) Sump at Kantiyajal pumped into deep sea discharge pipeline from there it will be at the point designated by NIO i.e. Latitude 21° 28' 10.2" N Longitude 72° 33' 45" E.

Parameters	Max. permissible values (in milligram/liter except for pH and Temperature) for discharge of treated effluent into sea
pH	6-9
Biological Oxygen Demand, BOD_3, 27° C	100
Chemical Oxygen Demand (COD)	250
Total Suspended Solids (TSS)	100
Temperature, ° C	Shall not exceed more than 5° C above ambient water temperature
Oil & Grease	10

Outward No. 61[illegible] /07/2018

Parameters	Max. permissible values (in milligram/liter except for pH and Temperature) for discharge of treated effluent into sea
Ammonical –Nitrogen	50
Total Kjeldahl Nitrogen (TKN)	50
Nitrate- Nitrogen	50
Flouride	15
Sulphides, as S	5
Phenolic compounds (as C_6H_5OH)	5
Total Residual Chlorine	1
Zinc	15
Iron	3
Copper	3
Trivalent Chromium	2
Manganese	2
Nickel	3
Arsenic	0.2
Cyanide, as CN	0.2
Vanedium	0.2
Lead	0.1
Hexavalent Chromium	0.1
Selenium	0.05
Cadmium	0.05
Mercury	0.01
Bio-assay test	90 % Survival of fish after 96 hours in 100 % effluent
Colour & Odor	All efforts shall be made to remove Colour & unpleasant odour as far as possible
Insecticides / Pesticides	Absent

Note: **Norms/standard prescribed through earlier consent stands deleted & Norms/ Standard prescribed in condition (1) above shall be adhered to henceforth.**

B. **All other conditions of CCA order No: AWH-83798,** issued dated 09/03/2017 **will remain same.**

For and on behalf of
GUJARAT POLLUTION CONTROL BOARD

(G. H. TRIVEDI)
SR. ENVIRONMENT ENGINEER

Outward No: 461366, 11/07/2018

Annexure VI-A

Item-03

J-17011/25/2002-IA.III
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi-110003

Dated: March 7, 2003

Subject: CRZ Clearance for Effluent Disposal Pipelines for disposal of treated effluent from Ankleshwar, Jhagadia and Panoli Industrial Estates – regarding.

Reference is invited to letter No. ENV-10.2000.1606-P1 dated June 15, 2002 from Forests and Environment Department, Government of Gujarat recommending CRZ clearance for the proposed project of laying the treated effluent disposal pipeline (conveyance system) to dispose of the treated effluent to the tune of 60000 m^3/day of the Ankleshwar, Jhagadia and Panoli Industrial Estates into the sea off Kantiajal village, District Bharuch in the Gulf of Khambhat. It is also noted that at present the effluents from these estates (generated to the tune of 34000 m^3/day, which is expected to increase to 60000 m^3/day) find their way into the Narmada Estuary via Amlakhadi and that the Bharuch Eco-Aqua Infrastructure Limited (BEAIL) has proposed to collect the effluent from these three industrial estates at village Piraman near Ankleshwar from where it will be conveyed into the sea through underground pipeline after giving proper treatment. It is also noted that the member units of BEAIL have entered into a legal commitment with the BEAIL to discharge their effluent as per the Gujarat Pollution Control Board standards. It is also mentioned that regular monitoring in this regard shall be carried out by the BEAIL and necessary actions against the defaulter units shall be taken.

As per the details in the NIO report on "Selection of Marine out fall", the length of the pipeline is about 45 km. The length of the pipeline from landfall point at Kanthiajal (latitude 21°28'10"N and Longitude 72° 40'10"E to the disposal point into the deep sea is about 11 km of which about 2.8 km is in the intertidal area. It is also noted that the pipeline would be laid on the bed of the sea and the sea bed contours would be maintained after the pipeline is laid and hence there would not be any modification in the circulation pattern and the current regime of the proposed site. It is noted from the NIO report that there is no mangrove on the pipeline corridor. There would be temporary, minor and reversible impact on the phytoplankton and no major impact on the zooplankton. It is mentioned that due to strong tidal currents prevailing in the area, there is no active fishery in the region and hence no long term impact on the fishery is expected. It is also observed that the overall assessment indicates that impacts on the marine environment of the Gulf during the pipeline laying phase would be manageable. It is mentioned that about 72 to 172 times (depending on the tidal phase) dilution would be available once the effluent is disposed of as per the diffuser system suggested. It is added that the treated effluent would be dispersed quickly and

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adverse impact on the Gulf ecology is unlikely if the effluent meeting GPCB standards is discharged through the proposed pipeline at proposed disposal point. Moreover, NIO report mentions that there would be change in baseline sediment characteristics and the bio-accumulation of any pollutant is unlikely.

The proposal has been examined and environmental clearance is hereby accorded under Coastal Regulation Zone Notification, 1991 subject to effective implementation of the following conditions and environmental safeguards:-

Specific Conditions:

(i) All the conditions stipulated by Government of Gujarat, Environment & Forest Department in their letter No. ENV-10.2000.1606-P1 dated June 15, 2002 shall be effectively implemented.

(ii) All the conditions stipulated by Gujarat Pollution Control Board in their letter No. PC/BRCH/NOC-2346 [BRCH-C-315]/10114 dated 20.4.2002 shall be effectively implemented.

(iii) All the conditions stipulated by Ministry of Environment & Forests, Regional Office, Bhopal vide their letter No. SU /181/2001-FCH/2608 dated 29.10.2002 shall be effectively implemented.

(v) All the suggestions/recommendations given by the NIO in their EIA and the Selection of the MOF shall be implemented by the BEAIL.

(v) The effluent(s) not meeting with the norms/standards prescribed by the CPCB will never be disposed of through proposed pipeline.

(vi) The BEAIL shall bear the cost of the external agency that may be appointed by this Ministry for supervision/monitoring activities.

(vii) The camps of construction labours shall be kept outside the CRZ areas.

(viii) The water requirement for the project will be met through Municipal Water Supply. No groundwater shall be tapped in any case.

(ix) The 60000 m^3/day of the treated effluent meeting with the Gujarat Pollution Control Board norms shall be discharged at the point recommended by the National Institute of Oceanography.

(x) The effluent not meeting with the Gujarat Pollution Control Board norms shall not be discharged and shall be stored in the Guard Ponds and recycled for further treatment. The BEAIL shall install necessary facilities to ensure compliance with the Gujarat Pollution Control Board norms, round the clock.

(xi) The proposed treated effluent disposal pipeline shall be commissioned only after the commissioning of the Final Effluent Treatment Plant/CETP.

(xii) Comprehensive Environment Impact Assessment report shall be submitted to this Ministry and the recommendations/suggestions given in it shall be implemented.

(xiii) The construction debris and sewage shall not be discharged into the creek or sea. The debris shall be removed from the construction site immediately after the construction is over.

(xiv) Any additional conditions that may be imposed by this ministry from time to time, shall have to be complied with by the BEAIL.

(xv) The laying and commissioning of the pipelines shall be in accordance with the established procedures, practices and rules and in conformity with the details furnished in the project documents.

(xvi) It shall be ensured that as a result of laying of these pipelines, the drainage of the area is not affected adversely and that there is no ingress of sea water.

(xvii) The environmental safeguard measures and the Environment Management Plan as given in the project documents shall be effectively implemented.

(xviii) The project proponent shall operate and maintain the common effluent treatment plan as well as the discharge pipeline on a long term basis, at least for a period not less than 30 years. Mid course corrections suggested by State Pollution Control Board, if any, including technology up gradation etc. shall be duly incorporated by the project proponent. The latter shall also be responsible for undertaking repairs and handling accidents.

General Conditions:

(i) Construction of the proposed structures should be undertaken meticulously conforming to the existing Central/Local rules and regulations including the provisions of CRZ Notification dated 19.2.1991 and its amendments. All the constructions designs/drawings relating to the proposed construction activities must have approvals of the concerned State Government Departments/Agencies.

(ii) The proponent shall ensure that and a result of the proposed constructions, ingress of the saline water into the ground water does not take place. Regular monitoring for this purpose at appropriate locations on the project site should be done.

(iii) To prevent discharge of sewage and other liquid wastes into water bodies, adequate system for collection and treatment of the wastes must be provided. No sewage and other liquid wastes without treatment should be allowed to enter into the water bodies.

(iv) For employing unskilled, semi-skilled and skilled workers for the project, preference shall be given to local people.

(v) Full support should be extended to the officers of this Ministry's Regional Office at Bhopal and the officers of the Central and State Pollution control Boards by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.

(vi) In case of deviation or alteration in the project including the implementing agency, a fresh reference should be make to this Ministry for modification in the clearance conditions or imposition of new ones for ensuring environmental protection. The project proponents should be responsible for implementing the suggested safeguard measures.

(vii) This Ministry reserve the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.

(viii) This Ministry or any other competent authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.

(ix) Te project proponents should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of Land Development Work.

The above mentioned stipulations will be enforced among others under the Water (Prevention and control of Pollution) Act, 1974, the air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Chemicals (manufacture, storage and imports) Rules, 1989, the Coastal Regulation Zone Notification, 1991 and its subsequent amendments and the Public Liability Insurance Act, 1991 and the Rules made thereunder from time to time. The project proponents should also ensure that the proposal complies with the provisions of the approved Coastal Zone Management Plan of Gujarat State and the Supreme Court's Order dated 18th April, 1996 in the Writ Petition No. 664 of 1993 to the extent the same are applicable to this proposal.

Jaivardhan R. Bhatt

Dr.J.R.Bhatt
Additional Director

To

1. Shri B.M. Sharma
Managing Director
Bharuch Eco-Aqua Infrastructure Limited
Plot No. 618-19, GIDC Estate,
Ankleshwar-393002, Gujarat

15.03.03

2. The Director (Environment)
Forests and Environment Department
Sardar Patel Bhawan
Block No. 14/8
Gandhinagar-382 010.

Copy to:

1. Shri Deepak Srivastava, Dy. Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, Western Region, Arera Colony, Bhopal.

2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.

3. The Chairman, Gujarat State Pollution control Board, Gujarat.

4. DIF(SU), Regional Office Cell, Ministry of Environment & Forests, New Delhi.

5. Guard File.

6. Monitoring Cell

7. Sr. Adviser(H), Ministry of Environment & Forests, New Delhi.

Jaiwardhan R. Bhatt

Dr.J.R.Bhatt
Additional Director

Annexure VI B

F. No. 11-76/2012-IA.III
Government of India
Ministry of Environment, Forest & Climate Change
(IA-III Section)

Indira Paryavaran Bhawan,
Jor Bag Road,
New Delhi - 3

Dated: 21st August, 2015

To
The Chief Executive Officer,
M/s Narmada Clean Tech Ltd,
Surti Bhagor, Nr. Gujarat Gas Office,
Umarwada Road, Ankleshwar,
District Bharuch, Gujarat

Sub: 'Enhancing effluent quantity from 60 MLD to 75 MLD treated effluent pipeline' for discharge of effluent from Kantiyajal into deep sea through existing offshore pipeline and diffuser in District Bharuch (Gujarat) by M/s Narmada Clean Tech Ltd - CRZ Clearance - reg.

***

This has reference to your proposal forwarded by Director (Env.) & Additional Secretary, Forests & Environment Department, Gujarat vide letter No: ENV-10-2011-1509-E dated 29.09.2012 and your letters dated 27.06.2013, 01.05.2014 and 06.02.2015, submitting the above mentioned proposal to this Ministry for grant of CRZ Clearance in terms of the provisions of the Coastal Regulation Zone (CRZ) Notification, 2011 under the Environment (Protection), Act, 1986.

2. The proposal for **'Enhancing effluent quantity from 60 MLD to 75 MLD treated effluent pipeline' for discharge of effluent from Kantiyajal into deep sea through existing offshore pipeline and diffuser in District Bharuch (Gujarat) by M/s Narmada Clean Tech Ltd,** was considered by the Expert Appraisal Committee (EAC) in the Ministry for Infrastructure Development, Coastal Regulation Zone, Building/ Construction and Miscellaneous projects, in its EAC meetings held on 20th - 21st December, 2012, 20th – 23rd November, 2013, 26th - 28th December, 2013 and 19th - 21st May, 2014.

3. The details of the project, as per the documents submitted by the Project Proponents (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

(i) The proposal is for enhancing marine disposal of effluent quantity from 60 MLD to 75 MLD from Kantiyajal into deep sea through existing offshore pipeline and laying of booster pumping discharge line of 1.8 km length from plant to land fall point at District Bharuch, Gujarat.
(ii) The effluents generated from Panoli, Ankleshwar and Jagadia were treated and discharged deep sea through existing offshore pipeline and diffuser in Bharuch District, Gujarat.
(iii) The CRZ Clearance was obtained vide letter No. J-17011/25/2002-IA.III dated 07.03.2003 for laying effluent disposal pipeline for 60 MLD discharge.
(iv) The existing capacity of pipeline is 60 MLD (32 MLD (Ankleshwar) + 8 MLD (Panoli) & 20 MLD (Jhagadia). The effluent generation at Jhagadia is about 3 KLD against 20 KLD and it is likely to be increased to 35 KLD.

(v) After expansion, the capacity will be 75 MLD (32 MLD-Ankleshwar, 08 MLD – Panoli, 35 MLD-Jhagadia). Total effluent pipeline (Onshore) length is 61 km from Jhagadia to Kantiajal, Offshore pipeline length is 9.37 km.

(vi) The pipeline would not be changed or replaced, except for the Jhagadia stretch.

(vii) Out of 1.8 km new line, 0.5 km falls within CRZ area. The existing disposal line of 0.5 km onshore shall be made non-functioning.

(viii) **SCZMA Approval:** The Gujarat Coastal Zone Management Authority (GCZMA) has recommended the proposal vide letter no. ENV-10-2011-1509-E dated 29.09.2012 for enhancing effluent quantity from 60 MLD to 75 MLD treated effluent pipeline for discharge of effluent from Kantiyajal in to deep sea through existing offshore pipeline and diffuser at District Bharuch by Narmada Clean Tech Ltd.

(ix) **Investment/Cost:** The total cost of the project is Rs 109 Crores.

4. The project was examined by the EAC in its meeting held in December, 2012 and sought additional information viz. copy of the NOC of GPCB, monitoring report of GPCB on CETP/FETP and marine outfall, map of 1:4000 and the CRZ zone details. Also noted that the current movement during high tide to low and Low to High shows parallel to shore which is not acceptable since it is near the mouth of Narmada river and there will be movement of current towards rive during high tide.

5. The EAC examined the proposal in detail in its 128th meeting held on 20th – 23rd November, 2013. It was not convinced that there would be no change or replacement of the pipeline in the offshore area because of the substantial increase in the effluent. The EAC after deliberation suggested the Project Proponent to submit the effluent balance, modelling and dispersion details, afresh. Along with the effluent balance, modelling and dispersion details, the proponent has submitted an undertaking that the existing offshore pipeline can withstand the pressure generated through proposed discharge of 75 MLD instead of earlier discharge of 60 MLD.

6. The EAC in its meeting held on 19th – 21st May, 2014, observed that the CRZ clearance was issued by the Ministry vide letter No. J-17011/25/2002-IA.III dated 07.03.2003 whose validity has been expired in the year 2008. Therefore the Ministry has considered the issue of enhancement as a fresh proposal, instead of amendment in the earlier CRZ Clearance accorded by the Ministry.

7. The EAC after deliberations, recommended the project for grant of CRZ Clearance. As per recommendations of the EAC, the Ministry of Environment, Forest & Climate Change hereby accords CRZ Clearance for the above-mentioned project **'Enhancing effluent quantity from 60 MLD to 75 MLD treated effluent pipeline' for discharge of effluent from Kantiyajal into deep sea through existing offshore pipeline and diffuser in District Bharuch (Gujarat) by M/s Narmada Clean Tech Ltd,** under the provisions of Coastal Regulation Zone (CRZ) Notification, 2011 and amendments thereto and Circulars issued thereon and subject to the compliance of the following specific conditions, in addition to the general conditions mentioned below:-

A. SPECIFIC CONDITIONS:

(i) 'Consent to Establish' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

(ii) The project proponent shall ensure real time monitoring of effluent quality by installing online effluent quality monitoring system at the outlet of pipeline

carrying effluent for marine disposal for the measurement of the parameters prescribed by the Gujarat State Pollution Control Board (GSPCB) and transmission of online data so generated to GSPCB.

(iii) The portion of pipeline proposed to be made non functional shall be removed and disposed off scientifically. The trench so formed shall be backfilled and levelled.

(iv) Laying of booster pumping discharge line up to land fall point in the CRZ area should be as per the norms.

(v) The existing mangrove area in intertidal area should not be disturbed. The pipeline shall be laid at least 50 m away from mangrove area.

(vi) All the conditions/recommendations stipulated by Gujarat Coastal Zone Management Authority (GCZMA) vide letter no. ENV-10-2011-1509-E dated 29.09.2012, shall be complied with.

(vii) Method of installation shall ensure no damage to the coastline and consequently the marine eco system.

(viii) All the recommendation of the EIA/EMP, Disaster Management Plan shall be strictly complied within letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF&CC along with half yearly compliance report to MoEF&CC-RO.

(ix) Project Proponent shall obtain all required statutory clearances as applicable.

(x) Necessary signages shall be installed in both English and local languages wherever the pipeline is passing.

(xi) Soil and water samples shall be regularly monitored along the pipeline route to check the leakage/contamination, if any and shall examine if any strengthening is required.

(xii) There shall be no disposal of solid and liquid wastes in to the Coastal areas.

(xiii) There shall be no ground water drawal within CRZ area.

(xiv) No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.

(xv) The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive. The environment cell setup so by NCTL shall closely coordinate with GIDC and GSPCB to explore the possibility of reuse of effluent by adopting 4R (Reduce/ Recovery/ Recycling/ Reuse) philosophy at the concerned industries end and thereafter adopting adequate Advance Oxidation Process (AOP) at FETP.

(xvi) The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.

B. GENERAL CONDITIONS:

(i) Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.

(ii) Full support shall be extended to the officers of this Ministry/Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.

(iii) A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.

(iv) Ministry of Environment, Forest & Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.

(v) The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.

(vi) In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forest & Climate Change.

(vii) The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

(viii) A copy of the clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.

(ix) A copy of the clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.

8. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 1994, including the amendments and rules made thereafter.

9. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

10. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at http://www.envfor.nic.in. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.

11. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

12. This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

13. Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.

14. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

15. The proponent shall upload the status of compliance of the stipulated Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB.

16. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of Ministry, the respective Zonal Office of CPCB and the SPCB.

17. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Clearance conditions and shall also be sent to the respective Regional Office of MoEF&CC by e-mail.

21/8/2015

(S.K. Srivastava)
Scientist E

Copy to:

1. The Principal Secretary, Department of Forests & Environment and Chairman, GCZMA, Govt. of Gujarat, Sachivalaya, Gandhinagar
2. The Director, Forests & Environment Department, Govt. of Gujarat, Block No.14, 8th Floor, Sachivalaya, Gandhinagar – 10
3. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32
4. The Chairman, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhinagar-10
5. Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No.3, Ravishankar Nagar, Bhopal – 16
6. Guard File.
7. Monitoring Cell, MoEFCC.

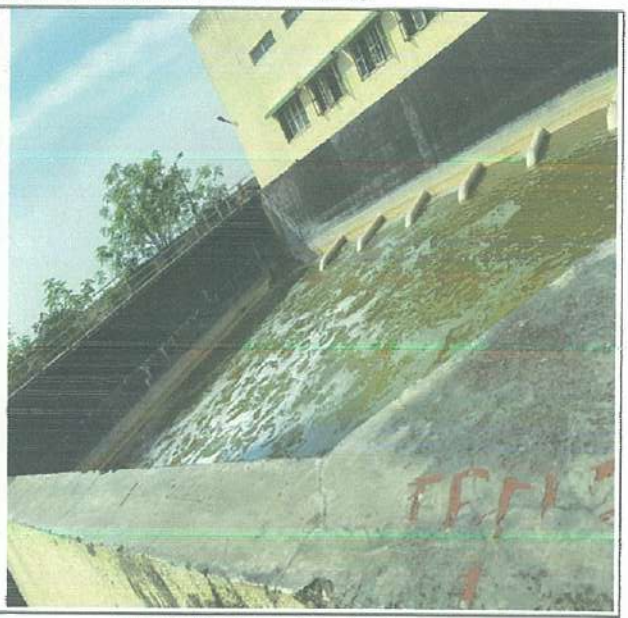
21/8/2015

(S.K. Srivastava)
Scientist E

Annexure VII

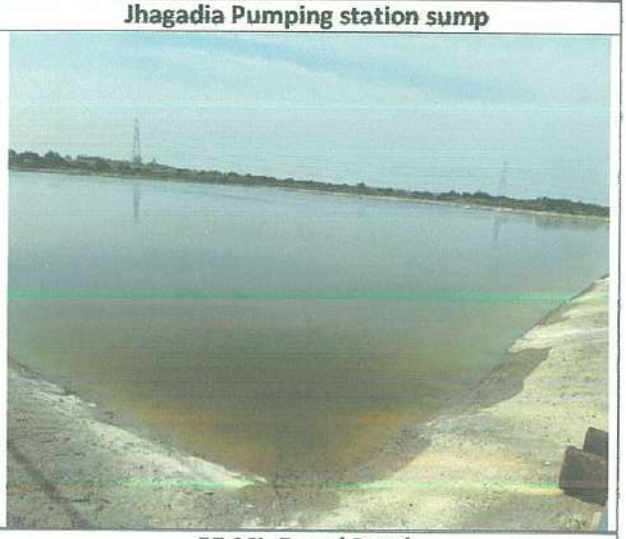
Photographs taken during visit by team dated: 19-11-2019

Jhagadia Pipeline Project pumping station- Jhagadia



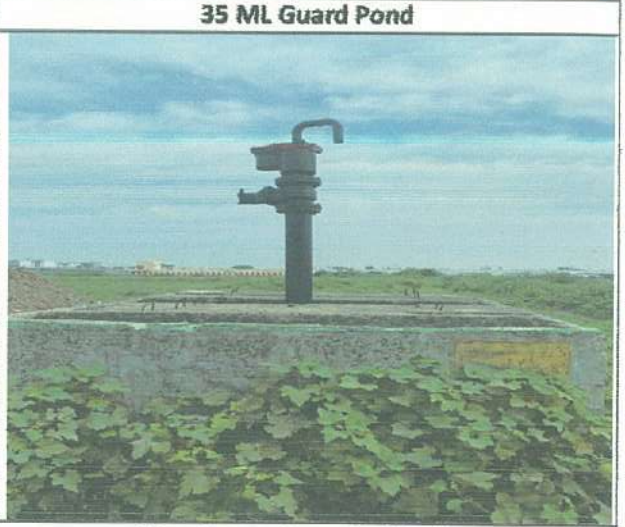
Jhagadia Pumping station sump

35 ML Guard Pond



35 ML Guard Pond

Kantyajal Booster Pumping station



Air valve on Jhagadia Pipeline

Off shore pipeline for booster pumping station

Off shore pipline for booster pumping station

Chamber of old pipeline

Mangrooves near by off shore pipeline

Annexure-VIII (A)

CENTRAL POLLUTION CONTROL BOARD
Regional Directorate, Vadodara

Analysis Results of Monitoring- Final Pumping Station GIDC Jhagadia

Date of Sampling	pH	TSS	TDS/FDS	COD	BOD	NH3-N	Phenols	Sulphide	CN	O & G
21.09.2017	7.21	68	8444	159	27	9.0	0.77	BDL	--	2.9
11.09.2018	7.31	48	8458/7868	159	32	6.3	0.10	BDL	0.08	1.7
20.12.2018	6.85	133	11490/11239	203	26	14	BDL	BDL	0.3	1.3
19.03.2019	6.93	95	8053	144	18.3	29.4	1.09	BDL	0.2	0.5
05.09.2019	7.19	107	8580/8361	160	31	8.96	0.13	0.12	0.065	2.0
GPCB Permissible Limit	**6-9**	**100**	**NS**	**250**	**100**	**50**	**5**	**5**	**0.2**	**10**

Note:
The parameters are expressed in mg/l except pH.
The Sampling carried out on grab mode

1-54-1

Annexure-VIII (B)

GUJARAT POLLUTION CONTROL BOARD
Regional Office, Ankleshwar

Analysis Results of Monthly Monitoring at Final Pumping Station, GIDC Jhagadia

Sampling Date	BOD	Chloride	COD	CN	NH3-N	O&G	pH	Phenol	SS	Sulphide	Sulphate	TDS	TMP
Unit	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l	mg/l	mg/l	mg/l	mg/l	°C
03-01-2018	29	2072	105	BDL	11.2	0.4	7.49	BDL	120	BDL	5396	10120	32
01-02-2018	45	3328	154	BDL	8.96	0.4	7.12	BDL	108	BDL	2770	11278	34
05-03-2018	40	2430	162	BDL	13.44	0.8	7.15	BDL	86	BDL	917	8090	32
04-04-2018	67	2639	259	BDL	8.96	0.8	7.11	1.53	56	BDL	4533	13220	32
04-05-2018	89	2643	326	BDL	6.72	0.8	7.14	1.28	66	BDL	2616	9414	34
01-06-2018	22	695	96	BDL	8.4	0.4	7.47	0.19	32	2	2686	10376	32
02-07-2018	51	2446	183	BDL	14	BDL	7.22	BDL	86	0.8	1476	9944	32
01-08-2018	40	1096	131	BDL	5.6	0.4	7.26	BDL	14	2	1088	4150	32
04-09-2018	21	2093	76	BDL	3.36	BDL	7.47	BDL	64	1.6	1581	6722	32
01-10-2018	59	1614	202	BDL	6.72	0.8	7.05	BDL	32	1.6	1191	6054	33
02-11-2018	38	1888	125	BDL	13.44	0.4	7.2	BDL	50	2	4078	9612	34
03-12-2018	48	2772	153	BDL	11.2	0.4	8.04	BDL	38	24	2791	10256	32

Sampling Date	BOD	Chloride	COD	CN	NH3-N	O&G	pH	Phenol	SS	Sulphide	Sulphate	TDS	TMP
Unit	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l	mg/l	mg/l	mg/l	mg/l	°C
02-01-2019	79	3333	249	BDL	25.2	0.8	7.42	BDL	32	1.2	1257	9982	29
04-02-2019	30	1908	96	BDL	5.6	0.4	7.61	BDL	24	BDL	3641	10484	32
02-03-2019	31	1757	182	BDL	13.72	0.4	7.02	BDL	36	1.2	2319	7982	31
03-04-2019	37	2428	212	BDL	15.96	0.8	8.02	BDL	62	0.8	3660	10930	35
02-05-2019	33	3312	167	BDL	12.82	0.4	7.27	BDL	92	0.8	4067	11216	33
04-06-2019	22	2566	119	BDL	14.28	0.4	6.98	BDL	22	BDL	3076	10252	30
03-07-2019	28	3083	173	BDL	4.87	0.4	6.78	BDL	86	0.8	3091	9772	32
05-08-2019	31	1967	162	---	6.78	0.4	7.23	BDL	58	---	1678	5766	30
01-09-2019	14	1834	79	---	9.13	0.4	7.49	---	14	---	830	6096	30
02-10-2019	4.99	401	9	---	----	---	7.2	---	---	---	407	1686	30
GPCB Permissible Limit	**100**	**NS**	**250**		**50**	**10**	**6 - 9**	**5**	**100**	**5**	**NS**	**NS**	**<50.0**
Average	**39.05**	**2196**	**155**	**BDL**	**10.49**		**7.31**		**56.1**	**3.2**	**2507**	**8791**	**32**
Minimum	**4.99**	**401**	**9**	**BDL**	**3.36**	**BDL**	**6.78**	**BDL**	**14**	**BDL**	**407**	**1686**	**29**
Max	**89**	**3333**	**326**	**BDL**	**25.2**	**0.8**	**8.04**	**1.53**	**120**	**24**	**5396**	**13220**	**35**

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Annexure-VIII (C)

NARMADA CLEAN TECH (NCT)

Analysis Results of Monitoring Final Pumping Station GIDC Jhagadia

(Monthly average of daily sampling results)

Month	Flow	pH	COD (mg/l)	BOD (mg/l)	NH3-H (mg/l)	TSS (mg/l)	TDS (mg/l)
Jan.18	8.12	7.40	404	118	9	133	9368
Feb.18	7.61	7.45	234	65	8	107	9245
Mar. 18	9.66	7.35	246	45	12	76	8638
April. 18	9.80	7.36	242	54	13	76	8674
May. 18	8.82	7.20	226	47	12	64	9344
June.18	10.21	7.21	203	28	10	61	9281
July.18	14.18	7.42	151	19	7	64	7284
Aug.18	13.11	7.49	113	11	6	45	7579
Sep.18	12.29	7.42	155	11	7	59	8381
Oct.18	10.54	7.28	164	13	6	64	9413
Nov.18	9.17	7.35	181	18	11	56	9358
Dec.18	9.76	7.40	171	14	9	55	9641
GPCB Permissible Limit	**~**	**6.00 - 9.00**	**250**	**100**	**50**	**100**	**~**

Note - COD limit up to 09.03. 2017 to 11.07.2018 is 500 mg/l. After amendment 11.07.2018 COD limit is 250 mg/l.

Month	Flow	pH	COD (mg/l)	BOD (mg/l)	NH3-H (mg/l)	TSS (mg/l)	TDS (mg/l)
Jan.19	8.21	7.59	164	12	16	49	9707
Feb.19	9.76	7.54	159	12	11	47	9294
Mar. 19	8.96	7.49	152	8	14	47	9013
April. 19	10.61	7.51	180	10	13	51	9056
May. 19	10.33	7.25	172	10	13	61	10536
June.19	11.62	7.26	176	18	13	71	9182
July.19	12.89	7.37	217	28	11	73	8480
Aug.19	13.15	7.38	201	32	11	80	6783
Sep.19	4.22	7.64	144	19	12	67	6619
Oct.19	5.01	7.49	135	9	8	50	7323
Avg.	**9.91**	**7.40**	**190**	**27**	**11**	**66**	**8736**
Min.	**4.22**	**7.20**	**113**	**8**	**6**	**45**	**6619**
Max.	**14.18**	**7.64**	**404**	**118**	**16**	**133**	**10536**
GPCB Permissible Limit	**~**	**6.00 - 9.00**	**250**	**100**	**50**	**100**	**~**

Note - COD limit up to 09.03. 2017 to 11.07.2018 is 500 mg/l. After amendment 11.07.2018 COD limit is 250 mg/l.

Analysis Results of Monitoring- Booster Pumping Station Kantiajal-
Mix Effluent (Jhagadia & FETP (Ankleshwar & Panoli) discharged to the Deep Sea through diffuser
(Monthly average of daily sampling results)

Month	Flow	pH	COD mg/l	BOD mg/l	NH_3-H mg/l	TSS mg/l	TDS mg/l
Jan.18	35.26	7.75	806	91	364	126	11582
Feb.18	37.92	7.88	714	53	305	109	11596
Mar. 18	38.87	7.55	534	36	157	90	10395
April. 18	37.11	7.26	366	17	35	82	9553
May. 18	35.38	7.03	334	13	32	66	9871
June.18	39.72	7.13	295	10	34	58	9324
July.18	46.74	7.12	277	10	27	64	7574
Aug.18	46.80	7.20	312	12	47	45	8315
Sep.18	43.82	7.10	328	10	35	53	9012
Oct.18	41.77	7.07	367	11	39	43	9829
Nov.18	35.59	7.12	385	13	38	57	10049
Dec.18	39.51	7.10	391	15	41	57	10067
Jan.19	39.23	7.24	418	14	42	42	10525
Feb.19	39.44	7.23	419	15	34	37	10478
Mar. 19	39.10	7.25	410	17	44	34	10301
April. 19	39.99	7.21	359	10	19	44	9486
May. 19	38.89	7.12	411	10	36	50	10794
June.19	40.80	7.18	458	12	50	66	10219
July.19	49.53	7.30	358	11	38	52	8331
Aug.19	46.84	7.15	270	10	31	62	6446
Sep.19	32.79	7.06	380	12	53	64	7544
Oct.19	37.77	7.01	409	12	48	67	7833
Avg.	**40.13**	**7.23**	**409**	**19**	**70**	**62**	**9506**
Min.	**32.79**	**7.01**	**270**	**10**	**19**	**34**	**6446**
Max.	**49.53**	**7.88**	**806**	**91**	**364**	**126**	**11596**
GPCB Permissible Limit	**~**	**6.00 - 9.00**	**500**	**100**	**50**	**100**	**~**

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Date:- 08.11.2016 Annexure IX

Narmada Clean Tech Limited.
Surti Bhagor, Nr.Gujarat Gas Office,
Umarwada Road,
Ankleshwar-393001,
Dist.Bharuch, Gujarat.

NCT
09 NOV 2016
Inward No. 3075

Kind Attn.: Mr.ALOK KUMAR

Subject: **TRIAL FLOW TEST**

Dear Sir,

We (Third party inspection Agency) verified this report which contain flow test of jhagadia to kantyazal effluent disposal pipe line having length of 60 KM. Project facilitate with jhagadia pump house installed with pumps are 15MLD [02 Nos.] have head of 10 Mtrs. & 15 MLD [03 Nos.] having head of 75 Mtrs.

At receiving end [Kantyazal village] BPS having facility of 15MLD pumps [06 Nos.] & 115 Mtrs. Head.

Declaration report of flow test on Date-24/10/2016 [8:30AM] to 26/10/2016 [14:00PM] is below:-

- As per NCT decision, Jhagadia pipe line gradually tested subsequently lower to higher flow rate & in the same milieu on dated 24/10/2016. And GRP 1000mm dia. line charging work was begun, Initially jhagadia pump house has been started with conveying of 23MLD water by 15MLD capacity {02 Nos.} of pump having head of 10 MTR. The liquid flow velocity approx. as 0.45 M/sec. This operation was started at 8:50 AM on mentioned dated.
- Flow reaches jhagadia [00 chain ages] to A-Segment Ch. no-34 was taking around 3 hrs; {12:15 PM} the 22 km was surveillance by us, representative of NCT & Contractor person. No leak was detected during in course. During surveillance consequently all air breather valves found healthy in operation.
- In persistence attempt 900mm dia. pipe line belonging to B. The water reaches Chamber no-54 at around 2:30PM, It found free of any defect.
- In continuation flow passing across previously attempted leakages in segment –B namely places between chamber no-57 & 58, near chamber no-67-A and others where satisfactory repairing work was recorded.

HO. : 601, Sur Mount, Opp. ISCON Mega Mall, S.G Highway, Ahmedabad - 380 015. Gujarat, INDIA! Phone : +91 79 2686 0890 | Tele Fax : +91 79 2686 0130 | E-mail : info@marsconsultancy.com

- By following the guide-line further line was continually charged and flow was progressively ached in B-Segment to C-segment at 16:30PM & finally the flow was reached at BPS sump at 19:40PM.During the flow test pipe line was examined thoroughly & specifically no detects was observed. Pressure and flow data was constantly monitored at both pumping house control room.
- This test was further continually; Lower head capacity pumps stopped & started 75MTR head capacity pumps (03 nos.).Later flow capacity was increases 30MLD to 35MLD.Line monitoring was round the clock done and nothing abnormal was found.
- Whole route was continues trailed by NCT Project team, TPI and Contractors supervisors in A-B-C Segment during operation & even after completion of flow trail. Flow trail was ended at 12:30AM on dated 26/10/2016.Pipe line route was completely free of any short fall.
- All relevant online (SCADA) record & reports are attached here with.

Thanking You,

Best regards,

Jignesh Parikh
GM-Projects.
MaRS Planning & Engineering Service Pvt.Ltd.

Annexure - X

ON SHORE LINE LEAKAGE HISTORY (JHAGADIA PIPE LINE PROJECT)

SR. NO	DATE OF INCIDENT	LOCATION		DOWN TIME	DAMAGE DETAILS	REASON OF DAMAGE.	TOTAL EXPENDITURE
		VILLAGE	CHAMBER				
01.	05-12-2016	Kantiyajal	Between chamber No.105 & No.106	Completion on Date-15-12-2016 Down Time= 10 Days.	Pipeline was leakage at three locations at katiyajal, leakage attending by dewatering by tankers by lamination joint. Rectification of GRP line conducted by excavation, de-watering, and Lamination joint.	Poor joint work	AS PER AMC TERMS
02.	17-12-2016	Katiyajal - sajod	Chamber NO-105 & No-106,	Completion on Date 24.12.2016 Down Time= 6 Day.	GRP line was leakage at kantiyajal same place from thrust block, Rectification of GRP line conducted by excavation, de-watering, and Lamination joint. At sajod pipe line joint o ring come out so rectification by dewatering, excavation and lamination joint inside and outside.	Poor work	AS PER AMC TERMS
03.	02.02.2017	Nagal/sajod	Chamber No-50-51-52-53	Completion On date7.02.2017 Down time = 6 Days.	Grp line leakage observed about 5 place same will be attended by dewatering and internal and outer lamination work,	Poor work	AS PER AMC TERMS

04.	09-02-17	Near sajod	Between Chamber No.52 & 53	Completion On date 9-02-2017 Down time = 24 hrs	GRp line leakage observed at vc 53 from bottom side pipe same will be attended by dewatering and lamination join,	Poor work	AS PER AMC TERMS
05.	10.02.2017	kantiyajal	Chamber No.106-107	Completion On date 11.02.2017 Down time = 24 hrs	Government irrigation department contractor created the leakage during canal excavation work, JCB teeth were punctured the line. Pipe line repaired work carried out by excavation, dewatering and lamination joint work.	Sabotage problem	AS PER AMC TERMS
06	14.02.2017	utaraj	Between ch.No-70 - 71	Completion on date 16.02.2017 Time duration= 48 Hrs	GRp line leakage observed, pipe collapse about 12 meters same attended by dewatering and 12 meter pipe replacement and lamination joint. Same will be back filling by 2 truck sand.	Poor pipe quality	AS PER AMC TERMS

08.	24.03.2017	Nagal	Near chamber No-50-51	Completion on date 25.03.2017 Down Time- 19 Hrs	The leakage observed near ch.no 50-51 village Nagal, excavation done, pipe line intensely damage by someone, same attended by dewatering and lamination joint.	Sabotage problem	AS PER AMC TERMS
09.	11.02.2018	Ankleshwar GIDC Survey NO.82-105	Between chamber no. 14 & 15	Completion on date 11-02-2018 Down time- 39hrs	The leakage observed near ch.no 14-15 gidc ankleshwar due to truck wheel load on pipe.so pipe damage approx. three meters half top side replace and limitation joint done.	Sabotage problem Third party damage the on-shore line.	AS PER AMC TERMS
10	13.02.2018	Astha canal VC 77-78 Hasot road	Between chamber VC 77-78	16.02.2018 Down time- 63hrs	The leakage observed near ch.no 77-78 two leakage observed ,one near astha canal road and other one at minor canal crossing near rajababu farm both place dewatering done and leakage attended by 12 meter pipe 1000mm replace and other location near canal 2 meter lamination joint done. **(12 meters pipe collapse due to poor quality of pipe)**	Poor pipe quality	AS PER AMC TERMS

11	18.02.2018	Digas forest	Between chamber VC 67-67/1	20.02.2018 Down time- 46hrs	The leakage observed near ch.no 67-67/1 leakage observed. Leakage attend by dewatering and 12 meter pipe replacement .(**12 meters pipe collapse due to poor quality of pipe)**	Poor pipe quality	AS PER AMC TERMS
11	05.10.2018	Jetali	Between chamber VC 12-13	5.10.2018 Down time- 4hrs	GRP pipe damaged by jCB at jetali village during excavation work done by builder .leakage/damage repair by lamination joint.	Accident	AS PER AMC TERMS
12	30.03.2019	Hasot Vc 78-79 Utaraj Vc 72-73	Hasot Vc 78-79 Utaraj Vc 72-73	30.03.2019 Down time 7 Hrs	GRP pipe intensely damaged by farmer name hakkubhai in his farm lamination done. Second leakage observed near vc 72-73 from coupler due to poor work at the time of laying. Work done with lamination joint.	Sabotage problem & poor work	AS PER AMC TERMS
13	02.04.2019	Hasot	Vc78-79	3.04.2019 Down time 53 Hrs	Grp pipe leakage due to poor work at the time of project ,pipe line found damage .2 meter half pipe lamination done with dewatering of pipe line pumping stop at 12 hrs at night (2.04.2019)and pumping start at 5 pm (3.04.2019)	Poor work	AS PER AMC TERMS

14	11.06.2019	Dadhal	Dadhal vc 10--11	12.06.2019 Down time 12 Hrs	GRP pipe damaged by Bilduler poclane in his site during civil work .3 place line damage, repairing work done with lamination joint and dewatering.	Accident	AS PER AMC TERMS
15	12.06.2019	Dadhal	Dadhal vc 10--11	13.06.2019 Down time 12 Hrs	GRP pipe damaged by Bilduler poclane in his site during civil work .2 place line damage. repairing work done with lamination joint and dewatering.	Accident	AS PER AMC TERMS
16	19.08.2019	Vasnoli	VC 84-85	20.08.2019 Down time 12 hrs	GRP pipe leakage from bottom due to poor pipeline welding. Repairing work done with two lamination joint and dewatering.	Poor work	AS PER AMC TERMS
16	19.08.2019	Hasot	VC 78-79	20.08.2019 Down time 7 hrs	GRP pipe leakage observed in framer farm at hasot village, pipeline intentional damaged . Repairing work done with lamination joint and dewatering.	Sabotage problem	AS PER AMC TERMS
17	22.08.2019	Utaraj	Vc 73-74	24.08.2019 48 hrs	The leakage observed near ch.no 73-74 leakage observed. Leakage attend by dewatering and 12 meter pipe replacement .**(12 meters pipe collapse due to poor quality of pipe)**	Poor pipe quality	AS PER AMC TERMS

18	24.08.2019	Jetpor	Vc 101-102	26.08.2019 46 hrs	GRP pipe leakage observed in framer farm at jetapor village, pipeline joint damaged due to soil setlment Repairing work done with lamination joint and dewatering.	Technical problem	AS PER AMC TERMS
19	30.08.2019	hasot	Vc 77-78	30.08.2019 12 hrs	GRP pipe leakage observed astha canal hasot village, pipeline damaged by third party Repairing work done with lamination joint and dewatering.	Sabotage problem	AS PER AMC TERMS
19	3.09.2019	hasot	Vc 77-78	3.09.2019 17 hrs	GRP pipe leakage observed damaged in framer farm near canal. Repairing work done with lamination joint and dewatering.	Sabotage problem	AS PER AMC TERMS
20	5.09.2019	Digas	66-67	6.09.2019 39 hrs	The leakage observed near ch.no 66-67 leakage observed. Leakage attend by dewatering and 12 meter pipe replacement .(**12 meters pipe collapse due to poor quality of pipe)**	Poor work	AS PER AMC TERMS
21	12.09.2019	Valiya chowkdi	31-32	13.09.2019 20hrs	The leakage observed near ch.no 31-32 leakage observed. Leakage attend by 3 meter half pipe line replacement with lamination	Poor quality of pipe	AS PER AMC TERMS

22	13.09.2019	Hasot	78-79	23.09.2019 11days, 264 HRs	The leakage observed near ch.no 78-79 leakage observed. Leakage attend by dewatering and 12 meter pipe replacement .(**12 meters pipe collapse due to poor quality of pipe)**	Poor quality of pipe	AS PER AMC TERMS
23	25.09.2019	hasot	78-79	3.09.2019 8days,192 hrs	The leakage observed near ch.no 78-79 leakage observed. Leakage attend by dewatering and 24 meter pipe replacement .(**24 meters pipe collapse due to poor quality of pipe)**	Poor quality of pipe	AS PER AMC TERMS
24	8.10.2019	katpor	95-96	16.10.2019 8days,192 hrs	The leakage observed near ch.no 95-96 leakage observed. Leakage attend by dewatering and 24 meter pipe replacement .(**24 meters pipe collapse due to poor quality of pipe)**	Poor quality of pipe	AS PER AMC TERMS
25	18.10.2019	katpor	95-96	23.10.2019 5days 120 hrs	The leakage observed near ch.no 95-96 leakage observed. Leakage attend by dewatering and 24 meter pipe replacement .(**24 meters pipe collapse due to poor quality of pipe)1000mm dia pipe**	Poor quality of pipe	AS PER AMC TERMS

26	2.11.2019	Katpor & avadar	95-96. . 7-8	7.11.2019 5days ,120 hrs	The leakage observed near ch.no 95-96 leakage observed. Leakage attend by dewatering and 12 meter pipe replacement .(12 **meters pipe collapse due to poor quality of pipe)100mm pipe.one lamination joint done at vc 7-8 avadar village**	Poor quality of pipe	AS PER AMC TERMS
27	8.11.2019	hasot	76-77	13.11.2019 5 days,120hrs	The leakage observed near ch.no 76-77 leakage observed. Leakage attend by dewatering and 27 meter pipe replacement .(27 **meters pipe collapse due to poor quality of pipe)**	Poor quality of pipe	AS PER AMC TERMS

***Source NCT**

Monitoring mechanism of NCT

Daily 24x7(365Days) surveillance of Onshore Pipeline

A team of four workers along with one supervisor with jeep will be exclusively deployed for the daily surveillance and Inspection of Onshore pipeline works in three shifts. All tools and tackles have to be available in the above vehicle for Inspection of Valve chambers.

The methodology adopted will be as follows

1 The jeep along with the four casual helpers will leave the NCT Jhagadia site at 7:00 am in the morning

2 It will drop one helper at Navagam, the helper will travel by foot along the pipe line upto Ion exchange India limited @ 2.5 Km distance.

The jeep will further continue its journey towards Ankleshwar up to Zydus cadiala,

3 It will drop one helper at Zydus Cadila, and helper will travel by foot to Valia Chowkadi to NCT Ankleshwar along the pipe.

4 It will drop one helper at Kadakia College bridge – The helper will travel by foot along pipeline alignment from chainage 4380 m to chainage 0.0 m to Pump and Sump house along the Amla khadi.

5 The jeep will further continue its journey towards along Jhagadia, Ankleshwar – Hansot State inspecting the pipeline laid parallel to state highway up to Utraj

6 It will drop one helper at Kaka Ba hospital. The helper will traverse parallel to the canal along the pipeline alignment and reach Hansot – Surat State Highway – The helper will travel by foot along pipeline alignment a distance of 1440 m from chainage 19360 m to chainage 20800.0 m.

7 The jeep will further continue its journey towards along the Ankleshwar – Hansot State and stop at the Hansot – Surat State Highway

8 It will drop one helper at Hansot – Surat State Highway. The helper will traverse parallel to the canal along the pipeline alignment and reach Hansot – Kantiyajal Road. The helper will travel by foot along pipeline alignment a distance of 1520 m from chainage 20800 m to chainage 22320.0 m.

9 The jeep will stop at the Hansot – Surat State Highway to collect one helper and reach Hansot – Kanthiajal Road at chainage 22320 m to collect the helper traversing by foot. Thereafter the jeep will continue its onward journey to reach Kanthiajal village along the Hansot – Kanthiajal Road.

10 It will drop one helper at Kanthiajal village at chainage 40320 m. The helper will traverse parallel to the canal along the pipeline alignment and reach midway up to the landfall point near the Khar lands. The helper will travel by foot along pipeline alignment a distance of 1480 m from chainage 40320 m to chainage 41800 m.

11 All the marker stones installed shall be checked for visibility daily by these patrolling persons. In case of issues, the visibility shall be ensured and missing marker stones shall be replaced.

12 The jeep will reach the Booster Pumping station. The jeep will then return back to Jhagadia in the evening.

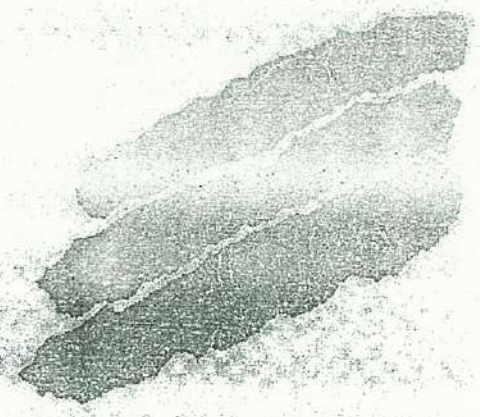
Annexure XII

DISTRIBUTION RESTRICTED

Monitoring of Coastal Waters off Kantiyajal

SPONSORED BY
Bharuch Eco-Aqua Infrastructure Ltd, Ankleshwar

AUGUST 2008



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9 SUMMARY AND CONCLUSION

The overall results suggest that the status of water quality, sediment quality and biological characteristics off Kantiyajal recorded during present study are similar to that of base line data and suggests no impact of the effluent on the ecology. However, the release of such effluent in the nearshore coastal water off Kantiyajal doesn't show any mortality in the region which may be due to sufficient dilution available there.

Management of marine environment is suggested by conducting periodic monitoring at every year. If the impacts of effluents are noticed on the ecology of Kantiyajal, the treatments of effluent are suggested to be improved to meet the standard of GPCB. The individual industries supplying the effluents to the CETP of BEAIL are required to treat their effluents at the source as per the GPCB criteria.

Monitoring of Coastal Waters of Kantiyajal for BEAIL

Sponsor
Bharuch Eco-Aqua Infrastructure Ltd (BEAIL),
Ankleshwar

Central Salt and Marine Chemicals Research Institute (CSIR)
G.B.Marg, Bhavnagar – 364002

October - 2010

6.0 CONCLUSIONS

Marine environmental monitoring in the Gulf of Khambhat off Kantiyajal covering an area of about 200 km^2 surrounding effluent disposal point of M/s BEAIL was studied, with respect to water and sediment qualities and the state of marine life, during premonsoon season (April 2010). The coastal water in the study area is well-oxygenated. The overall nutrients data compares well with earlier studies and the concentrations are generally expected for the coastal waters off Kantiyajal. Mean low nitrite values indicate good oxidizing conditions in the coastal environment. Phytoplankton abundance is not very high. *Nitzschia, Synedra* and *Coscinodiscus* were the most dominant species of phytoplankton. The observed generic diversity of phytoplankton was moderate. Comparison of data for phytoplankton shows that total number of genera of phytoplankton recorded at study site varied from 5- 8, which is in agreement with the previous studies. The data on zooplankton shows that *Tintinnida, Cyclopoida,* and *Foraminifera* form significant portion of the population. Comparison of the data from present and previous studies shows decrease in population of zooplankton. This may be attributed to complex coastal ecosystem prevailing in Gulf, which is characterized by high turbidity and currents. Overall, the study region sustained poor mean benthic standing stock in terms of population and biomass. Dentalium and mollusca were the major components of subtidal benthic organisms. A poor subtidal macrofunal standing stock in the study region may be due to strong bottom currents and the general sandy nature of the seabed. Comparing the average values of the physico-chemical and biological variables, deduced from the previous environmental surveys, it can be concluded that any significant changes were not observed.

Gulf of Khambhat characterized by semi-diurnal tides of 7-8.8 m amplitude, flush the entire area twice everyday. Strong tidal currents with their good mixing, dilution and dispersion properties appear to be the dominant control to maintain an acceptable water quality in the Gulf. To ensure the health of coastal environment off Kantiyajal, periodic monitoring of marine environment is very useful.

Marine Monitoring Off Kantiyajal in and around Outfall Location Identified for Discharge of Treated Wastewater Generated from Ankleshwar, Panoli and Jhagadia Industrial Estates

Sponsor

Narmada Clean Tech Limited

National Environmental Engineering Research Institute
Nehru Marg, Nagpur 440020 (India)

May 2013

Chapter 5

Conclusion

Narmada Clean Tech limited (NCTL) a company promoted by Gujarat Industrial Development Corporation (GIDC) and member of industries of Ankleshwar, Panoli and Jhagadia Industrial Estates, collect treated effluent from all industries and polish further the combined effluent in its final effluent treatment plant. The treated effluent generates presently up to 60 MLD and being discharged into marine outfall location off Kantiyajal through 55 km pipeline and sub marine pipeline with a multiport diffuser.

In order to comply with the regulatory requirements, monitoring studies in series were carried out by the company through NIO, Goa in 2008 and CSMCRI, Bhavnagar in 2010 to observed the status of marine environment related to biotic and Abiotic parameters. Further in view of evaluating the status of marine environment (biotic and abiotic), NCTL entrusted NEERI to carry out the marine monitoring to evaluate the significant effect if any, on marine environment due to continuous discharge of 40 MLD, 60 MLD & 75 MLD treated wastewater to ensure the compliance of regulatory norms. Further it was also became necessary to evaluate the selected outfall location through dye dispersion studies and also status of marine environment around the outfall location and also the toxicity studies to be carried out for the suitability of marine water after mixing with the discharged treated wastewater from three industrial estates.

Studies were carried out for biotic and abiotic parameters related to estuarine, coastal and offshore marine water quality in addition to the marine environmental status

of the surrounding outfall locations and compared with the earlier data collected by NIO, Goa and CSMCRI, Bhavnagar & baseline data. The hydrography data was also collected with respect to waves, tide, currents and depth in the study area. The estuarine zone of Narmada near Kantiyajal indicates poor water quality in terms of turbidity and suspended solids. The complete estuarine zone at right bank of Narmada river is dominated by the tidal waves creating turbid zone in the area and therefore the nutrient load in terms of nitrogen and phosphors was found to be non-significant due to discharge of fresh water carrying certain nutrient loads in the estuarine zone. The complete zone is influenced by tidal cycles exerting salinity ingress as also experienced by NIO, Goa and CSMCRI, Bhavnagar. The DO level was found to be in the range of 2.8-7.3 mg/l indicating influence of turbidity on the estuarine water.

Biologically, it is observed that since the estuarine zone is influence by tidal waves and more turbidity, the low level of primary and secondary productivity is recorded as also reported by NIO, Goa and CSMCRI, Bhavnagar.

Hydrography data was also collected in the coastal and offshore region as recorded in the report. it was observed from physico-chemical characteristics that in coastal and offshore zone in Gulf of Cambay, the pH values lies between 7.4-8.0 indicating a very good buffering capacity of aquatic system. The significant salinity values are also indicated with a significant DO level appearing a good mixing zone in the area. Nutrient load in terms of nitrogen and phosphors was as per the values recorded by NIO, Goa and CSMCRI, Bhavnagar. There is no organic load in the aquatic water body in coastal as well as offshore area. The potential of biological production in the area was evaluated using qualitative and quantitative data on organisms representative of different genera and spp. It was observed that the population density of phytoplankton and zooplankton in coastal and offshore area in Gulf of Cambay was found to be low to moderate with poor benthic standing stock. The area has not been observed to be a fishing zone.

The marine water quality was also evaluated around the outfall location. It was observed from the physico-chemical characteristics that the area has good assimilation potentials as indicated by the pH values, nutrient load and the organic load content. The overall physico-chemical characteristics indicate homogeneity in terms of salinity and dissolved oxygen. Slight variation in nutrient values in terms of phosphate and nitrate is attributed due to tidal variation and flow pattern in the region. The overall quality is good with respect to levels of organics and heavy metals indicating that the surrounding area is

not affected with the discharge of treated wastewater as more dilution is available to assimilate the pollution load in the area.

The monitoring carried out during pre-monsoon and post-monsoon season of 2012 w.r.t. biological parameters indicates good production potential in terms of primary and secondary productivity. The species diversity was found to be moderate to good in both the season.

Benthic samples were also collected in both seasons to evaluate the benthic characteristics and impact due to the discharge of treated wastewater. It was observed that the benthic characteristics are not disturbed due to the discharge of treated wastewater w.r.t. heavy metals and hydrocarbons.

The outfall location where the diffuser installed for discharge of treated wastewater through submarine pipeline was also evaluated through dye dispersion studies along with the hydrography data collected in that particular area. From the studies carried out, it was observed that the dye is not reaching the shore and the currents are parallel to the shore being offshore area in flood tide and reversal in the ebb tide. The studies also indicated the water column is well mixed and no stratification observed due to high turbulence generated by strong tidal currents because of which high plume dilution is available and therefore the selected point is significant for the discharge of wastewater. It was also observed that enough dilution is available for the discharge of treated wastewater flow of 40, 60 and 80 MLD from FETP. The dilution available at 16 m depth is 400, 266 and 200 times for the discharge of 40, 60 and 80 MLD respectively of treated wastewater from FETP with a negligible BOD load (<1 mg/l) over a tidal cycle indicating a good mixing zone with no any stratification. The study also indicated that even if more than 80 MLD treated wastewater is discharged, enough dilution is available to assimilate the pollution load in the area.

To ensure the suitability of the mixing zone for sustaining the aquatic ecosystem, toxicity studies were carried out for treated wastewater to ensure certain dilutions and also the mixed marine water with treated wastewater. It was observed that the fish survived (LC_0) if a concentration of 25% of the treated waste and below. However, there was marginal effect due to sudden exposure of wastewater at 25 %during initially, however recovered immediately within 96 hours without any mortality. No abnormal behaviour of fish is noticed at this concentration level. However, 100% lethality was observed at 40% concentration level of wastewater and 50% lethality was observed at 36.5% concentration level. This indicates that beyond 36 % concentration level of wastewater, the toxicity is imposed.

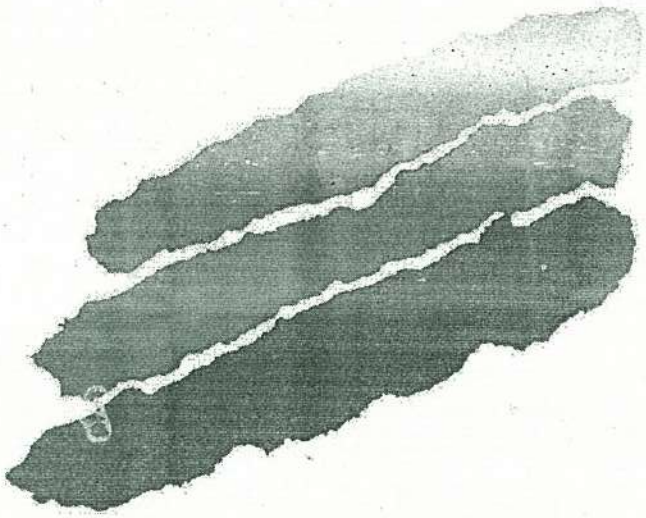
When the fish was exposed to the actual samples collected from the outfall location (diluted sea water with treated mix waste) neither any mortality, abnormal behaviour of fish was observed during the period of 96 hours. This indicates that enough dilution is available in the area with no build up of pollutants around the outfall location.

DISTRIBUTION RESTRICTED

NIO/SP- 26/2018
(SSP 2974)

Monitoring of Coastal Waters at Kantiajal for NCT, Ankleshwar (Part I).

Prepared For :
Narmada Clean Tech (NCT)



November 2018

सीएसआईआर - राष्ट्रीय समुद्र विज्ञान संस्थान
CSIR - NATIONAL INSTITUTE OF OCEANOGRAPHY
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)
क्षेत्रीय केंद्र : चार बंगला, अंधेरी (प.) मुंबई - 400 053.
Regional Centre : 4 Bungalows, Andheri (W), Mumbai - 400 053.
(फोन) Tel.: 022-26359605-08 • (फॅक्स) Fax: 022-26364627
(ई-मेल) e-mail: rcm@nio.org
HQ: दोना पावला,गोवा भारत / Dona Paula, Goa - 403 004.

5 Dilutions

Tracer experiment was conducted during March 2017 at effluent release site off Kantiajal. The results of the tracer experiment study have been submitted to NCT (Report NIO/SP-28/2017 SSP3057). During experiment period, an effluent to the tune of 40 MLD was being discharged by CETP through existing outfall off Kantiajal. Tracer, Rhodamine B of 60 Kg quantity was dissolved with effluent in the tank situated at the pumping station at Kantiajal. Depth at diffuser location is 11 m below CD. The concentration at pumping station was 897 µg/L. The average minimum concentration found at outfall location during the experiment period was 0.63 µg/L. The maximum concentration observed in the region was 1.8 µg/L. From the above results, it was found that the dilutions varied from approximately 500 – 1550 times and near ambient conditions have been attained within 100 m distance.

6 RECOMMENDATIONS

From the above study, it is concluded that gross deviations in water quality are not found either at effluent release site or in the surrounding places in the present monitoring. Hence, it is recommended that the effluent having the quantity of 75 MLD can be discharged at the present location. The NCT should follow the effluent standards specified by the GPCB. It is also recommended to ascertain the health of the diffuser, in case of sedimentation, by deploying divers etc.

Annexure XIII

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

GPCB

R.P.A.D.

NOTICE OF DIRECTION UNDER SECTION 33-A OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT-1974 (HEREINAFTER REFERRED TO AS THE "WATER ACT") AS AMENDED FROM TIME TO TIME.

WHEREAS you M/s. M/s. NARMADA CLEAN TECH (NCT) (OLD NAME M/s. BHARUCH ECO-AQUA INFRASTRUCTURE LTD. (JPP)) is Common pipeline project (Jhagadia Pipeline Project)at GIDC JHAGADIA, Dist: BHARUCH.

AND WHEREAS you are having CCA No.AWH-83798 valid up to 16/05/2021 to operate Effluent conveying underground pipeline.

AND WHEREAS during the inspection of your industrial plant on 06/09/2019, 16/09/2019, 23/09/2019, 26/09/2019, 02/10/2019, 09/10/2019 under Section -23 of the Water Act by the authorized officer of the Board it has been noticed as under :

1. Leakages in pipeline is found frequently and Board is received complain for the same.
2. During visit on 06/09/2019 Jhagadia Pipeline is leakages at village Digas as informed. And during visit provided online meter is found not in operation.
3. Jhagadia Pipeline Project (JPP) was inspected on 16/09/2019 w.r.to leakage in pipe line dated 13/09/2019 & w.r.to earlier leakages occurred in this pipe line in last one month period.
4. Total 7 times leakages was occurred in various places since 19/08/2019.
5. Pumping station was stopped from 13/09/2019 to 23/09/2019 due to pipe line leakage repairing reason.
6. Breakdown of pipeline occurred on 19/8/2019, 20/8/2019, 22/8/2019, 24/8/2019, 30/8/2019, 3/9/2019, 5/9/2019, 13/9/2019, 25/9/2019.
7. FPS Jhagadia-Kantijal Jhagadia Pipeline of NCT from FPS to Kantiyajal booster pumping station was leaked on dtd.08-10-2019.
8. The pipe line was leaked at Road Boro pit adjacent farm of village Katpor, Tal: Hasnot, Dist: Bharuch.

NOW THEREFORE Board proposes to issue directions under Section 33-A of the Water Act-1974 as under:

1. To prohibit you from the operation of your Common facility.

2. To close the operation of your Common facility on the above mentioned site till complying consented conditions.
3. To direct the concerned authority to stop supply of electricity and water till that time.
4. Submit compliance report of above non-compliance points .
5. You shall carry out detailed survey of entire pipeline and find out leakages and repair all leakage and provide full proof system.
6. Submit study report of leak proof detection system.
7. You shall provide mechanism so that wastewater cannot flow whenever leakage occurring in conveyance pipeline system and prepare leakages preventive action plan.
8. Device mechanism of 24X7 monitoring system.
9. Compliance of notice of direction issued on 3/2/2018 with action plan.

You are hereby directed to reply within 15 days from the date of service of this notice failing which, it shall be presumed that you have nothing to say in this matter and appropriate action will be initiated against you for the conduct of the business of your industry, under the Water Act-1974 for above non-compliance.

FOR AND ON BEHALF OF
GUJARAT POLLUTION CONTROL BOARD

(A.V.SHAH)
SENIOR ENVIRONMENTAL ENGINEER

NO: GPCB/ANK-CCA-1835(4)/ID:28312/ Date: 4/11/2019

Issued to:
M/s. NARMADA CLEAN TECH (NCT)
(OLD NAME M/s. BHARUCH ECO-AQUA INFRASTRUCTURE LTD. (JPP))
JHAGADIA PIPELINE PROJECT,
SURTI BHAGOL, NEAR GUJARAT GAS OFFICE,
UMARVADA ROAD, ANKLESHWAR,
Dist: BHARUCH.

Copy To:
- **Regional Officer,**
  Gujarat Pollution Control Board,
  Regional Office,
  Ankleshwar.... You are requested to visit and verify the compliance.

Annexure XIV

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

GPCB

R.P.A.D.

DIRECTION UNDER SECTION 33-A OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT-1974 (HEREINAFTER REFERRED TO AS THE "WATER ACT") AS AMENDED FROM TIME TO TIME.

WHEREAS you M/s. NARMADA CLEAN TECH (NCT) (OLD NAME M/s. BHARUCH ECO-AQUA INFRASTRUCTURE LTD. (JPP)) is operating Common Effluent conveying pipeline project (Jhagadia Pipeline Project) and having office at Surti Bhagol, Umarvada Road, Ankleshwar Dist: BHARUCH.

AND WHEREAS you are having CCA No.AWH-83798 valid up to 16/05/2021 to operate Effluent conveying underground pipeline.

Board has issued Notice of Direction on dated:04/11/2019 for vide letter No: GPCB/CCA-ANK-1835(4)/ID:28312525998 for the reasons mentioned therein.

AND WHEREAS during the inspection of your Effluent Conveying Pipeline (JPP) with reference to complaints on 07/11/19 & 09/11/2019 under Section -23 of the Water Act by the authorized officer of the Board it has been noticed as under:

1. Leakages in pipeline is found frequently and Board is received complain for the same.
2. Through scourer valve wastewater is being discharged into Amlakhadi, during visit you are found discharging wastewater into Amlakhadi. One sample of wastewater collected during visit analysis report of same shows that COD-298mg/lit, TDS- 10514mg/lit, Ammonical Nitrogen-56mg/lit.
3. It was informed during visit that uptill now whenever leakages occurred in pipeline you have discharged wastewater of pipeline into Amlakhadi/farm land.
4. During visit at Vill: Utraj leakage of pipeline was occurred near Prakashbhai farm at survey no. 104.
5. During visit still no activity for repairing of leakages was found. Ponding of wastewater was observed near canal and found spread surrounding farms, sample of wastewater collected, analysis report of same shows COD-242 mg/lit, TDS- 7808 mg/lit, Ammonical Nitrogen- 38.75mg/lit.

AND WHEREAS Board has received complaint regarding leakage in pipeline conveying wastewater of Jhagadia near Vamleshwar village.

AND WHEREAS special civil application (O.A. no. 902/2019, order dated: 31/10/2019) is admitted before the Hon. National Green Tribunal and has also taken note of the serious hazard being caused due to effluent discharge.

AND WHEREAS the non-compliance as narrated above, creating environmental issues enroute of pipeline.

UNDER THE CIRCUMSTANCES, as directed, I A. V. Shah, Sr. Environment Engineer, Gujarat Pollution Control board issue the direction under Section 33(A) of the Water Act – 1974 as under:

1. Immediately take corrective steps to control the breakdown/leakage of pipeline.
2. Immediately stopped discharging wastewater into natural drain including Amlakhadi.
3. Immediately stopped discharging wastewater into farmland.
4. Collect & transfer contaminated water to FETP for further treatment and disposal in accordance with CCA granted.
5. Submit compliance report of notice of direction issued on 04/11/2019.
6. Pay Rs. 10 Lac as interim Environment Damage Compensation by RTGS immediately in Following A/C.

A	Name Of Payee	GUJARAT POLLUTION CONTROL BOARD
B	Bank Account Number	10325062238
C	Type of Account	CURRENT
D	Bank	STATE BANK OF INDIA
E	Branch	GANDHINAGAR ZONAL BRANCH
F	Branch Address	SECTOR-10/B, IN FRONT OF NEW SACHIVALAYA, GANDHINAGAR-382010
G	IFSC Code	SBIN0001355

IF the above direction is not complied, you are liable for prosecution under Section 41(2) of the Water (Prevention and Control of Pollution) Act-1974 which provides punishment with imprisonment for a term not less than one year and six months and may extend to six years and with fine.

This letter is issued with the approval of the competent authority

FOR AND ON BEHALF OF
GUJARAT POLLUTION CONTROL BOARD

(A.V.SHAH)
SENIOR ENVIRONMENTAL ENGINEER

NO: GPCB/CCA-ANK-1835(4)/ID:28312/ Date: 18/11/2019

Issued to:
M/s. NARMADA CLEAN TECH (NCT)
(OLD NAME M/s. BHARUCH ECO-AQUA INFRASTRUCTURE LTD. (JPP))
JHAGADIA PIPELINE PROJECT,
SURTI BHAGOL, NEAR GUJARAT GAS OFFICE,
UMARVADA ROAD, ANKLESHWAR,
Dist: BHARUCH.

Copy To:
- **Regional Officer,**
  Gujarat Pollution Control Board,
  Regional Office,
  Ankleshwar.... You are requested to keep close watch on this Jhagadia pipeline project and follow up with the concerned to comply above direction.

Outward No: 52925, 18/11/2019

Annexure XV

F.No. 404

Bank Of Baroda

Branch: GIDC Ankleshwar

Date: 22/11/2019

Base Branch :	GIDC Ankleshwar
Account No.:	08950500000113
Nameof account holder :	NARMADA CLEAN TECH

RTGS / NEFT favouring :

Bank :	STATE BANK OF INDIA
Branch :	GANDHINAGAR ZONAL BRANCH
IFSC Code	SBIN0001355
Beneficiary's A/c No. :	10325062238
Beneficiary's A/C Type :	CURRENT DEPOSIT
Beneficiary's Name :	GUJARAT POLLUTION CONTROL BOARD

BARBH1932687028S6

Amount (Rs.)

Amount of Remittance	10,00,000.00
Exchange	
Total	10,00,000.00

Amount (in words) Rupees

Rupees Ten Lakh(s) Only

Clerk / Cashier / Teller

Accnt.

(Cheque(s) subject to realization)