

CEPI ACTION PLAN-NAVI MUMBAI

Short Term Measures

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Present Status as on Dec 2016
A	Short Term Measures		
1	Uncovered area will be connected to CETP	MIDC CETP MPCB	MIDC Authority vide their letter dt: 01/02/2016 communicated that, in TTC Industrial Area Drainage Network for (underground Effluent collection System) Airoli&Digha (K Block) has been connected to CETP TBIA Navi Mumbai. Work is completed.
2	Performance Evaluation of CETP	CETP MPCB	MPCB had already carried out a "Report on Assessment of the Adequacy of Common Effluent Treatment Plant of Thane-Belapur Association and after going through the report the overall performance is conforming to the conditions imposed in the consent granted to CETP and it is being operate and maintained by the Thane Belapur CETP Association regularly. Performance of CETP is weekly monitored by MPCB & analysis reports Dec-2015 to Dec-2016 shows, percentage sample exceedance is 21.95 %. Board has asked to carry out performance evaluation of CETP to know present scenario. Board has issued proposed directions to CETP. After issuance of directions, CETP has carried out inhouse performance evaluation study which reveals that: <ul style="list-style-type: none"> a. Effluent is biodegradable in nature b. Scope of improvement by introducing oxidising chemical at primary stage c. Scope of improvement by introducing anaerobic treatment at secondary stage. CETP has taken further additional steps to enhance the performance of CETP and same is exhibited as <u>Annexure-A</u>
3	Performance Evaluation of ETPs	Industries	<ul style="list-style-type: none"> ➤ There are total 48 no. of Large and Medium Scale Industries generating trade effluent and have provided necessary ETPs. ➤ Those ETPs are being operated regularly. The statement showing the results on monitoring of 48 Nos of Large and Medium Scale Industries is already submitted in previous progress report. ➤ Most of all industries generally meeting the consented standards. ➤ On the basis of monitoring carried out by

			<p>this office, directions to 05nos of industries under section 33A of Water (P&CP) Act, 1974 for carrying out performance evaluation of ETP's as some of the parameters like BOD, COD, SS & TDS are not meeting the consented standards.</p> <ul style="list-style-type: none"> ➤ M/s. Modepro India Pvt. Ltd. has carried out performance evaluation from third party and reported that, performance of the ETP is satisfactory. ➤ MPCB is taking further action against remaining 04 industries.
4	Performance Evaluation of ECS.	Industries	<ul style="list-style-type: none"> ➤ Because of switch over to cleaner fuel, the compliance in respect of the standards of air pollution control has been improved. ➤ Total 69 industries have changed their fuel pattern and using PNG as fuel. ➤ Another 22 industries have submitted their application for change in fuel (Use of PNG) to Mahangar Gas Co ➤ MPCB has issued work order separately to monitor air emissions /effluent discharge from industries in CEPI Area. Accordingly, source emission monitoring of 06 industries carried out during 21/07/2016 to 26/07/2016 & the results shows particulate matter & SO2 is within consented limit.
5	Repairs of Internal Roads in MIDC area.	NMMC	<p>There are internal roads of 95 km in TTC MIDC area, Navi Mumbai Municipal Corporation authority informed that 98% construction work of internal roads in MIDC area is completed & the remaining work will be completed at the earliest.</p>
6	Taking possession of drainage pipeline carrying effluent to CETP.	CETP MIDC MPCB as Nodal Agency	<p>Treated effluent of the MIDC area is collected at Thane Belapur CETP through MIDC drainage system.</p> <p>Part of system is under possession of MIDC and part under possession of CETP.</p> <p>CETP & MIDC officials giving quick response in case of accidental breakages.</p>
7	Replacement of damaged pipeline	MIDC MPCB as Nodal Agency	<p>MIDC authority has already initiated steps towards replacement of old existing pipeline by HDPE Pipeline in TTC MIDC Area. Tender process floated for the same work.</p> <p>As per details received from MIDC authority during meeting held on 04/1/2017: Total length of pipeline – 130 KM & Total length of existing HDPE Pipeline 15.06 KM & proposed remodeling with HDPE Pipeline – 39.53 Km (Administrative approval) – Tender Under Process- 6.30 KM.</p>
8	Online display of AAQM data.	TBIA MPCB as Nodal Agency	<ul style="list-style-type: none"> ➤ AAQM is carried out at 3 locations by MPCB under NAMP & results of the displayed on MPCB website. ➤ Also, there are four automatic online display centers (CAAQMS) installed by NMMC at four

			<p>locations viz, Airoli Fire Station, Turbhe MSW Site, Koparkhiarne&Nerulgarden. Air Quality Index (AQI) is displayed in public domain.</p> <ul style="list-style-type: none"> ➤ The Board also carried out AAQM during 21/07/2016 to 26/07/2016 at 06 locations in TTC area&the results shows that, Ambient Air Quality is within the NAAQS. ➤ Board has started manual AAQM station at MIDC Mahape as per the directives of Hon'ble NGT, which also shows particulate matter concentration is higher than the NAAQMS, a copy of the reports enclosed as <u>Annexure-B</u>.
9.	Inventory of Hazardous air Pollutant emitting units and installation of Leak detection & repair (LDAR) in Case pesticide & bulk drug manufacturing units	MPCB/Individual industry	<ul style="list-style-type: none"> ➤ Presently, 16 industries identified as a Hazardous Air Pollutant emitting units. ➤ This office has issued directions to all 16 industries to install Leak detection & repair system (LDAR) within 06 months. ➤ Presently, 10 industries installed LDAR namely- <ol style="list-style-type: none"> 1. Amines & Plasticizers Ltd. Turbhe 2. Lubrizol Ltd. Turbhe 3. Zydus Takeda Healthcare Ltd. Pawane 4. NOCIL Ltd. Pawane 5. Sandoz Ltd. Turbhe 6. RPG Life Sciences Pawane 7. Lubrizol Ltd. Pawane 8. SI Group Pvt. Ltd. Turbhe 9. Modepro India Pvt. Ltd. 10. Croda Chemicals Ltd. ➤ 02 Units are closed and 04 units are under progress
10.	Monitoring of the Industries for compliance of CEPI norms	MPCB/Individual industry	<ul style="list-style-type: none"> ➤ Point wise periodical review taken. ➤ Reduction due to closed industries (57 Industries were closed) :- <ul style="list-style-type: none"> ✓ BOD- 800.49 T/A ✓ COD - 1855.59 T/A ✓ SO2 - 17300.50 T/A ✓ HW - 14926.10 T/A <p>Review meeting of CEPI Navi Mumbai TTC Ind Cluster had been taken under the Chairmanship of The Principal Secretary (Environment Dept) & Member Secretary MPC Board on, 15/05/2015, 30/09/2015 & 09/02/2016 at MPC Board HQ Sion Mumbai.</p> <p><u>Review meeting of stake holders involved CEPI Action Plan taken by Board Office on 19/10/2016 and Regional Officer Navi Mumbai on 10/11/2016 & 04/1/2017</u></p>
11.	Recovery of Solvent by solvent using units.	Industries	<ul style="list-style-type: none"> ➤ Bulk Drugs units are using solvents in their process and generate waste solvents ➤ All major industries have installed their own solvent recovery system at their site. ➤ At present they are sending waste solvents to authorized party.

			<ul style="list-style-type: none"> ➤ There 24 Solvent distillation Units out of which 12 are operational and remaining 11 units closed & 01 unit not involved in waste solvent recovery ➤ Board has issued directions u/s 31 (A) of Air (P&CP) Act to solvent reprocessing units to enhance the recovery of solvent upto 96%. Accordingly, all operational units achieved their solvent recovery upto 96%.
12	Health Impact Assessment Study.	DISH District Health Officer MPCB	<ul style="list-style-type: none"> ➤ DISH, District Health Officer are being requested to give information about health in the industrial area. ➤ DISH is agreed to submit Impact report on regular basis. ➤ DISH informed vide letter dated 16/10/2015 that, as per Rule 18 A of the Maharashtra Factory Act, 1963, it is mandatory on every occupier to carry out health check-up of workers through Authorized Medical Officer. Also informed, 11 industries carried out health check-up of 987 workers in 2015. ➤ NMMC is supplying treated water in corporation area. The source of water supply is Morabe dam, which is about 30 Km away from the city.
13	Monitoring of ground water at MSW/TSDF site.	MPCB	<ul style="list-style-type: none"> • MPCB is regularly monitoring ground water quality at CHWTSDF & MSW site and analysis reports shows ground water quality is not chemically deteriorated, a copy the monitoring report enclosed as Annexure-C. • The Board has also carried out Ground water quality at CHWTSDF & MSW Turbhesite during 21/07/2016 to 26/07/2016 from external agency at 02 locations in TTC area & results shows that, there is no any abnormality in ground water quality
14	Improvements in CETP.	CETP	<p>Improvements in CETP-</p> <ol style="list-style-type: none"> 1. Installed on line monitoring system for pH, DO and flow meters. 2. Installed & Commissioned 2 Nos. 20 HP Mixer aerators in the aeration tank. 3. Installed & Commissioned of Central Control Panel (Mimic Panel) for the plant operators to monitor the functioning of all unit operations from one place and exercise adequate control. 4. Installed Online TOC Analyser for continuous monitoring of quality of treated effluent in 2004 5. Microbiological laboratory has been set up. 6. Installed CCTV Cameras at various points at the plant process in order to monitor the operations closely. 7. Installed a pilot plant of 2000 ltrs. for Bio-gas generation by feeding biological sludge with small amount of kitchen waste. 8. Installed Solar PV system of 2.4 KWP for internal lightening

			<p>9. Installed Centrifuge decanters for faster drying and better handling of sludge in 2013</p> <p>10. Installed Real Time effluent quality online monitoring systems for effluent at both inlet and outlet of CETP</p> <p>Board has asked to carry out performance evaluation of CETP to know present scenario.</p> <p>Board has asked to carry out performance evaluation of CETP to know present scenario.</p> <p>Board has issued proposed directions to CETP. After issuance of directions, CETP has carried out inhouse performance evaluation study which reveals that:</p> <ol style="list-style-type: none"> a. Effluent is biodegradable in nature b. Scope of improvement by introducing oxidising chemical at primary stage c. Scope of improvement by introducing anaerobic treatment at secondary stage. <p>CETP has taken further additional steps to enhance the performance of CETP and same is exhibited as <u>Annexure-A</u></p> <p>Recent Improvements:</p> <ul style="list-style-type: none"> ➤ CETP has installed specially designed slow speed agitators ➤ Constructed new Equalization Tank ➤ Installed RO system having capacity 100 CMD ➤ Installed SCADA System
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Long Term Measures

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Present Status as on Dec 2016
1.	Improvements in CETP.	CETP	<p>As reported above Improvements in CETP-</p> <ol style="list-style-type: none"> 1. Installed on line monitoring system for pH, DO and flow meters. 2. Installed & Commissioned 2 Nos. 20 HP Mixer aerators in the aeration tank. 3. Installed & Commissioned of Central Control Panel (Mimic Panel) for the plant operators to monitor the functioning of all unit operations from one place and exercise adequate control. 4. Installed Online TOC Analyser for continuous monitoring of quality of treated effluent in 2004 5. Microbiological laboratory has been set up. 6. Installed CCTV Cameras at various points at the plant process in order to monitor the operations closely. 7. Installed a pilot plant of 2000 ltrs. for Bio-gas generation by feeding biological sludge with small amount of kitchen waste. 8. Installed Solar PV system of 2.4 KWP for internal lightening 9. Installed Centrifuge decanters for faster drying and better handling of sludge 10. Installed Real Time effluent quality online monitoring systems for effluent at both inlet and outlet of CETP. <p>Board has asked to carry out performance evaluation of CETP to know present scenario.</p> <p>Board has asked to carry out performance evaluation of CETP to know present scenario.</p> <p>Board has issued proposed directions to CETP. After issuance of directions, CETP has carried out inhouse performance evaluation study which reveals that:</p> <ol style="list-style-type: none"> a. Effluent is biodegradable in nature b. Scope of improvement by introducing oxidising chemical at primary stage c. Scope of improvement by introducing anaerobic treatment at secondary stage. <p>CETP has taken further additional steps to enhance the performance of CETP and same is exhibited as <u>Annexure-A</u></p> <p>Recent Improvements:</p> <ul style="list-style-type: none"> ➤ CETP has installed specially designed slow speed agitators

			<ul style="list-style-type: none"> ➤ Constructed new Equalization Tank ➤ Installed RO system having capacity 100 CM ➤ Installed SCADA System <p>Future Improvement</p> <ul style="list-style-type: none"> ➤ Planning for higher capacity RO to recycle & reuse of treated effluent after assessing the feasibility
2	Upgradation of Individual ETPs	Industries	<ul style="list-style-type: none"> ➤ All the major industries had improved their treatment system in order to reduce pollutant load at least by 10%. Recently 3 nos of industries upgraded their existing ETP which was reported in last progress report as – <ol style="list-style-type: none"> 1. M/s. SoujanyaColourPvt Ltd Plot no: C-35 & 36 TTC MIDC Pawane 2. M/s. Zydus Takeda Health Care PvtLtd Plot no: C-4 TTC MIDC Pawane. Navi Mumbai (Installed RO System for 50% effluent generated) 3. M/s. RPG Life Sciences Pvt. Ltd. Plot No. 25, MIDC Pawane, Navi Mumbai
3	Change in fuel	Industries	<ol style="list-style-type: none"> 1. The Mahanagar gas co. is laying down gas pipeline in TTC Area which is commissioned at some places. Most of the industries proposed to use natural gas after completion of the pipeline work. 2. Total 69 industries have changed their fuel pattern and using PNG as fuel. 3. Another 22 industries have submitted their application for change in fuel (Use of PNG) to Mahangar Gas Co.
4	Improvement in ECS	Industries	<ul style="list-style-type: none"> ➤ All the textile industries have installed dust collectors followed by Scrubber system as an air pollution control system. ➤ M/s. NOCIL Ltd, C-37, MIDC, TTC Indl. area, Pawane village, Navi Mumbai has provided ESP System for their coal fired Boiler as Air Pollution Control Devices in TTC Industrial Cluster ➤ Regional Office issued directions to Textile units to upgrade existing APC to achieve emission upto 75 mg/NM³ ➤ 08nos of textile units has upgraded Air pollution control system namely <ol style="list-style-type: none"> 1. Talreja Textile Indust Pvt. Ltd., Turbhe-Ventury Scrubber 2. Microinterlink, Turbhe- Ventury Scrubber 3. Suditi Industries, Turbhe- Bag Filter 4. Viking Advanced Technologies- Ventury Scrubber 5. Shivshankar Textile Processors Pvt. Ltd. – Ventury Scrubber 6. Nylon Carpet Mfg Company- Ventury Scrubber 7. RC Innovation- Ventury Scrubber

			<p>8. Beekalene fabrics Pvt. Ltd. – Ventury Scrubber</p> <ul style="list-style-type: none"> ➤ 05 nos. of industries issued work order and remaining units are under process to upgrade the air pollution control systems. ➤ Performance evaluation of air pollution control systems will be checked in due course of time
5	Installation of VOC analyzer	Industries	<p>In CEPI Review meeting dated: 14/05/2016 held at CETP TBIA TTC MIDC Navi Mumbai all the bulk drug units are directed to install VOC analyzer with alarm system.</p> <p>The Board has issued directions u/s 31 A of the Air (P&CP) Act to 16 industries on 13/6/2016 to install VOC analyzer within 03 months.</p> <p>Recently following 09 industries have installed VOC analyzer system:</p> <ol style="list-style-type: none"> 1. Amines & Plasticizers Ltd. Turbhe 2. Lubrizol Ltd. Turbhe 3. Zydus Takeda Healthcare Ltd. Pawane 4. NOCIL Ltd. Pawane 5. RPG Life Sciences Pawane 6. Lubrizol Ltd. Pawane 7. SI Group Pvt. Ltd. Turbhe 8. Modepro India Pvt. Ltd. 9. Croda Chemicals Ltd
6	To provide proper sewerage system for slum pockets & connects the sewage to STPs & use of treated sewage for gardening & industrial purpose	MIDC/ NMMC	<p>In Navi Mumbai Municipal Corporation area 29 Slum pockets are in existence on MIDC Land. As land ownership of these land belongs to MIDC authority NMMC is providing basic facilities like public stand post, community toilets etc for residents of these slums. For providing infrastructure facilities such as sewerage system with treatment & disposal facility for sewage generated therein, appropriate land is required.</p> <p>NMMC also reported, Necessary correspondence will be done with MIDC for availing land for construction of sewage system & treatment plant in these slum pockets</p> <p>NMMC has assured the drainage network in the slum pocket area will be completed in one year after taking possession of the land for pumping station from MIDC authority.</p> <p>NMMC Representative in CEPI review meeting dt: 09/11/2016 informed that, NMMC has carried out survey of Ghansoli & Airoli prepared plan for collection of sewage & connect to nearest STP. Also, completed survey of Digha, Tubhe & Nerul area and preparation of plan is under process. After completion of individual plan, combine DPR will be prepared and on the basis of DPR work will be carried out.</p>
7	Installation of CAAQM Stations with digital display on screen.	TBIA	<ul style="list-style-type: none"> ➤ There are 4 nos of CAAQMS stations are operating at four stations viz Nerul Garden, Airoli, Turbhe MSW Site & Koparkhiarne by

			<p>NMMC.</p> <ul style="list-style-type: none"> ➤ The Air Quality Index (AQI) of period April, 2016uptoDec, 2016 shows AQI is satisfactory (51-100) to moderate (101-200). In Nov 2016 Air quality at Turbhe&Koparkhairane is poor due to particulate matter& temperature inversion phenomenon in the winter season, exhibited as <u>Annexure-D</u> ➤ The dominant parameters are Particulate matter & CO, may be due to growing vehicular traffic and construction projects as well as commercial and infrastructure development including road construction etc.
8	Set up of New AAQM Station	TBIA and MPCB	<ul style="list-style-type: none"> ➤ Already there are three AAQM Stations (NAMP) established by MPCB (Nerul, Rabale, Mahape). ➤ In view of CEPI Action Plan, the Board has taken positive/ effective steps for installation of CAAQM Stations at Mahape CEPI area, which shall be commissioned within next 06 months, as tender bids are opened on 18/8/2016. ➤ The Board has installed one manual Ambient Air Quality Monitoring Station on 18.8.2016 at Plot No P-128 MIDC Mahape, TTC Navi Mumbai and started monitoring of 12 parameters (Sulphur Dioxide, Nitrogen Dioxide, Particulate matter (PM10), Particulate Matter (PM2.5), Ozone, Lead, Carbon Monoxide, Ammonia, Benzene, Benzo(a)Pyrene(BaP), Arsenic and Nickel) as prescribed in the Notification 2009. This station is operated on weekly basis till installation of CAAQM Stations
9	Development of green belt & garden.	MIDC/TBIA	<p>TBIA informed that, over 12,00,000 saplings have been planted in Navi Mumbai aera with 90% survival rate.</p> <p>MPC Board has issued letter vide dt: 12/05/2016 to carry out tree plantation programme by special drive during rainy season every year.</p> <p>The Board has recently taken special drive of mass tree plantation in Maharashtra. Accordingly, around 8000 nos of trees planted in TTC area. About 60000 nos. of trees planted at Village Ane, Kalyan by industries located in TTC area.</p> <p>Plantation is regularly carried out by MIDC TBIA, Individual industries &Navi Mumbai Municipal Corporation.</p>

10	Scientific Disposal of MSW. (500 MT/D)	NMMC	MSW disposal site i.e. installation of leachate treatment plant, waste to Compost and RDF projects etc. are completed and operating satisfactory.
11	Minimization of waste by the industries	Industries	<p>Some industries have adopted cleaner technology. Other major units are being proposed to minimize waste i.e. textile industries are being proposed to use ecofriendly chemicals so as to reduce process waste.</p> <p>Some of the industries using NaOH/Caustic in place of lime to reduce ETP sludge generation namely NOCIL, RPG Life sciences etc.</p> <p>Coal using industries are being proposed to use eco-friendly fuels.</p>
12	Installation of Supervisory control and data acquisition (SCADA)	Industry CETP MPCB	<p>A system for remote monitoring and control that operates with coded signals over communication channels for industries generating more than 100 CMD trade effluent, as a mitigative measures towards leakage of effluent carrying pipeline.</p> <p>In this directions issued to CETP and work is under progress.</p> <p>Total 12nos of industries installed SCADA system.</p>
13	Air pollution control measures for stone crusher units.	MPCB Stone Crusher Units	<p>These units are one of the source of air pollution. The Board has constituted field team comprising of members of NEERI & IIT and carried out extensive survey of stone crusher units and taken action against 24 defaulting units under section 31 A of Air (P&CP) Act, 1981& now, 19 nos. of the stone crushers have taken steps towards improvement of air pollution control system by providing dust suppression system, water sprinkling arrangement & metal road.</p> <p>All stone crusher units have installed water sprinkling system & covered the trucks during transportation of raw & finished material.</p>
14	Installation of Online monitoring system to 13 nos. of highly polluting (17th Category) industries.	Industry MPCB	Total 11 units have installed online effluent monitoring system. CPCB has issued closure direction to 01 unit and 01 unit has reported, online monitoring system is not applicable as per CPCB guidelines.
15	Vehicle pollution and trafficmanagement plan	NMMC RTO MIDC	NMMC and MIDC have been directed to provide good roads in the area. Most of the public transport vehicles, taxis, Auto Rickshaw running on natural gas. RTO have been

			<p>informed for synchronizing traffic line strategy for phase out old vehicles.</p> <p>Installation of new CNG station is in consideration by the Mahanagar Gas in TTC MIDC Area is in progress.</p> <p>MPCB has already communicated to RTO Office to submit statics information such as vehicles operated on CNG, no. of vehicles above 15-year-old, violation of PUC cases vide letter dated 22/04/2016</p> <p>Navi Mumbai Municipal Corporations Transport System has provided 150 nos of CNG buses (out of 350 Buses) for public transport system.</p>
16	Reuse of Treated Sewage.	NMMC MPCB	Total sewage generation from NMMC area is 230 MLD and same is treated in 08 STPs located at different locations. About 15 MLD out 40 MLD treated Sewage of Vashi STP is used by CIDCO for gardening and construction activity.
17	Awareness program	MPCB TBIA	<p>Awareness programs are conducted regularly in coordination with TBIA, TTCWMA, CETP & other industries.</p> <p>MPC Board has also conducted aware ness programs such as – World Environment day (5 June), World Ozone Day (22 Sep), Eco friendly Ganesh Festival, Vasundhara Awards, & Fire Cracker testing during Diwali.</p>

CETP TTC Navi Mumbai

Immediate corrective actions taken up as under :

- **Plant operation is tightened up wherever required.** (Specially designed surface aerators have been installed, chemical dosing efficiency is further improved, have set up pre-flocculation system for better agitation & settling of suspended solids etc.)
- Since beginning of March, **this CETP has started partial re-circulating the treated effluent back in to the aeration system** in order to evenout any shock loads and strengthen the biological treatment. This has shown positive improvements in CETPs performance since then.
- This CETP has taken up **construction of a new equalization tank of 5000 CuM capacity** on priority to accommodate the hydraulic load and ensure proper equalization of the effluent received.
- CETP has **written strongly to all our user member industries** to have control on their discharges and treat the trade effluent generated, strictly as per MPCB consent norms. CPCB has **increased frequency of vigilance sampling** in this regard.
- This CETP is **installing a 100 CuM / day capacity pilot plant for tertiary system in order to recycle & reuse the treated effluent** so that based on the feasibility and demand for the recycled effluent, CETP can plan to put up a plant for higher capacity.
- **CETP management is closely monitoring the day to day operations** and the **best practices have been introduced** to ensure proper implementation of the above.

Anaysis Result of Mannual Amibent Air Quality Station installed at TTC, MIDC Mahape as per NGT Order

Sr. No.	Parameters	Limits (As per National Amibent Air Pollutant Standards)	17/08/2016 to 18/08/2016	18/08/2016 to 19/08/2016	3/9/2016 to 4/9/2016	18/10/2016 to 19/10/2016	26/10/2016 to 27/10/2016	17/11/2017 to 18/11/2016	1/12/2016 to 2/12/2016	14/12/2016 to 15/12/2016
1	Sulphur Dioxide (SO ₂), ug/m ³	80	BDL	BDL	4.5	1.83	3.33	1.66	2.33	1.5
2	Nitrogen Dioxide (NO ₂), ug/m ³	80	15	11.666667	2	12.16	27.16	8	42.33	16.16
3	Particulate Matter (Size less than 10µm) or PM ₁₀ ug/m ³	100	NR	NR	77.33	NR	NR	216.33	212.66	179.33
4	Particulate Matter (Size less than 2.5µm) or PM _{2.5} ug/m ³	60	195.666667	152	0.135	57.66	111.66	0.4	0.233	0.153
5	Ozone (O ₃) ug/m ³	180	-	-	-	<20	<20	-	-	-
6	Lead (Pb) ug/m ³	1	-	-	0.176			0.042	0.12	0.215
7	Carbon Monoxide (CO) mg/m ³	4	0.97666667	0.85666667	-	1.7	1.24	1.53	1.86	..
8	Ammonia (NH ₃)	400	15.983333	12.616667	-	NR	NR	35.16	41	1.66

	ug/m3									
9	Benzen e (C6H6) ug/m3	5	-	-	-	-	-	-	-	-
10	Benzo (a) Pyrene (BaP) Paticul ate phase only, ng/m3	1	-	-	BDL	-	-	-	-	-
11	Arsenic (As), ng/m3	6	-	-	-	-	-	-	-	-
12	Nickel (Ni), ng/m3	20	-	-	0.023	-	-	0.032	0.01	0.123

43	Choloropyriphos	-	-	-	-	-	-	-	BDL
44	Dieldrin	-	-	-	-	-	-	-	BDL
45	Gama BHC	-	-	-	-	-	-	-	BDL
46	Malathion	-	-	-	-	-	-	-	BDL
47	Methyl parathion	-	-	-	-	-	-	-	BDL
48	OP DDT	-	-	-	-	-	-	-	BDL
49	PP DDT	-	-	-	-	-	-	-	BDL

Trans Thane Creek Waste Management Association,
Plot No. P-128, MIDC-Mahape, TTC Indl. Area, Navi Mumbai.

Analysis results – Borewell at TTCWMA

Parameter /Date	Limits	25/08/2015	31/12/2015	28/01/2016	19/03/2016	28/06/2016	13/07/2016
Code No.		03655	03821	03859	03897	03940	03946
pH	5.5 to 9	8.3	6.9	8.1	8.8	7.0	8.4
BOD	100 mg/l	5.0	6.0	15.0	7.0	82.0	74.0
COD	250 mg/l	16.0	16.0	56.0	20.0	276.0	288.0
Oil & Grease	20 mg/l	BDL	BDL	-	BDL	BDL	BDL
SS	100 mg/l	8.0	10.0	8.0	10.0	10.0	10.0
Arsenic	0.2 mg.l	BDL	BDL	-	-	BDL	BDL
Cadmium (CD)	2 mg/l	BDL	0.2	0.02	0.01	BDL	0.02
Chlorides	-	-	-	123.0	-	55.5	37.5
Copper	3 mg/l	0.1	0.2	0.07	0.63	BDL	0.1
Cycnide	0.2 mg/l	BDL	BDL	BDL	BDL	BDL	BDL
Dissolve Oxygen	-	-	-	5.0	-	BDL	-
Fluoride	15 mg/l	0.9	0.6	1.4	0.6	1.2	1.5
Iron	-	-	0.09	-	-	0.22	-
Lead	1 mg/l	0.01	BDL	0.06	BDL	0.6	0.24
Mercury	0.01 mg/l	0.01	0.001	0.002	0.004	0.004	BDL
Nickel	5 mg/l	0.02	0.05	0.15	0.04	0.18	0.68
Nitrate Nitrogen	-	0.7	1.0	43.4	0.6	1.5	0.4
Phenol	1 mg/l	BDL	BDL	BDL	BDL	BDL	BDL
Sulphide	5 mg/l	BDL	-	BDL	BDL	BDL	-
Sulphate	1000 mg/l	-	-	8.4	-	88.1	56.5
TAN	50 mg/l	-	-	-	0.1	0.1	0.3
TKN (as N)	100 mg/l	2.2	123.8	0.6	0.6	3.9	3.9
TRC	-	BDL	BDL	BDL	BDL	BDL	BDL
Total Chromium	2 mg/l	BDL	-	BDL	0.74	1.66	0.14
TDS	2100 mg/l	-	-	640.0	594.0	543.0	476.0
Zinc (Zn)	15 mg/l	0.08	0.02	BDL	0.07	0.22	0.2

Air Quality Index

Month	Airoli		Koparkhairane		Turbhe	
	AQI	Dominant Parameter	AQI	Dominant Parameter	AQI	Dominant Parameter
April-16	101	CO	111	PM10	118	PM10
May-16	80	CO	79	PM10	92	PM10
Jun-16	115	Nox	76	CO	63	PM10
Jul-16	60	PM2.5	88	CO	55	PM10
Aug-16	55	CO	50	PM 10	52	PM 10
Sep-16	73	CO	54	PM10	59	PM 10
Oct-16	83	CO	111	PM10	97	PM 10
Nov-16	86	CO	215	PM 2.5	216	PM 2.5
Dec-16	61	CO	157	PM 2.5	191	PM 2.5

* Concentrations of minimum three pollutants are required; one of them should be PM10 or PM2.5

* The check displays "1" when a non-zero value is entered

Good (0–50)	Minimal Impact	Poor (201–300)	Breathing discomfort to people on prolonged exposure
Satisfactory (51–100)	Minor breathing discomfort to sensitive people	Very Poor (301–400)	Respiratory illness to the people on prolonged exposure
Moderate (101–200)	Breathing discomfort to the people with lung, heart disease, children and older adults	Severe (>401)	Respiratory effects even on healthy people

**CETP JVS analysis Results (Outlet) , TTC, Navi Mumbai.
(from 1st December 2015 to 13 Dec 2016.)**

Month	Date/period	Parameter with consented standard					
		PH 5.5 to 9	BOD 100mg/l	COD 250mg/l	SS 100mg/l	O&G 20 mg/l	TDS
			100	250	100		
15-Dec	1st Week	7.3	75	212	32	BDL	6093
	2nd week	7.1	74	248	40	BDL	6987
	3rd week	7.7	84	260	88	BDL	7887
	4th week	7.4	45	176	14	BDL	5169
Jan-16	1st Week	8	110	364	40	BDL	8510
	2nd week	8	110	452	28	BDL	9039
	3rd week	7	36	168	30	BDL	4272
	4th week	7	55	232	36	BDL	5962
Feb-16	1st Week	7	56	396	10	BDL	5190
	2nd week	7	110	388	20	BDL	11179
	3rd week	7	110	348	34	BDL	5969
	4th week	7	110	428	76	BDL	7537
	5th week	8	56	220	14	BDL	4396
Mar-16	1st Week	7	70	328	32	BDL	7069
	2nd week	8	105	352	46	BDL	5984
	3rd week	8	37	148	14	BDL	5470
	4th week	8	60	248	34	BDL	5232
Apr-16	1st Week	8	75	260	28	BDL	5670
	2nd week	8	65	228	24	BDL	1703
	3rd week	7	55	264	30	BDL	2225
	4th week	7	50	180	22	BDL	837
May-16	1st Week Plant 15 MLD	7	32	156	20	BDL	1194
	1st Week Plant 12 MLD	7	34	164	24	BDL	1094
	2nd week	7	48	212	38	BDL	1271
	3rd week	7	190	840	26	BDL	946
	4th week	7	40	188	22	BDL	1486
	5th week	6	46	244	30	BDL	1575
Jun-16	1st Week	7	135	288	30	BDL	1299
	2nd week	7	160	436	30	BDL	1972
	3rd week	7	110	320	74	BDL	7328
	4th week	6	115	364	18	BDL	1960
Jul-16	1st Week	7	110	404	36	BDL	1372
	2nd week	7	80	336	34	BDL	2100
	3rd week	7	62	180	36	BDL	3005
	4th week	7	48	176	80	BDL	3053
Aug-16	1st Week	7	32	104	26	BDL	1558
	2nd week	7	62	192	42	BDL	2376
	3rd week	7	42	160	20	BDL	2716
	4th week	7	500	900	134	7	3956
	5th week	7	30	116	26	BDL	2507
Sep-16	1st Week	6	8	36	40	BDL	991
	2nd week	7	140	464	110	BDL	3436
	3rd week	7	36	144	30	BDL	2798
	4th week	7	120	272	112	BDL	1808
Oct-16	1st Week	7	200	512	80	BDL	3094

	2nd week	7	140	448	102	BDL	3638
	3rd week	6	135	440	90	BDL	4184
	4th week	7	140	512	102	BDL	5092
Nov-16	1st Week	7	115	296	70	BDL	3759
	2nd week	6	135	436	84	BDL	4447
	3rd week	7	115	344	104	BDL	3817
	4th week	7	115	384	86	BDL	3680
	5th week	7	54	196	138	BDL	556
Dec-16	1st Week	7	110	304	64	BDL	3298
	2nd week	7	110	300	100	BDL	2816
	3rd week						
	4th week						
Average of 55 Results 1st Dec 2015 to 13 th December 2016		6.93	92.67	304.87	50.00		3679.84