

PRESENTATION

CEPI Presentation on Action Plan for Navi Mumbai



1 Maharashtra Pollution Control Board

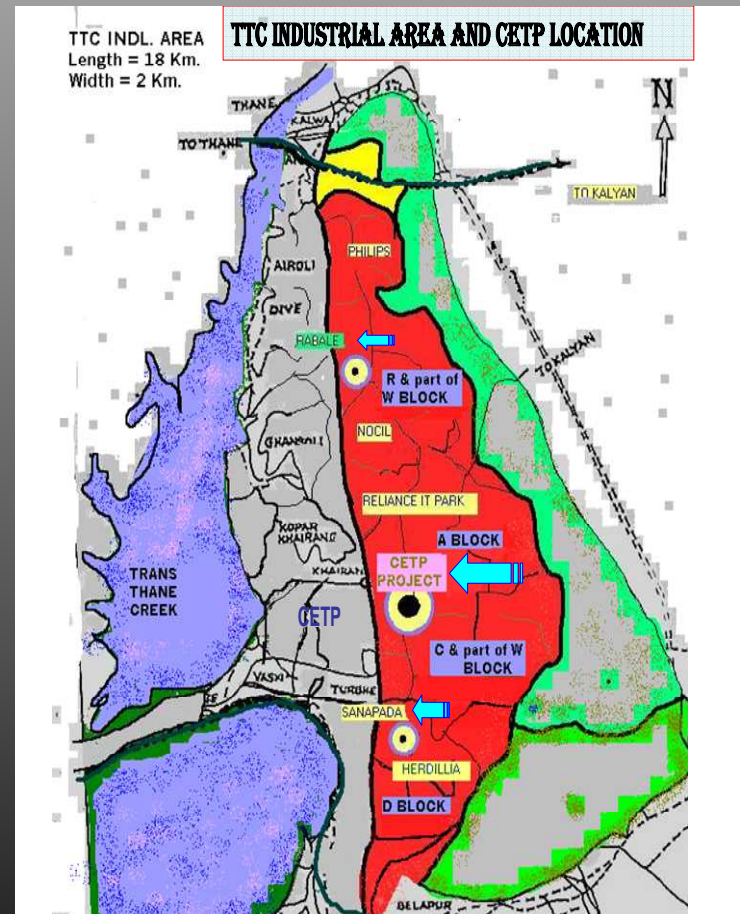
30/09/2015

CONTENT

- **Introduction**
 - **About Navi Mumbai**
 - **Background**
 - **CEPI Score**
- **Present Status**
 - **Major Issues**
 - **Industrial Stastics**
- **CEPI Aspects**
- **Water**
 - **Local body present status**
 - **Sewage treatment disposal and its disposal.**
 - **Common Effluent Treatment Plant (CETP)**
 - **Coastal Monitoring and sea/creek water quality.**
- **AIR**
 - **Ambient air quality Monitoring stations and Air Quality.**
- **Land**
 - **Municipal Solid Waste Management**
 - **Bio Medical Waste Management**
 - **Hazardous Waste Management**
- **Action Plan**
- **Action Taken Report**

ABOUT NAVI MUMBAI CLUSTER

Name of the Industrial cluster	TTC MIDC area (Turbhe, Mahape, Koparkhairane and Rabale) Thane Belapur Road, Navi Mumbai.
Area	Approx. 27 Sq.km.
Surroundings	<ul style="list-style-type: none"> ✓ East : Parsik Hill range. ✓ West : Thane Municipal Area ✓ North: Residential Area ✓ South : Thane Belapur Road , and Navi Mumbai Township.
Land Use :	<ul style="list-style-type: none"> ✓56 % Built up area ✓24 % Forest/ ✓12 % Wetland, ✓Remaining for water bodies and agriculture



BACKGROUND

- CPCB had carried out Comprehensive Environmental Assessment of 88 industrial clusters in country in Dec 2009 based on the Comprehensive Environment Assessment and Comprehensive Environmental Pollution Index(CEPI).
- The CEPI was developed by number of prominent academic institutions, led by IIT Delhi which were also associated with the field level assessments.
- Out of the 88 industrial clusters, 43 were identified as critically polluted areas where the CEPI score is 70 or more.
- This assessment was released on 24/12/2009
- Navi Mumbai was one of them having aggregate CEPI Score 73.77

CEPI SCORE

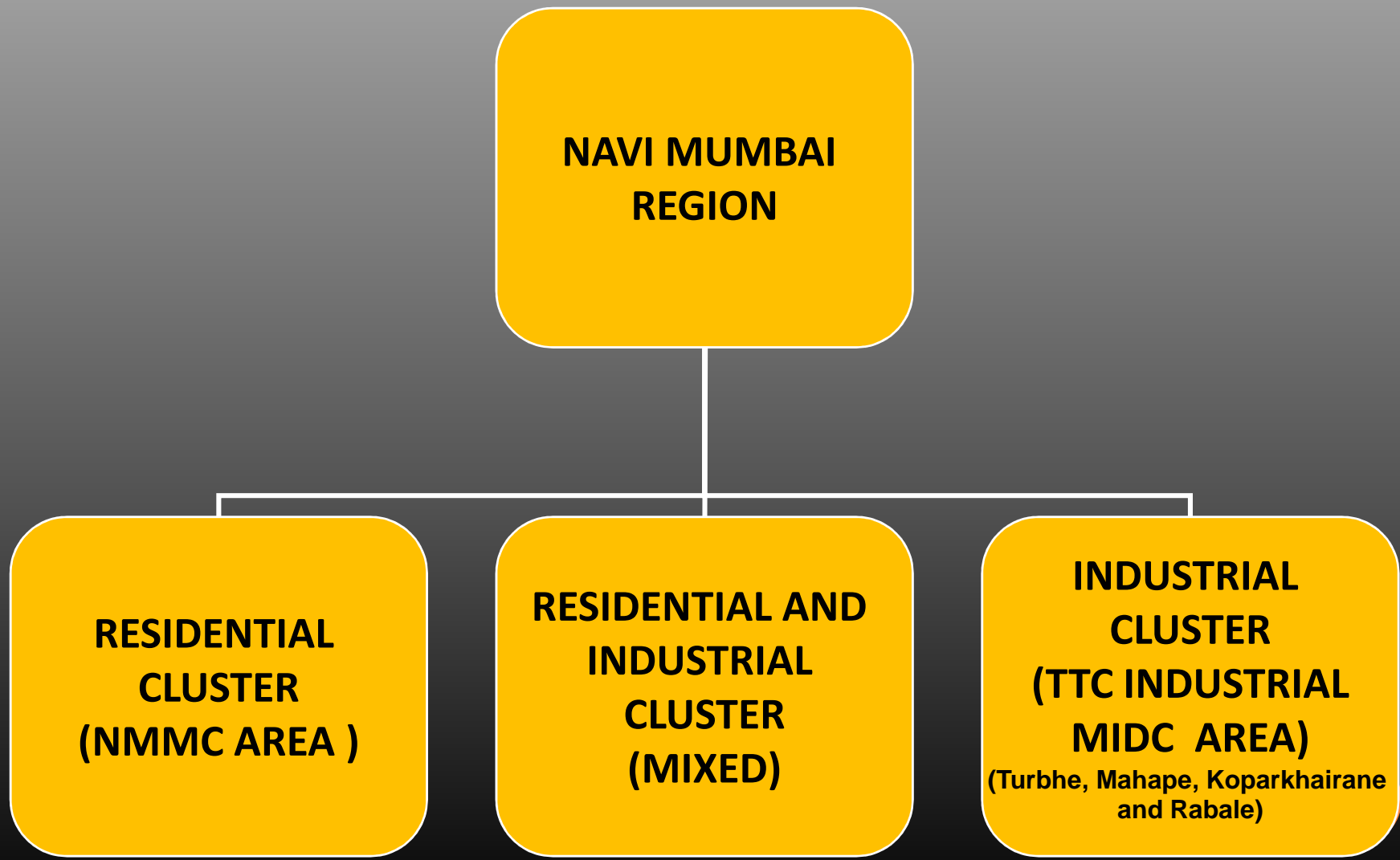
CEPI Score details- Year wise after implementation of action plan (Air, Water, Land)

Parameter	CEPI Score As per CPCB Report 2009	CEPI Score As per CPCB Report 2013	CEPI Score As per MPCB Report Feb 2015
Water	59	66	34.00
Air	61	47	25.50
Land	55.5	43	35.50
Total aggregate CEPI	73.77	72.87	40.00

CEPI CALCULATION : $35.50 + \{ 100-35.50 \} \times (34/100) \times (25.50/100) = 40.00$

Where im: maximum sub index and i2, i3 are sub indices of for other media (air/water/land), Thus CEPI reduced from 73.77 to 40.0

CORE SECTOR OF NAVI MUMBAI REGION



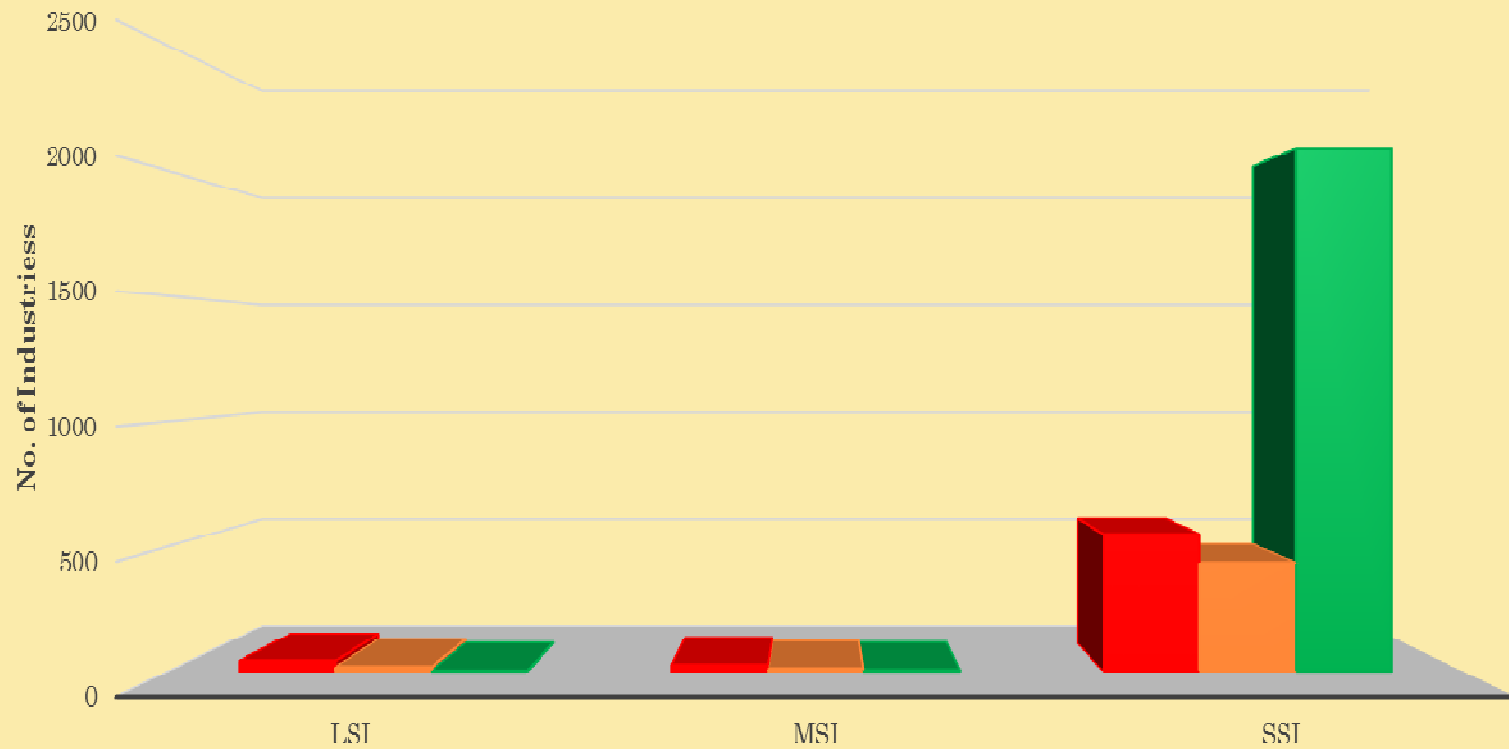
Present Status

- Many chemical and other industries are closing and new IT parks , Residential towers are coming up.
- Massive construction activities and stone crushers / Quarries affect air pollution.
- Major cities are connected by road to Navi Mumbai, main source of Air pollution due to vehicles
- In TTC industrial area, CETP and CHWTSDF are operating satisfactorily.
- 3 CAAQMS and three NAMP stations located shows generally fair ambient air quality w.r.t. Particulate matter

MAJOR ISSUES IN TTC MIDC AREA

- **MIDC has not laid down drainage network in some parts i.e. Digha, Airoli.**
- **Incidence of leakage of effluent due to breakage of pipeline.**
- **Overflow of MIDC chambers.**
- **Unloading of debris along the roads in MIDC area.**
- **Overflow of CETP collection chamber particularly during heavy rain.**
- **NMMC has not provided drainage system for Slum pockets in MIDC area.**
- **Internal Road conditions.**
- **In adequate & Improper operation of ECS & ETP by industries.**

INDUSTRIAL STATISTICS



	LSI	MSI	SSI
RED	44	27	549
ORANGE	20	13	436
GREEN	5	7	2091

Highly Polluting industries 17 category		
Sr. No	Category	TTC MIDC
1	Aluminium Smelter	0
2	Chlor Alkali	0
3	Cement	0
4	Copper Smelter	0
5	Distillery	0
6	Dyes & D. I.	3
7	Fertilizers	0
8	Intg. Iron & Steel	0
9	Tanneries	0
10	Pesticides	0
11	Petrochemicals	3
12	Pharmaceuticals & Bulk Drugs	12
13	Pulp & Paper	0
14	Oil Refinery	0
15	Sugar	0
16	Thermal Power Plant	0
17	Zinc Smelter	0
	Total	18

The left side of the slide features a decorative design with vertical stripes in shades of orange and grey, and several orange circles of varying sizes. The number '11' is centered within one of these circles.

11

CEPI ASPECTS

- Water
- Air
- Solid Waste

WATER

- Domestic

- Navi Mumbai Municipal Corporation

Water Consumption : 317 MLD

Wastewater Generation: 245 MLD

Treatment Capacity : 417 MLD

(08 STP)

Disposal : Thane Creek



- Industrial

- Total trade effluent generation : 26 MLD.

- The treated effluent of the industries is discharged into Common Effluent Treatment Plant (CETP) for further treatment and disposal and then discharged into TTC creek through closed pipeline at the point recommended by National Institute of Oceanography (NIO) nearly 3 km inside Vashi creek

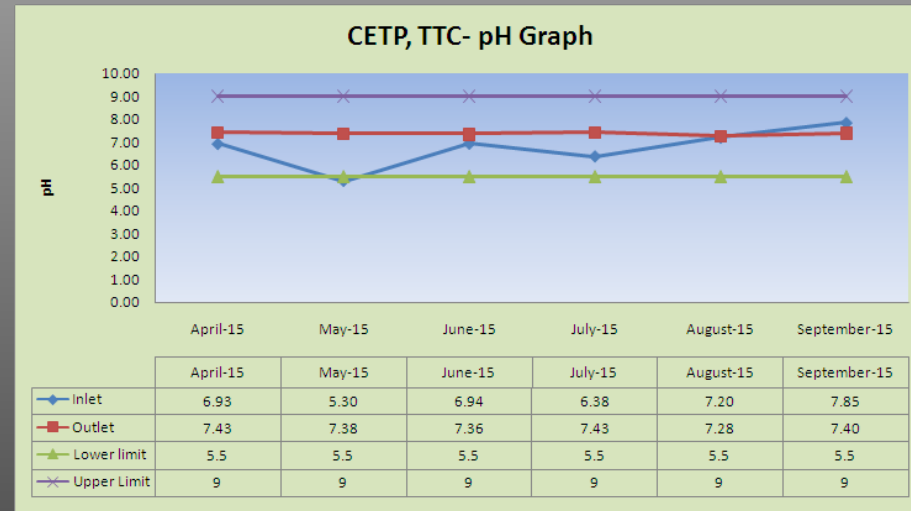
SEWAGE TREATMENT PLANTS IN NAVI MUMBAI

Sr. No.	Node	Capacity in MLD	Treatment Type	Final Disposal
1	CBD Belapur, Sector -12	21.00	C-Tech (SBR)	Creek
2	Nerul, Sector- 2	17.00	Aerated Lagoon	Creek
3	Nerul, Sector -50	100.0	C-Tech (SBR)	Creek
4	Vashi, Sector -18	100.0	C-Tech (SBR)	Creek
5	Sanpada, Sector- 20	37.50	C-Tech (SBR)	Creek
6	Airoli, Sector- 18	80.0	C-Tech (SBR)	Creek
7	Koper Khairane, Sector-5	87.5	C-Tech (SBR)	Creek
8	Ghansoli, Sector (Operated by CIDCO)	30.0	C-Tech (SBR)	Creek
Total Capacity		473 MLD		

COMMON EFFLUENT TREATMENT PLANT IN TTC MIDC

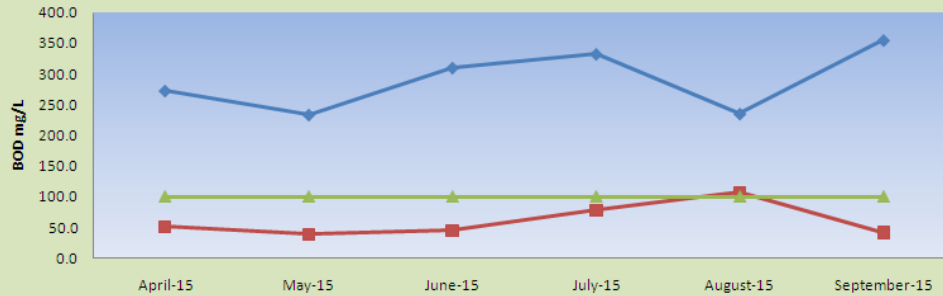
Details	Phase-I	Phase-II
Date of Commissioning	Nov-97	Mar-06
Capacity	12 MLD	15 MLD
Project Cost	4.0 Cr.	8.25 Cr.

- **No. of Members :-** 3145
 - SSI Users 599
 - LSI/MSI Users 96
 - Associate Members 2450
- **Disposal :-** Into Thane Creek through closed pipeline at the spot recommended by NIO



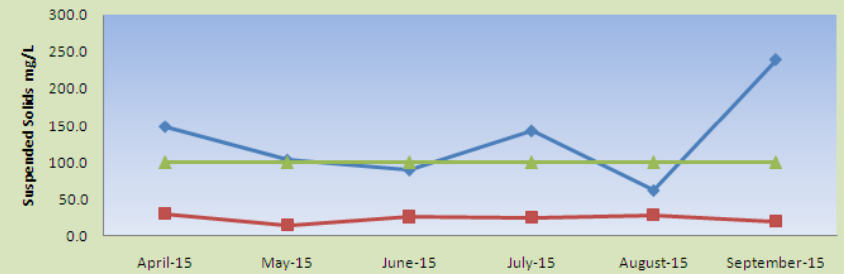
CETP RESULTS (APRIL 15 TO 15TH SEP 15)

CETP, TTC- BOD Graph



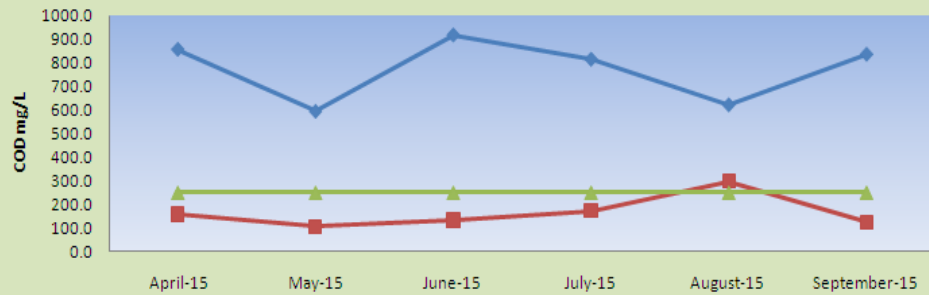
	April-15	May-15	June-15	July-15	August-15	September-15
Inlet	272.5	233.3	310.0	332.5	234.9	355.0
Outlet	51.5	39.5	44.8	78.0	106.8	42.0
Limit	100.0	100.0	100.0	100.0	100.0	100.0

CETP, TTC- SS Graph



	April-15	May-15	June-15	July-15	August-15	September-15
Inlet	149.0	103.3	90.0	143.0	62.2	240.0
Outlet	29.5	14.5	25.6	25.0	28.0	20.0
Limit	100	100	100	100	100	100

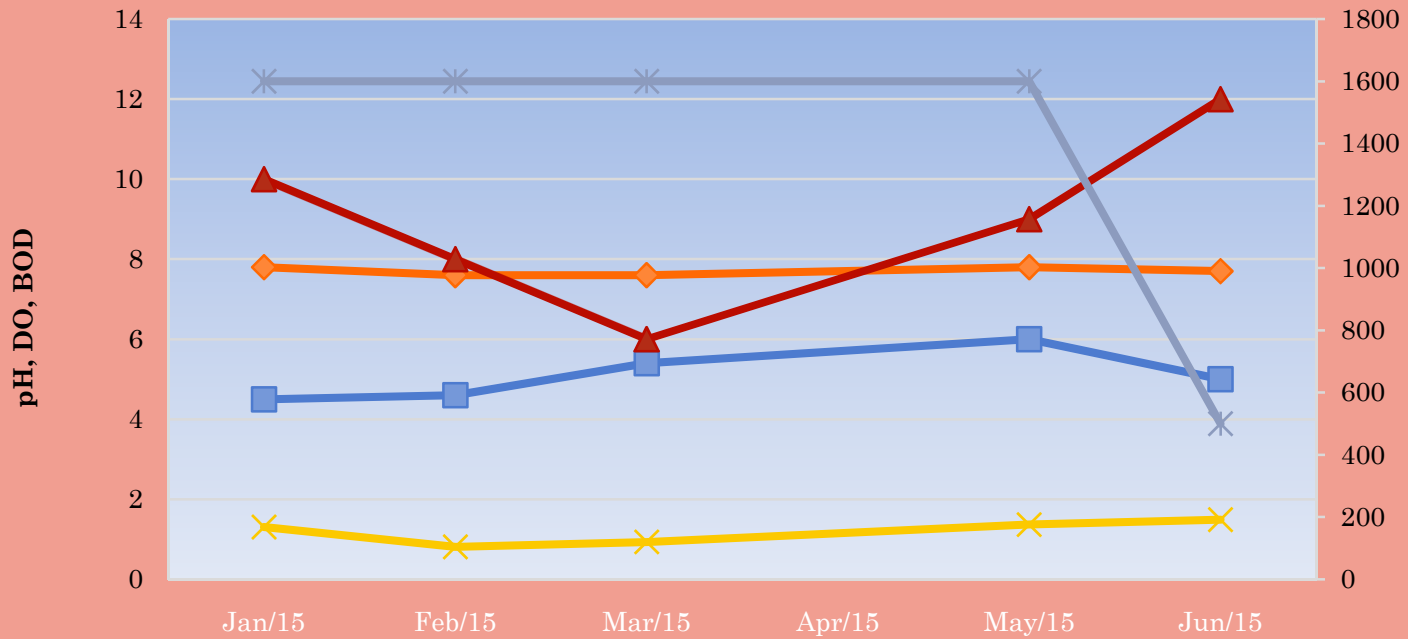
CETP, TTC- COD Graph



	April-15	May-15	June-15	July-15	August-15	September-15
Inlet	857.0	594.7	917.6	815.0	622.2	836.0
Outlet	158.0	108.0	133.6	174.0	296.8	124.0
Limit	250.0	250.0	250.0	250.0	250.0	250.0

WATER QUALITY

Vashi Creek Water Quality



	Jan/15	Feb/15	Mar/15	May/15	Jun/15
—◇— pH	7.8	7.6	7.6	7.8	7.7
—□— DO	4.5	4.6	5.4	6	5
—▲— BOD	10	8	6	9	12
—×— COD	168	104	120	176	192
—*— Total Coliform	1600	1600	1600	1600	500

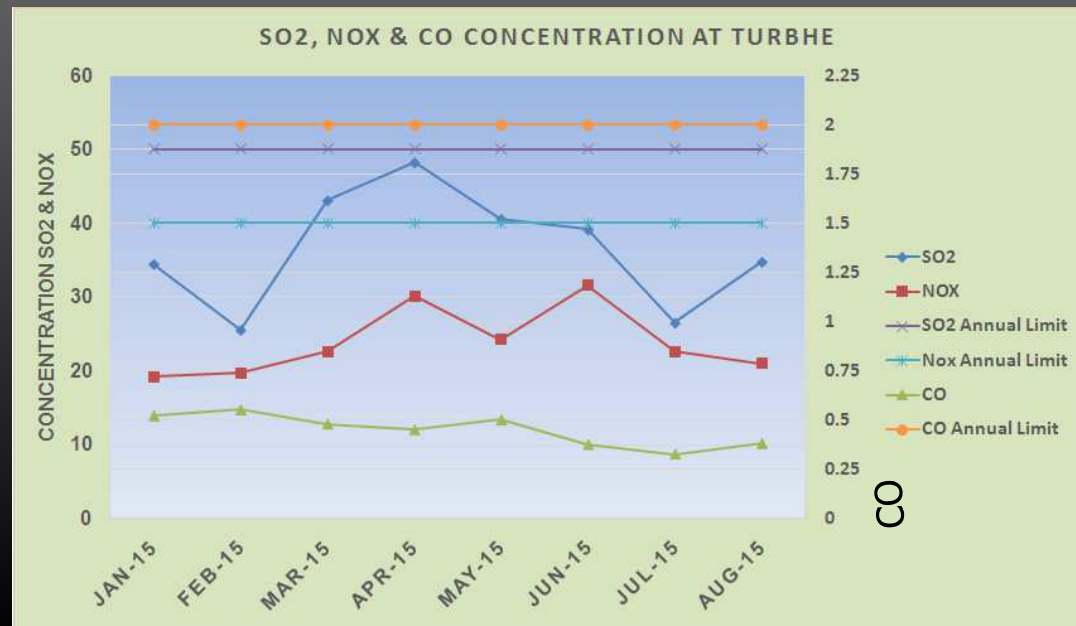
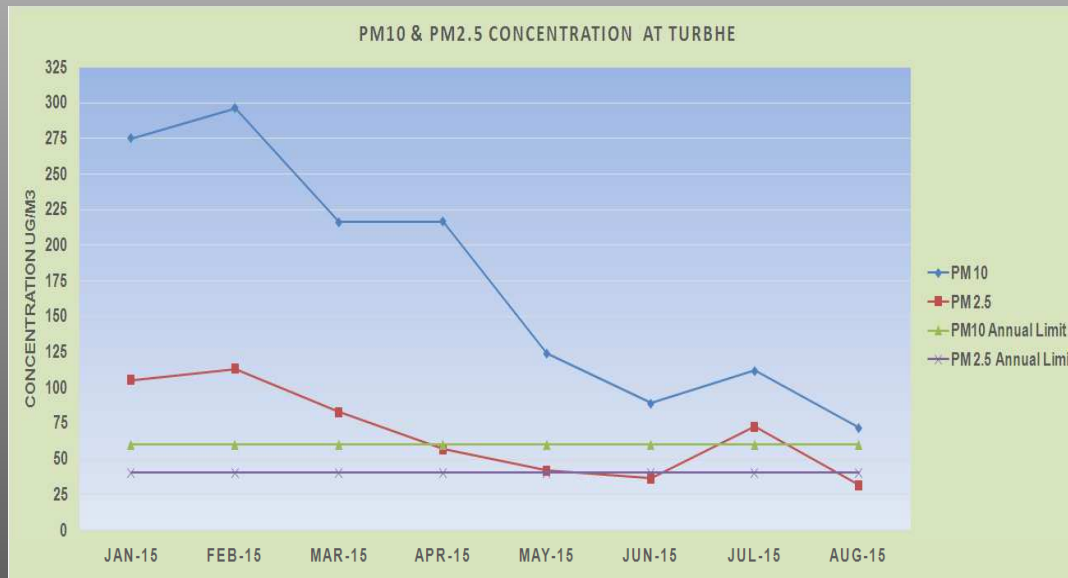
AIR

AMBIENT AIR QUALITY MONITORING STATIONS

1. Fire Brigade Compound, Airoli	-	CAAQM	2009
2. MSW Dumping Site, Turbhe	-	CAAQM	2012
3. Koperkhairane	-	CAAQM	2013
4. Dr.D.Y Patil Collage Nerul	-	NAMP	2006
5. Central Lab Mahape	-	NAMP	
6. T.B.I.A. Rabale	-	NAMP	

(Results are displayed on MPC Board's Web Site)

AIR QUALITY- TURBHE



AIR QUALITY- KOPARKHAIRANE

PM10 & PM2.5 CONCENTRATION AT KOPERKHAIRANE

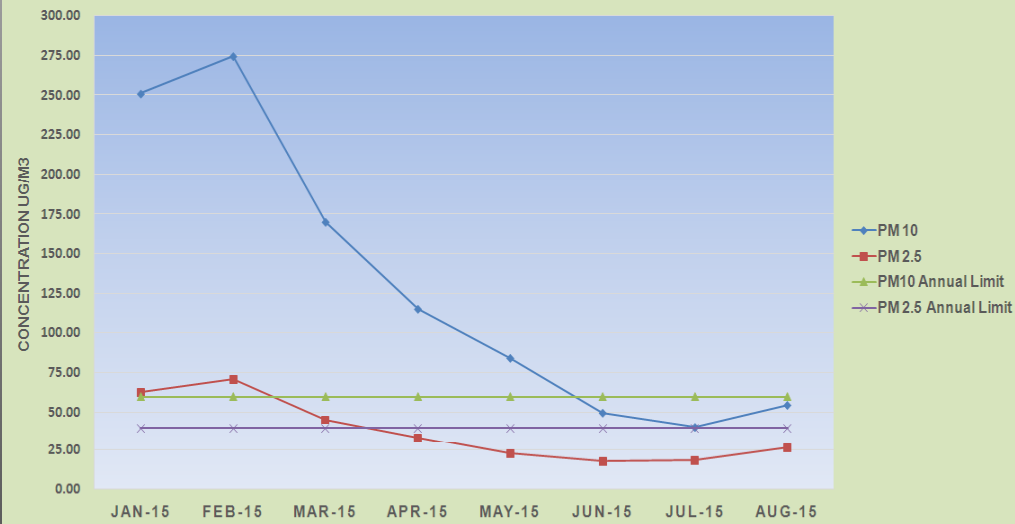


SO2, NOX & CO CONCENTRATION AT KOPARKKHARANE



AIR QUALITY- AIROLI

PM10 & PM2.5 CONCENTRATION AT AIROLI



SO2, NOX & CO CONCENTRATION AT AIROLI



CO

MUNICIPAL SOLID WASTE

Navi Mumbai:

- Total MSW generation 550 T/D.
- Brake up - NMMC - 400T
APMC - 100 T
MIDC - 50 T
- 65 acres of land allotted at Turbhe Navi Mumbai.
- Landfill site is operational i.e. date of commissioning January 2005.
- Bio-Methanation with power generation plant is proposed for 1 to 1.5 MW.
- 30 acres composting, landfilling and 30 acres reserved for office building, Green Belt, Internal Road, Leachet Plant.
- 5 acres comprising of MSW processing facility.

MSW – Site at Turbhe

Initial condition of MSW site



Bentonite Clay Layer



HDPE Liner



Filter Media & HDPE Pipe Network



COMMON HAZARDOUS WASTE TREATMENT STORAGE DISPOSAL FACILITY

- Trans Thane Creek Waste Management
 - Secured landfill: 10,000 MT/Y
- Mumbai Waste Management Limited
 - Secured landfill : 1,20,000 MT/Y
 - Incinerator: 20,000 MT/Y

CHWTSDF- TTCWMA DETAILS

- **Consent valid upto 31/03/2015**
- **Capacity**
 - **Secured Landfill: 12800 MT/Y.**
 - **Physical, chemical, 8800 MT/Y.
treatment & landfill :**
- **Total Members: 1870**
- **Total quantity of HW Landfill/disposed- 12950.17 MT during Jan- Dec, 2014.**
- **First Cell closed having capacity of 50,000 MT.**
- **Second cell is open for disposal of HW having capacity of 4,25,000 MT.**

MWML, TALOJA

- **Capacity**

1) Secured Landfill : 1,20,000MT/A.

2) Hazardous Waste
incineration : 30,000 MT/A

3) Bio Medical Waste : 150 MT/M

BIO MEDICAL WASTE

- MWML at Taloja has established a common bio medical waste facility for disposal of BMW wastes in the year 2003. Following units are operational in this facility:
 - Segregation of waste and colour coded bagging of waste at source.
 - Door to door BMW collection and transportation facility
 - Incinerator of capacity 200 Kg/ Hour
 - Autoclave two nos of capacity 600 & 200 Liters/Cycle respectively.
 - Shredder
 - Secured landfill
- Facility for Bio Medical Waste disposal is provided by M/s. Evergreen Environment at Uran for Deep Burial only

ACTION PLAN

- MPCB has given directions to all industries under CEPI for improvement in Environmental Quality by way of up gradation of pollution control system.
- Most of the industries have responded well and submitted proposals of up gradation of pollution control system.
- M/s Mahanagar gas ltd. has started laying down gas pipeline. All the industries will be proposed to use natural gas.
- Major stakeholders has been identified and fixed responsibilities.
- A review meeting was held up under the chairmanship of Principal Secretary (Environment) and Chairman of MPCB on 15.5.2015 with all stakeholders for implementation of Action Plan

PRESENT STATUS OF LAST REVIEW MEETING HELD 15.05.2015

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
1a	Water Consumption in MIDC Area	MIDC representative should submit Water consumption details in TTC MIDC area	MIDC	As per the MIDC letter dated 14.7.2015, water supply in TTC MIDC area & NMMC area by MIDC is as below: 1. Industrial Area: 45 MLD 2. Domestic (NMMC Area): 55 MLD Total : 100 MLD
b	Repair & Maintenance of wastewater carrying line in MIDC area	MIDC should carry out repairing & maintenance of wastewater carrying pipeline in MIDC area and submit report every 15 days	MIDC	1. MIDC has laid down pipeline network for collection and disposal of collected effluent to CETP. 2. MIDC regularly carrying out maintenance of pipelines in case of chock up. 3. MIDC has started survey for renewation of pipeline network and reported replacement of old pipeline will be carried out within next 03 years

CONTINUED

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
2	Increase Green belt development within 03 years	As directed by Hon'ble Member Secretary, MIDC should start the work of road construction & green development. Also, carry out Green belt development on vacant places in MIDC.	MIDC/Industries	<ol style="list-style-type: none"> 1. MIDC reported vide letter dated 14.7.2015 that, MIDC has handed over roads to NMMC for maintenance & further development. NMMC started work of road development in MIDC area. 2. MIDC giving permissions to industries for green belt development along the road side within their premises. 3. MIDC providing around 2000 trees to Industrial Associations for green belt development. 4. MIDC reported, they submitted proposal to their land department for vacant places and will be developed with the help of industries.
3a	Measures for Vehicle pollution	Increase the no. of CNG stations, Use CNG as a fuel in Auto Rikshaws & public buses	RTO/Maharashtra Gas	MPCB is taking follow up with respective department
b	Not to use outdated vehicles	Not to use outdated vehicles & submit the report regularly		



CONTINUED

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
4	Repairing & Maintenance of Roads in MIDC area.	NMMC should submit action plan for Repairing & Maintenance of Roads in MIDC area within 07 days	NMMC	NMMC reported vide their letter dated 13/7/2015 that, they are started the work of Repairing & Maintenance of Roads in MIDC area & completed 60 % work and remaining work will be completed on or before Dec. 2015
5	Measures to be taken to control dust emissions due to vehicular movement	<ol style="list-style-type: none"> 1. NMMC & MIDC should start the work of tree plantation 2. Carry out road construction work near AAQM stations on priority basis. 	NMMC, MIDC, MPCB	<ol style="list-style-type: none"> 1. As per the NMMC letter dated 13/7/2015, NMMC will carry out green belt in open space after completion of road construction work. 2. MIDC reported vide letter dated 14.7.2015 that, MIDC has handed over roads to NMMC for maintenance & further development. NMMC started work of road development in MIDC area.

CONTINUED

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
6	Action to be taken by stone Quarry & crusher units	<p>All stone quarries/crusher units should take following measures:</p> <ol style="list-style-type: none"> 1. Tree Plantation 2. Cover the crusher units by tin sheet covers 3. Provision of chemical spray for dust suppression with the help of NEERI. <p>Above compliance should be carried out by taking time bound programme</p>	Stone Quarry Association	<p>The Stone Crusher units association has yet not taken effective steps in this regard.</p> <p>In the month of May , july ,August an intensive survey has been carried out by SRO MPCB and following observations are made</p> <ol style="list-style-type: none"> 1. Partly Tree plantation. 2. Partly covered their crushing unit by tin sheet covers. 3. On record 101 units are operating out of which 75 units in this recent survey found non complied, suitable action will be initiated

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
b	Follow up with Government for collected fund	Take follow up with government for collected fund and it should be utilized for tree plantation & internal road development	Stone Quarry Association, NMMC/ Mining Department	Yet to receive the status.
7	Submission of health Impact report	DISH should submit Health Impact report to MPCB regularly	DISH	DISH is agreed to submit Impact report on regular basis.

CONTINUED

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
8	Use of Natural Gas instead of Coal	<ol style="list-style-type: none"> 1. Direction to be issued to all large scale industries & coal using industries for switch over to natural gas. 2. Mahanagar gas Ltd. Should provide natural gas to all industries through pipeline 	Mahanaga Gas, MPCB, Industries	Total 55 industries has switched over to natural gas (i.e. Cleaner fuel).
9	Upgradation of Air Pollution Control System & Effluent Treatment Plant	Indsutries located in TTC area should upgrade Air pollution control system & Effluent Treatment Plant	Industries in TTC Area, TBIA	Industries located in TTC area are upgraded their APC's & ETP's.
10	Directions to the industries using Coal as a fuel	Carry out surevy & issue directions to those industries using Coal as fuel and ask them to switch over cleaner fuel PNG	MPCB, TBIA	<ol style="list-style-type: none"> 1. MPCB is taking follow up with Mahanagar Gas Ltd. & TBIA for use of PNG instead of Coal 2. This office has issued warning notice to the industries for utlizing coal as a fuel.

CONTINUED

Sr No.	Points Discussed in the Meeting	Action to be initiated by Department	Respective Department	Present Status
11	Stone Crushers located near residential areas & responsible for air pollution	Stone Crushers located near TTC area should install & operate adequate air pollution control systems	MPCB, Stone Crushers units	The stone crusher units (101) are located in cluster, Adjacent to MIDC.
12	Installation of Online Monitoring System by 17th category industries	Highly polluting industries should install online monitoring systems as per the directions of CPCB within 03 months	Industries, MPCB	This office has issued directions to the 17th category industries. 2. Out of 14 nos of industries 07 nos of industries installed online monitoring systems at outlet of ETP's.



SAVE ENVIRONMENT SAVE LIFE
THANK YOU