CEPI Presentation on Action Plan for Aurangabad

Date :- 15/05/2015

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

•Aurangabad was one of them having aggregate CEPI 77.44.

Moratorium Imposed on Critically Polluted Areas

- On 13th January, 2010, the MoEF imposed moratorium on environmental clearance for new projects (and expansion) in the 43 critically polluted industrial clusters in order to stimulate environmental remediation/mitigation activities by industry and by the State Government concerned. This MoEF Notification said that the moratorium would be in placed until:

- Action Plans are prepared by the State Government concerned to dealt with the problems of pollution.

- These Action Plans are reviewed by the CPCB.

- The State Governments revise the Action Plans based on the CPCB review.

- The process of implementing the revised Action Plans begins and the SPCB concerned and CPCB certify in writing that this process has indeed begun and implementation is being monitored systematically.

Moratorium Lifted of 8 Critically Polluted Areas on 15th Feb 2011

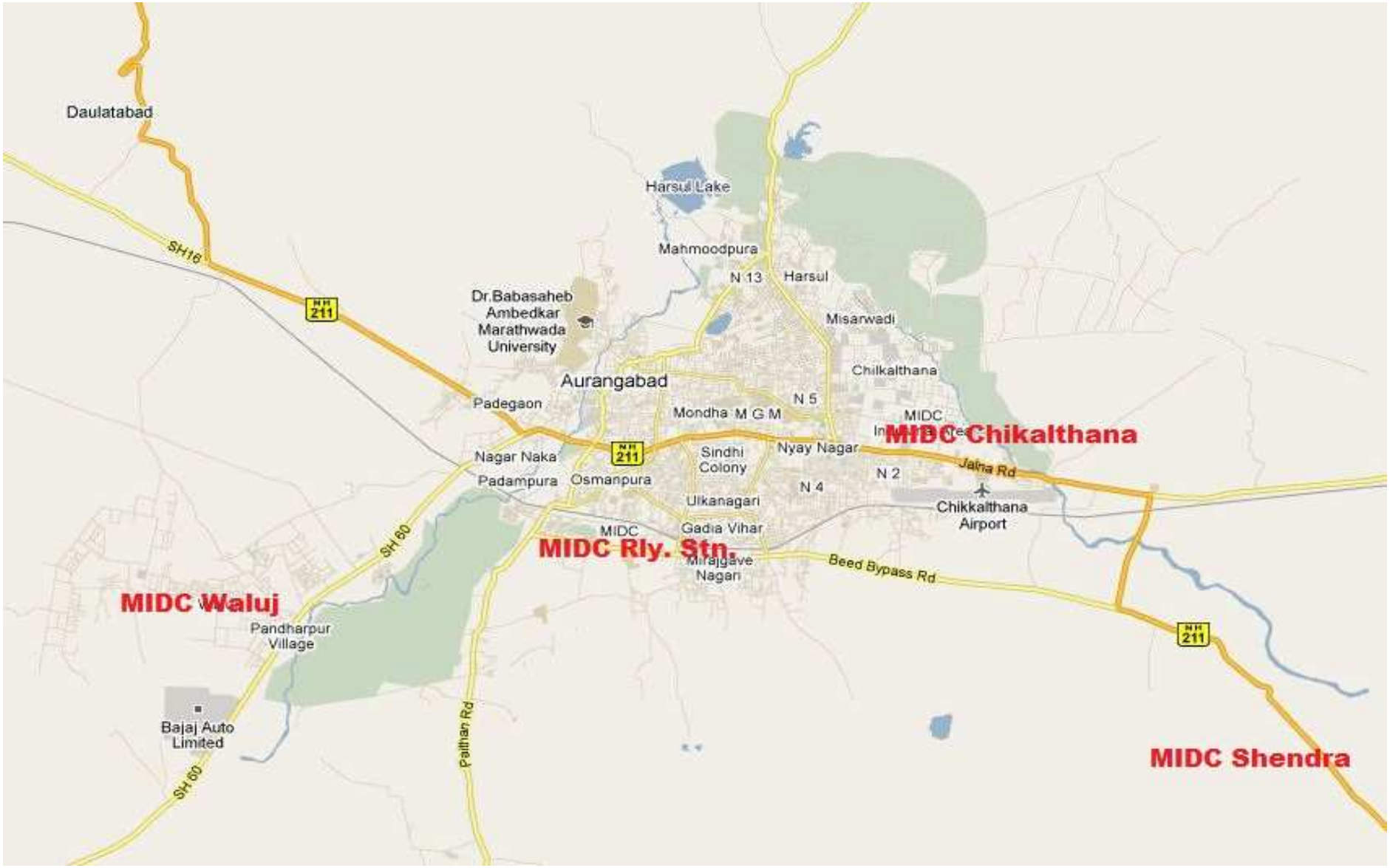
- Aurangabad Action Plan implementation started.

- These Action Plans were reviewed by CPCB and on the recommendations reported by CPCB, the moratorium has been lifted on 15th February, 2011 in 8 cities out of which one is Aurangabad and a Press Note was released by MoEF, GOI on 16th February, 2011.

Chronology of order of CEPI-Aurangabad

Sr.No	Date	Details	Location of the meeting
01	Dec-2009	CPCB/MoEF published CEPI	--
02	August-2010 and October-2010	Issued letters to Organizations and Industries	--
03	September-2010 and November-2010	Reply received from most of the stake Holders	--
04	24/06/2011	Preparation of Tentative/Draft Action Plan	--
05	30/06/2011	Compliance report on CEPI to HQ (Action taken by industries)	
06	13th to 17th September 2010	Arranged Review meetings with Bulk Drug, Engineering,Electroplating,Breweries and Chemical Industries	Regional Office Aurangabad
07	15th and 17th Feb 2011	Review Meeting with Industries	Regional Office Aurangabad
08	23rd and 25th October 2011	Review Meeting with Industries	Regional Office Aurangabad
09	31st May 2012	Review meeting under Chairmanship of Collector Aurangabad	Collector Office Aurangabad
10	07th July 2012	Review Meeting and seminar with Industries (Breweries and Distilleries)	Regional Office Aurangabad
11	06th Jan 2013	Semiar and Meeting with members of CETP	SMS CETP Waluj

Digitized Map with Demarcation of Geographical Boundaries and Impact Zones



Factors considered for CEPI

A Pollutants	**A1- Air & Water Pollutants based on 17 category & 54 category industries** **A2 – Scale of industrial activities in 10 sq.mt. radious**	**A=A1 x A2**
B Pathway	B1 – Open water & air pollution due to leakage & disposal pipeline B2 – Evidence of adverse impact on people B3 – Eco geological features	B= B1 + B2 + B3
C Receptor	C1 – People affected within 2 km radius C2 – Level of exposure 2 R 17 + 100 R 54 C3 – Sensitive receptors within 1 km radius	C = (C1 x C2) + C3
D High risk element	Status of adequacy of pollution control facility provided by industries	D
		Aggregate CEPI = A+B+C+D

CEPI Score (Air, Water, Land and Total)

Water CEPI

60.50

Air CEPI

64.75

Land CEPI

59.5

Aggri. CEPI

77.44

	A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D	Total
Air	5.75	5.0	28.75	6.0	3.0	3.0	12.0	3.0	3.0	5.0	14.0	10.0	60.50
	A1	**A2**	**A**	**B1**	**B2**	**B3**	**B**	**C1**	**C2**	**C3**	**C**	**D**	**Total**
Water	5.5	5.0	27.5	8.0	3.0	3.0	14.0	3.0	3.0	5.0	14.0	5.0	64.75
	A1	**A2**	**A**	**B1**	**B2**	**B3**	**B**	**C1**	**C2**	**C3**	**C**	**D**	**Total**
Land	5.5	5.0	27.5	7.0	3.0	3.0	13.0	3.0	3.0	5.0	14.0	5.0	59.5

Details of Industrial Cluster of Aurangabad

Sr. No	Name of Indl. Cluster	Distance from A'bad	Area in HA	Remarks
1	Shendra MIDC Area,	15 Km	600	New developing area SEZ units
2	Railway Stn MIDC	Within AMC	20	Very small industrial area also having many sick units
3	Chikalthana MIDC	Within AMC	400	Old industrial area having mostly sick units
4	Waluj MIDC	12 Km	1520	Major Ind. Area near A'bad city

Highly Polluting industries 17 cat

Sr. No	Type of Industries	Number of Industries in MIDC				
		Shendra	Rly. Stn	Chikalthana	Waluj	Total
1	Aluminum Smelting	00	00	00	00	00
2	Basic Drug & Pharma Mfg	02	00	03	08	13
3	Caustic Soda	00	00	00	00	00
4	Cement (>=200 TPD)	00	00	00	00	00
5	Copper Smelting	00	00	00	00	00
6	Dyes & Dyes Intermidiate	00	00	00	00	00
7	Distilleries	01	00	01	00	02
8	Fertilizers	00	00	00	00	00
9	Integrated Iron & Steel	00	00	00	00	00
10	Leather Pro. & Tanneries	00	00	00	00	00
11	Oil Refineries	00	00	00	00	00
12	Pesticide Formu & mfg	00	00	00	00	00
13	Pulp & Paper (>=30 TPD)	00	00	00	00	00
14	Petrochemicals	00	00	00	00	00
15	Sugar	00	00	00	00	00
16	Thermal Power	01	00	00	00	01
17	Zinc Smelting	00	00	00	00	00
Total		**04**	**00**	**04**	**08**	**16**

Red, Orange & Green category industries

Sr. No	MIDC	No of Industries in Red Category
1	Shendra	37
2	Chikalthana	72
3	Waluj	173
4	Rly. Stn. MIDC	07
Total		**289**

Sr. No	MIDC	Orange Category	Green Category	Total
1	Shendra	51	165	216
2	Chikalthana	48	362	410
3	Waluj	97	1230	1327
4	Rly. St. MIDC	02	48	50
	Total	**210**	**2010**	**2003**

Present Status of water environment

- Total generation of sewage in Aurangabad city is 110 MLD. Aurangabad Municipal Corporation is treating only 11.5 MLD of sewage, the rest is disposing without treatment into water bodies.

- **In Waluj MIDC area, MIDC is supplying water to units located in MIDC waluj Area.** 45 industries generate industrial effluent more than 10 CMD. Total quantity of industrial effluent generated from Waluj MIDC area is **10.72 MLD**. **In Shendra MIDC area,** there are 05 effluent generating industries. The total trade effluent generation in the area is **700 CMD**. **In Chikalthana MIDC area,** there are 21 effluent generating industries. The total trade effluent generation in the area is **200 CMD**. **The Railway station MIDC** shows a significant growth of new commercial complexes and other types of infrastructural development as is bound to take place following the dying out of sick units and default industries. The major effluent generated here is of domestic nature.

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- Major cause of ground water pollution is unscientific disposal of treated effluent on land. Now in MIDC Waluj CETP with 10 MLD capacity is in operation ,first phase of pipeline is completed & the industries comes under Phase –I are connected to CETP & discharging their eff to CETP , hence the possibility of ground water pollution is reduced. MIDC has started work of laying of pipeline in remaining area.

- Small scale cottage type water polluting industries such as electroplating, powder coating & other surface treatment ind are covered in CETP Waluj. At present the industries located in MIDC Shendra, MIDC Chikalthana & MIDC Rly Stn are treating their effluent in their own treatment plant, discharge effluent for gardening within premises.

Present Status of Air environment

- Air quality is regularly monitored at three stations in Aurangabad. Three stations at Cada Office, SB College & Collector Office are funded under National Ambient Air Quality Monitoring Program (Since 2005).

- For continuous AAQM station in MIDC Waluj, will be operational shortly. Tenders called.

- There are 09 major source emission air polluting industries in Chikalthana MIDC, 07 in Shendra MIDC. There are 67 units of major source emission air polluting industries in MIDC Waluj and upgraded necessary air pollution control system like ESP, bag filters, scrubber etc.

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- The major air polluting industries in Aurangabad are Bulk drug units, distilleries, breweries and electro plating industries. Most of the air toxins, carcinogens are emitted due to improper facilities for solvent recovery and excess usage of solvent. All the chemical & Bulk Drug units have increased their efficiency of solvent recovery from 91% to 95% during the course of implementation of Action Plan.M/s. United Spirit Ltd., MIDC Chikalthana,Abad has installed new Bio-digester & using their bio-gas for boiler as fuel.M/s. Radico NV Distillery, MIDC Shendra has installed evaporator for treatment of spent wash, thereby quantity of spent wash for further treatment by composting is reduced & problem of water & air pollution is reduced.

- Vehicular exhaust also adds substantially towards air pollution due to bad roads and traffic congestion. Presently Aurangabad Muncipal Corporation has taken movement for widening of roads and flyover in the city.

Status of Land environment

- A detailed study was carried out by NEERI. Critical locations for land/soil pollution assessment have been done by NEERI in & around area MIDC Waluj & NEERI has recommended to install CETP in MIDC area Waluj to avoid further ground water & soil contamination. Now CETP is commissioned since July-2011 & 134 member are connected and about 3.0 MLD Effluent is received by CETP for treatment.

- Unscientific storage of hazardous wastes in the premises of the industry is leading to seepages and percolations polluting the soil and ground water Major source of soil contamination is application of treated substandard effluent for gardening and irrigation purpose. Also unscientific disposal of municipal solid waste leading to seepages and percolation is also major source for soil contamination. Most of the HW generating units in Aurangabad district have joined to CHWTSDF & disposing their HW regularly & in last one year no any illegal dumping observed.

Implementation of Action Plan

- Survey conducted of Waluj MIDC to identify the defaulting Industries from time to time.
- Show Cause Notices to 26 Nos. of Industries, Proposed Directions issued to 17 Nos. of Industries for upgrading the existing ETP's, APC systems, segregation of high concentration stream for BOD, COD & TDS, revamping the ETP's, Installation of solvent recovery plants etc,. Interim Directions were issued to 17 Nos. of industries.
- Meetings were conducted at Regional Office, Aurangabad and CETP office, Waluij on 30/10/2012, 05/01/2013 & 29/01/2013 related to functioning of CETP & pollution related problems. Also meetings conducted with representative of industries of MIDC Chikalthana for not to discharged industrial effluent into Sukna river time to time.
- Meeting held on 31/05/2012 for compliance of Action Plan under Chairmanship of Collector, Aurangabad.
- A seminar was also arranged by RO Aurangabad on 07/07/2012 with respect to O & M of ETP and APC System in Breweries and Distilleries.
- Seminar was conducted for members of CETP Waluj on O & M of ETP on 06/01/2013.

Compliance status as on Date Short Term & Long Term Action Plan
Aurangabad
Water Environment

Sr. No	Description of Action Point	Implementing Agency	Proposed Time Frame	Present Status
01	Completion of conveyance system for carrying the effluent from individual industry to CETP in MIDC Area Waluj Phase	MIDC	---	Complied.1st Phase conveyance system is completed & CETP is in operation Since July 2011.
02	Completion of conveyance system for carrying the effluent from individual industry to CETP in MIDC Waluj Phase-II	MIDC	Dec 2011	Partially Complied. Work in progress expected to be complete by 30/6/15.
03	Completion of conveyance system for carrying the effluent from individual industry to CETP in MIDC Area Shendra.	MIDC	Dec 2011	Shendra is a new MIDC area & it is not fully developed. No steps taken for installation of CETP.
04	Commissioning of the CETP in MIDC area Waluj	MIDC & CETP	---	Complied.In operation from July 2011
05	Construction of common effluent treatment plant in MIDC Shendra.	MIDC, Inds & Govt. Assi	Dec 2011	Shendra is a new MIDC area & it is not fully developed. No steps taken for commissioning of CETP.
06	Construction of separate CETP for electroplating industries in Waluj MIDC.	MIDC, Inds & Govt. Assi	---	Complied. Treatment of effluent from electroplating is being done in existing CETP separately .

07	Laying of disposal line from CETP to Kham River	MIDC	---	Complied.Work completed
08	Revamping of old ETPs in prominent industries for stoppage of leakages and seepages in MIDC Chikalthana and Waluj wherever required.	Individual Industries & MPCB	Dec 2011	**Complied. All non complied Large and medium unit of Waluj MIDC Has upgraded ETP. MPCB has issued directions to M/s Concept Pharma Chikalthana to upgrade ETP by March 2015.Other init in Chikalthana has Stop the leakages and seepages.**
09	Up gradation of effluent treatment plant which are not meeting prescribed standards.	Individual Industries & MPCB	March 2011	Directions were issued to 50 no of electroplating ind for providing ETP & sending their eff. to CETP & 39 nos of ind complied as per directions and 11 no of ind are closed.In the year 2012,the action taken against 9 no of units for not achieving consented standards. Now all these units have upgraded their ETP. Directions to 6 No of units located in Waluj Area of closure were issued and upgradation of ETP is being carried out.
10	Solvent recovery in major bulk drug and chemical units located in MIDC area Waluj MIDC Shendra and Chikalthana	Individual Industries & MPCB	March 2011	There are total 13 nos of Bulk Drug units located in all MIDCs. All these units have increased their Solvent Recovery efficiency to recover solvents upto 92% to 95% ,remaining 9 units are carrying pharmaceutical/formulation avtivity.
11	Identification and separation of high concentrated streams in prominent industry of MIDC area Waluj ,MIDC Shendra and Chikalthana and treating them separately.	Individual Industries	Dec 2010	There are total 13 nos of Bulk Drug units located in all MIDCs & they have separated high concentration stream.

Short Term & Long Term Action Plan
Water Environment.. Contd

Sr. No	Description of Action Point	Implementing Agency	Proposed Time Frame	Present Status
12	Scientific collection treatment and disposal of sewage generated from human habitation.	Local Body	3 Years	BG of Rs.5.0 Lacs obtained from Abad Municipal Corp for provision of STP & disposal of MSW which is valid for one year. Abad Municipal Corp has submitted their reply to SCN issued by this office & stated that proposal submitted to MJP for providing STP with budget of Rs. 406 crores.Also PH extended at HQ on 27/11/2012 before MS,MPCB,Mumbai for provision of STP & proper disposal of MSW. Since reply to SCN issued by this office found unsatisfactory. B. G. of Rs. 5.0 Lacs forfited & corporation has furnished fresh B. G. of Rs. 10.0 Lacs. Recently STP of 6.0 MLD capacity near Salim Ali Lake is commissioned for treatment of sewage generated from HUDCO area of Aurangabad city.
13	Scientific collection and treatment of sewage generated from MIDC Area Waluj and Chikalthana.	MIDC	3 Years	MIDC has proposed 4 MLD STP in MIDC Waluj Area for treatment of Dom eff generated from MIDC & nearby area. Work will be stared shortly. Consent to establish is obtained by MIDC.
14	Scrapping of Percolation Tanks & artificial water bodies in and around MIDC Area Waluj.	Irrigation Dept. & MIDC	3 Years	Instructed to Irrigation Department for necessary action however, the action in this regard is not taken by the said dept till the date.

15	Treatment of Kham river water with the help of Bio-remediation technology which is flowing through Aurangabad city.	Local Body	3 Years	Not complied
16	Treatment of Sukana river water with the help of Bio-remediation technology which is flowing through Aurangabad city.	Local Body	3 Years	**Not complied**
17	Proper Collection of Strom Water in MIDC area Waluj & Chikalthana	MIDC	2 Years	**Open road side gutters are provided along roads.**
18	Installation of treatment facility waste waters generated from major hotels, laundries, vehicle service center, commercial complex, major residential complex, major marriage halls etc.	MPCB, Local Body & concerned Establishment	2 Years	**Directions to 20 nos of service stations .After that 10 no of service stations has provided ETP .Remaining service stations have not complied hence legal action is initiated against the defaulters as per legal matrix.. All major hotel inds have complied. Notices are issued to major new construction projects. Recently two construction projects have applied for consent and consent to establish is granted.**

Short Term & Long Term Action Plan
Air Environment

Sr. No	Description of Action Point	Implementing Agency	Proposed Time	Present Status
01	Setting of Continuous 4 AAQM Stations in MIDC Waluj, Chikalthana and Aurangabad city.	MPCB, Indus. Govt	6 Months	**M/s. Orchid Chemicals & Pharmaceuticals Ltd., Plot No. L-8(Part),L-9 & Gut No.38 (Part), MIDC Area, Waluj, M/s. Radico NV Distilleries (Maharashtra) Pvt. Ltd., D-192 to D-195, MIDC Area, Shendra and M/s. United Spirits Ltd.,A-36-41, MIDC Area, Chikalthana has agreed to install Continuous AAQM Stations.**
02	Up-gradation of existing air pollution control system provide to coal fired/Briquette fired/Bagasse fired burning equipments by wet scrubbers/ venture-scrubber/bag filters in the industries located in MIDC area Waluj and Chikalthana wherever required.	Individual Industry	3 Months	Complied
03	Direction to the industry for improving the efficiency of air pollution control system and increase in vigilance.	MPCB		50 nos. of electroplating industries have provided process emission control system, 01 no of industry have provided ESP and 01 no of industry of industry have provided wet scrubber as per directions issued by Board. Frequency of vigilance is increased.

04	Industries to provide solvent recovery system wherever applicable	MPCB, Individual Industries	6 Months	**Complied- Details included in water action plan.**
05	Control of air pollution due to vehicle in the area	Transport Dept.	1 Year	**Transport Dept. to comply.**
06	Stoppage of Biomass burning on open land in the area.	Local Body	1 Year	AMC to comply.
07	Providing air pollution control measures during the activity of demolishing old building and new constructions	Local Body	1 Year	Most of the major construction project have started demolishing and new constructions activity in a closed manner by providing dust arresting facility at the boundary. However AMC to submit communication regarding the compliance of said point.

08	Traffic managements in the area	Traffic Dept. & AMC	1 Year	**Traffic Dept. and AMC to comply.**
09	Installation of continuous Stack monitoring facility by major air polluting industries.	Individual Industry	2 Years	**In progress, M/s. Harman industries and M/s. United sprits are installing continuous Stack monitoring facility.**
10	Changing the fuel pattern of the industry to clean fuel.	Individual Industry	2 Years	**Most of the industry have changed their fuel pattern from coal/furnace oil etc. to biomass. Some of the industries are using Bio-Gas and LPG as a fuel.**
11	Checking of adulteration of fuel	Dist Adm.	2 Years	**Dist. Adm. to comply.**
12	Availability of clean fuel	Dist Adm. & Oil & Gas Companies	3 Years	**Dist Adm. & Oil & Gas Companies to comply.**
13	Widening of the road and square for avoiding vehicle congestion.	Local Body	3 Years	**AMC has started work of widening of the road and square for avoiding vehicle congestion.**

Short Term & Long Term Action Plan
Land Environment

Sr. No	Description of Action Point	Implementing Agency	Proposed Time Frame	Present Status
01	Providing the scientific collection and isolated temporary storage facility for HW in the industries	Individual Industry	2 Months	All major HW generating industries have provided isolated scientific temporary storage facility.
02	Restriction on disposal of treated effluent on land in MIDC area Waluj	MPCB	After CETP Commi	CETP commissioned and all industries falls under phase-I stage have joined CETP and discharging industrial effluent in the CETP for further treatment. Now problem of pollution due to land disposal of effluent get reduced.
03	Scientific collection segregation and storage of MSW in residential areas.	Local Body	1 Year	AMC is collecting MSW from the Aurangabad city and dumping MSW at Naregaon. However AMC has not started scientific segregation treatment and disposal facility. The details regarding the action taken are included in water Env. Action plan.
04	Restriction on use of thin plastic carry bags.	Local Body	6 Months	It has been reported by the AMC authority that they have already appointed various squads within the different wards of the City for rigorous checking the usage of thin plastic carry bags, by way of imposing penalties and by forfeiting such inferior quality carry bags.

05	Scientific collection, storage and disposal of BMW generated in the area.	Local Body & CBMWTSDF	3 Months	1.187 MT/Day od BMW is generated in Aurangabad Dist. 1.187 MT/D of BMW is disposed to the CBMWTDF
06	Providing full-fledged collection, treatment and disposal of non-hazardous solid waste generated from MIDC Area	MIDC	3 Year	Industries are disposing reusable Non-HW solid waste to reuse. However, MIDC has not provided any facility till the date.
07	Providing full-fledged collection, treatment and disposal of MSW generated from Human habitation	Local Body	3 Year	Same as point No.03
08	Soil reclamation in & around MIDC area as per guideline of NEERI	MIDC, Individual Industry	3 Year	M/s. Ipca Laboratories Ltd., Plot No. H-4, MIDC Area, Waluj and M/s. Paschim Chemicals Pvt. Ltd., MIDC Area, Waluj have reclaimed soil in their premises as per guidelines of NEERI.
09	Availability of CHWTSDF at Aurangabad	MPCB	3 Years	• Plot allotted in Shendra Indl. Area. • Environmental clearance is obtained by M/s SMS Infrastructure from MOF /GOI. However installation of said facility is not started till the date

Implementation of Action Plan

- **Industries were directed to comply on following points:**

1. Optimum utilization of Raw material (as per stachiomatrical requirement).
2. Reuse & recycle of chemicals.
3. Solvent recovery.
4. Isolation of high TDS, BOD & COD streams.
5. Reduction of water.
6. Efficiency of pollution control systems.
7. Environmental compliance.
8. Submission of material balance per batch of per ton of product.
9. Adoption of cleaner technologies.

CETP Waluj

- **Capacity 10 MLD.**
- **Commissioned in July 2011.**
- **Number of members 468.**
- **Effluent carrying network- Phase I – Sectors E,F,G,H,K,L,M.**
- **Work of providing effluent carrying network in remaining area by MIDC is in progress.**
- **Units connected by pipeline to CETP 66.**
- **Units connected through tanker to CETP 68.**
- **Present average inlet flow received to CETP 2.7 - 3.2 MLD.**
- **Performance of CETP for most of the time is satisfactory.**
- **Discharge of treated effluent from CETP into Kham river at a distance of about 2 Km. from the CETP though pipeline.**

Status of MSW

- **Aurangabad Municipal Corporation**

1. MSW generation about 450 metric ton/day

2. MSW collection – In most of the area door to door collection of MSW.

3. At source segregation facility not available.

4. Presently only dumping of MSW at dumping ground, Naregaon.

5. No site selected for MSW project by AMC till date.

6. Prosecution notice issued by MPCB to AMC.

Status of BMW

- Total number of health care establishment - 1454

1. Total number of hospitals covered by CBMWTSDF – 1454
2. Total number of beds covered 13,712

- Daily BMW generation about 1300 Kg.
- Treatment and disposal of BMW at CBMWTSDF located at Patoda, Aurangabad.
- Daily quantity of BMW treated at CBMWTSDF is on average 1250 to 1300 Kg.
- Door to door collection facility for BMW provided.

Status of HW

- Number of hazardous waste generating units 270
- Quantity of HW generation 7761 MT/month
- Number of units joined to CHWTSDF, Pune – 270
- Quantity of HW received at CHWTSDF on average basis is 7000 – 7500 MT/month
- Most of the industries provided isolated storage facility for the storage of HW.

Solvent recovery plants

The following industries have upgraded/improved/installed the solvent recovery system from 90% to 98%.

1. **M/s. Orchid Chemicals & Pharmaceuticals Ltd., L-8 (part), L-9, MIDC Area, Waluj, Aurangabad**
2. **M/s. AMRI India Ltd., G-1/1, MIDC Area, Waluj, Aurangabad**
3. **M/s. Finekem Laboratories Pvt. Ltd., G-39/5, MIDC Area, Waluj, Aurangabad**
4. **M/s Ipca Laboratories Ltd., H-4, MIDC Area, Waluj, Aurangabad**
5. **M/s. Fortune Pharma Pvt. Ltd., B-6, MIDC Area, Shendra, Aurangabad**
6. **M/s Harman Finochem Ltd., E-9 MIDC Area, Chikalthana, Aurangabad**
7. **M/s Paschim Chemicals Pvt. Ltd., G-6, MIDC Area, Waluj, Aurangabad**
8. **M/s. Wockhardt Bio – Tech Ltd. H-14/2, MIDC Area, Waluj, Aurangabad**
9. **M/s. Harman Finochem Ltd., A-100 Shendra, Aurangabad**

Reduction of water

The following industries has reduced the water consumption by reusing water in cooling tower, by adopting modified process equipments in brew house, fermentation, beer production and bottling section etc.

1. **M/s Harman Finochem Ltd., E-9 MIDC Area, Chikalthana, Aurangabad**
2. **M/s. Lilasons Industries Ltd. H-5,6,7, MIDC Area, Waluj, Aurangabad**
3. **M/s. U.B. Ajanta Breweries Pvt. Ltd. H-8, H-11, & H-3 (Pt.), Waluj, Aurangabad**
4. **M/s. Millennium Beer Industries Ltd. L-10, Waluj, Aurangabad**
5. **M/s. Carlsberg India Pvt. Ltd. H-17/1/1, Waluj, Aurangabad**
6. **M/s. Fosters India Ltd. M-99, MID Area, Waluj , Aurangabad**
7. **M/s. Wockhardt Ltd. (Bulk Drugs), L-1, Chikalthana, Aurangabad**
8. **M/s. Radico NV Distilleries Ltd., D-192 to 195, Shendra, Aurangabad**
9. **M/s. Indo European Breweries Ltd. B-74/2 MIDC Waluj, Aurangabad.**
10. **M/s. Sabmiller India Pvt. Ltd. M-99 MIDC Waluj, Aurangabad.**

Compliance of Action Plan

- **M/s. Orchid Chemicals & Pharmaceuticals Ltd., L-8 (part), L-9, MIDC Area, Waluj, Aurangabad :**

1. The industry has installed second stage Reverse Osmosis System for the treatment of first stage R.O. reject in order to reduce the load of Multiple Effect Evaporator. This is the first of its kind in India.
2. The industry has upgraded the solvent recovery system by changing Innovative Corrugated Tube type condenser to improve the recovery of solvent more than 95%.
3. The industry has proposed to increase the efficiency of solvent recovery upto 98% in next three months.
4. The industry has started VOC Monitoring in their factory premises.
5. The industry has installed Thermal Evaporation Plant of advance technology to reduce the water consumption and air emissions.

- **M/s. Concept Pharmaceuticals Ltd., A-28/3, MIDC Area, Chikalthana, Aurangabad:**

1. The industry has started use of raw material as per stochamatic requirement.
2. The industry has provided scrubber to the boiler and increased stack height.

- **M/s. Wockhardt Bio-Tech. Ltd., H-14/2, MIDC Area, Waluj :**

1. The industry has installed solvent recovery plant and recovered solvents are being reused in the process.
2. The industry is segregating the high COD and TDS effluent and treating it separately.
3. The industry has upgraded existing ETP and provided additional bio digester, decanter and sludge drier.

Compliance of Action Plan

- **M/s. AMRI India Ltd., G-1/1, MIDC Area, Waluj, Aurangabad :**

1. The industry has taken steps to reduce the water consumption daily by 5 M3.
2. The industry has isolated high COD streams and further it is treated in Multiple Effect Evaporator (MEE).
3. The industry is regularly monitoring VOC level.
4. The industry has improved efficiency of solvent recovery system.

- **M/s. Finekem Laboratories Pvt. Ltd., G-39/5, MIDC Area, Waluj, Aurangabad :**

1. The industry has taken steps to improve the solvent recovery system of MDC from 90% to 95%.
2. The industry has isolated high COD stream and sending it to the MEPL for further disposal.

- **M/s Ipca Labortories Ltd., H-4, MIDC Area, Waluj, Aurangabad :**

1. The industry has installed wet scrubber to the coal fired boiler.
2. The industry has upgraded the existing effluent treatment plant to increase efficiency by installing (1) Fenton Treatment system with 2 reactors and filtration arrangement for reduction of COD, (2) Installed centrifuge for filtration of salty effluent (3) Modified Multiple Effect Evaporators (MEE).
3. The industry has stopped the hazardous reaction like Bromination.
4. The industry has proposed to install RO and MEE in financial year 2015-16.

- **M/s. Atra Pharmaceuticals Ltd., H-19, MIDC Area, Waluj, Aurangabad :**

1. The industry has upgraded the existing effluent treatment plant by providing tertiary treatment system.
2. The industry has installed additional dust extractor and tablet de-duster machine in their process plant to reduce air pollution.

Compliance of Action Plan

- **M/s. Fortune Pharma Pvt. Ltd., B-6, MIDC Area, Shendra, Aurangabad:**

1. The industry has modified solvent recovery plant to improve the solvent recovery upto 95%.

- **M/s Harman Finochem Ltd., E-9 MIDC Area, Chikalthana, Aurangabad :**

1. The industry has isolated the concentrated and weak streams.
2. The recovery of mother liquor is sent to respective solvent recovery plant.
3. The industry has reduced the water consumption by reusing cooling condensate water to the cooling tower.
4. The industry has started up gradation of solvent recovery to increase the efficiency upto 95%.
5. The industry has installed RO and MEE for high concentrated effluent.

- **M/s Paschim Chemicals Pvt. Ltd., G-6, MIDC Area, Waluj, Aurangabad:**

1. The industry is segregating high TDS stream from the effluent and treating separately in evaporator.
2. The industry has provided water scrubber to the boiler.

- **M/s. Lilasons Industries Ltd., H-5,6,7, MIDC Area, Waluj, Aurangabad :**

1. The industry has modified process equipment in brew house, fermentation and bottling section due to which the ratio of water consumption is reduced from 1:6 to 1:4.
2. The industry has provided new dust collection system to the boiler.
3. Industry has provided biodigester for treatment of effluent

- **M/s U.B. Ajanta Breweries Pvt. Ltd., H-8, H-11 & H-3 (Pt), Waluj.**

1. The industry has modified the in house plant to reduce the water consumption.
2. The industry is using bio-enzyme in equalization tank to reduce sludge generation.

Compliance of Action Plan

- **M/s. Millennium Beer Industries Ltd., L-10, Waluj, Aurangabad :**

1. The industry has installed bottle washers water recovery system due to which the water consumption is reduced from 1:6 to 1:4.5 KL/KL.
2. The industry has upgraded the effluent treatment plant by investing Rs. 2.5 Crores.
3. The industry is using agro base fuel instead of coal or furnace oil and provided mechanical dust collectors, bag filters, etc.
4. The industry has invested around Rs. 4.82 Crores for the upgradation in pollution control system.
5. The industry has installed Bio-digeter to reduce COD load and RO system for further treatment.

- **M/s. Carlsberg India Pvt. Ltd., H-17/1/1, Waluj, Aurangabad :**

1. The industry has installed water recovery system at Beer filler station and reduced the water consumption from 13 HL/HL to 6.47 HL/HL of Beer production.
2. The industry has provided bag filters.
3. The industry has upgraded the ETP and proposed to install RO in year 2015-16.

- **M/s. Fosters India Ltd. M-99, MIDC Area, Waluj, Aurangabad :**

1. The industry has taken steps to reduce water consumption from from 5.5 Ltrs per Ltr. of Beer production to 4.72 Ltrs. per Ltr. of Beer production.
2. ETP upgraded and work of installation of RO is in progress.

- **M/s. United Spirits Ltd., MIDC Area, Chikalthana, Aurangabad :**

1. The industry has replaced 4 old digesters by new one to increase the efficiency of COD reduction upto 65% and the industry has spent Rs. 4.88 Crores for the same.
2. The industry has provided CO2 scrubber in fermentation house.
3. The industry has provided bag filters to the boiler.
4. The industry is using Bio-Gas generated from Bio-Digester as a fuel.
5. The industry has revamp ETP to avoid seepages and leakages

Compliance of Action Plan

- **M/s. Radico NV Distilleries Ltd., D-192 to 195, Shendra, Aurangabad :**

1. The industry has installed seven stage MEE and reduced spent wash generation from 1020 to 160 CMD.
2. The industry has provided PCTP for treatment of MEE condensate.
3. The industry has provided sludge decanter and invested about Rs. 25 Cr. During financial year 2013-14 and 14-15.

- **M/s. Harman Finochem Ltd., A-100 Shendra, Aurangabad :**

1. The industry has upgraded solvent recoveries system.
2. The industry has provided RO and MEE for treatment of effluent.

- **M/s. Wockhardt Ltd. (Bulk Drugs), L-1 Chikalthana, Aurangabad:**

1. The industry has reduced water consumption by 10%.
2. The industry is segregating high TDS and high COD stream.
3. The industry has upgraded the existing ETP.

- **M/s. Sterlite Technologies, MIDC Area, Waluj, Aurangabad:**

1. The industry has provided MEE for high TDS effluent.

- **M/s. Balkrishna Tyres Ltd. MIDC Waluj, Aurangabad**

1. The industry has installed new ETP and STP in the year 2014-15.
2. The industry has provided ESP.

- **M/s. Endurance technologies Ltd. K-120 MIDC Waluj, Aurangabad:**

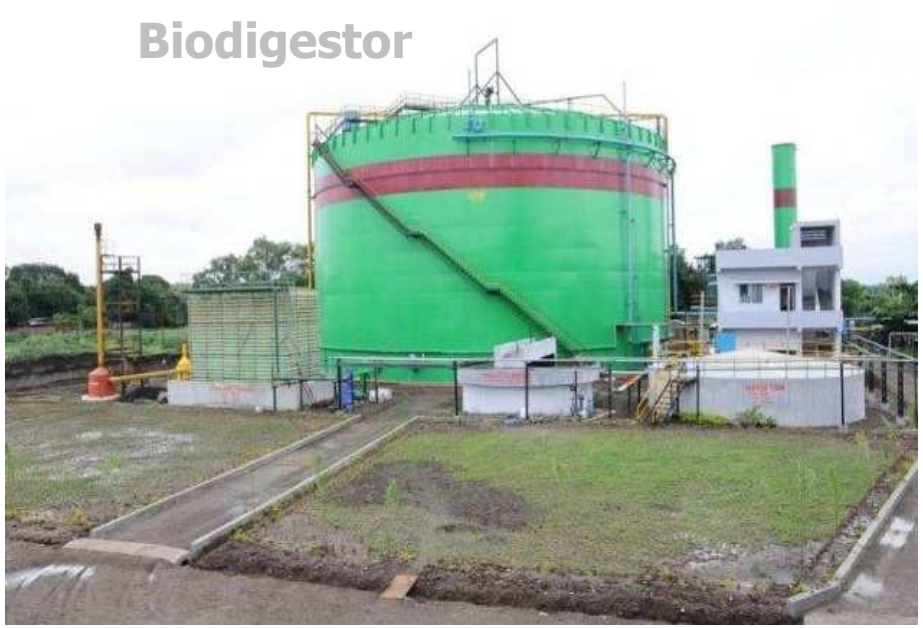
1. The industry has upgraded the existing ETP during the financial year 2014-15.

- **M/s. Akar Tools Ltd. MIDC Waluj, Aurangabad:**

1. The industry has installed new ETP during the financial year 2014-15.

Compliance of Action Plan by M/s United Breweries Limited, Chikalthana

REVERSE OSMOSIS PLANT



Compliance of Action Plan by M/s Balkrishna Industries Limited, Waluj MIDC

Electrostatic Precipitator

Isolation of high TDS, BOD & COD streams.

The following industries are segregating their high COD and TDS effluent and treating separately.

1. **M/s. Orchid Chemicals & Pharmaceuticals Ltd., L-8 (part), L-9, MIDC Area, Waluj, Aurangabad**
2. **M/s. AMRI India Ltd., G-1/1, MIDC Area, Waluj, Aurangabad**
3. **M/s. Finekem Laboratories Pvt. Ltd., G-39/5, MIDC Area, Waluj, Aurangabad**
4. **M/s Ipca Laboratories Ltd., H-4, MIDC Area, Waluj, Aurangabad**
5. **M/s Harman Finochem Ltd., E-9 MIDC Area, Chikalthana, Aurangabad**
6. **M/s Paschim Chemicals Pvt. Ltd., G-6, MIDC Area, Waluj, Aurangabad**
7. **M/s. Wockhardt Ltd. (Bulk Drugs), L-1 Chikalthana, Aurangabad**
8. **M/s. Wockhardt Bio – Tech Ltd. H-14/2, MIDC Area, Waluj, Aurangabad**

CEPI Score as on date after implementation of action plan (Air, Water, Land)

	A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D	Total
Air	5.75	5.0	28.75	6.0	3.0	3.0	12.0	3.0	3.0	5.0	14.0	10.0	60.50
After Action Plan	**3.0**	**5.0**	**15.0**	**3.0**	**3.0**	**3.0**	**9.0**	**3.0**	**1.0**	**5.0**	**8.0**	**4.0**	**36**
Water	5.5	5.0	27.5	8.0	3.0	3.0	14.0	3.0	3.0	5.0	14.0	5.0	64.75
After Action Plan	**3.0**	**5.0**	**15.0**	**5.0**	**3.0**	**3.0**	**11.0**	**3.0**	**2.0**	**5.0**	**11.0**	**2.0**	**39**
Land	**5.5**	**5.0**	**27.5**	**7.0**	**3.0**	**3.0**	**13.0**	**3.0**	**3.0**	**5.0**	**14.0**	**5.0**	**59.5**
After Action Plan	3.5	5.0	17.5	5.0	3.0	3.0	11.0	3.0	3.0	5.0	14.0	5.0	47.50

CEPI = im +(100-im)x (i2/100x (i3/100)

= 47.50 + (52.5x 0.36 x 0.39)

= 54.871

CEPI reduced from 77.4 to 54.87

THANK YOU