DRAFT ACTION PLAN FOR GIDC, Ankleshwar

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
WATER						
1	Standard flow meter at final outlet of ETP	To control overflowing of drainage pipeline, it is necessary to control the discharge of excessive quantity of w/w from the industrial units (i.e. the w/w discharge should be as per CCA condition). To check the quantity of w/w being discharged it is proposed that in the 1st phase the units having effluent quantity > 100m3/day should provide Magnetic Flow Meter (MFM) at the final outlet.	Identification of units having effluent quantity > 100m3/day.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	Already identified & verification by 15.07.2010	To be borne by the concerned industry. Industrial Association may assist individual units
			Industrial Association will issue the circular to their member to provide the Magnetic flow meter. GPCB will also issue notice to such units.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.7.2010	
			Magnetic flow meter required to install at final outlet of ETP by large scale units (having effluent quantity >= 100 m3/day).	Concerned industries.	30.10.2010	
2	Water consumption from non permitted sources (eg. Borewell, tanker etc.) or more than permitted quantity	It is observed that many industrial units have no proper control over water consumption which not only increase the overall w/w generation but also tends to w/w disposal mismanagement. Therefore, it is necessary to direct unit to restrict water consumption as per the quantity mentioned in CCA application and to also to direct GIDC to seal the non permitted bore well.	Identification of source of water i.e. tanker, bore well etc. for its authenticity.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.8.2010	-
			Issue direction to stop the unauthorized use of water by the industries.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.10.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			Direction to seal the non permitted bore well, tankers	GIDC/ Concern agency	30.12.2010	
3	Sealing of unauthorized discharge other than regular discharge	All industrial units shall be directed to operate only one outlet through flow meter for effluent disposal so that unauthorized discharge can be checked and concerned authority shall disconnect / seal such unauthorized discharge.	Concern authority will be asked to identify unauthorized outlet.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	Ongoing process and will be made more vigorous	Expenses, if any, to be borne by the unit having unauthorized outlet.
			All industrial units will be asked to submit notarized undertaking to GPCB with a copy to respective association stating that there is no unauthorized outlet.	Concerned industries	30.8.2010	
4	zero discharge unit – not to have drainage connection or any outside discharge.	GIDC/BEAIL shall be asked to disconnect the drainage connection (if any) to the industrial units which are issued CCA with zero discharge condition. Careful monitoring shall be carried out to avoid any illegal discharge.	Inventorisation of the units having consent under Water Act for zero discharge.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.7.2010	-
			Review the condition specifically for zero discharge condition	GPCB	30.9.2010	
			Drainage connection to be disconnected of zero discharge units and certified by GIDC/ BEAIL and checked by GPCB.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.9.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			All zero discharge industrial units will be asked to submit notarized undertaking to GPCB with a copy to respective association stating that there is no unauthorized outlet and observing zero discharge.	Concerned industries	30.9.2010	
5	Identification of unauthorized connection to BEAIL pipeline	Unauthorized connection by units ultimately results in hydraulic as well as pollution load on CETP and FETP.	Unauthorized connection in BEAIL pipeline to be checked and disconnected by competent authority and verified by GPCB.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	Ongoing process	-
			Third party monitoring is to be carried out	Sarvajanic College of Engg. & tech	Ongoing process	
6	Identification of non-biodegradable effluent	For better treatability of ETP/ CETP units having non-biodegradable effluent shall be identified and shall be directed to segregate the said stream and to install non conventional treatment units like multiple effect evaporator, RO system, incinerator etc	Identification of the streams having Non-biodegradable effluent containing refractory COD, toxicants like Ammonical Nitrogen where treat ability not possible/difficult/techno-economically not viable.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.8.2010	Common incinerator may be installed for non-biodegradable effluent Cost may be worked out by respective association on PPP mode
			The units manufacturing Pesticides, Dyes intermediates, Bulk drugs will be asked to study their present treat ability of effluent and accordingly segregate non-biodegradable streams.	Concerned industries	30.10.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			A time bound action plan required to be submitted to install multiple effect evaporator/RO system/ Incinerator System/Ammonia stripper/ New technology like FACCO including cleaner production and cleaner technology by concerned industries.	Concerned industries in consultation with GCPC	Long term(6 month to 3 years)	within one year.
			Implementation/Commissioning of above proposal	Concerned industries	Long term(6 month to 3 years)	
7	Reduction of pollution load on CETP, upgradation of CETP and efficient operation of CETP	It is observed that CETP inlet norms are not meeting with the prescribed inlet norms also outlet norms are not meeting the specified norms.	The units generating effluent more than 100 KL/day required to strengthen individual effluent treatment plant to meet with the CETP inlet norms, so as to reduce inlet pollution load on CETP and thereby improvement in treated effluent quality from CETP.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	30.7.2010	PPP mode
			Inlet norms of CETP inlet is to be revised.	GPCB		
			Installation of FACCO at CETP for small scale industrial unit.	BEAIL,PETL,ETL	31.08.2010	
			Identification of high COD and high Ammonical Nitrogen containing effluent and individual installation of FACCO for large scale units having high COD effluent and Ammonical Nitrogen removal system.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	31.12.2010	
			An action plan for strengthening of individual ETP to be submitted to BEAIL,PETL,ETL & to GPCB and required to monitor its progress by concerned agencies.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB		

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			Performance evaluation of strengthen ETP required to be done by third party agency.	Sarvajanic College of Engg. & tech.		
		The performance evaluation of CETP indicates that quality of effluent discharge is not as per the specified norms, which clearly indicates the CETP requires up gradation/modification	CETP authority shall study their treatability of effluent from prominent agency and come out with action plan and up gradation./ modification.	CETP authority	30.9.2010	
			Based on the recommendation of agency CETP authority shall upgrade CETP.	CETP authority	Long Term	
			To change the management of CETP under Government Supervision and Chief Executive Officer have to be appointed.	GIDC,Govt. of Gujarat,	IMPLEMENTED.	
			To finalize disciplinary action against non compliant units	BEAIL	ON GOING PROCESS	
8A	Checking of illegal discharge of Acidic/ highly polluted effluent	Units manufacturing dye-intermediates are generating spent acid of law concentration which is required to be managed properly. Necessary directions shall be issued to the spent acid generating as well as using industrial units for proper management of spent acid.	Movement of spent acid shall be checked vigilantly. Acidic/ highly polluted effluent which is discharged illegally to be checked by GPCB as well as Industrial Association on routine basis	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB	Ongoing process	-

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			Third party monitoring	Sarvajanic College of Engg. & tech	Implemented	
			To set up vigilance cell for vigorous & surprise monitoring under supervision of senior officer	GPCB	Implemented	
8B	Spent acid recovery unit		Recovery of sulfuric acid from spent sulfuric acid: Company named Spent Acid Recyclers Ltd. formed. UNFCCC has approved methodology for recovery of sulfuric acid. For obtaining finance, arrangment are under progress. Cost of project Rs.120 crore. Capacity is 400 ton sulfuric acid per day.	Concerned industries	2years	PPP
9	Identification & rectification of various leaking manholes, overflowing pumping stations.	Master plan to Identify & rectify Various leaking man holes, overflowing pumping stations and other bypass system in GIDC area to be prepared & implemented.	Full proof mechanism for regular monitoring, cleaning and maintenance is required by concerned authority.	GIDC	31.08.2010	Scheme in this connection may be prepared by the concerned authority for financial help under the governmen t policy.
10	Separate CETP for Pharma units	It is observed that concentrated effluent generated from pharmaceuticals industries which in nature having very high concentration of ammonical nitrogen and COD and very difficult to treat in the CETP	To set up a new CETP specific for pharma units only to treat effluent having very high concentration of ammonical nitrogen and COD.	Concerned Industries.	2 years	PPP
11	Monitoring of suface and sub surface water quakity.	Surface and sub surface water quality is required to be checked periodically.	Surface and sub surface water quality	GPCB	On going process.	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
12	Impact on Health, within and surrounding population.	Probable health risk within vicinity of 2 km from the cluster.	To carry out survey to know health impact. No specific survey on occupational dieses is carried by DISH.	NIOH/DISH	31-12-2010	PPP
AIR						
1	Strengthening of air pollution control measures	Air Action Plan for Ankleshwar is under implementation. The industrial units shall be directed to upgrade APCM to meet the amended Ambient Air Quality Norms, if required.	Industrial units consuming solid fuel like coal, agro waste, etc. required to upgrade air pollution control system by installing bag filters /multi cyclone separator so that ambient air in the nearby area meet with the revised norms of $PM_{2.5}$.	Concerned industries GPCB	30.12.2010.	To be borne by the concerned industry. Association may assist individual units

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
			To check air pollution control system attached, with respect to adequacy and if needed upgrade the same. For controlling of pollutants like VOCs, PAHs, PCBs Industries which are engaged in handling of solvents, Solvents shall be recovered & reused. Solvent recovery shall not be less than 95%.Separate god owns for the storage of finish goods ,raw materials & separate tank farm for solvents & other chemical storage as per MSIHC Rules 1989 shall be provided. Solvents Management shall be as follows :Reactor shall be connected to chilled brine condenser system. Industries shall provide the chilled brine solution in secondary condenser for condensation of the VOCs. 1) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. 2) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery. 3) Solvents shall be stored in a separate space specified with all safety measures. 4) Entire Plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. 5) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.	Concerned industries GPCB	30.12.2010.	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
2	Adoption of cleaner fuel	Gas infrastructure agency has created an infrastructure for industrial gas supply, the industrial units shall be motivated to switch over to clean fuel. Fluctuation in prices and assured supply are major issue.	Large industrial units using solid fuel shall be switch over to cleaner fuel wherever it is feasible considering availability of gas and economics.	Concerned industries ,Gujarat Gas Co.,,GPCB	Reasonable	
3	Plantation in the industrial estate	Concerned authority shall be asked to provide adequate green belt in the periphery as well as wherever possible within the GIDC	Considering the present plantation as baseline datum, five years plan for plantation of industrial estate to be submitted by the GIDC/ association in consultation with Forest department. To allot unused plots, road side areas and other areas reserved for green belt within GIDC and to sign MoU between GIDC and association for plantation	BEAIL,ETL,PETL , GIDC, Forest dept.	30.09.2010	
4	Restriction on using un authorized fuel.	Use of unauthorized fuel like petcock, shall be stopped. The industrial units shall be directed to use the fuel as per the consented condition	Industrial units shall use authorized fuel as consented and shall not use any unauthorized fuel.	Concerned industries, GPCB	30.09.2010	
5	Control of fugitive emission	Fuel handling, chemical storage, the processes like pickling are the major source of fugitive emission hence the industrial units should adopt good housekeeping practices	Good practices like cleaner production and cleaner technology to be adopted in fuel handling and to have better house keeping	Concerned industries	30.09.2010 and ongoing process.	Concerned industries
6	Ambient Air Quality Monitoring	concerned agency shall be asked to operate the existing AAQMS regularly and also to increase the no of stations	Existing AAQMS to be strengthen to monitor AAQ as per new notification New AAQMS shall be installed. Installation of continuous ambient air monitoring station.	GPCB, ETL, PETL.	30.12.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
7	Implementation of the suggestions of the odour Control Expert Committee	Many complaints received regarding odour nuisance. Total 22 number of units are identified.	Implementation of the suggestions of the odour Control Expert Committee as per following 1. Consider use of non-halogenated and non-aromatic solvents (eg. Ethyl acetate,alcohols and acetone) instead of more toxic solvents (eg. Benzene,chloroform and trichloroethylene) 2.Contain and enclose batch reactors and install close feed system. 3.Reduce operating temperature. 4.Install nitrogen blanketing on pumps, storage tanks and during formulation processes. Install process condensers 5.VOC vapours from solvent handling activities and processes should be connected to air control devices. 6.Activated carbon adsorption may be used to achieve VOC removal efficiency of 95-98%. 7.Thermal oxidation/incineration system can destroy 99.99% VOC.	GPCB Concern Industries.	31.12.2010	To be borne by the concerned industry.
8	Monitoring of AAQM	Ambient Air quality is required to be checked periodically.	To check Ambient Air quality	GPCB	On going process.	
9	Monitoring of VOC in cluster	To curb health risk on population at large.	To estimate the VOC concentration in cluster and to take remedial measures.	GPCB, Concerned Association through Sarvajanic College of Engg. & tech.		
	Hazardous Waste					

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
1	Checking of illegal transportation and dumping of Hazardous waste	TSDF operators/Industries Association shall be asked to keep vigil on their member units regarding timely and regular disposal of HAZ wastes	Vigil check required to be kept on illegal transportation and dumping of hazardous waste.	Concerned industries, BEAIL,PETL,ETL ,GIDC , GPCB,RTO.	On going process	
2	CPCB guidelines for TSDF are to be strictly followed	TSDF guidelines for waste quantity at site, sheds for different wastes, fire fighting facility working of incineration, etc. are not properly observed.	TSDF operator will comply with these requirements.	Concerned TSDF	30-08-2010	Concerned TSDF
3	Adoption of 4-R's (Reduce, Recover, Reuse, Recycle)	It is required to adopt 4-R"s for better management of Hazardous waste and co-incineration of incinerable hazardous waste in cement kiln.	Inventorization of the various solid/ Hazardous waste generated from the industries	Concerned industries, BEAIL,PETL,ETL , GPCB, Gujarat Cleaner Production Centre	30.12.2010	
			Creation of waste exchange center inline with Novel Spent Acid System	Concern industries, PETL,ETL	30.6.2011	
4A	Common facility for collection, storage & transportation of incinerable waste generated from individual industrial units	Common facility for collection, storage & transportation of incinerable waste generated from individual industrial units shall be developed.	Common hazardous waste incinerator is to be installed.	BAIL, Concerned Industrial Units.	31.12.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
4B	Incinerator based on Plasma Technology		Plasma Technology for hazardous waste destruction: Company named Plasma Energy Applied Technologies Ankleshwar Pvt. Ltd. formed. Environment Clearance obtained from MoEF, New Delhi. Applied for NOC to GPCB, Gandhinagar. GIDC has kept plot No. 9206 of 11000 sq.mt. reserved for this company. Capacity of plant 30 ton per day solid waste and 15 ton per day aqueous waste. Also application for State subsidy is made. Cost of project Rs. 85 crore.	Concerned industries	2 YEARS	PPP
5	Capacity Upgradation of Existing TSDF	It is observed that TSDF is about to reach their design capacity. therefore, it is required to expand their design capacity	TSDF authority may be asked to work out for the remaining life of existing TSDF	Concerned TSDF	31-12-2010	TSDF authority may approach the Ministry of Industry for Upgradation of TSDF under various schemes
6	Captive facility for destruction of incinerable waste	Industrial units having own incinerator (liquid and solid) required to upgrade/ install adequate incineration system as per guidelines of CPCB.	Up gradation of captive incineration system.	Concerned industries GPCB	31.12.2010	

Sr No	Activity	Issue	Action	Implementing Agency	Time limit	Financial implication & outlay
7	Transportation of Hazardous waste	Hazardous waste shall be transported through only dedicated & well covered vehicles.	Vigil checking on transportation of hazardous waste.	BAIL, GPCB	Ongoing Process	
8	Waste Minimization Measures	To reduce the quantity of waste material.	Industries shall install, • Metering and control of quantities of active ingredients to minimize waste. • Reuse of byproducts from the process as raw materials or as raw material substitutes in other processes. • Use of automated filling to minimize spillage. • Use of Close Feed system into batch reactors. • Venting equipment through vapour recovery system and APCM. • Use of high pressure hoses for equipment clearing to reduce waste water generation.	Concerned Units	31.12.2010	

15. Conclusion :

Proper, timely and efficient implementation of above mentioned action plan would be useful in bringing down the concentration of critical parameters as identified under CEPI and would ultimately help in compliance of prescribed norms of an area.