

**DRAFT ACTION PLAN FOR VAPI**

<b>Sr No</b>	<b>Activity</b>	<b>Issue</b>	<b>Action</b>	<b>Implementing Agency</b>	<b>Time limit</b>	<b>Financial implication &amp; outlay</b>
<b>WATER</b>						
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 1 <sup>st</sup> phase the units having effluent quantity > 100 KLD should provide standard flow meter at the final outlet.	Identification of units having effluent quantity > 100 KLD.	GPCB, Concerned industries, VIA, VWEMCL	Already identified & verification by 15.07.2010	To be borne by the concerned industry. Association may assist individual units
			Industrial Association will issue the circular to their members to provide the standard flow meter. GPCB will also issue notice to such units.	Concerned industries, VIA, GPCB	31.7.2010	
			Standard flow meter required to install at final outlet of ETP by large scale units (having effluent quantity >= 100 KLD).	Concerned industries.	31.12.2010	
2	Water consumption from non-permitted sources (e.g. borewell, tanker	It is observed that many industrial units have no proper control over water consumption which not only increase the	Identification of source of water i.e. tanker, bore well etc. for its authenticity.	Concerned industries, VIA, VWEMCL, GIDC, GPCB	31.8.2010	-

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	etc) or more than permitted quantity is to be identified	overall w/w generation but also tends to w/w disposal mismanagement. There-fore, 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 wells.	Issue direction to stop the unauthorized use of water by the industries.	Concerned industries, VIA, GIDC, GPCB	31.10.2010	
			Direction to seal the non permitted bore well, tankers	GIDC/ Concern agency	31.12.2010	
3	Sealing of unauthorized discharge other than regular discharge of effluent.	All industrial units shall be directed to operate only one outlet through flow meter for effluent disposal so that unauthorized discharge can be checked. The concerned authority shall disconnect / seal such unauthorized discharge.	Concern authority will be asked to identify unauthorized outlet.	Concerned industries, VIA, GIDC, GPCB.	Ongoing process and will be made more vigorous	Expense is 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, VIA	31.8.2010	

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4	GIDC drainage connection required to be discontinued to permanently closed & non operative industrial units	GIDC drainage connection to be disconnected to permanently closed & non operative industrial units and certified by GIDC and checked by GPCB. Careful monitoring of such units required to undertake by GPCB as well as Vapi Waste & Effluent Management Company Ltd.	Inventorisation of the permanently closed & non operative industrial units	VIA, GPCB	31.7.2010	Expense is to be borne by the defaulter unit.
			Drainage connection to be disconnected of permanently closed & non operative industrial units and certified by GIDC and checked by GPCB.	Concerned industries, VIA, GIDC, GPCB.	30.9.2010	
			All zero discharge 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 GIDC drainage line or discharge to Bill Khadi.	Intensive monitoring shall be carried out of the units, which are located on the bank / adjacent to Bill Khadi.	Unauthorized connection in drainage line to be checked and disconnected by competent authority and verified by GPCB.	GIDC, VIA, GPCB, VWEMCL	Ongoing process	Expense is to be borne by the defaulter unit.
			Third party monitoring is to be carried out	SVNIT	Ongoing process	

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6	Identification of non-biodegradable effluent	For better treatability at ETP/ CETP ,units having non-biodegradable effluent shall be identified and shall be directed to segregate the said stream ,and to install appropriate and effective 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 treatability not possible/difficult/techno-economically not viable.	Concerned industries, VIA, VWEMCL CETP, GPCB	31.8.2010	Common incinerator may be installed for non-biodegradable effluent. Cost may be worked out by VIA, VWEMCL on PPP mode on or before 30.11.2010
			The units manufacturing pesticides, dyes intermediates, bulk drugs etc will be required to study their present treat- ability of effluent and accordingly segregate non-biodegradable streams.	Concerned industries, GPCb, Third Party.	31.12.2010	
			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 2 years)	

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			Implementation/ Commissioning of above proposal	Concerned industries	Long term(6 month to 2 years)	
7	Reduction of pollution load on CETP, upgradation of CETP and efficient operation of CETP	It is observed that CETP inlet and outlet norms are not meeting with the prescribed norms.	All units have 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.	GPCB, Concerned Industries, VWEMCL.	31.03.2011	PPP mode
			Installation of FACCO at CETP for small scale industrial unit.	VWEMCL	Implemented	

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			Identification of high COD and high ammonical nitrogen containing effluent and individual installation of FACCO/other technical advanced system for large scale units having specific very high COD effluent.	GPCB, VWEMCL	31.12.2010	
			An action plan for strengthening of individual ETP to be submitted to VWEMCL, Vapi & GPCB and required to monitor its progress by concerned agencies.	GPCB, VWEMCL		
			Performance evaluation of strengthen ETP required to be done by third party agency.	SVNIT		
		The performance evaluation of CETP indicates quality of effluent discharge is	CETP authority shall study their treatability of effluent from prominent agency.	VWEMCL	30.9.2010	

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		not as per the specified norms, which clearly indicates the CETP requires up gradation/modification	Based on the recommendation of agency CETP authority shall upgrade CETP.	VWEMCL	Long Term	
			To change the management of CETP under Government Supervision and Chief Executive Officer have to be appointed.	GIDC, Govt. of Gujarat,	Implemented	
			Disciplinary action against noncomplying units	GPCB, VWEMCL.	On going process	
			To divert domestic wastewater of Bill Khadi to CETP for treatment.	VWEMCL	31.12.2010	
8	Checking of illegal discharge of acidic/ highly polluted effluent	Units manufacturing dye-intermediates are generating spent acid of low concentration which is required to manage properly. Necessary directions shall be issued to the spent acid generating	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	VWEMCL, GPCB	Ongoing process	-

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		as well as acid using industrial units for proper management of spent acid.	Third party monitoring	Third Party, VWEMCL	Implemented	
			To set up vigilance cell for vigorous & surprise monitoring under supervision of senior officer.	GPCB	Implemented	
9	To stop tray drying and salting process in dyes manufacturing unit.	Generation of high TDS effluent from dyes manufacturing unit is affecting proper functioning of CETP	Identification of the unit having tray drying and salting process	Concerned industries, GPCB.	30.09.2010	
			Setting up of common spray drying facility.	VIA	31.03.2011	
			Complete phase out of tray drying and salting process	Concerned industries, GPCB.	30.06.2011	



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10	Identification & rectification of various leaking manholes, overflowing pumping stations and other bypass system.	Master plan to Identify & rectify Various leaking man holes, overflowing pumping stations and other bypass system in GIDC Vapi to be prepared & implemented.	Foolproof 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 government policy.
11	Safe disposal of treated effluent of GIDC,Vapi	At present treated wastewater is discharged in River Damanganga	To lay down pipe line up to deep sea as per NIO recommendation.	GIDC, VIA, VWEMCL	31.12.2012	--DO--
12	Cleaning of Bill Khadi and dredging to increase carrying capacity.	Bill Khadi is over flooded during monsoon period causing backflow of runoff in GIDC area	Cleaning of Bill Khadi	VWEMCL	31.12.2010	
			Dredging of Bill Khadi	Irrigation Department ,Dist.Admn .		
			Construction of motarable road for Bill Khadi passing through GIDC stretch	GIDC, Notified Area Authority		

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			To stop washing activities carried out by scrape dealers in Dungri falia and surrounding area to the cluster	GPCB, DIST. COLLECTOR, DDO		
13	Safe disposal of treated effluent of units located outside GIDC	Pollution in Kolak River	To lay down pipe line up to deep sea as per NIO recommendation.	Pardi /Morai Industries Association	31.12.2010	
14	Monitoring of surface and sub surface water quality	Surface and sub surface water quality is required to be checked periodically	To monitor surface and sub surface water quality. To increase monitoring locations.	GPCB, VWEMCL	On going process.	

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<b>AIR</b>						
1	Upgradation of air pollution control measures.	Air action plan for Vapi 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 <sub>2.5</sub> .	Concerned industries, GPCB	31.12.2010	To be borne by the concerned industry. Association may assist individual units

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			<p>To check air pollution control system attached to 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 &amp; reused. Solvent recovery shall not be less than 95%.Separate godowns for the storage of finish goods ,raw materials &amp; separate tank farm for solvents &amp; other chemical storage as per MSIHC Rules 1989 shall be provided.</p> <p>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.</p>	Concerned industries GPCB	31.12.2010	

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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 gas prices, assured supply and competition 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, GSPC, GPCB	To start from 15/7/2010	
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 estate.	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	VIA, VWEMCL GIDC, Forest dept.	Implemented and on going process	

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4	Restriction on using unauthorized 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	Verification drive to be initiated and completed	Concerned industries, GPCB	31.10.2010	
5	Control of fugitive emissions.	Fuel handling, chemical storage and processes including 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, process control in closed system and to have better house keeping	Concerned industries.	30.09.2010 and ongoing process.	Concerned industries.
6	Strengthening of 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 strengthened to monitor AAQ as per new notification  New AAQMS shall be installed.	GPCB, VIA	31.12.2011	

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			Installation of continuous ambient air monitoring station.			
7	To prepare guidelines for coal handling	Poor ambient air quality due to unloading and loading activity at railway yard.	1. To prepare guideline to control air pollution due to coal handling.	GPCB	31.08.2010	
			2. To implement guidelines and take measures to control ambient air pollution.	Railway Authority and coal trading agent	31.12.2010	
8	Impact on health of within and surrounding population	Probable health risk within vicinity of 2 km from the cluster.	To carry out survey by reputed agency like NIOH to know the impact	VWEMCL	31.12.2011	
9	Monitoring of VOC in cluster	Health risk on population at large due to VOC.	To estimate the VOC concentration in cluster and to take remedial measures	GPCB, Third Party	On going activity once in a year	

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<b>HAZARDOUS WASTE</b>						
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, VIA, VWEMCL, GPCB, RTO, NGO.	On going process	
			Six identified illegal hazardous waste dumping sites are to be cleared by lifting and shifting hazardous waste to TSDF and remedified.	VIA, VWEMCL	31.12.2010	
2	CPCB guidelines for TSDF are to be strictly followed.	TSDF guidelines for waste quantity at site, sheds for different waste, fire fighting facility, working of incinerator etc are not properly observed.	TSDF operator will comply with requirement as per CPCB guidelines.	VWEMCL	30.09.2010	



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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.	Inventorisation of the various solid/ Hazardous waste generated from the industries	GPCB, Concerned industries, VIA, Gujarat Cleaner Production Centre	31.12.2010	Concerned industries
			Creation of waste exchange center	Concern industries, VIA	30.6.2011	
4	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.	VWEMCL, VIA, Concerned Industries.	31.08.2011	
5	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	

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6	Transportation of Hazardous waste	Hazardous waste shall be transported through only dedicated & well covered vehicles.	Vigil checking on transportation of hazardous waste.	VWEMCL, GPCB	Ongoing Process	
7	Proper disposal of plastic waste	There is no proper management for disposal of plastic waste from paper industries	Development of co-incineration system	VWEMCL in consultation with Paper Mill Association .	31.12.2010	
8	Centre of Excellence at Vapi	Centre of Excellence at Vapi can be further strengthen to take additional assignment, R&D activities in field of Cleaner Production, Cleaner Technology and Waste Exchange Schemes	To upgrade the Centre for Excellence at Vapi and use its capacity for the purpose of Cleaner Production, Cleaner Technology and Waste Exchange Schemes	VWEMCL, GCPC	31.12.2010 and ongoing process.	

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9	Waste Minimization Measures	To reduce the quantity of waste material.	Industries shall install, <ul style="list-style-type: none"> <li>• Metering and control of quantities of active ingredients to minimize waste.</li> <li>• Reuse of byproducts from the process as raw materials or as raw material substitutes in other processes.</li> <li>• Use of automated filling to minimize spillage.</li> <li>• Use of Close Feed system into batch reactors.</li> <li>• Venting equipment through vapour recovery system and APCM.</li> <li>• Use of high pressure hoses for equipment clearing to reduce waste water generation.</li> </ul>	Concerned Units	31.12.2010	

