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Lr. No.APPCB/CFO/HO/CEPI/VSP/2012- 836 **Dt.06.06.2012.**

To
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
CBD - cum – Office Complex,
East Arjun Nagar,
New Delhi – 110032.

2431/MS/C
11.6.2012

Sir,

Sub: CEPI – Visakhapatnam Industrial Cluster – Local Committees Constituted - Implementation of Action Plan - Reg.

Ref:
1. CPCB Letter No.F.Tech/114/CEPI/ZOB/2010-11/571 Dt.05.03.2011.
2. Board Procds. No. APPCB/Gen-17/BO/CFO/2011-166, Dt 16.04.2011.
3. Steering Committee held on 30.08.2011 at CPCB, New Delhi.
4. CPCB Workshop held on 14.09.2011 at Scope complex, Lodhi Road, New Delhi.
5. Minutes of the Local Committees held on 22.12.2011 & 2-4, Feb 2012.

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The Board constituted Local Committees for verification of implementation of Action Plan under CEPI Programme for Critically Polluted area of "Visakhapatnam" in Andhra Pradesh. The Local Committee has conducted the meetings and inspections of the industries in Viakhapatnam Cluster area and subsequently the Board submitted the Action Plan to the CPCB in August, 2011 vide references 3rd & 4th cited. Also the Board has to submit periodical reports to CPCB on the implementation of Action Plans with the minutes of the Local Committee meetings.

The minutes of the Local Committee meetings held at Zonal Office, Visakhapatnam and field visits conducted by the Local Committee during the year 2011-2012 is herewith enclosed for kind information.

Yours faithfully,

JOINT CHIEF ENVIRONMENTAL ENGINEER(CFO)

Encl: Minutes & field visits of the Local Committee conducted during the year 2011-12.

MINUTES OF THE REVIEW MEETING HELD ON 17.06.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PGORAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

At the outset, the JCEE welcomed the members of the Local Committee and Representatives of Stake Holding Departments, concerned Regional Officer and the industries. The JCEE reviewed the status of implementation of action points and follow-up of action plan under CEPI programme for critically polluted area for the following seven industries.

1. M/s. Essar Steels Limited
2. M/s. Rain CII India Limited
3. M/s. Andhra Petrochemicals Limited
4. M/s. Hindustan Petroleum Corporation Limited, Visakha refinery
5. M/s. Coromandal Fertilizers Limited
6. M/s. Hindustan Zinc Limited
7. M/s. Visakhapatnam Port Trust

The members who attended the meeting are 1) Sri. B.S. Sastry & 2) Sri. D. Rajeswara Rao. The representatives of the 7 industries, the representative of GVMC Mr. Subhash, Dy. Executive Engineer & the representative from Road Transport Authority, Sri. T. Rajanna, Motor Vehicle Inspector attended the meeting.

The committee discussed upon the status of implementation of action points specified in the CPCB action plan for the critically polluted area. The committee reviewed each industry case to case and the compliance status with respect to the action points in the action plan are as follows:

1. M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area.

	Action Point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a) Stack emissions from the indurating furnaces.	The industry used to operate the industry with multi-cyclones. It has provided ESP's to the induarating furnaces in the year 2007 with an investment of Rs. 15 Cr and meeting the emission norms. Monitored values: <u>Pelletasation Plant - I</u> SPM – 75.7 mg/Nm3 dt: 07.05.2010 SPM – 92.0 mg/Nm3 dt: 08.06.2010 <u>Pelletasation Plant - II</u> SPM – 89.7 mg/Nm3 dt: 01.02.2010 <u>Captive Power Plant</u> SPM – 82.4 mg/Nm3 dt: 07.05.2010 SPM – 74.4 mg/Nm3 dt: 08.06.2010	It was reported by the industry that they provided ESP for one stream of PP-II and study is takenup to provide ESP for the second stream in place of multi cyclone to overcome space constraint.
	b) Transfer points	The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs. 0.18 Cr.	-
	c) Online monitoring:	The industry has provided online stack analyser equipment to the indurating furnaces in the year 2006 with an	The industry has provided three online stack analysers. Out of the

		investment of Rs. 0.18 Cr. It has provided one CAAQM station in order to know the status of pollution and to operate the plant in an environment friendly manner.	three, two stack analysers data is reflected in the website. The industry has to follow up for the 3rd stack analyzer with NIC. One CAAQM station is already installed and the parameter of PM2.5 is not reflected. The industry has to follow up for reflection of data for the parameter PM2.5. The industry informed that the 2nd CAAQM station will be installed and commissioned by the end of September'2011.
	d) Green belt:	The industry has developed a green belt of 52 acres and proposes to develop additional plantation with an investment of Rs.0.30 Cr in the vacant space available.	Already developed 52 acres and the industry informed that they will plant 1000 saplings in this monsoon.
	B. Water pollution :	Not applicable as the industry is recycling entire water and it is a negative water balanced industry.	-
	C. Solid waste disposal:	The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorised agencies.	-

2. M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the kilns.	The industry has provided flue gas de - sulpurization for the kiln off gasses. It has provided the incinerator from the gases generated during calcination. The industry is generating electricity from the waste heat recovery. The industry is meeting the emission norms. Monitored values are given below: WHRB – 1 SPM – 62 mg/Nm3 dt: 12.01.2010 SO2 – 36 mg/Nm3 dt: 12.01.2010 WHRB – 2 SPM – 58.5 mg/Nm3 dt: 12.01.2010 SO2 – 42 mg/Nm3 dt: 12.01.2010	Complied
	b. Stock yards	The industry has provided MDSS to all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance.	The industry reported that they have constructed the wind breaking wall.
	c. Road sweeping:	The industry has procured a road sweeping machine with a cost of Rs.0.25 Cr in the year 2004 and cleaning the internal roads.	Complied
	d. Online monitoring:	The industry has provided stack monitoring equipment to the kilns and has provided two CAAQM stations in order to operate the plan in environment friendly manner.	The industry provided two online stack analysers and two CAAQM stations and the data is reflected in the website. The parameter PM2.5 is not included and the same would be done by September 30th (as informed by the industry).
	e. Green belt:	The industry has developed a green belt of 25 acres.	-
	B. Water pollution :	The industry generates only cooling water as effluent. In the past the industry failed to meet the temperature parameter. In the year 2006, it provided an auxiliary cooling tower with an investment of Rs. 15 lakhs. After commissioning the new cooling tower it is meeting the temperature norms.	-
	C. Solid waste disposal:	Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.	Complied

3. M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Isc Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	The industry is using gaseous fuels and clean liquid fuels for heating purposes. All process operations are carried out in closed loop and gaseous leaks, if any, are connected to the flare stacks.	-
	b. Continuous monitoring	The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs 0.35 Cr.	The industry informed that one stack analyzer would be installed by end of June and the other by November'2011 for the parameters So2, Nox, SPM, Co and Hc. The industry installed one CAAQM station and the data of parameters PM10 and PM2.5 are reflected in the website.
	c. Green Belt	The industry has developed a green belt of 37 acres.	The industry informed that they will develop the greenbelt in he vacant places in the industry premises.
	B. Water Pollution:	The industry generates effluent from the process and the effluent parameters in the past exceeded the standards stipulated. Now, the industry has up-graded the ETP with a cost of Rs. 2.0 Cr. At present, the ETP is under stabilization.	The industry upgraded the ETP by installing the Anaerobic digester. The industry is under progress of construction of STP to treat the domestic effluent.
	C. Solid waste:	The industry generates wastes like Oxo- residue, Rohdium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.	Followed.

4. M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD.	-
	b. Continuous monitoring	M/s. Hindustan Petroleum Corporation Ltd., commissioned online analyzers to 19 stacks and 3 CAAQM stations were established to monitor the pollutants SPM, SO_2, NOx, HC, CO with an investment of Rs.5 Crores.	The industry informed that there are 30 stacks existing in the unit. Out of 30 stacks Board insisted to provide online analysers for 15 stacks only. Out of 15 stacks 8 stacks data would be connected by August'2011 and the other 7 stacks by December'2011 for the parameters So2, Nox, Hc & SPM. The industry informed that they will install all the CAAQM stations by 2nd week of July for the parameters PM10 and PM2.5.
	B. Water Pollution:	The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards .	The industry commissioned ETP-IV but informed that it will take another one month for stabilization.
	C. Solid waste:		
	a. Oily wastes:	Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is reprocessed. The industry is in the process of sending the wastes to the authorised recyclers.	-
	b. other solid wastes :	In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycle purpose. The industry is in the process of sending these wastes to the authorised recyclers.	-

5. M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently.

	Action point	Present status	Compliance with respect to Action plan
	Stoppage of operation	The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions.	-
	A. Air pollution:		
	Receipt & transport of raw materials	The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated raod from the wharf area to the plant premises.	-
	Fugitive emissions from the warehouse	The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.**	-
	Sulfuric acid plants	The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65 Crore.** **<u>Monitored Values</u>** **1400 TPD Sulphuric Acid Plant** SO_2 – 178.1 mg/Nm^3 Dt. 15.02.2010 SO_3 – 38.2 mg/Nm^3 Dt. 15.02.2010 Acid mist ND Dt. 15.02.2010 **300 TPD Sulphuric Acid Plant** SO_2 – 200.9 mg/Nm^3 Dt. 15.02.2010 SO_3 – 24.6 mg/Nm^3 Dt. 15.02.2010 Acid mist ND Dt. 15.02.2010	
	Reduction of fuel consumption	The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005.	

	Online Monitoring:	The industry has provided online stack analysers to Sulphuric acid plants for continuous monitoring of SO2 with an investment of **Rs. 0.16 Cr.** The industry has established one CAAQM station for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia with an investment of **Rs.0.3 Crores.**	The industry provided two online stack analysers and the data is not reflected in the website. The industry has to contact NIC for the reflection of data. The industry installed two CAAQM stations but the parameter PM2.5 is not reflected in the website and the industry reported that this would be added by July 15th 2011.
	B. Water Pollution	The industry is having an ETP comprising neutralization and clari-flocculators, which requires up-gradation.	Industry informed that the construction of civil works of ETP is completed and the equipment would be installed by July'2011.
	C. Solid waste disposal		
	Gypsum disposal	The industry has an accumulated huge quantity of Gypsum in an area of about 100 Acres. The industry adopted dry disposal system of Gypsum and provided lining to an extent of 5 acres of existing Gypsum pond with an investment of **Rs.24 Crores** during April'2009 which eliminated huge generation effluent from the gypsum pond. The industry has provided HDPE & Geo membrane liner under the wagon loading area where gypsum is stored and transported from, during June 2010, to prevent contamination due to acidic seepages in the surroundings with a cost of **Rs.7.5 Crores.**	The gypsum accumulated on site i.e. about 15,00,000 T is yet to be disposed.
	Other Solid wastes	The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.	

6. M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	Receipt & transport of raw materials	The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers.	-
	Sulfuric acid plant	The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009. At present stack emissions are meeting the standards. **Monitored Values** **TGT stack** SO_2 – 116.0 mg/Nm^3 Dt. 09.08.2010 Acid mist – ND Dt. 09.08.2010	-
	B. Water Pollution	The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010.	-
		The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The industry has provided water meters with totalisers at outlet of clarifier, feed to RO plant, totaliszer at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination.	

	Solid Waste disposal		
	Jarosite	The industry constructed a secured land fill for safe disposal of jarosite cake in the year 2000 with an investment of Rs. 10 Cr. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores.	
	Closure of the Jarosite Pond	The industry has started the work for closure of the old landfill.	The industry reported that they had placed the order for capping the Jarosite pond.
	Moore Cake	The industry has an accumulated storage of moore cake, which is generated before 2001 in the premises.	The moore cake is completely liquidated from the unlined storage area and 15,000 Tons of moore cake is stored in mastic lined concrete storage tank. This moore cake will be continuously consumed in the zinc oxide plant for recovery of zinc.
	Other Solid wastes	The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.	-

7. M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained.

	Action point	Present status	Action plan for improvement with Target date	Compliance with respect to Action plan
	A. Air pollution:	M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads. M/s. VPT has provided Mechanised Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is	M/s. VPT proposes to mechanize the coal handling at the GCB. M/s. VPT proposes to isolate the dusty cargo by constructing a wall up to a height of 7M and geo-net above the wall for a height of 4M. Mechanical Dust Suppression System will be provided all along the wall to eliminate the dust emissions from the stock yard. Wall construction is going on, the target date for mechanisation is June'2012. M/s. VPT proposes to reorganize the cargo handling in the berths and stock yards with a view to control dust nuisance. M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emanation. These improvements are expected to be completed by 2012.	The work is under progress. East side wall is already constructed. North side wall and R-11 are under construction. The Geo-net barrier is not yet provided. GCB mechanization is under progress. Once the GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started.

		using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions.		
		M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated.		
	B. Water Pollution	VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.		

*** M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee called for the time bound action plan for installation of CAAQM stations.**

3.2 Sewage Treatment in Visakhapatnam City:

Sl. No	Particulars	Present status of Sewage treatment systems	Action plan for further improvement.	Compliance with respect to Action plan
1.	Grater Visakhapatnam Municipal Corporation (GVMC)	i) The area of GVMC is 530 Sq.Kms. and the population as per 2001 census is 14.35 Lakhs. The sewage generated at an average of 100lpcd is 143.50 mld as per 2001 census.	i) The project of providing sewerage system to central part of Visakhapatnam city under JNNURM has been taken up in four packages and is in progress. Nearly 37.15% of GVMC population (2001 census) will be covered after completion of the project. The length of sewerage net work that is being covered is 400.00 Kms. Two STPs of 13 mld capacity (nearing completion) and 108 mld capacity are being taken up in this project. The cost of the above STPs is Rs.10.50 Crores & Rs.47.00 Crores respectively.	
		ii) The population covered so far with UGD system comes to nearly 22.15% and the length of sewerage net work covered is 212.00Kms.Two STPs of 25 mld(Rs.10.00 Crores) & 38 mld (Rs.20.00 Crores) were constructed and are functioning.The sewage after treatment is being let out into the sea . The quantity of sewage treated at present in the above two STPs is 40.00 mld.	ii) The Detailed Project Report for Gajuwaka, Malkapuram and Yarada covering nearly 23.00 % of population of GVMC (2001 census) at an estimated cost of Rs.386.10 Crores was submitted to Govt. of India for approval. Three STPs of 53 mld (Rs.37.17 Crores); 30 mld (Rs.26.83 Crores) and 5 mld (Rs.7.75 Crores) are proposed in this Project.	
			iii) A Project Report has been approved by the State Govt. for providing sewerage system to the rest of the population (i.e., in the surrounding villages that were merged into GVMC) covering nearly 11.00% of GVMC population as per 2001 census. The DPR is under preparation. In this project 3 Nos. of STPs of 15 mld (Rs.8.25 Crores); 32 mld (Rs.17.60 Crores) and 13 mld (Rs.7.15 Crores) are proposed.	
			iv) In addition to the above the GVMC has been providing sewerage system to the public living in (5+11=16) 16 poor settlements duly covering nearly 6.70% of GVMC population (2001 census) 4 No. of STPs are proposed @ an estimated cost of Rs.11.15 Crores.	

			v) The STPs proposed by GVMC comprising of manly activated sludge process. The GVMC also called for Expression of Interest (EOI) from the concerned persons for utilization of treated water.	
			vi) GVMC proposed to treat to a BOD of 20 mg/lit, COD of 25 mg/lit and SS of 60 mg/lit.	
		The GVMC is operating the following STPs	The GVMC is in the process of providing the following STPs	
		1. A 10 MLD Plant in the Port area for treatment of sewage generated from part of One Town. This is being operated by M/s. Visakhapatnam Port Trust, and the treated sewage is being utilised by the Port for suppression of dust i.e. emanated from dusty cargo stock piles.	1. A 13 MLD plant at Mudasaralova, catering to the projected population of 2.5 lakhs is completed, and the network connections from the households are in progress. The treated sewage is proposed to be discharged into Sea.	The representative of M/s. GVMC reported that the 13 MLD STP at Mudasarlova is in operation.
		2. A 25 MLD plant at Appughar on the Beach Road catering to the population of 2 Lakhs is being maintained by M/s. GVMC, and the treated sewage is discharged into Sea.	2. A 54 MLD plant at Narava is in construction stage, and would be completed within an year. This STP is proposed to cater the projected population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	The representative of the GVMC reported that the 54 MLD STP at Narava is under progress. He also informed that the civil works are started and would be commissioned by March'2012
		3. A 38 MLD plant catering to the population of 2.5 lakhs is in operation at One Town. Part of the treated sewage is being used by M/s. Essar Steels Limited for its industrial use, and the remaining treated sewage is discharged into Sea.	3. A 54 MLD plant at Old Town is proposed in the next phase. This STP is proposed to cater the population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	

		GVMC constructed Below Poverty Line housings under Wambay and Rajeev Gruha kalapa along with packaged STP's of 2 x 1.5 MLD and 1 x 2 MLD to cater to the population of 28,280 in total.	If the above STPs come into operation, the projected population covered under the UGD system comes to nearly 70 % and the length of sewage network covered will be 111 Sq. Kms. At present the GVMC population is 16 lakhs.	The representative of M/s.GVMC reported that the STPs which are in operation are covering about 60% of population under UGD system.
		GVMC constructed settlement housings at Gangavaram along with packaged STP's of 1 x 0.5 MLD and 1 x 2.5 MLD to cater to the population of 25,000 in total.	Core coverage in city with population of 70 % of population and 25% of habitation area. Suburbs would be covered and connected in phased manner under JNNURM+ Project which is to be completed by 2015.	
		The population covered under the above STPs and the UGD system comes to nearly 5 lakhs and the length of sewage network covered is 78 Sq.Kms.	<u>Other Civic Amenties proposed by GVMC under JNNURM projects.</u> Ist Phase JNNURM (2005-2012) <u>Flyover</u> Railway station to Asilmetta 1.55 Kms with a project cost of Rs 89 Crores.	The representative of M/s. GVMC reported that the flyover is under progress and expected to be commissioned by September '2012
			<u>BRTS</u> Pilot corridor about 40 Kms with an estimated cost of Rs 360 Crores.	The representative of M/s.GVMC reported that the BRTS project would be commissioned by March'2012

			<u>Truck terminal</u> GVMC earmarked truck terminals at Madhurawada and Gajuwaka at suburbs areas and are operational.	Being followed
			IInd Phase JNNURM+(2012-2015) <u>Flyovers</u> GVMC proposed flyovers at Gopalatanam and Chavulamadum with lengths of 1500 M and 800 M respectively	The representative of the M/s.GVMC reported that once the 1st phase project comes in to operation then they would take up the 2nd phase projects.
			<u>BRTS</u> Additional 7 Nos Corridors of about 100 Kms, Arterial roads of about 15 kms, Feeder roads of about 20 Kms and Pedestrial Footpath of about 6 Kms with a total (Flyover and BRTS) estimated project proposal of Rs. 2250 crores.	
			<u>Traffic</u> Infrastructure for the traffic islands would be provided by GVMC and operational system maintained by traffic police.	

3.3 Municipal Solid waste Management

- Greater Visakhapatnam Municipal Corporation (GVMC) is one of the major cities in Andhra Pradesh generating about 670 TPD of municipal solid waste (MSW). At present this waste is being disposed at Kapulauppada (V) which is not scientific disposal site.

- The GVMC identified 2 sites one at Tarluvada (V) (500 Ac) and another site at Krishnapuram (350 Acs) for scientific disposal of MSW. The proposals for alienation of these sites were sent to District Collector, Visakhapatnam and it would be cleared by December 2010. Proposals for setting up scientific landfill and a bio-methanization plant with a cost of Rs.104 crores were already prepared by GVMC.

- After completion of the alienation process, at one of the above mentioned sites, the construction will be taken up by GVMC. It is scheduled to go for a scientific solid waste management facility by December, 2011.

Compliance: The representative of M/s.GVMC has reported that they are presently disposing the solid waste at Kapuluppada (V). He also informed that it is not a scientific disposal site. They have identified alternative site of 500 Acres at Tarluvada (V) for disposal of municipal solid waste and he informed that it may take another one year for the new scientific disposal site to be put into operation.

3.4 Bio-Medical waste Management

- The Visakhapatnam District is having 324 Health Care Establishments (HCEs) covering about 7671 beds. In the bowl area there are 7 Government Hospitals, 190 Private hospitals and others are 3 Nos.
- The HCEs are having authorization of A.P. Pollution Control Board under the BMW Rules and has tied up with Scientific Common Bio Medical Waste Treatment Facility i.e., M/s.Maridi Eco Industries (Andhra) Pvt. Ltd, located at Sy.No.314, Kapuluppada (V), Visakhapatnam District.
- The capacity of the Incinerator is 250 Kg/hr. The hospital waste collecting by the common waste facility (CBMWTF) from the bowl area is around 400 kg/day.
- APPCB has been monitoring the HCEs as well as the Common Treatment Facility regularly.

3.5 Vehicular pollution Control:

- The transport department is implementing emissions norms stipulated to the vehicles and monitoring pollution levels through testing centers for which licenses are issued by transport department under the A.P. Motor Vehicles Rules.

- Pollution Under Control (PUC) certificates are issued for the vehicles which passes the test and notices will be issued to the vehicles which fails to comply with the norms. The Validity of the Pollution Under Control certificate is 6 months from the date of issue. There are 40 test centres existing in Visakhapatnam.
- As per the G.O.Ms. No. 238, Dt. 23.11.2006 of the Government of Andhra Pradesh, Green Tax is being levied as follows.

Sl. No.	Class of Vehicles	Tax Levied
1.	Transport Vehicles that have completed 7 years of age from the date of their registration	Rs. 200/- (per annum)
2.	No-Transport vehicles that have completed 15 years of age from the date of their registration	
3.	Motor Cycles	Rs. 250/- (for 5 years)
4.	Other than Motor Cycles	Rs. 500/- (for 5 years)

- There will not be any levy of Green Tax if the vehicle is operated by LPG, CNG, battery or solar power.

- The Green Tax has been imposed with a view of discouraging old vehicles. Lead free petrol has been made available in the Visakhapatnam.

3.5.1 Additional Tax on Second Vehicle:

To discourage purchase of more vehicles by an individual, Government is taxing more on second/ subsequent vehicle.

Sl. No	Type of vehicle	At the time of registration of 1st Vehicle	Second of subsequent vehicle
1.	Motor Cycles	9 % of the cost of the Vehicle	14 % of the cost of the Vehicle
2.	Four wheeler motor vehicles whose cost is below Rs. 10 Lakhs	12%	14%
3.	Four wheeler motor vehicles whose cost exceeds Rs. 10 Lakhs	14%	14%
4.	All vehicles owned by companies/ institutions	14%	14%

Compliance: The Motor Vehicle Inspector (MVI) of Road Transport Authority who attended the meeting reported that they are imposing green tax on the transport vehicles that have completed the age of 15 years from the date of registration. He informed that there will not be any green tax imposed on the vehicles operated by LPG, CNG and Battery. He informed that they are booking the cases of about 1100 per month and the fine collected is around Rs.10 Lakhs per month. He also informed that there are about 20,000 LPG driven vehicles in the Visakhapatnam District and two LPG filling stations are located one at Murali Nagar and the other at Madhurawada. He also reported that they are imposing fine for the vehicles moving in the port road which are moving with load and the material not covered with tarpaulin i.e., non compliance of Motor Vehicle Rules.

Sd/-
JCEE
ZO, Visakhapatnam

L.O.A.
Dr.K.S.R.Murthy,
Visakhapatnam

L.O.A.
Sri. A. Satyanarayana
Visakhapatnam

Sd/-
Sri. B.S. Sastry
Visakhapatnam

Sd/-
Sri. D. Rajeswara Rao,
Visakhapatnam

L.O.A.
Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE REVIEW MEETING HELD ON 24.09.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

The CPCB vide Lr.No.B-29012/ESS(CPA)/2010-11834, dt.20.12.2010 informed the Board to constitute a Local committee comprising various stake holders and experts to carryout bi-monthly review for implementation of action points and regular follow up of implementation of action plans of the critically polluted area of Visakhapatnam. Accordingly, Board constituted a local committee with the following experts and stake holders for monitoring the implementation of action plan under CEPI programme.

1) Prof. S.Rama Krishna Rao, Dept. Civil Engineering, Andhra University (Retd.,), GITAM University, Visakhapatnam.
2) Dr. K.S.R.Murthy, Deputy Director (Rtd), National Institute of Oceanography (NIO), 176, LB Colony, Visakhapatnam – 530017.
3) Sri. B.S. Sastry, NGO, 43-9-130, T.S.N. Colony, Near Dondaparthy, Visakhapatnam.
4) Sri. D. Rajeswara Rao, 49-27-33/1, Madhura Nagar, Visakhapatnam – 16
5) Sri. A. Satyanarayana, Representative of FAPCCI, (Management Committee Member of FAPCCI), D.No.17-1, Pendurthy, Visakhapatnam.
6) Joint Chief Env. Engineer, Member Convener, Zonal Office, Visakhapatnam.

The terms of reference for the committee given by CPCB is as follows:

1. The committee shall make field visits and verify the implementation of short term and long term action points.
2. The report so prepared and signed by all committee members shall be submitted to CPCB on bi-monthly basis through SPCBs.
3. The report received from SPCB shall be reviewed by steering committee at CPCB Head Office, Delhi in every six months.

In view of the above, a review meeting was convened by Joint Chief Env. Engineer, Zonal Office, Visakhapatnam on 17.06.2011 with the above committee. The committee reviewed the status of implementation of action plan under CEPI programme for the 7 industries identified in the bowl area, Visakhapatnam.

The field visits were also carried out for the following 7 industries, the disposal facilities of liquid and solid waste of M/s. Greater Visakhapatnam Municipal Corporation and the Common Bio Medical Waste Facility by the local committee from 18.08.2011 to 20.08.2011 for monitoring the implementation of Action plan under CEPI programme and the minutes are enclosed.

1) M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam
2) M/s.Rain Calcining Pvt. Ltd., Scindia Road, Naval Base, Visakhapatnam.
3) M/s.Adhra Petro Chemicals Ltd., Opp. Naval Dockyard, Visakhapatnam
4) M/s.Hindustan Petroleum Corporation Ltd., Visakh Refinery, Malkapuram, Visakhapatnam.
5) M/s.Coromandel Fertilizers Ltd., Sriharipuram, Visakhapatnam
6) M/s.Hindustan Zinc Ltd., Zinc Smelter P.O., Mindi (V), Visakhapatnam
7) M/s.Visakhapatnam Port Trust, Visakhapatnam.

A Review meeting was convened with the local committee on 24.09.2011 and discussed the status of implementation of Action plan under CEPI programme. After reviewing the various actions taken by the industries and considering the directions issued by the APPCB and its compliance, it is observed that there is substantial improvement in the environmental parameters recorded through monitoring by APPCB and respective industries. It is also brought to the notice of APPCB and the committee that the measures will be complied by December'2011 by the industries except M/s. Visakhapatnam Port Trust, Visakhapatnam and M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam.

The Visakhapatnam Port Trust has prepared a schedule for modernization of handling of dusty cargo and reduce the suspended particulate matter in the Ambient environment by mechanization and movement of cargo through closed conveyors instead of heavy vehicles by December'2012. It is proposed by Essar to install the Electro Static Precipitators in the second stream of Pellelitisation plant-II by December'2012.

In these circumstances the committee felt that the restrictions imposed in the bowl area may be lifted considering the developments and improvements because of constant monitoring by APPCB and the steps taken by the respective industries (please refer the minutes).

Therefore, it is felt that the industries should not be allowed to go ahead with expansions of their production capacities and M/s. Visakhapatnam Port Trust should be restricted to the extent of the Cargo it is handling as on today.

JCEE
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Dr.K.S.R.Murthy, 24/9/11
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Sri. A.
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Sri. D. Rajeswara
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Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE FIELD VISITS HELD FROM 18.08.2011 TO 20.08.2011 FOR MONITORING THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME

Central Pollution Control Board (CPCB) identified Visakhapatnam as one of the critically polluted areas and directed A.P.Pollution Control Board for review and implementation of Action Plan under CEPI programme for critically polluted area.

As per the directions of CPCB, a Local Committee has been constituted by the Board for bimonthly review of the implementation of Action points and regular follow-up of implementation of Action plans of the critically polluted areas.

In view of the above, the field visits are held by local committee from 18.08.2011 to 20.08.2011 for monitoring the implementation of Action plan under CEPI programme in the following schedule:

18.08.2011

1) M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam
2) M/s.Rain Calcining Pvt. Ltd., Scindia Road, Naval Base, Visakhapatnam.
3) M/s.Adhra Petro Chemicals Ltd., Opp. Naval Dockyard, Visakhapatnam

19.08.2011

1) M/s.Hindustan Petroleum Corporation Ltd., Visakh Refinery, Malkapuram, Visakhapatnam.
2) M/s.Coromandel Fertilizers Ltd., Sriharipuram, Visakhapatnam
3) M/s.Hindustan Zinc Ltd., Zinc Smelter P.O., Mindi (V), Visakhapatnam

20.08.2011

1) M/s.Visakhapatnam Port Trust, Visakhapatnam.
2) Mudasarlova STP 3) Old town STP 4) Kapuluppada (dump yard)
5) Appugarh STP 6) Maridi Eco Industries (CBMWTF).

The local committee members who attended the field visits are 1) Sri. B.S. Sastry, 2) Sri. D.Rajeswara Rao, 3) Prof. S. Rama Krishna Rao and 4) Sri. K.S.R. Murthy. Sri. K.S.A.Krishna, Senior Env. Engineer, Zonal Office, Visakhapatnam accompanied the local committee during the field visits.

The committee reviewed the status of implementation of action points specified in the CPCB Action plan for the critically polluted area in all the seven industries and the STPs of GVMC and the status of pollution control measures of CBMWTF namely M/s.Maridi Eco Industries (Andhra) Pvt. Ltd. The status of the industries, GVMC STPs and CBMWTF is detailed below:

1) M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area. The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs. 0.18 Cr. The industry is recycling entire water and it is a negative water balanced industry. The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorized agencies.

Action point: a) The industry used to operate the industry with multi-cyclones. It has provided ESP's to the indurating furnaces in the year 2007 with an investment of Rs. 15 Cr and meeting the emission norms.

Compliance: The industry installed two ESPs for the PP-I (Pellelitisation Plant-I) and they provided ESP for one stream of PP-II and informed that the study is taken up to provide ESP for the second stream in place of multi cyclones. The committee observed the site area and recommended the industry to expedite the installation of ESP. The industry informed that they have estimated the cost of ESP as Rs.8 Crores and reported that it would be put into operation by December'2012.

b) The industry has provided online stack analyser equipment to the indurating furnaces in the year 2006 with an investment of Rs. 0.18 Cr.

It has provided one CAAQM station in order to know the status of pollution and to operate the plant in an environment friendly manner.

Compliance: The industry has provided three online stack analysers. Out of the three, two stack analysers data is reflected in the website. The industry has to follow up for the reflection of data of 3rd stack analyzer with NIC. One CAAQM station is already installed, but the parameter of PM2.5 is not reflected. The industry has to follow up for reflection of data for the parameter PM2.5. Earlier, the industry informed that the 2nd CAAQM station would be installed and commissioned by the end of September'2011, but the committee observed that there is no progress. The industry reported that the 2nd CAAQM station will be installed and commissioned by March'2012 and the parameter PM2.5 will also be included by March'2012.

c) The industry has developed a green belt of 52 acres and proposes to develop additional plantation with an investment of Rs.0.30 Cr in the vacant space available.

Compliance: The industry informed that they have already developed 52 Acres of greenbelt. Earlier, the industry informed that they will plant 1000 saplings in this monsoon season. The committee observed that the committed greenbelt development in this monsoon season has not yet started and directed the industry to start immediately. The industry should clear the dumps of waste and keep the premises clean in order to contain dust generation and should maintain good house keeping.

2) M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters. The industry generates only cooling water as effluent. In the past the industry failed to meet the temperature parameter. In the year 2006, it provided an auxiliary cooling tower with an investment of Rs.15 lakhs. After commissioning the new cooling tower it is meeting the temperature norms. Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.

a) The industry has provided MDSS at all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance.

Compliance: Committee observed that the industry has constructed the wind breaking wall of length 350 mtrs and 11 mtrs height.

b) The industry has provided stack monitoring equipment to the kilns and has provided two CAAQM stations in order to operate the plan in environment friendly manner.

Compliance: The industry provided two online stack analysers and two CAAQM stations and the data is reflected in the website. The data of the parameter PM2.5 is not reflected. Earlier, the industry informed that the parameter PM2.5 will be included and the same would be done by 30th September'2011. Now the industry informed that they could be able to include the parameter PM2.5 by the end of October 2011.

c) The industry has developed a green belt of 25 acres.

Compliance: The industry informed that they have already developed a greenbelt of 25 Acres in their own premises and also in the outsourcing land (port area). Committee also visited the green belt area.

3) M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Iso-Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase. The industry generates wastes like Oxo- residue, Rhodium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.

a) The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs 0.35 Cr.

Compliance: The industry is monitoring the Volatile Organic compounds using UV spectrum. Earlier, the industry informed that one stack analyzer will be installed by the end of June'2011 and the other by November'2011 for the parametersSO_2, Nox, SPM, CO and HC. Now, the industry has installed one stack analyzer and the values are yet to be reflected in the website. The industry has to follow up with NIC for the same. The industry informed that the other stack analyzer would be installed by December'2011. The committee recommended that the parameter of Hydro Carbon shall be included immediately.

b) The industry has developed a green belt of 37 acres.

Compliance: Earlier, the industry informed that they will develop the greenbelt in the vacant places in the industry premises. The committee observed the development of greenbelt in the leased area i.e., port area and in the premises.

c) The industry generates effluent from the process and the effluent parameters in the past exceeded the standards stipulated. Now, the industry has up-graded the ETP with a cost of Rs. 2.0 Cr. At present, the ETP is under stabilization.

Compliance: The industry has upgraded the ETP by installing the Anaerobic digester and also the ETP got stabilized in July'2011. The committee observed the construction of STP to treat the domestic effluent is under progress. The industry informed that the STP would be commissioned by December'2011.

4) M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery.

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels. M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD. Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is reprocessed. The industry is in the process of sending the wastes to the authorised recyclers. In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycling purpose. The industry is in the process of sending these wastes to the authorised recyclers.

a) M/s. Hindustan Petroleum Corporation Ltd., commissioned online analyzers to 19 stacks and 3 CAAQM stations were established to monitor the pollutants SPM, SO_2, NOx, HC, CO with an investment of Rs.5 Crores.

<u>Compliance:</u> The industry informed that there are 30 stacks existing in their unit. Out of 30 stacks Board insisted to provide online analyzers for 15 stacks only. Earlier, it was informed by the industry that out of 15 stacks 8 stacks data would be connected by August'2011 and the other seven stacks by December'2011 for the parameters SO_2, NOx, HC & SPM. But, it was observed that the industry has not yet installed the stack analyzers and the same would be installed by December'2011 (as informed by the industry). The industry installed all the 3 CAAQM stations and the data is being reflected in the website. The committee observed that the values of PM2.5 are more than the values of PM10. The committee opined that the instrument needs to be calibrated as the values shown are not compatible with each other.

b) The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards.

<u>Compliance:</u> The industry commissioned the ETP-4 and the same was also got stablilized. Committee made a visit to the ETP-4 and took a note of all the treatment limits. Committee also visited the sulphur recovery units.
Committee suggested the industry to take action on the following:

1. The Captive power plant uses the waste oils and Naphtha. The composition and the generated gases are to be monitored.
2. The company informed that they are taking up projects with TERI to treat the waste using bio-remediation. The details are to be provided

5) M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently. The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions. The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated raod from the wharf area to the plant premises. The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.** The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65**

Crore. The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005. The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.

a) The industry has provided online stack analysers to Sulphuric acid plants for continuous monitoring of SO2 with an investment of Rs. 0.16 Cr. The industry has established one CAAQM station for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia with an investment of Rs.0.3 Crores.

Compliance: The industry provided two online stack analyzers to the two sulphuric acid plants and two CAAQM stations. The data is being reflected in the website. The Committee suggested that the online CAAQM stations should be kept in working condition.

b) The industry is having an ETP comprising neutralization and clari-flocculators, which requires up-gradation.

Compliance: The industry has completed the construction of ETP and the same was also got commissioned in 1st week of August'2011.

c) The industry has an accumulated huge quantity of Gypsum in an area of about 100 Acres.

The industry adopted dry disposal system of Gypsum and provided lining to an extent of 5 acres of existing Gypsum pond with an investment of Rs.24 Crores during April'2009 which eliminated huge generation of effluent from the gypsum pond.

The industry has provided HDPE & Geo membrane liner under the wagon loading area where gypsum is stored and transported from, during June 2010, to prevent contamination due to acidic seepages in the surroundings with a cost of Rs.7.5 Crores.

Compliance: The committee observed that gypsum is accumulated onsite and the same is yet to be disposed. The industry reported that around 15,00,000 tons of gypsum is accumulated and they have been disposing the gypsum at the rate of 12,00,000 Tons/year, which includes the generation of additional gypsum of 6,00,000 Tons/year. Hence, the accumulated gypsum will be disposed completely by 2013, and they further reported that they would approach Board for extension of time for complete disposal of gypsum.

6) M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process. The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers. The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009. At present stack emissions are meeting the standards. The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010. The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The

industry has provided water meters with totalisers at outlet of clarifier, feed to RO plant, totaliszer at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination. The industry constructed a secured land fill for safe disposal of jarosite cake in the year 2000 with an investment of Rs. 10 Cr. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores. The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.

a) The industry has started the work for closure of the old landfill.

Compliance: The committee observed the works going on for capping the jarosite pond. The HDPE lining is made and the vegetation layer of 600 mm and the green turfing is yet to be done. The industry informed that the same would be completed by January'2012.

b) The industry has an accumulated storage of moore cake, which is generated before 2001 in the premises.

Compliance: The committee observed that the moore cake is completely liquidated from the unlined storage area and the same was stored in the mastic lined storage area. Around 10,000 Tons of moore cake is still existing which is to be consumed in the zinc oxide plant for the recovery of zinc.

Other Observations:

The industry has installed two CAAQM stations one upwind and the other downwind. The values of PM10 are only reflected. The industry has to add the parameter of PM2.5. The industry and M/s. Coramandel fertilizers limited has commonly established a CAAQM monitoring station in Mulagada Village.

7) M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained. M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads. M/s. VPT has provided Mechanised Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs.. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions. M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated. VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.

a) M/s. VPT proposes to mechanize the coal handling at the GCB.

Compliance: The mechanization of GCB is under progress.

b) M/s. VPT proposes to isolate the dusty cargo by constructing a wall up to a height of 7M and geo-net above the wall for a height of 4M. Mechanical Dust Suppression System will be provided all along the wall to eliminate the dust emissions from the stock yard. Wall construction is in progress and the target date for mechanisation is June'2012.

Compliance: The committee observed that the east side wall of about 7.5 mtrs., was already constructed and the north side wall and wall at R11 are under construction stage. The geonet barrier is yet to be provided for the east side wall.

c) M/s. VPT proposes to reorganize the cargo handling in the berths and stock yards with a view to control dust nuisance.

M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emanation.

Compliance: The port authorities informed that once the GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started.

Other observations:

M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee opined that the port shall speed up the installation of CAAQM stations.

Committee recommended to direct the M/s VPT on the following:

1. VPT should focus on the reduction of dusty cargo or take measures to reduce the stock heights to 6ms as earlier directed by the Board.
2. VPT should maintain proper house keeping as heavy vehicles are moving and the mud and dust are pounded into finer particles and are lifted by wind frequently.
3. The solid wastes or soil pushed along road side are to be removed instantaneously.

Municipal Facilities

Sewage Treatment in Visakhapatnam City

1) The 13 MLD STP at Mudasarlova catering to the population of 2.5 Lakhs is completed and the same was also put into operation. The committee observed that the STP is being operated only one hour in the morning and one hour in the evening as the STP is receiving only 1 to 2 MLD of sewage. The treated sewage is discharged into the gedda which ultimately joins the sea.
2) The 25 MLD STP at Appugarh catering to the population of 2 Lakhs is under operation and the treated sewage is discharged into the sea.
3) The 38 MLD STP catering to the population of 2.5 Lakhs at old town is under operation. The committee observed that only 10 to 12 MLD of sewage is being received to this STP as the net work connections from the house holds are under progress. The part of the treated sewage is being taken by M/s. Essar Steels Ltd, for its industrial use and the remaining treated sewage is being discharged into the sea.

The GVMC Officials reported to the committee that they are constructing two STPs of 54 MLD each, one at Narava which is in construction stage and would be completed by May'2012 and the other one at Old town which is proposed to be constructed in the next phase.

Municipal Solid Waste Management

At present the waste is being disposed at Kapuluppada village which is not a scientific disposal site. M/s. GVMC has identified two sites one at Tharluwada village and the other at Krishnapuram for scientific disposal of Municipal solid waste.

Bio Medical Waste Management

The scientific Common Bio Medical Waste Treatment Facility i.e., M/s. Maridi Eco Industries (Andhra) Pvt. Ltd, is collecting the hospital waste from the hospitals located in Visakhapatnam, Vizianagaram and Srikakulam Districts. The capacity of the incinerator is 250 kg/hr. M/s. Maridi informed that they are collecting around Rs.95/- for one bed per month for lifting the waste. M/s. Maridi is receiving the hospital waste from the bowl area which is approximately around 400 kg/day.

Additional points:

1. The Sewage treatment plant in Appughar is not maintained properly and no incharge is fond.
2. It is observed that the laboratory is not equipped and no analyses is being carried out.
3. The treated sewage in the Appughar area is discharged with black solid masses and the Clari -flocculator is not efficiently working.
4. The other two treatment plants are working satisfactorily.
5. It is observed that the treated sewage is being used by Essar Industries .
6. The solid waste disposal is in a very bad shape. The trucks are dumping
7. The wastes on the roads and along the roads creating problems for the movement of vehicles.There is no supervision in the site and the haphazard disposal is creating a problem in the vicinity. The burning of the solid wastes are eminating the carcinogenic gaseslike the dioxins.

		L.O.A.	
JCEE ZO,Visakhapatnam	Dr.K.S.R.Murthy, Visakhapatnam	Sri. A. Satyanarayana Visakhapatnam	Sri. B.S. Sastry Visakhapatnam

Sri. D. Rajeswara Rao,
Visakhapatnam

Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE 2nd REVIEW MEETING HELD ON 22.12.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

At the outset, the JCEE welcomed the members of the Local Committee and Representatives of Stake Holding Departments, Senior Environmental Engineer, Task Force - Vsp, Senior Environmental Scientist, Zonal Lab-Vsp, concerned Regional Officer and the Industries. The JCEE reviewed the status of implementation of action points and follow-up of action plan under CEPI programme for critically polluted area for the following seven industries.

1. M/s. Essar Steels Limited
2. M/s. Rain CII India Limited
3. M/s. Andhra Petrochemicals Limited
4. M/s. Hindustan Petroleum Corporation Limited, Visakha refinery
5. M/s. Coromandal Fertilizers Limited
6. M/s. Hindustan Zinc Limited
7. M/s. Visakhapatnam Port Trust

The members who attended the meeting are 1) Sri. B.S. Sastry, 2) Sri. D. Rajeswara Rao & 3) Prof. S. Rama Krishna Rao. The representatives of the 7 industries and the representative from Road Transport Authority, Sri. K. Sambasiva Rao, Dy. Transport Commissioner attended the meeting. The representatives of the GVMC couldn't attend the meeting.

The committee discussed upon the status of implementation of action points specified in the CPCB action plan for the critically polluted area. The committee reviewed each industry case to case and the compliance status with respect to the action points in the action plan are as follows:

1. M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area.

	Action Point	Measures implemented /proposed by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a) Stack emissions from the indurating furnaces.	The industry used to operate the industry with multicyclones. In the year 2007, the industry installed two ESPs for the PP-I (Pellelitisation Plant-I) and with an investment of Rs.15 Cr and meeting the emission norms. It has provided ESP for one of the streams of PP-II with an investment of Rs.5.5 Cr and informed that the study is taken up to provide ESP for the second stream in place of multi cyclones. The industry informed that they have estimated the cost of ESP as Rs.8.0 Cr and reported that it would be put into operation by December'2012.	The committee reviewed the monitoring values i.e., SPM of PP-I, PP-II & CPP. The Board conducted monitoring and the values are as below (dt.24.10.2011): Pelletasation Plant - I SPM – 47.8 mg/Nm^3 (standard 50 mg/Nm^3) Pelletasation Plant - II SPM – 70.5 mg/Nm^3 (standard 50 mg/Nm^3) Captive Power Plant SPM – 86.5 mg/Nm^3 (standard 100 mg/Nm^3) The committed discussed the status of providing of ESP to the PP-II with the industry. It was reported by the industry that the

			commercial / technical evaluation / negotiation of ESP for the second stream of PP-II in place of multi cyclones is going on and it would be put into operation by **December'2013.** The committee noted that the industry is not complying with the Board direction in this regard. Hence, directed the industry to speed up the installation of ESP in order to bring down the SPM values to the Board standards and to comply with the Board directions. The estimated cost of ESP is Rs.8 Cr
	b) Transfer points	The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs.0.18 Cr.	The committee directed the industry to improve the housekeeping at all transfer points.
	c) Online monitoring:	The industry has provided three online stack analysers in the year 2006 with an investment of Rs.0.18 Cr. Out of three, two stack analysers data is reflected in the website. The industry has to follow-up for reflecting of 3rd stack analyzer data. One CAAQM station is already installed. But, not connected to the website and also PM2.5 not included. The industry proposed to install 2nd CAAQM station and to include the PM2.5 parameters in both CAAQM station and to commission by March'2012.	The industry has provided three online stack analysers. All the data from the three stack analysers are reflecting on the website. The industry was directed to ensure proper calibration and maintenance of the analyzers. The committee observed that the industry installed only one CAAQM station with PM10 which is not connected to the PCB Website. The industry was directed to follow-up with NIC for connecting to the website and to include PM2.5, SO2 and NOx by March 2012. The committee discussed the status of installation of 2nd CAAQM station. The industry reported that the 2nd CAAQM would be installed and commissioned by March'2012 The Board conducted Ambient Air Quality Monitoring at the following locations and monitored values are as

			below: 1) At heavy vehicle entrance gate RSPM-104.6 $\mu g/m^3$ (std.100 $\mu g/m^3$) 2) Near the pond RSPM 98.0 $\mu g/m^3$ (std.100 $\mu g/m^3$). The committee directed the industry to improve the house keeping so as to meet the Board standards.
	d) Green belt:	The industry developed 52 Acres of greenbelt. The industry proposed to plant 1000 saplings in this monsoon season.	The committee noted that the industry already developed 52 Acres of greenbelt. The committee directed the industry to make more plantation in and around the entrance gate and the conveyor points. The committee also directed that the industry should maintain good house keeping by removing all the dumps of the waste that was observed during the committee visit to the industry dt.18.08.2011. The industry informed that the junction boxes were properly covered and they have provided 12 Nos. sprinklers to suppress the dust to keep the premises clean and to achieve good house keeping.
	B. Water pollution :	Not applicable as the industry is recycling entire water and it is a negative water balanced industry.	-
	C. Solid waste disposal:	The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorized agencies.	-

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

2. M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the kilns.	The industry has provided flue gas de-sulpurization for the kiln off gasses. It has provided the incinerator from the gases generated during calcination. The industry is generating electricity from the waste heat recovery.	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms for stack-II and exceeding for stack-I. 1. **Monitored values:** WHRB – 1 SPM – 72.5 mg/Nm3 dt: 31.10.2011 (standard-70 mg/Nm3) SO2 – 0.13 kg/ton dt: 31.10.2011 (standard 0.24 TPD) WHRB – 2 SPM – 67.5 mg/Nm3 dt: 28.10.2011 (standard-70 mg/Nm3) SO2 – 0.18 kg/ton dt: 31.10.2011 (standard 0.24 TPD) The committee directed to evaluate the performance of Bagfilter system to meet Board standards.
	b. Stock yards	The industry has provided MDSS to all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance. The industry also constructed wind breaking wall of length 350m and 11m height at N-E corner compound wall for further improvement towards controlling dust nuisance.	The RO informed that they are developing one additional stock yard. The committee directed the industry to submit the details along with the dust suppression measures to be adopted to the Board.
	c. Road sweeping:	The industry has procured a road sweeping machine with a cost of Rs.0.25 Cr in the year 2004 and cleaning the internal roads.	The industry directed to ensure to Comply the direction.
	d. Online monitoring:	The industry provided two online stack analysers and two CAAQM stations. The stack analysers data & CAAQM data is reflected in the website. PM 2.5 is only not reflected in the website. The industry proposed to include PM 2.5 parameter by the end of October 2011.	The online stack analyzer monitoring data of the industry is reflecting in the Website. The industry was directed to ensure proper calibration and maintenance of the analyzers. The industry has provided two

			CAAQM stations. The AAQM data pertaining to NE of Plant site is not reflecting in the website. The industry was directed to follow-up for the reflection of data with NIC. Earlier, the industry informed that another head for the parameter PM2.5 will be included by the end of October'2011. Now, the industry informed that they could be able to include the parameter PM2.5 by 1st Week of February'2012. The AAQM data pertaining to entrance gate is reflecting in the website. The Board conducted monitoring on top of the Admin Building and one N-E corner of the plant site. The monitored values at 1) Top of administration building RSPM 90.9 $\mu g/m^3$ (std.100 $\mu g/m^3$). 2) North East corner of the plant site RSPM-86.13 $\mu g/m^3$ (std.100 $\mu g/m^3$). The committee directed the industry to ensure proper calibration and maintenance of the analyzers.
	e. Green belt:	The industry already developed greenbelt of 25 Acres in their own premises and also in the outsourcing land (port area).	The committee directed the industry to take up more plantation inside and outside their premises wherever vacant area available.
	B. Water pollution :	The industry generates only Boiler and cooling blow downs. The Industry provided cooling tower and also an auxillary cooling tower with an investment of Rs.15 lakhs as per the Board directive to meet the temperature norms.	-
	C. Solid waste disposal:	Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.	The industry directed to take all measures at the storage areas of the solid waste and dispose the same properly and submit the information to the RO & ZO regularly.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

3. M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Iso-Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase.

	Action point	Measures adopted / proposed by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	The industry is using gaseous fuels and clean liquid fuels for heating purposes. All process operations are carried out in closed loop and gaseous leaks, if any, are connected to the flare stacks.	The committee reviewed the monitoring values and the monitored values are as below (dt. 17.12.2011): 1) LP Boiler – 12.0 TPH: SPM – 36.0 mg/Nm3(std 50mg/Nm3) 2) MP Boiler – 15.0 TPH: SPM – 68.0 mg/Nm3 (std 50mg/Nm3) The committee directed the industry to provide necessary pollution control equipment to meet the Board standards for 15 TPH Boiler.
	b. Continuous monitoring	The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs. 0.35 Cr. The industry is monitoring the Volatile Organic compounds using UV spectrum. The data of PM 10 & PM 2.5 is reflected in the website. The Industry installed one stack analyzer in July 2011 to monitor So2, Nox, SPM, CO but not connected to the website. The committee in the earlier meeting also directed to include HC parameter in the CAAQM stations immediately. The industry informed that the 2nd stack analyser would be installed by December 2011.	The committee reviewed the status of installation of 12 TPH stack analyser and the status of connection of the 15 TPH stack analyser data to the website. The industry informed that stack analyzer was installed to 15 TPH Boiler for the parameters So2, Nox, SPM & CO. The industry installed another stack analyzer to 12 TPH Boiler for SPM only. The stack analyzers data are yet to reflect in the Website. The industry reported to install and include the parameters SO2, NOx, CO to 12 TPH Boiler by March'2012. The committee directed

			the industry to follow-up with NIC for data reflection in the website and put in operation of all the parameters. The committee observed that One CAAQM station was already installed and the data is reflecting in the website. The committee noted that the Industry not included VOCs /HCs parameter in the CAAQM station so far. The industry informed that they are monitoring VOCs at ETP area using hand sampler. The committee again directed the industry speed up the installation of online HCEs / VOCs monitoring and to connect to the website by February'2012. **Other observations** The industry directed to provide interlocking system to 12 TPH Boiler by 15th March'2012.
	c. Green Belt	The industry has developed a green belt of 37 acres. The industry directed to develop the greenbelt in the vacant places of the industry premises. The industry also developing greenbelt in the leased area i.e., port area and in the premises.	The committee directed to take up more plantation.
	B. Water Pollution:	The industry generates effluents from process and was not meeting the standards. The industry has upgraded the ETP with a cost of Rs.2 Crores by installing the Anaerobic digester and also the ETP got stabilized in July'2011. The industry proposed to construct the STP and to commission by December'2011.	The committee reviewed the ETP samples collected on 27.09.2011 & 22.10.2011 and observed that the industry is not meeting the standards. **Effluent data** BOD – 60 mg/l dt: 27.09.2011(standard-30 mg/l) BOD – 60 mg/l dt: 22.10.2011(standard-

			30 mg/l) The industry informed that they have upgraded the ETP. The committee directed to verify the performance of the ETP. The committee reviewed the status of STP to treat the domestic effluents The industry informed that the STP construction is under progress and would be completed by 15th January2012.
	C. Solid waste:	The industry generates wastes like Oxo- residue, Rohdium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

4. M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD. The industry proposed to install FGD units with an investment of Rs.75 Crores by April'2012.	The committee reviewed the comprehensive stack monitoring done for 25 stacks of refinery by PCB on **22.11.2011** Monitoring values: Cumulative SO2 load from 25 stacks – 11.1302 TPD (standard – 11.5TPD) Cumulative SPM load from 25 stacks – 1.7022 TPD (standard – 1.11TPD) **&** **23.11.2011** Monitoring values: Cumulative SO2 load from 25 stacks – 11.82642 TPD (standard – 11.5TPD) Cumulative SPM load from 25 stacks – 1.579 TPD (standard – 1.11TPD) The committee reviewed the status of installation of FGD to FCCUs to control SPM emissions; The industry informed that they received the equipments and civil works are in progress. The committee directed to speed up the installation of FGD by April'2012 in order to bring down the pollution levels.
	b. Continuous monitoring	The industry having 30 stacks. Out of 30 stacks Board directed to provide analyzers for 15 stacks only. Earlier, it was informed by the industry that out of 15 stacks 8 stacks data would be connected by August'2011 and the other seven stacks by December'2011 for the parameters SO_2, NO2 HC & SPM. But, it was observed that the industry has not yet installed the stack analyzers and the same would be installed by December'2011 (as informed by the industry). The industry installed all the 3 CAAQM stations and the data is being reflected in the website. As the committee noted during the field visit on 18.08.2011 the values of PM2.5 was higher than PM10, the industry was directed to calibrate the instruments of PM2.5 & PM10.	The committee reviewed the status of installation of 15 Nos of stack analyzers and performance of CAAQM stations and status of connection to the website. The industry informed that they will provide 7 Nos of stack analyzers by January'2012 and the rest 8 stack analyzers by March'2012 and the same shall be connected to the PCB website. The industry was directed to comply with the directions of the Board issued in this regard. The industry installed all the 3 CAAQM stations and connected to the PCB Website. The instruments were not properly

			calibrated so far and the data captured was found to be erroneous. The committee directed the industry for proper calibration and maintenance of the analyzers.
	B. Water Pollution:	The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards. The industry commissioned the ETP-4 and the same was also got stablilized. Committee directed the industry to take action on the following: 1. To monitor the gases generated from the Captive power plant using waste oils and Naphtha as fuel. 2. Details on the project takenup with TERI to treat the waste using bio-remediation.	The committee reviewed the analysis results of the ETP I & II samples collected by the Board and the effluent data is as below (28.11.2011): <u>DMF Outlet of ETP-I</u> Phenols – 0.98 mg/l (std.0.35 mg/l) Sulphides – 12 mg/l (std.0.5 mg/l) <u>MHF Outlet of ETP-I</u> Phenols – 1.4 mg/l (std.0.35 mg/l) Sulphides – 8.0 mg/l (std.0.5 mg/l) <u>GAC Outlet of ETP-II</u> Phenols – 0.8 mg/l (std.0.35 mg/l) Sulphides – 0.4 mg/l (std.0.5 mg/l) <u>MHF Outlet of ETP-II</u> Phenols – 0.4 mg/l (std.0.35 mg/l) Sulphides – 4.0 mg/l (std.0.5 mg/l) <u>Cooling blow down water</u> Phenols – 0.21 mg/l (std.0.35 mg/l) Sulphides – 6.0 mg/l (std.0.5 mg/l) The industry commissioned ETP-IV recently along with the expansion project. Hence no sample was collected from ETP-IV. The committee noted that the industry exceeding the Board standards with respect to phenols & sulphides. The committee directed the industry to evaluate the performance of the ETP.
	C. Solid waste:		
	a. Oily wastes:	Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is	The committee directed to maintain proper waste disposal system.

		reprocessed. The industry is under process of sending the wastes to the authorized recyclers.	
	b. other solid wastes :	In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycle purpose. The industry is under process of sending these wastes to the authorized recyclers.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

5. M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	Stoppage of operation	The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions.	The committee directed to maintain proper material handling management.
	A. Air pollution:		
	Receipt & transport of raw materials	The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated berth from the wharf area to the plant premises.	The committee directed to maintain proper material handling management.
	Fugitive emissions from the warehouse	The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.**	The committee directed to maintain proper material handling management.
	Sulfuric acid plants	The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65 Crore.**	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms. **<u>Monitored values:</u>** **1400 TPD Sulphuric Acid Plant** SO_2 – 0.677 kg/T Dt. 12.11.2011. (standard – 1kg/MT of product) SO_3 – 0.041 kg/T Dt. 12.11.2011. (standard – 0.35 kg/MT of product) Acid mist-BDL Dt. 12.11.2011. (standard – 20.0 mg/Nm3) **300 TPD Sulphuric Acid Plant** SO_2 – 0.444 kg/T Dt. 12.11.2011. (standard – 0.65 kg/MT of product) SO_3 – 0.0053 kg/T Dt. 12.11.2011. (standard – 0.35 kg/MT of product) Acid mist-BDL Dt. 12.11.2011. (standard – 20.0 mg/Nm3)

	Reduction of fuel consumption	The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005.	--
	Online Monitoring:	The industry has provided two online stack analysers to Sulphuric acid plants for continuous monitoring of SO2. The industry has established two CAAQM stations for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia. The data is being reflected in the website.	The committee reviewed the status of connection of stack and Ambient analyzers data with the PCB website. The industry provided two online stack analysers and the data is reflecting in the website. The industry provided two CAAQM stations and only one station located at maintenance garage was connected to website and the data is reflecting. The industry was directed to follow-up with NIC for the reflection of data of the 2nd CAAQM station at North East Corner (upwind) towards HPCL boundary. The Committee suggested that the online CAAQM stations should be kept in working condition.
	B. Water Pollution	The industry is having an ETP comprising neutralization & clariflocculator and was not meeting the Board standards. The industry upgraded the ETP with an investment of Rs.16 Cr and commissioned the ETP in August'2011.	The committee reviewed the ETP samples collected on 30.09.2011 & 22.10.2011 and observed that the industry is not meeting the standards. **<u>Effluent data:</u>** P (as PO_4^{3-}) – 7.4 mg/l dt.22.10.2011. Standard – 5 mg/l P (as PO_4^{3-}) – 6.5 mg/l dt.30.09.2011. Standard – 5 mg/l The committee noted that the industry exceeding the standard of phosphates. The committee directed

			the industry to evaluate the performance of the ETP and to ensure zero discharge from the premises and submit the compliance within 2 months to the Board.
	C. Solid waste disposal		
	Gypsum disposal	The industry has an accumulated huge quantity of gypsum in an area of about 100 Acres. The industry was directed to dispose off the accumulated gypsum onsite. The industry reported that around 15,00,000 tons of gypsum is accumulated and they have been disposing the gypsum at the rate of 12,00,000 Tons/year, which includes the generation of additional gypsum of 6,00,000 Tons/year. Hence, the accumulated gypsum will be disposed completely by 2013, and they further reported that they would approach Board for extension of time for complete disposal of gypsum.	The committee reviewed the disposal of accumulated gypsum of 20,00,000 Tons from the old gypsum pond. The industry informed that the disposal of Gypsum is under process. The committee directed the industry to submit the action plan for speedy disposal of 20,00,000 Tons of accumulated gypsum and shall be disposed off completely as per the directions of the Board. The committee directed the industry to submit action plan for developing plantation in the evacuated gypsum storage area.
	Other Solid wastes	The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

6. M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	Receipt & transport of raw materials	The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers.	The committee directed to maintain proper material handling management
	Sulfuric acid plant	The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009.	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms. **Monitored Values** **TGT stack** SO_2 – 0.6 kg/T of H2So4 Dt. 2.12.2011 (standard – 1.5 kg/T of H2So4) SPM – 35 mg/Nm3 Dt.2.12.2011 (standard – 115 mg/Nm3)
	B. Water Pollution	The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010.	The committee directed the industry to ensure zero discharge.
		The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The industry has water meters with totalisers at outlet of clarifier, feed to RO plant, totaliser at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination.	

	Solid Waste disposal		
	Jerosite	The industry has a secured land fill for safe disposal of jerosite cake in the year 2000 with an investment of Rs.10 Cr and the land fill got filled up. The industry was directed for capping the land fill by 31st July'2011. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores.	The committee directed for proper and scientific maintenance of secured land fill.
	Closure of the Jerosite Pond	The industry has started closure of old land fill. The industry made HDPE lining and the vegetation layer of 600 mm and the green turfing is yet to be done. The industry informed that the same would be completed by January'2012.	The committee reviewed the capping of jerosite pond. The industry informed that the capping of jerosite land fill already completed over 57,000 m^2 area and remaining works related to 25,000 m^2 area are under progress and proposed to complete by August'2012. They also informed that vegetation layer of 600 mm is under progress.
	Moore Cake	The industry has an accumulated storage of moore cake which is generated before 2011 in the premises. As per the direction of the committee the moore cake is completely liquidated from the unlined storage area and the 10000 Tons of moore cake is stored in matic lined concrete storage tank. The industry proposed to consume in the Zinc plant for recovery of Zinc.	The committee reviewed disposal of Moore cake existing in the site. Around 3000-4000 Tons of moore cake is still existing which is to be consumed in the zinc oxide plant for the recovery of the zinc. The industry informed that the entire moore will be completely disposed off by March'2012. The industry was directed to takeup the plantation in moore cake removed areas.
	Other observations	The industry has installed two CAAQM stations one upwind and the other downwind. The values of PM10 are only reflected. The industry has to add the parameter of PM2.5. The industry and M/s. Coramandel fertilizers limited has commonly established a CAAQM monitoring station in Mulagada Village.	The committee reviewed the status of CAAQM stations. It is observed that the date is reflected in the website.
	Other Solid wastes	The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

7. M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained.

	Action point	Measures adopted by the industry	Action plan proposed for further improvement with Target date	Compliance with respect to Action plan
	A. Air pollution:	M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads.	The VPT proposed for the mechanization of Coal handling at GCB, EQ-1 & EQ-1A and iron ore & fertilizer handling facilities at WQ-1 and EQ-7. The VPT proposed to isolate the dusty cargo by constructing a wall upto a height of 7 mtrs on the Eastern & Northern side of the East yard at a cost of Rs.2 Crores and Geonet above the wall for a height of 4 mtrs. The committee during their earlier visit observed that the east side wall of about 7.5 mtrs., was already constructed and the north side wall and wall at R11	The committee discussed the status of mechanization of coal handling at GCB, EQ-1 & EQ-1A and iron ore & fertilizer handling facilities at WQ-1 and EQ-7. The VPT informed that GCB mechanization is under progress and would be completed by June'2012. The remaining berths would be mechanized by March'2013 (EQ-1 & EQ-1A) and EQ-7 & WQ-1 by December'2013. The industry was directed to comply the Board directions. These improvements proposed to be completed by March'2012.

		M/s. VPT has provided Mechanized Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions.	are under construction stage. The geonet barrier for a height of 4 mtrs for the east side wall and dust sprinkler system along the wall to eliminate the dust emissions from the stock yard are yet to be provided. M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emination.	The port authorities informed that once the coal handling at GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started. It is proposed that these improvements will be completed by 2012. The committee reviewed the monitoring values conducted by the Board in the old town area and are as below: **<u>For the month of November</u>** 1) At MVC Kalyana Mandapam SO2 – 14 $\mu g/m^3$ Nox – 19 $\mu g/m^3$ RSPM – 76.2 $\mu g/m^3$ TSPM – 177 $\mu g/m^3$ 2) At St.Parish School SO2 – 9 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 70.1 $\mu g/m^3$ TSPM – 192 $\mu g/m^3$ 3) At St.Alloysius School SO2 – 11 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 82.3 $\mu g/m^3$ TSPM – 205 $\mu g/m^3$ **<u>For the month of December</u>** 1) At MVC Kalyana Mandapam SO2 – 14 $\mu g/m^3$

				Nox – 19 µg/m^3 RSPM – 76.2 µg/m^3 TSPM – 176 µg/m^3 2) At St.Parish School SO2 – 9 µg/m^3 Nox – 17 µg/m^3 RSPM – 70.1 µg/m^3 TSPM – 192 µg/m^3 3) At St.Alloysius School SO2 – 11 µg/m^3 Nox – 17 µg/m^3 RSPM – 82.3 µg/m^3 TSPM – 205 µg/m^3
		M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated.		The committee directed the VPT to clean the dust accumulated on the flyover and maintain cleanliness to the surroundings. M/s. VPT shall provide iron barriers (as provided by Navy) all along the length of the two flyovers (one opposite M/s.Essar and the other one Scindia flyover) on both the side.
	Other observations		M/s. Visakhapatnam Port Trust has to install three CAAQM stations.	The committee directed M/s. VPT to speed up installation of online CAAQM stations at different locations with display facility for the parameters of TSPM, PM_{10} & $PM_{2.5}$ as per the directions of the Board.
			The committee during the previous meeting recommended to direct the M/s VPT on the following:	
			1. VPT should focus on the reduction of dusty cargo or take measures to reduce the stock heights to 6ms as earlier directed by the Board.	The industry informed that they are restricting the dusty cargos stock piles height to 6 mtrs only in all the yards.

			2. VPT should maintain proper house keeping as heavy vehicles are moving and the mud and dust are pounded into finer particles and are lifted by wind frequently. 3. The solid wastes or soil pushed along road side are to be removed instantaneously.	The committee directed the VPT to provide mechanized truck tyre washing facility and provide height guage to sweep the over loaded cargo and so as to minimize dust emissions. The committee directed the industry to remove the solid waste accumulated all along the sides of the internal roads. **Other Recommendations:** The VPT directed to ensure not to store any cargo opposite to Essar & West side of Essar. The VPT was dircctcd to take up plantation at all open areas. The committee directed the VPT to provide MDSS at all other areas like EQ-1A before 31.10.2013 as per the direction of the Board. The industry informed that they have commissioned mechanical dust suppression system at R-4 & R-10 area at a cost of Rs.1 Crore recently.
	B. Water Pollution	VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.		

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

3.2 Sewage Treatment in Visakhapatnam City:

Sl. No	Particulars	Present status of Sewage treatment systems	Action plan for further improvement.	Compliance with respect to Action plan
1.	Grater Visakhapatnam Municipal Corporation (GVMC)	i) The area of GVMC is 530 Sq.Kms. and the population as per 2001 census is 14.35 Lakhs. The sewage generated at an average of 100lpcd is 143.50 mld as per 2001 census.	i) The project of providing sewerage system to central part of Visakhapatnam city under JNNURM has been taken up in four packages and is in progress. Nearly 37.15% of GVMC population (2001 census) will be covered after completion of the project. The length of sewerage net work that is being covered is 400.00 Kms. Two STPs of 13 mld capacity (nearing completion) and 108 mld capacity are being taken up in this project. The cost of the above STPs is Rs.10.50 Crores & Rs.47.00 Crores respectively.	
		ii) The population covered so far with UGD system comes to nearly 22.15% and the length of sewerage net work covered is 212.00Kms.Two STPs of 25 mld(Rs.10.00 Crores) & 38 mld (Rs.20.00 Crores) were constructed and are functioning.The sewage after treatment is being let out into the sea . The quantity of sewage treated at present in the above two STPs is 40.00 mld.	ii) The Detailed Project Report for Gajuwaka, Malkapuram and Yarada covering nearly 23.00 % of population of GVMC (2001 census) at an estimated cost of Rs.386.10 Crores was submitted to Govt. of India for approval. Three STPs of 53 mld (Rs.37.17 Crores); 30 mld (Rs.26.83 Crores) and 5 mld (Rs.7.75 Crores) are proposed in this Project.	
			iii) A Project Report has been approved by the State Govt. for providing sewerage system to the rest of the population (i.e., in the surrounding villages that were merged into GVMC) covering nearly 11.00% of GVMC population as per 2001 census. The DPR is under preparation. In this project 3 Nos. of STPs of 15 mld (Rs.8.25 Crores); 32 mld (Rs.17.60 Crores) and 13 mld (Rs.7.15 Crores) are proposed.	
			iv) In addition to the above the GVMC has been providing sewerage system to the public living in (5+11=16) 16 poor settlements duly covering nearly 6.70% of GVMC population (2001 census) 4 No. of STPs are proposed @ an estimated cost of Rs.11.15 Crores.	
			v) The STPs proposed by GVMC comprising of manly activated sludge process. The GVMC also called for Expression of Interest (EOI) from the concerned persons for utilization of treated water.	
			vi) GVMC proposed to treat to a	

			BOD of 20 mg/lit, COD of 25 mg/lit and SS of 60 mg/lit.	
		The GVMC is operating the following STPs	The GVMC is in the process of providing the following STPs	
		1. A 10 MLD Plant in the Port area for treatment of sewage generated from part of One Town. This is being operated by M/s. Visakhapatnam Port Trust, and the treated sewage is being utilised by the Port for suppression of dust i.e. emanated from dusty cargo stock piles.	1. A 13 MLD plant at Mudasaralova, catering to the projected population of 2.5 lakhs is completed, and the network connections from the households are in progress. The treated sewage is proposed to be discharged into Sea.	The representative of M/s. GVMC reported that the 13 MLD STP at Mudasarlova is in operation.
		2. A 25 MLD plant at Appughar on the Beach Road catering to the population of 2 Lakhs is being maintained by M/s. GVMC, and the treated sewage is discharged into Sea.	2. A 54 MLD plant at Narava is in construction stage, and would be completed within an year. This STP is proposed to cater the projected population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	The representative of the GVMC reported that the 54 MLD STP at Narava is under progress. He also informed that the civil works are started and would be commissioned by March'2012
		3. A 38 MLD plant catering to the population of 2.5 lakhs is in operation at One Town. Part of the treated sewage is being used by M/s. Essar Steels Limited for its industrial use, and the remaining treated sewage is discharged into Sea.	3. A 54 MLD plant at Old Town is proposed in the next phase. This STP is proposed to cater the population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	
		GVMC constructed Below Poverty Line housings under Wambay and Rajeev Gruha kalapa along with packaged STP's of 2 x 1.5 MLD and 1 x 2 MLD to cater to the population of 28,280 in total.	If the above STPs come into operation, the projected population covered under the UGD system comes to nearly 70 % and the length of sewage network covered will be 111 Sq. Kms. At present the GVMC population is 16 lakhs.	The representative of M/s.GVMC reported that the STPs which are

		GVMC constructed settlement housings at Gangavaram along with packaged STP's of 1 x 0.5 MLD and 1 x 2.5 MLD to cater to the population of 25,000 in total.	Core coverage in city with population of 70 % of population and 25% of habitation area. Suburbs would be covered and connected in phased manner under JNNURM+ Project which is to be completed by 2015.	in operation are covering about 60% of population under UGD system.
		The population covered under the above STPs and the UGD system comes to nearly 5 lakhs and the length of sewage network covered is 78 Sq.Kms.	<u>Other Civic Amenties proposed by GVMC under JNNURM projects</u>. Ist Phase JNNURM (2005-2012) <u>Flyover</u> Railway station to Asilmetta 1.55 Kms with a project cost of Rs 89 Crores.	The representative of M/s. GVMC reported that the flyover is under progress and expected to be commissioned by September' 2012
			<u>BRTS</u> Pilot corridor about 40 Kms with an estimated cost of Rs 360 Crores.	The representative of M/s.GVMC reported that the BRTS project would be commissioned by March'2012
			<u>Truck terminal</u> GVMC earmarked truck terminals at Madhurawada and Gajuwaka at suburbs areas and are operational.	Being followed
			IInd Phase JNNURM+(2012-2015) <u>Flyovers</u> GVMC proposed flyovers at Gopalatanam and Chavulamadum with lengths of 1500 M and 800 M respectively	The representative of the M/s.GVMC reported that once the 1st phase project comes in to operation then they

			BRTS Additional 7 Nos Corridors of about 100 Kms, Arterial roads of about 15 kms, Feeder roads of about 20 Kms and Pedestrial Footpath of about 6 Kms with a total (Flyover and BRTS) estimated project proposal of Rs. 2250 crores.	would take up the 2nd phase projects.
			Traffic Infrastructure for the traffic islands would be provided by GVMC and operational system maintained by traffic police.	

3.3 Municipal Solid waste Management

- Greater Visakhapatnam Municipal Corporation (GVMC) is one of the major cities in Andhra Pradesh generating about 670 TPD of municipal solid waste (MSW). At present this waste is being disposed at Kapulauppada (V) which is not scientific disposal site.
- The GVMC identified 2 sites one at Tarluvada (V) (500 Ac) and another site at Krishnapuram (350 Acs) for scientific disposal of MSW. The proposals for alienation of these sites were sent to District Collector, Visakhapatnam and it would be cleared by December 2010. Proposals for setting up scientific landfill and a bio-methanization plant with a cost of Rs.104 crores were already prepared by GVMC.
- After completion of the alienation process, at one of the above mentioned sites, the construction will be taken up by GVMC. It is scheduled to go for a scientific solid waste management facility by December, 2011.

Compliance: The representative of M/s.GVMC has reported that they are presently disposing the solid waste at Kapuluppada (V). He also informed that it is not a scientific disposal site. They have identified alternative site of 500 Acres at Tarluvada (V) for disposal of municipal solid waste and he informed that it may take another one year for the new scientific disposal site to be put into operation.

3.4 Bio-Medical waste Management

- The Visakhapatnam District is having 324 Health Care Establishments (HCEs) covering about 7671 beds. In the bowl area there are 7 Government Hospitals, 190 Private hospitals and others are 3 Nos.
- The HCEs are having authorization of A.P. Pollution Control Board under the BMW Rules and has tied up with Scientific Common Bio Medical Waste Treatment Facility i.e., M/s.Maridi Eco Industries (Andhra) Pvt. Ltd, located at Sy.No.314, Kapuluppada (V), Visakhapatnam District.
- The capacity of the Incinerator is 250 Kg/hr. The hospital waste collecting by the common waste facility (CBMWTF) from the bowl area is around 400 kg/day.
- APPCB has been monitoring the HCEs as well as the Common Treatment Facility regularly.

3.5 Vehicular pollution Control:

- The transport department is implementing emissions norms stipulated to the vehicles and monitoring pollution levels through testing centers for which licenses are issued by transport department under the A.P. Motor Vehicles Rules.

- Pollution Under Control (PUC) certificates are issued for the vehicles which passes the test and notices will be issued to the vehicles which fails to comply with the norms. The Validity of the Pollution Under Control certificate is 6 months from the date of issue. There are 40 test centres existing in Visakhapatnam.

- As per the G.O.Ms. No. 238, Dt. 23.11.2006 of the Government of Andhra Pradesh, Green Tax is being levied as follows.

Sl. No.	Class of Vehicles	Tax Levied
1.	Transport Vehicles that have completed 7 years of age from the date of their registration	Rs. 200/- (per annum)
2.	No-Transport vehicles that have completed 15 years of age from the date of their registration	
3.	Motor Cycles	Rs. 250/- (for 5 years)
4.	Other than Motor Cycles	Rs. 500/- (for 5 years)

- There will not be any levy of Green Tax if the vehicle is operated by LPG, CNG, battery or solar power.
- The Green Tax has been imposed with a view of discouraging old vehicles. Lead free petrol has been made available in the Visakhapatnam.

3.5.1 Additional Tax on Second Vehicle:

To discourage purchase of more vehicles by an individual, Government is taxing more on second/ subsequent vehicle.

Sl. No	Type of vehicle	At the time of registration of 1st Vehicle	Second of subsequent vehicle
1.	Motor Cycles	9 % of the cost of the Vehicle	14 % of the cost of the Vehicle
2.	Four wheeler motor vehicles whose cost is below Rs. 10 Lakhs	12%	14%
3.	Four wheeler motor vehicles whose cost exceeds Rs. 10 Lakhs	14%	14%
4.	All vehicles owned by companies/ institutions	14%	14%

Year	Vehicles registered	PUC Cases booked	Coll amount
2007	37,789	6	6000
2008	41,387	15	15000
2009	39,160	1583	1583000
2010	56,707	1120	1120000
2011	57,794	1263	1263000
TOTAL	**2,31,837**	**3987**	**3987000**

Compliance: The Motor Vehicle Inspector (MVI) of Road Transport Authority who attended the meeting reported that they are imposing green tax on the transport vehicles that have completed the age of 15 years from the date of registration. He informed that there will not be any green tax imposed on the vehicles operated by LPG, CNG and Battery. He informed that they are booking the cases of about 1100 per month and the fine collected is around Rs.10 Lakhs per month. He also informed that there are about 20,000 LPG driven vehicles in the Visakhapatnam District and two LPG filling stations are located one at Murali Nagar and the other at Madhurawada. He also reported that they are imposing fine for the vehicles moving in the port road which are moving with load and the material not covered with tarpaulin i.e., non compliance of Motor Vehicle Rules.

JCEE
ZO, Visakhapatnam

L.O.A.
Dr.K.S.R.Murthy,
Visakhapatnam

L.O.A.
Sri. A. Satyanarayana
Visakhapatnam

Sri. B.S. Sastry
Visakhapatnam

Sri. D. Rajeswara Rao,
Visakhapatnam

Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE FIELD VISITS HELD FROM 02.02.2012 TO 04.02.2012 FOR MONITORING THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME

Central Pollution Control Board (CPCB) identified Visakhapatnam as one of the critically polluted areas and directed A.P Pollution Control Board to constitute a local committee for review and implementation of Action Plan under CEPI programme for critically polluted areas.

As per the directions of CPCB, a Local Committee has been constituted by the Board for bimonthly review of the implementation of Action points and regular follow-up of implementation of Action plans of the critically polluted areas.

The local committee made field visits from 02.02.2012 to 04.02.2012 for monitoring the implementation of Action plan under CEPI programme in the following schedule:

02.02.2012

1) M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam
2) M/s.Rain Calcining Pvt. Ltd., Scindia Road, Naval Base, Visakhapatnam.
3) M/s.Andhra Petro Chemicals Ltd., Opp. Naval Dockyard, Visakhapatnam

03.02.2012

1) M/s.Hindustan Petroleum Corporation Ltd., Visakh Refinery, Malkapuram, Visakhapatnam.
2) M/s.Coromandel Fertilizers Ltd., Sriharipuram, Visakhapatnam
3) M/s.Hindustan Zinc Ltd., Zinc Smelter P.O., Mindi (V), Visakhapatnam

04.02.2012

1) M/s.Visakhapatnam Port Trust, Visakhapatnam.
2) Mudasarlova STP 3) Old town STP 4) Kapuluppada (dump yard)
5) Appughar STP 6) Maridi Eco Industries (CBMWTF).

The local committee members who attended the field visits are 1) Sri. B.S. Sastry, 2) Sri. D.Rajeswara Rao, 3) Prof. S. Rama Krishna Rao and 4) Dr. K.S.R. Murthy.

The committee visited the plant areas and verified the status of implementation of action points specified in the Action plan for the critically polluted areas in all the seven industries and the STPs of GVMC and the status of pollution control measures of CBMWTF namely M/s. Maridi Eco Industries (Andhra) Pvt. Ltd. The committee made the following observations and their recommendations are as below:

1) M/s. Essar Steels Limited, Visakhapatnam

Observations:

1) **Stack emissions**

The industry has not complied with the Board direction issued for upgradation of Air Pollution control Equipment to the second stream of PP-II in place of Multicyclones. The industry in the earlier CEPI committee meeting informed that ESP will be installed to the PP-II by December'2012. During the visit, the industry informed that it will be installed by December'2013 as the proposal got delayed due to technical difficulties.

The committee noted that the SPM values from the PP-I (2 ESPs) range from 47.8 mg/Nm3 to 92 mg/Nm3 against the Board standard 50 mg/Nm3 and from the PP-II the observed range varies from 70.5 mg/Nm3 to 83.4 mg/Nm3 against the Board standard of 50 mg/Nm3.

2) **Online stack monitoring**

The committee observed that the data of the online stack analyzers are reflecting on the Website. However, the industry has not complied with the Board direction issued earlier to install another CAAQM station preferably nearer to the habitation side to monitor the ambient air by 15.10.2011.

The committee observed that the industry installed only one CAAQM station with PM10 which is not connected to the PCB Website so far.

3) **Plantation**

The committee visited all around the raw material stock yards and noted that there is no bufffer zone towards the Eastern compound wall.

The committee also visited the existing plantation developed in old slurry ponds area and noted that the industry dumped construction materials in the plantation areas thereby damaging the existing plantation.

4) **Other observations**

The committee observed that Housekeeping is very poor in and around stock yard areas, conveyors and junction box areas.

Recommendations

1) The industry shall upgrade the Air pollution control equipment of PP-II to meet the stipulated standard.

   The industry shall modify / upgrade the existing APC of PP-I plant to meet the Board standards.

2) The industry shall maintain a 20 m wide green belt as a buffer zone all along the periphery of the compound wall particularly towards Gnanapuram area to minimize dust pollution problems to the area.
   The industry shall submit the plantation details clearly earmarking the existing and proposed plantation on a layout plan with a time bound action plan.
   The committee suggested to develop plantation using 3 year old plants.

3) The industry shall avoid dumping of waste / ongoing construction material indiscriminately and to earmark specific area for storing the materials and shall utilize the area effectively for plantation and thereby housekeeping shall be attended.

4) The industry shall provide adequate no. of sprinklers in the coal stock yards and other raw material stock yards in order to suppress the dust from stocking materials by April 2012.

5) The industry shall not store the raw materials more than 6 mtrs heigh.

6) The industry shall construct a retaining wall of 3 m heigh on all four sides of the stock yards of main plant so that no material should go along with the drain/storm water.

7) The industry shall provide sediment traps in the drains to reduce TSS in the water that joins outside drain which ultimately joins the sea.

8) The industry shall avoid leaks at junction boxes by putting adequate air pollution control equipment.

9) The industry shall avoid vehicular movement along the eastern compound wall and to leave buffer zone for avoiding dust emissions to the nearby habitation.

10) The industry shall improve the house keeping in and around of all storage areas of raw material stock yards and conveyor belts and junction box areas.

11 The industry shall commission the 2nd CAAQM station with PM10, PM2.5, SOx & NOx by March'2012.

    The industry shall consult RO-VSP for location of 2nd CAAQM station and shall examine the proposal for installation of CAAQM station in the nearby habitation ie., Gnanapuram area.

    The industry shall follow-up with NIC for connecting 1st CAAQM station with PM10 to the website and shall include the parameters PM2.5, SO_2 & NOx in the 1st CAAQM station by March'2012.

    The industry shall ensure proper calibration and maintenance of the analyzers.

2) M/s. Rain CII India Limited, Visakhapatnam

Observations:

1) **Stock yards**

The committee visited the existing stock yards and observed that the stock yard height is more than 10m in some areas and also observed that water sprinkling is insufficient and not covering the total area.

It was also noted that the industry has undertaken construction of additional stock yard in 9.5 acres with an investment of Rs.22 crores without having CFE of the Board. The industry informed that they are shifting the stock yard from the VPT area to their premises.

2) **Online monitoring**

The committee verified the online stack analyzers, their functioning and connectivity to the Website. The committee observed that one CAAQM station at the entrance gate is reflecting the data in the Website and the AAQM pertaining to NE of Plant site is not reflecting in the website and another head for the parameter PM2.5 is not acquired.

Recommendations

1) The industry shall install sufficient number of water sprinkler guns with adequate capacity at the stock yard entry and at the area where water spray is inadequate and advised to reduce the stocks yards height to 6m.

2) The industry shall obtain necessary permission from the Board for constructing the additional stock yard duly submitting the design details along with dust suppression / control measures to be adopted.

3) The industry shall restrict the heights of the stock yards to 6 m in the new stockyard and to install water sprinkler guns and Air pollution control equipment at all transfer points of the new stock yard. The industry shall also install water spraying system all along the conveyor system.

4) The industry shall develop plantation with 3 year aged plants at new stock yards. The committee directed to submit the details of greenbelt earmarking on layout plan to the Board and to develop greenbelt towards the Port Road.

5) The industry shall improve housekeeping in the industry premises and stock yard areas.

6) The industry shall dispose off the gypsum sludge properly.

7) The industry shall comply with the load based standards for SPM & SO_2.

8) The industry shall plan for rain water harvesting system.

9) The industry shall follow-up with NIC for the reflection of online data in the Website.

The industry shall include another head for parameter PM2.5 by the end of February'2012.

The industry shall ensure proper calibration and maintenance of the stack / AAQM analyzers regularly.

3) M/s.Andhra Petro Chemicals Ltd., Visakhapatnam

Observations:

1) **Online monitoring**

The committee visited online stack & CAAQM station and observed that the data was uploaded to the PCB Website. The stack analyzer of 15 TPH for the parameters SO_2, NOx, SPM, HCs and CO are functioning. The industry installed only SPM analyzer to 12 TPH Boiler. The SPM in the stack -1 (12 TPH) was 16mg/m3 and in stack – 2 (15 TPH) the SPM was 73mg/m3 (std. 50mg/m3).

The committee observed that the industry has not complied with the Board direction in providing online monitoring system to the 12 TPH Boiler stack along with the interlocking facility by 15.10.2011.

The committee observed the online AAQ monitored values of SO_2, NOx & SPM which are reflecting in the Website. The committee observed that the HCs were not included in the CAAQM station and not complying with the Board directions issued to be installed by 15.10.2011. The SO_2 in CAAQM station observed was 100 mg/m3 against the Board standard 80 mg/m3. The industry informed that the values might reflect contribution from M/s.HPCL Refinery.

2) **Water Pollution**

The committee visited the ETP surroundings and observed that the odour problem is still prevailing, inspite of installation of bioreactor. The COD in the incoming raw effluent to the ETP is more than 15,000 mg/l. The committee opined that stripper is needed before effluents entering into the ETP to control odour problem.

The committee observed that the STP with designed capacity of 125 KLD was commissioned and the same is under stabilization.

3) **Plantation**

The plantation in and around STP, ETP and other areas is inadequate.

Recommendations:

1) The industry shall provide stripper before effluents entering into the ETP to bring down the COD levels in the inlet effluent to 5,000 mg/l so as to control the odour problem in and around ETP area.

2) The industry shall ensure proper treatment of domestic effluents in the STP and utilize it on land for plantation. The industry shall arrange flow meter at the inlet and outlet along with sample collection facility.

3) The industry shall upgrade the existing Air pollution control equipment to meet the Board standards for stack–2(15 TPH) or shall adopt any alternative measures/ Technology to reduce the SPM levels.

4) The industry shall take up plantation with 3 years aged plants at the STP area and all vacant places. The industry shall submit the detailed green belt plan earmarking on the layout plan.

5) The industry shall install gas volume measuring flow meter connected to the flare stack.

6) The industry shall install online monitoring systems for all the parameters (SO_2, NOx, HCs & CO) to 12 TPH Boiler and to connect to the website by March 2012 alongwtih the interlocking facility.
The industry shall provide online HC analyzer also in the CAAQM by February 2012 and shall be connected to the PCB Website.
The industry shall ensure proper calibration and maintenance of the stack / AAQM analyzers.

4) M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery, Visakhapatnam

Observations:

1) **Online monitoring**

The committee observed that the industry installed / commissioned 3 CAAQM stations with PM2.5, PM10, Nox, Cox & HCs and 7 Nos of stack analyzers. It was noted that the rest of the 8 stack analyzers would be installed / commissioned by March'2012. The industry informed that the entire data of stack & CAAQM analyzers would be connected to the PCB website by March'2012.

The committee visited one of the CAAQM and stack analyzer station and observed that the industry has established the stack monitoring stations which cover any one stack at a time. Every three hours one data set is recorded from the stack. The industry informed that the stacks connected to natural gas burners have been interconnected with single stack analyzers.

The committee noticed that the CAAQM station instruments were not calibrated even after six months of due date as the values appeared to be erroneous.

2) **Water Pollution**

The committee noted that the industry occasionally exceeding the Board standards with respect to phenols & sulphides.

Other observations

1) The committee inspected the bio remediation area for treatment of oily sludge.
2) The committee observed that the civil works for FGD installation are in progress and the industry informed that they would be completed by April'2012.
3) The industry was advised to use the crude with low sulphur values at least during the winter to avoid the prevailing smell problem.
4) The industry should take up the greening of the natural hill which was cut for developmental activity.

Recommendations

1) The industry shall use the low sulphur crudes during the winter season to avoid the prevailing problems.
2) The industry shall carryout thorough study on the odour nuisance emanating from HPCL which is felt in the city.
3) The industry shall evaluate the performance of the ETPs and submit report to the Board within two months as they are exceeding the standards for phenols & sulphides.
4) The industry shall maintain the bio-remediation plant effectively for treatment of oily sludge.
5) The industry shall dispose off non-saleable catalysts to TSDF, Parawada.
6) The industry shall complete the installation of FGD and commission by April'2012.
7) The industry shall take up the greening of the natural hill which was cut for developmental activity and shall submit the action plan to the Board.
8) The industry shall install / commission rest of the 8 stacks analyzers by March'2012. They shall ensure that the entire data of stack & CAAQM analyzers connected to the PCB Website by March'2012.

   The industry should establish dedicated online continuous monitoring systems to the trouble shooting stacks or stacks which burn the oils and the action plan shall be submitted to the Board.

   The industry should take appropriate action to maintain online instruments inorder to upload the accurate data to the website. The industry shall ensure proper calibration and maintenance of the stack / AAQM analyzers regularly.

5) M/s. Coromandal International Limited, Visakhapatnam

Observations:

1) **Online monitoring**
The committee observed that one CAAQM station at maintenance garage already connected to the Website and the 2nd online CAAQM at North East Corner (upwind) towards HPCL boundary data is not connected to the Website. The online SO_2 value-136.9 $\mu g/m^3$ of CAAQM station installed at North East corner (upwind) towards HPCL boundary was exceeding the Board standard 80 $\mu g/m^3$. The industry informed that the values also might reflect contribution from M/s.HPCL Refinery.

2) **Water pollution**
The committee observed that the ETP was constructed with a capacity of 75 m^3/hr and got stabilized. The present effluent received is only 40.9 m^3/hr and the industry recycling 7 m^3/hr into the process and 21 m^3/hr is letting out into the sea.

The committee noted that the ETP sludge was stored in open area near the ETP which is generated to the tune of **27 MTPD**. The committee verified the mode of disposal and noted that the phosphorus available is 18% and fluorides available is 15% in the sludge. The industry informed that they have the proposals to dispose off the sludge to the one of the recycling units after approval of the Board.

3) **Gypsum Disposal**
The committee observed that the industry cleared the gypsum to a tune of 1,19,35,716 Tons in the last 11 years and is under process to dispose of 20,00,000 Tons of accumulated gypsum from old gypsum pond.

The committee observed that the industry is dumping dry gypsum in an open area which is unlined.

4) **Plantation**
The committee observed that the industry has not yet started plantation on evacuated gypsum pond area and also noted that there is no greenbelt in the area available towards road connected from Convent junction to Sheelanagar and M/s.Aluflouride.

Recommendations

1) The industry shall recycle all process and washing effluents after treatment into the process and ensure zero discharge.
2) The industry and RO, Visakhapatnam shall get the ETP sludge analyzed and then dispose suitably as per the directions of the Board. Meanwhile industry shall store ETP sludge in the closed area as ETP sludge is Hazardous waste as per the HWM Rules.
3) The industry shall submit the action plan for speedy disposal of 20,00,000 Tons of accumulated gypsum and shall be disposed off completely as per the directions of the Board.
4) The industry shall store all newly generated dry gypsum in the lined area only and provide required lining within 3 months (At present industry is having lining for 5 Acres only).
5) The industry shall submit the action plan for developing plantation with suitable species possible to be grown in the evacuated gypsum pond.
6) The industry shall develop plantation near raw material godown area in 20 Acres land by 2012-2013 and a 100 mtr vide plantation all along the periphery of the boundary wall at the backside of the Coromandel International Ltd and submit the layout plan earmarking the plantation along with the action plan to the Board within a month.
7) The industry shall provide necessary control equipment to control the steam emitting from A, B & C trains as plant is located nearer to the air port and habitation.
8) The industry shall maintain good housekeeping near gypsum storage & handling area.
9) The industry shall keep the online CAAQM stations (at maintenance garage & North East Boundary) in working condition and to take corrective measures to meet the Board standards for CAAQM stations.
   The industry shall ensure proper calibration and maintenance of the stack / AAQM analyzers regularly.
   The industry shall follow-up with NIC for reflection of data in the APPCB Website.
10) The industry shall provide on line stack analyzer to the Complex plant stacks for continuous monitoring of the parameters SPM, Flourine and the Ammonia duly considering the moisture content in the stack emissions.

6) M/s. Hindustan Zinc Limited, Visakhapatnam

Observations

1) **Jerosite land fill**

The committee observed that the industry completed the capping of jerosite land fill over 57,000 m^2 area and green turfing with vegetation layer of 600 mm is under progress. The HDPE lining is laid and soil cover with vegetation is yet to be done on the remaining jerosite pond in the area of 25,000 m^2.

2) **Moore cake**

The committee observed that the moore cake is completely liquidated from the unlined storage area and the same was stored in the mastic lined storage area. Around 3,000 to 4,000 Tons of moore cake is still existing which is yet to be consumed completely in the zinc oxide plant for the recovery of zinc.

The committee also observed the moore cake removed areas and noted that no plantation exists towards Mindi, MCV Kalyanamandapam i.e., in the north, north west and western boundaries. The committee also noted that the plantation in an area about 20 Acres appeared to be not grown up properly.

3) **Online monitoring**

The committee observed and noted the values of SO2-18.1 $\mu g/m^3$ (max.) and PM10-248.1 $\mu g/m^3$ (max) in CAAQM station installed near jerosite pond i.e. South East corner and towards Eduruvanipalem are only reflected. The industry has not yet added the parameter of PM2.5. The industry requested to permit them PM2.5 at this station as they are monitoring all the parameters in the CAAQM station located at Mulagada.

The committee noted that the monitoring values of PM10, PM2.5, SOx, NOx and Ammonia in CAAQM station established on the top of residential house (Sri S.Appa Rao) located at Mulagada village jointly by M/s.Coromandel Fertilizers Limited and M/s.HZL. The station is working satisfactorily. The committee also noted the values of PM10-131 $\mu g/m^3$ (standard 100 $\mu g/m^3$) & PM2.5-92 $\mu g/m^3$ (standard 60 $\mu g/m^3$) are exceeding.

4) **ETP**

ETP is constructed and water is being recycled.

Recommendations

1) The industry shall ensure zero discharge from the premises.
2) The industry shall monitor mercury levels in the piezo wells.
3) The industry shall complete the soil cover with vegetation on the remaining jerosite pond in the area of 25,000 m^2 by August'2012.
   The industry shall explore the possibility for collecting rain water from the jerosite green capped area and utilize for plantation.
4) The industry shall dispose off still existing 3,000 to 4,000 Tons of moore cake by March'2012.
   The industry shall develop 3 years aged plantation in the 20 Acres of moore cake yard and to replenish the soil condition for fast growing.
   The industry shall also develop plantation of 100 mtrs wide all along the north, north-west and western boundaries.
5) The industry shall take corrective measures to meet the Board standards for CAAQM stations and ensure proper calibration & maintenance of the stack / AAQM analyzers.
6) The industry shall dismantle the zinc oxide plant after completion of moore cake process.
7) The industry shall maintain good housekeeping at zinc oxide leaching and cadmium plant.
8) The industry shall remove the debris at South East corner near Edhuravanipalem and develop using 3 years aged plantation.
9) The industry shall cover the removed lime slurry pits located nearby jerosite land fill and develop using 3 years aged plantation.
10) The industry shall submit the detailed plantation with respect to point No.2, 5 & 6 earmarking on layout plan to the Board along with the action plan within a month.

7) M/s. Visakhapatnam Port Trust, Visakhapatnam

Observations

1) **Mechanization of Cargo handling**

The committee observed the mechanization of GCB which is proposed with an investment of Rs.444.10 Crores by VPT on DBFOT (Design build finance operate and Transfer) is under construction.

The committee observed one of the setbacks at GCB which is to be corrected / improved with respect to slippage of cargo (loose material) into the sea while loading / unloading from the ships i.e., at the gaps between the vessel and jetty.

The committee observed that the VPT is in the process of developing EQ-1 & EQ-1A for handling thermal coal and steam coal with fully mechanized means in the inner harbor with an investment of Rs.328.18 and Rs.313.39 Crores on DBFOT basis and would be completed by March'2013.

The committee noted that the process of Mechanization of iron ore handling facilities at WQ-1 in the inner harbor of VPT on DBFOT basis at an estimated cost of Rs.275.20 is in progress and would be completed by December'2013.

The committee also noted that the process of Mechanization of fertilizer handling facilities at EQ-7 in the Inner Harbour of VPT on DBFOT basis with an estimated cost of Rs.217.58 Crores is in progress and would be completed by December'2013.

2) **Handling of dusty cargo**

The committee observed the status of construction of a wall upto a height of 7 mtr and geonet above the wall at east yard. The VPT completed east side wall of about 7.5 mtrs height and 800 mtrs length and the north side wall is under construction stage. The geonet barrier is yet to be provided for the east side wall.

The committee noted that the re-organization of the cargo handling in the berths and stock yards work is yet to be started.

3) **Online monitoring**

M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee opined that the port shall speed up the installation of CAAQM stations.

The committee interacted with the chairman and officials of VPT for removing of dusty stockyards from the habitation side, re-organization of stock yards after mechanization, installation of CAAQM stations, performance of mechanized dust suppressions systems, plantation to be done. The Chairman assured that they would able to rectify all the dust pollution problems after fully mechanization and they would re-organize the 9 stock yards for open storage of dusty cargos within the port such as GCB (coal), / East Yard (Coal), R-4 & R-10 area (coal), S-4 Conveyor area (coal), Ore handling complex (iron ore), Opposite to M/s.ESSAR (iron ore), West Ore Berth (coal) which are close to the city and causing concern due to the movement of vehicular traffic with cargo from berth to the stock yard. The Chairman also informed that they have already implemented and following measures like Mechanization of dust suppression system at a cost of Rs.8 Crores covering an area of 4,75,000 m^2 at the Coal stock yards at GCB, WOB, North and South of S4 Conveyor in the year 2002, wetting of cargo stacks at R-4 & R-10 by sprinkling of water with water tankers where mechanized water sprinkling system was not installed. Wetting of roads with about 4 MLD through water tankers continuously round the clock to prevent emission of dust during movement of vehicles & water sprinkling with 3 MLD in stacking areas through Mechanical dust suppression systems, covering of trucks with tarpaulins, sweeping of the roads manually and limiting the stack heights to 6 mtrs only.

The Chairman also assured that they would install CAAQM stations and would attend plantation programme as per the Parliamentary standing committee direction to plant 28,000 plants at a cost of about Rs.97 lakhs and would complete by March'2012.

Recommendations

1) The VPT shall fully mechanize the area of GCB in order to avoid truck movement and thus avoid dust emanation while loading & unloading of dusty cargo like coal, coke etc., by June'2012 and no dusty cargo shall be stored in GCB area after June'2012 and 3 years old plants to be developed in GCB area which is very nearer to the habitation.
2) The VPT shall re-organize the cargo handling in the berths and stock yards as soon as the mechanization of the GCB completed.
3) The VPT should clearly demarcate storage yards and develop 3 years old plantation at all vacant places existing in the premises.
4) After mechanization of the port all dusty cargo shall be stored in East yard only except iron ore.
5) At some places in the stock yards the committee observed clouds of dust emanating from the stocking materials, particularly during loading / unloading operations. The committee directed to ensure to reduce the stock yard heights.
6) At several areas in the stock yards the heights of the stocking materials were found to be more than 8 to 10 mtrs as though these stocking materials are continuously cleared, the average height at any time appears to be above the suggested limit i.e., 6 mtrs. The committee strictly directed to ensure to maintain stack height as recommended by the Board.
7) The VPT shall provide mechanized truck tyre washing facility and provide height guage overloaded cargo at all stock yards.
8) The VPT shall isolate the dusty cargo by constructing a wall up to a height of 7.5 mtrs and geo-net above the wall for a height of 4 M and provide Mechanical Dust Suppression System all along the wall to eliminate the dust emissions from the stock yard i.e. at east yard.
9) The VPT shall take corrective measures in order to avoid slippage of cargo into the sea while loading / unloading from the ships i.e, at the gaps between the vessel and jetty.
10) VPT should maintain proper house keeping as heavy vehicles are moving and the mud and dust are pounded into finer particles and are lifted by wind frequently.
11) The solid wastes or soil pushed along road side are to be removed instantaneously.
12) The VPT shall ensure the cleaning of all roads in port area including flyovers, bulb area, Ramakrishna area and road connecting the convent junction to Naval dockyard.
13) The VPT shall provide iron barriers all along the length of the two flyovers (Opp.Essar and the other on Scindia Flyover) on both the side.
14) The VPT should see the conveyor belt in proper operation while handling iron ore in order to suppress the dust emanating while transfer.
15) The roads adjacent to the cargo carrying rail tracks and at the track areas are dirty and filled with water / debris and the committee opined that these are cleaned at frequent intervals.
16) At the vizag sea port area it was observed that the railway wagons are loaded with cargo (coal) much above the brim level even though the material is sprinkled with water, and there is every possibility for the material to get dried up during its journey to the destination and get released as dust into the air.
17) The VPT shall speed up the installation of CAAQM stations.
18) The VPT should closely monitor while loading done into wagons and ensure that no excess material is dumped into wagons.
19) The VPT shall conduct the study on the consequences of marine environment arising during deepening the sea.
20) The VPT should improve the performance of the STP.
21) VPT to provide MDSS at all other areas like EQ-1A before 31.10.2013 as per the direction of the Board.

Municipal Facilities

Sewage Treatment in Visakhapatnam City

1) The 13 MLD STP at Mudasarlova catering to the population of 2.5 Lakhs is completed and the same was also put into operation. The committee observed that the STP is being operated only one hour in the morning and one hour in the evening as the STP is receiving only 1 to 2 MLD of sewage. The treated sewage is discharged into the gedda which ultimately joins the sea.
2) The 25 MLD STP at Appugarh catering to the population of 2 Lakhs is under operation and the treated sewage is discharged into the sea. At present STP is not operating properly.
3) The 38 MLD STP catering to the population of 2.5 Lakhs at old town is under operation. The committee observed that only 10 to 12 MLD of sewage is being received to this STP as the net work connections from the house holds are under progress. The part of the treated sewage is being taken by M/s. Essar Steels Ltd, for its industrial use and the remaining treated sewage is being discharged into the sea.

The GVMC Officials reported to the committee that they are constructing two STPs of 54 MLD & 50 MLD, one at Narava, which is in construction stage and would be completed by the end of 2012 and the other one adjoining VPT 10 MLD STP site respectively which is proposed to be constructed in next phase (2 years).

Municipal Solid Waste Management

At present the waste is being disposed at Kapuluppada village which is not a scientific disposal site. M/s. GVMC has identified two sites one at Tharluwada village and the other at Krishnapuram for scientific disposal of Municipal solid waste.

Bio Medical Waste Management

The scientific Common Bio Medical Waste Treatment Facility i.e., M/s. Maridi Eco Industries (Andhra) Pvt. Ltd, is collecting the hospital waste from the hospitals located in Visakhapatnam, Vizianagaram and Srikakulam Districts. The capacity of the incinerator is 250 kg/hr. M/s. Maridi informed that they are collecting around Rs.95/- for one bed per month for lifting the waste. M/s. Maridi is receiving the hospital waste from the bowl area which is approximately around 400 kg/day.

The committee directed to include the automatic feeding of Bio Medical Waste to the incinerator immediately as per the directions of the Board.

The committee also directed the industry to check the operation and maintenance of PLC system to record the temperature of incinerator without any errors.

Additional points:

1. The Sewage treatment plant in Appughar is not maintained properly and the committee opined that the effluents reaching the sea without proper treatment.
2. It is observed that the laboratory is not equipped and no analyses is being carried out.
3. The treated sewage in the Appughar area is discharged with black solid masses and the Clari -flocculator is not efficiently working.
4. The other sewage treatment plant in Mudasarlova where one of the clarifloculator is not working and hence the effluent is reaching the drainage channel directly.
5. The STP at old town area is working satisfactorily and it is observed that the treated sewage water from old town STP is being used by Essar industry.
6. The solid waste disposed off in very bad way at Kapuluppada dumping yard. The trucks are dumping the wastes on the roads and along the roads creating problems for the movement of vehicles.There is no supervision in the site and the haphazard disposal is creating a problem in the vicinity. The huming of the solid wastes are emanating the carcinogenic gaseslike the dioxins etc into the surroundings.
7. The dumping yard should be protected and the population should not be alround.

L.O.A.

JCEE ZO,Visakhapatnam	Dr.K.S.R.Murthy, Visakhapatnam	Sri. A. Satyanarayana Visakhapatnam	Sri. B.S. Sastry Visakhapatnam

Sri. D. Rajeswara Rao, Visakhapatnam	Prof. S.Rama Krishna Rao Visakhapatnam

MINUTES OF THE 2nd REVIEW MEETING HELD ON 22.12.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

At the outset, the JCEE welcomed the members of the Local Committee and Representatives of Stake Holding Departments, Senior Environmental Engineer, Task Force - Vsp, Senior Environmental Scientist, Zonal Lab-Vsp, concerned Regional Officer and the Industries. The JCEE reviewed the status of implementation of action points and follow-up of action plan under CEPI programme for critically polluted area for the following seven industries.

1. M/s. Essar Steels Limited
2. M/s. Rain CII India Limited
3. M/s. Andhra Petrochemicals Limited
4. M/s. Hindustan Petroleum Corporation Limited, Visakha refinery
5. M/s. Coromandal Fertilizers Limited
6. M/s. Hindustan Zinc Limited
7. M/s. Visakhapatnam Port Trust

The members who attended the meeting are 1) Sri. B.S. Sastry, 2) Sri. D. Rajeswara Rao & 3) Prof. S. Rama Krishna Rao. The representatives of the 7 industries and the representative from Road Transport Authority, Sri. K. Sambasiva Rao, Dy. Transport Commissioner attended the meeting. The representatives of the GVMC couldn't attend the meeting.

The committee discussed upon the status of implementation of action points specified in the CPCB action plan for the critically polluted area. The committee reviewed each industry case to case and the compliance status with respect to the action points in the action plan are as follows:

1. M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area.

	Action Point	Measures implemented /proposed by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a) Stack emissions from the indurating furnaces.	The industry used to operate the industry with multicyclones. In the year 2007, the industry installed two ESPs for the PP-I (Pellelitisation Plant-I) and with an investment of Rs.15 Cr and meeting the emission norms. It has provided ESP for one of the streams of PP-II with an investment of Rs.5.5 Cr and informed that the study is taken up to provide ESP for the second stream in place of multi cyclones. The industry informed that they have estimated the cost of ESP as Rs.8.0 Cr and reported that it would be put into operation by December'2012.	The committee reviewed the monitoring values i.e., SPM of PP-I, PP-II & CPP. The Board conducted monitoring and the values are as below (dt.24.10.2011): <u>Pelletasation Plant - I</u> SPM – 47.8 mg/Nm^3 (standard 50 mg/Nm^3) <u>Pelletasation Plant - II</u> SPM – 70.5 mg/Nm^3 (standard 50 mg/Nm^3) <u>Captive Power Plant</u> SPM – 86.5 mg/Nm^3 (standard 100 mg/Nm^3) The committed discussed the status of providing of ESP to the PP-II with the industry. It was reported by the industry that the

			commercial / technical evaluation / negotiation of ESP for the second stream of PP-II in place of multi cyclones is going on and it would be put into operation by **December'2013.** The committee noted that the industry is not complying with the Board direction in this regard. Hence, directed the industry to speed up the installation of ESP in order to bring down the SPM values to the Board standards and to comply with the Board directions. The estimated cost of ESP is Rs.8 Cr
	b) Transfer points	The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs.0.18 Cr.	The committee directed the industry to improve the housekeeping at all transfer points.
	c) Online monitoring:	The industry has provided three online stack analysers in the year 2006 with an investment of Rs.0.18 Cr. Out of three, two stack analysers data is reflected in the website. The industry has to follow-up for reflecting of 3rd stack analyzer data. One CAAQM station is already installed. But, not connected to the website and also PM2.5 not included. The industry proposed to install 2nd CAAQM station and to include the PM2.5 parameters in both CAAQM station and to commission by March'2012.	The industry has provided three online stack analysers. All the data from the three stack analysers are reflecting on the website. The industry was directed to ensure proper calibration and maintenance of the analyzers. The committee observed that the industry installed only one CAAQM station with PM10 which is not connected to the PCB Website. The industry was directed to follow-up with NIC for connecting to the website and to include PM2.5, SO2 and NOx by March 2012. The committee discussed the status of installation of 2nd CAAQM station. The industry reported that the 2nd CAAQM would be installed and commissioned by March'2012 The Board conducted Ambient Air Quality Monitoring at the following locations and monitored values are as

			below: 1) At heavy vehicle entrance gate RSPM-104.6 $\mu g/m^3$ (std.100 $\mu g/m^3$) 2) Near the pond RSPM 98.0 $\mu g/m^3$ (std.100 $\mu g/m^3$). The committee directed the industry to improve the house keeping so as to meet the Board standards.
	d) Green belt:	The industry developed 52 Acres of greenbelt. The industry proposed to plant 1000 saplings in this monsoon season.	The committee noted that the industry already developed 52 Acres of greenbelt. The committee directed the industry to make more plantation in and around the entrance gate and the conveyor points. The committee also directed that the industry should maintain good house keeping by removing all the dumps of the waste that was observed during the committee visit to the industry dt.18.08.2011. The industry informed that the junction boxes were properly covered and they have provided 12 Nos. sprinklers to suppress the dust to keep the premises clean and to achieve good house keeping.
	B. Water pollution :	Not applicable as the industry is recycling entire water and it is a negative water balanced industry.	-
	C. Solid waste disposal:	The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorized agencies.	-

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

2. M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the kilns.	The industry has provided flue gas de-sulpurization for the kiln off gasses. It has provided the incinerator from the gases generated during calcination. The industry is generating electricity from the waste heat recovery.	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms for stack-II and exceeding for stack-I. 1. **Monitored values:** WHRB – 1 SPM – 72.5 mg/Nm3 dt: 31.10.2011 (standard-70 mg/Nm3) SO2 – 0.13 kg/ton dt: 31.10.2011 (standard 0.24 TPD) WHRB – 2 SPM – 67.5 mg/Nm3 dt: 28.10.2011 (standard-70 mg/Nm3) SO2 – 0.18 kg/ton dt: 31.10.2011 (standard 0.24 TPD) The committee directed to evaluate the performance of Bagfilter system to meet Board standards.
	b. Stock yards	The industry has provided MDSS to all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance. The industry also constructed wind breaking wall of length 350m and 11m height at N-E corner compound wall for further improvement towards controlling dust nuisance.	The RO informed that they are developing one additional stock yard. The committee directed the industry to submit the details along with the dust suppression measures to be adopted to the Board.
	c. Road sweeping:	The industry has procured a road sweeping machine with a cost of Rs.0.25 Cr in the year 2004 and cleaning the internal roads.	The industry directed to ensure to Comply the direction.
	d. Online monitoring:	The industry provided two online stack analysers and two CAAQM stations. The stack analysers data & CAAQM data is reflected in the website. PM 2.5 is only not reflected in the website. The industry proposed to include PM 2.5 parameter by the end of October 2011.	The online stack analyzer monitoring data of the industry is reflecting in the Website. The industry was directed to ensure proper calibration and maintenance of the analyzers. The industry has provided two

			CAAQM stations. The AAQM data pertaining to NE of Plant site is not reflecting in the website. The industry was directed to follow-up for the reflection of data with NIC. Earlier, the industry informed that another head for the parameter PM2.5 will be included by the end of October'2011. Now, the industry informed that they could be able to include the parameter PM2.5 by 1st Week of February'2012. The AAQM data pertaining to entrance gate is reflecting in the website. The Board conducted monitoring on top of the Admin Building and one N-E corner of the plant site. The monitored values at 1) Top of administration building RSPM 90.9 $\mu g/m^3$ (std.100 $\mu g/m^3$). 2) North East corner of the plant site RSPM-86.13 $\mu g/m^3$ (std.100 $\mu g/m^3$). The committee directed the industry to ensure proper calibration and maintenance of the analyzers.
	e. Green belt:	The industry already developed greenbelt of 25 Acres in their own premises and also in the outsourcing land (port area).	The committee directed the industry to take up more plantation inside and outside their premises wherever vacant area available.
	B. Water pollution :	The industry generates only Boiler and cooling blow downs. The Industry provided cooling tower and also an auxillary cooling tower with an investment of Rs.15 lakhs as per the Board directive to meet the temperature norms.	-
	C. Solid waste disposal:	Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.	The industry directed to take all measures at the storage areas of the solid waste and dispose the same properly and submit the information to the RO & ZO regularly.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

3. M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Iso-Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase.

	Action point	Measures adopted / proposed by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	The industry is using gaseous fuels and clean liquid fuels for heating purposes. All process operations are carried out in closed loop and gaseous leaks, if any, are connected to the flare stacks.	The committee reviewed the monitoring values and the monitored values are as below (dt. 17.12.2011): 1) LP Boiler – 12.0 TPH: SPM – 36.0 mg/Nm3(std 50mg/Nm3) 2) MP Boiler – 15.0 TPH: SPM – 68.0 mg/Nm3 (std 50mg/Nm3) The committee directed the industry to provide necessary pollution control equipment to meet the Board standards for 15 TPH Boiler.
	b. Continuous monitoring	The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs. 0.35 Cr. The industry is monitoring the Volatile Organic compounds using UV spectrum. The data of PM 10 & PM 2.5 is reflected in the website. The Industry installed one stack analyzer in July 2011 to monitor So2, Nox, SPM, CO but not connected to the website. The committee in the earlier meeting also directed to include HC parameter in the CAAQM stations immediately. The industry informed that the 2nd stack analyser would be installed by December 2011.	The committee reviewed the status of installation of 12 TPH stack analyser and the status of connection of the 15 TPH stack analyser data to the website. The industry informed that stack analyzer was installed to 15 TPH Boiler for the parameters So2, Nox, SPM & CO. The industry installed another stack analyzer to 12 TPH Boiler for SPM only. The stack analyzers data are yet to reflect in the Website. The industry reported to install and include the parameters SO2, NOx, CO to 12 TPH Boiler by March'2012. The committee directed

			the industry to follow-up with NIC for data reflection in the website and put in operation of all the parameters. The committee observed that One CAAQM station was already installed and the data is reflecting in the website. The committee noted that the Industry not included VOCs /HCs parameter in the CAAQM station so far. The industry informed that they are monitoring VOCs at ETP area using hand sampler. The committee again directed the industry speed up the installation of online HCEs / VOCs monitoring and to connect to the website by February'2012. **<u>Other observations</u>** The industry directed to provide interlocking system to 12 TPH Boiler by 15th March'2012.
	c. Green Belt	The industry has developed a green belt of 37 acres. The industry directed to develop the greenbelt in the vacant places of the industry premises. The industry also developing greenbelt in the leased area i.e., port area and in the premises.	The committee directed to take up more plantation.
	B. Water Pollution:	The industry generates effluents from process and was not meeting the standards. The industry has upgraded the ETP with a cost of Rs.2 Crores by installing the Anaerobic digester and also the ETP got stabilized in July'2011. The industry proposed to construct the STP and to commission by December'2011.	The committee reviewed the ETP samples collected on 27.09.2011 & 22.10.2011 and observed that the industry is not meeting the standards. **<u>Effluent data</u>** BOD – 60 mg/l dt: 27.09.2011(standard-30 mg/l) BOD – 60 mg/l dt: 22.10.2011(standard-

			30 mg/l) The industry informed that they have upgraded the ETP. The committee directed to verify the performance of the ETP. The committee reviewed the status of STP to treat the domestic effluents The industry informed that the STP construction is under progress and would be completed by 15th January2012.
	C. Solid waste:	The industry generates wastes like Oxo- residue, Rohdium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

4. M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD. The industry proposed to install FGD units with an investment of Rs.75 Crores by April'2012.	The committee reviewed the comprehensive stack monitoring done for 25 stacks of refinery by PCB on **22.11.2011** Monitoring values: Cumulative SO2 load from 25 stacks – 11.1302 TPD (standard – 11.5TPD) Cumulative SPM load from 25 stacks – 1.7022 TPD (standard – 1.11TPD) **&** **23.11.2011** Monitoring values: Cumulative SO2 load from 25 stacks – 11.82642 TPD (standard – 11.5TPD) Cumulative SPM load from 25 stacks – 1.579 TPD (standard – 1.11TPD) The committee reviewed the status of installation of FGD to FCCUs to control SPM emissions; The industry informed that they received the equipments and civil works are in progress. The committee directed to speed up the installation of FGD by April'2012 in order to bring down the pollution levels.
	b. Continuous monitoring	The industry having 30 stacks. Out of 30 stacks Board directed to provide analyzers for 15 stacks only. Earlier, it was informed by the industry that out of 15 stacks 8 stacks data would be connected by August'2011 and the other seven stacks by December'2011 for the parameters SO_2, NO2 HC & SPM. But, it was observed that the industry has not yet installed the stack analyzers and the same would be installed by December'2011 (as informed by the industry). The industry installed all the 3 CAAQM stations and the data is being reflected in the website. As the committee noted during the field visit on 18.08.2011 the values of PM2.5 was higher than PM10, the industry was directed to calibrate the instruments of PM2.5 & PM10.	The committee reviewed the status of installation of 15 Nos of stack analyzers and performance of CAAQM stations and status of connection to the website. The industry informed that they will provide 7 Nos of stack analyzers by January'2012 and the rest 8 stack analyzers by March'2012 and the same shall be connected to the PCB website. The industry was directed to comply with the directions of the Board issued in this regard. The industry installed all the 3 CAAQM stations and connected to the PCB Website. The instruments were not properly

			calibrated so far and the data captured was found to be erroneous. The committee directed the industry for proper calibration and maintenance of the analyzers.
	B. Water Pollution:	The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards. The industry commissioned the ETP-4 and the same was also got stablilized. Committee directed the industry to take action on the following: 1. To monitor the gases generated from the Captive power plant using waste oils and Naphtha as fuel. 2. Details on the project takenup with TERI to treat the waste using bio-remediation.	The committee reviewed the analysis results of the ETP I & II samples collected by the Board and the effluent data is as below (28.11.2011): <u>DMF Outlet of ETP-I</u> Phenols – 0.98 mg/l (std.0.35 mg/l) Sulphides – 12 mg/l (std.0.5 mg/l) <u>MHF Outlet of ETP-I</u> Phenols – 1.4 mg/l (std.0.35 mg/l) Sulphides – 8.0 mg/l (std.0.5 mg/l) <u>GAC Outlet of ETP-II</u> Phenols – 0.8 mg/l (std.0.35 mg/l) Sulphides – 0.4 mg/l (std.0.5 mg/l) <u>MHF Outlet of ETP-II</u> Phenols – 0.4 mg/l (std.0.35 mg/l) Sulphides – 4.0 mg/l (std.0.5 mg/l) <u>Cooling blow down water</u> Phenols – 0.21 mg/l (std.0.35 mg/l) Sulphides – 6.0 mg/l (std.0.5 mg/l) The industry commissioned ETP-IV recently along with the expansion project. Hence no sample was collected from ETP-IV. The committee noted that the industry exceeding the Board standards with respect to phenols & sulphides. The committee directed the industry to evaluate the performance of the ETP.
	C. Solid waste:		
	a. Oily wastes:	Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is	The committee directed to maintain proper waste disposal system.

		reprocessed. The industry is under process of sending the wastes to the authorized recyclers.	
	b. other solid wastes :	In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycle purpose. The industry is under process of sending these wastes to the authorized recyclers.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

5. M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	Stoppage of operation	The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions.	The committee directed to maintain proper material handling management.
	A. Air pollution:		
	Receipt & transport of raw materials	The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated berth from the wharf area to the plant premises.	The committee directed to maintain proper material handling management.
	Fugitive emissions from the warehouse	The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.**	The committee directed to maintain proper material handling management.
	Sulfuric acid plants	The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65 Crore.**	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms. **Monitored values:** **1400 TPD Sulphuric Acid Plant** SO_2 – 0.677 kg/T Dt. 12.11.2011. (standard – 1kg/MT of product) SO_3 – 0.041 kg/T Dt. 12.11.2011. (standard – 0.35 kg/MT of product) Acid mist-BDL Dt. 12.11.2011. (standard – 20.0 mg/Nm3) **300 TPD Sulphuric Acid Plant** SO_2 – 0.444 kg/T Dt. 12.11.2011. (standard – 0.65 kg/MT of product) SO_3 – 0.0053 kg/T Dt. 12.11.2011. (standard – 0.35 kg/MT of product) Acid mist-BDL Dt. 12.11.2011. (standard – 20.0 mg/Nm3)

	Reduction of fuel consumption	The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005.	--
	Online Monitoring:	The industry has provided two online stack analysers to Sulphuric acid plants for continuous monitoring of SO2. The industry has established two CAAQM stations for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia. The data is being reflected in the website.	The committee reviewed the status of connection of stack and Ambient analyzers data with the PCB website. The industry provided two online stack analysers and the data is reflecting in the website. The industry provided two CAAQM stations and only one station located at maintenance garage was connected to website and the data is reflecting. The industry was directed to follow-up with NIC for the reflection of data of the 2nd CAAQM station at North East Corner (upwind) towards HPCL boundary. The Committee suggested that the online CAAQM stations should be kept in working condition.
	B. Water Pollution	The industry is having an ETP comprising neutralization & clariflocculator and was not meeting the Board standards. The industry upgraded the ETP with an investment of Rs.16 Cr and commissioned the ETP in August'2011.	The committee reviewed the ETP samples collected on 30.09.2011 & 22.10.2011 and observed that the industry is not meeting the standards. **<u>Effluent data:</u>** P (as PO_4^{3-}) – 7.4 mg/l dt.22.10.2011. Standard – 5 mg/l P (as PO_4^{3-}) – 6.5 mg/l dt.30.09.2011. Standard – 5 mg/l The committee noted that the industry exceeding the standard of phosphates. The committee directed

			the industry to evaluate the performance of the ETP and to ensure zero discharge from the premises and submit the compliance within 2 months to the Board.
	C. Solid waste disposal		
	Gypsum disposal	The industry has an accumulated huge quantity of gypsum in an area of about 100 Acres. The industry was directed to dispose off the accumulated gypsum onsite. The industry reported that around 15,00,000 tons of gypsum is accumulated and they have been disposing the gypsum at the rate of 12,00,000 Tons/year, which includes the generation of additional gypsum of 6,00,000 Tons/year. Hence, the accumulated gypsum will be disposed completely by 2013, and they further reported that they would approach Board for extension of time for complete disposal of gypsum.	The committee reviewed the disposal of accumulated gypsum of 20,00,000 Tons from the old gypsum pond. The industry informed that the disposal of Gypsum is under process. The committee directed the industry to submit the action plan for speedy disposal of 20,00,000 Tons of accumulated gypsum and shall be disposed off completely as per the directions of the Board. The committee directed the industry to submit action plan for developing plantation in the evacuated gypsum storage area.
	Other Solid wastes	The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

6. M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process.

	Action point	Measures adopted by the industry	Compliance with respect to Action plan
	A. Air pollution:		
	Receipt & transport of raw materials	The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers.	The committee directed to maintain proper material handling management
	Sulfuric acid plant	The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009.	The committee reviewed the stack emission monitoring values. The industry is meeting the emission norms. **Monitored Values** **TGT stack** SO_2 – 0.6 kg/T of H2So4 Dt. 2.12.2011 (standard – 1.5 kg/T of H2So4) SPM – 35 mg/Nm3 Dt.2.12.2011 (standard – 115 mg/Nm3)
	B. Water Pollution	The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010.	The committee directed the industry to ensure zero discharge.
		The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The industry has water meters with totalisers at outlet of clarifier, feed to RO plant, totaliser at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination.	

	Solid Waste disposal		
	Jerosite	The industry has a secured land fill for safe disposal of jerosite cake in the year 2000 with an investment of Rs.10 Cr and the land fill got filled up. The industry was directed for capping the land fill by 31st July'2011. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores.	The committee directed for proper and scientific maintenance of secured land fill.
	Closure of the Jerosite Pond	The industry has started closure of old land fill. The industry made HDPE lining and the vegetation layer of 600 mm and the green turfing is yet to be done. The industry informed that the same would be completed by January'2012.	The committee reviewed the capping of jerosite pond. The industry informed that the capping of jerosite land fill already completed over 57,000 m^2 area and remaining works related to 25,000 m^2 area are under progress and proposed to complete by August'2012. They also informed that vegetation layer of 600 mm is under progress.
	Moore Cake	The industry has an accumulated storage of moore cake which is generated before 2011 in the premises. As per the direction of the committee the moore cake is completely liquidated from the unlined storage area and the 10000 Tons of moore cake is stored in matic lined concrete storage tank. The industry proposed to consume in the Zinc plant for recovery of Zinc.	The committee reviewed disposal of Moore cake existing in the site. Around 3000-4000 Tons of moore cake is still existing which is to be consumed in the zinc oxide plant for the recovery of the zinc. The industry informed that the entire moore will be completely disposed off by March'2012. The industry was directed to takeup the plantation in moore cake removed areas.
	Other observations	The industry has installed two CAAQM stations one upwind and the other downwind. The values of PM10 are only reflected. The industry has to add the parameter of PM2.5. The industry and M/s. Coramandel fertilizers limited has commonly established a CAAQM monitoring station in Mulagada Village.	The committee reviewed the status of CAAQM stations. It is observed that the date is reflected in the website.
	Other Solid wastes	The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.	The committee directed to maintain proper solid waste disposal system.

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

7. M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained.

	Action point	Measures adopted by the industry	Action plan proposed for further improvement with Target date	Compliance with respect to Action plan
	A. Air pollution:	M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads.	The VPT proposed for the mechanization of Coal handling at GCB, EQ-1 & EQ-1A and iron ore & fertilizer handling facilities at WQ-1 and EQ-7. The VPT proposed to isolate the dusty cargo by constructing a wall upto a height of 7 mtrs on the Eastern & Northern side of the East yard at a cost of Rs.2 Crores and Geonet above the wall for a height of 4 mtrs. The committee during their earlier visit observed that the east side wall of about 7.5 mtrs., was already constructed and the north side wall and wall at R11	The committee discussed the status of mechanization of coal handling at GCB, EQ-1 & EQ-1A and iron ore & fertilizer handling facilities at WQ-1 and EQ-7. The VPT informed that GCB mechanization is under progress and would be completed by June'2012. The remaining berths would be mechanized by March'2013 (EQ-1 & EQ-1A) and EQ-7 & WQ-1 by December'2013. The industry was directed to comply the Board directions. These improvements proposed to be completed by March'2012.

		M/s. VPT has provided Mechanized Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions.	are under construction stage. The geonet barrier for a height of 4 mtrs for the east side wall and dust sprinkler system along the wall to eliminate the dust emissions from the stock yard are yet to be provided. M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emination.	The port authorities informed that once the coal handling at GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started. It is proposed that these improvements will be completed by 2012. The committee reviewed the monitoring values conducted by the Board in the old town area and are as below: **<u>For the month of November</u>** 1) At MVC Kalyana Mandapam SO2 – 14 $\mu g/m^3$ Nox – 19 $\mu g/m^3$ RSPM – 76.2 $\mu g/m^3$ TSPM – 177 $\mu g/m^3$ 2) At St.Parish School SO2 – 9 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 70.1 $\mu g/m^3$ TSPM – 192 $\mu g/m^3$ 3) At St.Alloysius School SO2 – 11 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 82.3 $\mu g/m^3$ TSPM – 205 $\mu g/m^3$ **<u>For the month of December</u>** 1) At MVC Kalyana Mandapam SO2 – 14 $\mu g/m^3$

				Nox – 19 $\mu g/m^3$ RSPM – 76.2 $\mu g/m^3$ TSPM – 176 $\mu g/m^3$ 2) At St.Parish School SO2 – 9 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 70.1 $\mu g/m^3$ TSPM – 192 $\mu g/m^3$ 3) At St.Alloysius School SO2 – 11 $\mu g/m^3$ Nox – 17 $\mu g/m^3$ RSPM – 82.3 $\mu g/m^3$ TSPM – 205 $\mu g/m^3$
		M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated.		The committee directed the VPT to clean the dust accumulated on the flyover and maintain cleanliness to the surroundings. M/s. VPT shall provide iron barriers (as provided by Navy) all along the length of the two flyovers (one opposite M/s.Essar and the other one Scindia flyover) on both the side.
	Other observations		M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee during the previous meeting recommended to direct the M/s VPT on the following: 1. VPT should focus on the reduction of dusty cargo or take measures to reduce the stock heights to 6ms as earlier directed by the Board.	The committee directed M/s. VPT to speed up installation of online CAAQM stations at different locations with display facility for the parameters of TSPM, PM_{10} & $PM_{2.5}$ as per the directions of the Board. The industry informed that they are restricting the dusty cargos stock piles height to 6 mtrs only in all the yards.

			2. VPT should maintain proper house keeping as heavy vehicles are moving and the mud and dust are pounded into finer particles and are lifted by wind frequently. 3. The solid wastes or soil pushed along road side are to be removed instantaneously.	The committee directed the VPT to provide mechanized truck tyre washing facility and provide height guage to sweep the over loaded cargo and so as to minimize dust emissions. The committee directed the industry to remove the solid waste accumulated all along the sides of the internal roads. **Other Recommendations:** The VPT directed to ensure not to store any cargo opposite to Essar & West side of Essar. The VPT was directed to take up plantation at all open areas. The committee directed the VPT to provide MDSS at all other areas like EQ-1A before 31.10.2013 as per the direction of the Board. The industry informed that they have commissioned mechanical dust suppression system at R-4 & R-10 area at a cost of Rs.1 Crore recently.
	B. Water Pollution	VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.		

The committee will review the compliance status of the above directives during the next field visit proposed in February'2012.

3.2 Sewage Treatment in Visakhapatnam City:

Sl. No	Particulars	Present status of Sewage treatment systems	Action plan for further improvement.	Compliance with respect to Action plan
1.	Grater Visakhapatnam Municipal Corporation (GVMC)	i) The area of GVMC is 530 Sq.Kms. and the population as per 2001 census is 14.35 Lakhs. The sewage generated at an average of 100lpcd is 143.50 mld as per 2001 census.	i) The project of providing sewerage system to central part of Visakhapatnam city under JNNURM has been taken up in four packages and is in progress. Nearly 37.15% of GVMC population (2001 census) will be covered after completion of the project. The length of sewerage net work that is being covered is 400.00 Kms. Two STPs of 13 mld capacity (nearing completion) and 108 mld capacity are being taken up in this project. The cost of the above STPs is Rs.10.50 Crores & Rs.47.00 Crores respectively.	
		ii) The population covered so far with UGD system comes to nearly 22.15% and the length of sewerage net work covered is 212.00Kms.Two STPs of 25 mld(Rs.10.00 Crores) & 38 mld (Rs.20.00 Crores) were constructed and are functioning.The sewage after treatment is being let out into the sea . The quantity of sewage treated at present in the above two STPs is 40.00 mld.	ii) The Detailed Project Report for Gajuwaka, Malkapuram and Yarada covering nearly 23.00 % of population of GVMC (2001 census) at an estimated cost of Rs.386.10 Crores was submitted to Govt. of India for approval. Three STPs of 53 mld (Rs.37.17 Crores); 30 mld (Rs.26.83 Crores) and 5 mld (Rs.7.75 Crores) are proposed in this Project.	
			iii) A Project Report has been approved by the State Govt. for providing sewerage system to the rest of the population (i.e., in the surrounding villages that were merged into GVMC) covering nearly 11.00% of GVMC population as per 2001 census. The DPR is under preparation. In this project 3 Nos. of STPs of 15 mld (Rs.8.25 Crores); 32 mld (Rs.17.60 Crores) and 13 mld (Rs.7.15 Crores) are proposed.	
			iv) In addition to the above the GVMC has been providing sewerage system to the public living in (5+11=16) 16 poor settlements duly covering nearly 6.70% of GVMC population (2001 census) 4 No. of STPs are proposed @ an estimated cost of Rs.11.15 Crores.	
			v) The STPs proposed by GVMC comprising of manly activated sludge process. The GVMC also called for Expression of Interest (EOI) from the concerned persons for utilization of treated water.	
			vi) GVMC proposed to treat to a	

			BOD of 20 mg/lit, COD of 25 mg/lit and SS of 60 mg/lit.	
		The GVMC is operating the following STPs	The GVMC is in the process of providing the following STPs	
		1. A 10 MLD Plant in the Port area for treatment of sewage generated from part of One Town. This is being operated by M/s. Visakhapatnam Port Trust, and the treated sewage is being utilised by the Port for suppression of dust i.e. emanated from dusty cargo stock piles.	1. A 13 MLD plant at Mudasaralova, catering to the projected population of 2.5 lakhs is completed, and the network connections from the households are in progress. The treated sewage is proposed to be discharged into Sea.	The representative of M/s. GVMC reported that the 13 MLD STP at Mudasarlova is in operation.
		2. A 25 MLD plant at Appughar on the Beach Road catering to the population of 2 Lakhs is being maintained by M/s. GVMC, and the treated sewage is discharged into Sea.	2. A 54 MLD plant at Narava is in construction stage, and would be completed within an year. This STP is proposed to cater the projected population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	The representative of the GVMC reported that the 54 MLD STP at Narava is under progress. He also informed that the civil works are started and would be commissioned by March'2012
		3. A 38 MLD plant catering to the population of 2.5 lakhs is in operation at One Town. Part of the treated sewage is being used by M/s. Essar Steels Limited for its industrial use, and the remaining treated sewage is discharged into Sea.	3. A 54 MLD plant at Old Town is proposed in the next phase. This STP is proposed to cater the population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	
		GVMC constructed Below Poverty Line housings under Wambay and Rajeev Gruha kalapa along with packaged STP's of 2 x 1.5 MLD and 1 x 2 MLD to cater to the population of 28,280 in total.	If the above STPs come into operation, the projected population covered under the UGD system comes to nearly 70 % and the length of sewage network covered will be 111 Sq. Kms. At present the GVMC population is 16 lakhs.	The representative of M/s.GVMC reported that the STPs which are

		GVMC constructed settlement housings at Gangavaram along with packaged STP's of 1 x 0.5 MLD and 1 x 2.5 MLD to cater to the population of 25,000 in total.	Core coverage in city with population of 70 % of population and 25% of habitation area. Suburbs would be covered and connected in phased manner under JNNURM+ Project which is to be completed by 2015.	in operation are covering about 60% of population under UGD system.
		The population covered under the above STPs and the UGD system comes to nearly 5 lakhs and the length of sewage network covered is 78 Sq.Kms.	<u>Other Civic Amenties proposed by GVMC under JNNURM projects.</u> Ist Phase JNNURM (2005-2012) <u>Flyover</u> Railway station to Asilmetta 1.55 Kms with a project cost of Rs 89 Crores.	The representative of M/s. GVMC reported that the flyover is under progress and expected to be commissioned by September' 2012
			<u>BRTS</u> Pilot corridor about 40 Kms with an estimated cost of Rs 360 Crores.	The representative of M/s.GVMC reported that the BRTS project would be commissioned by March'2012
			<u>Truck terminal</u> GVMC earmarked truck terminals at Madhurawada and Gajuwaka at suburbs areas and are operational.	Being followed
			IInd Phase JNNURM+(2012-2015) <u>Flyovers</u> GVMC proposed flyovers at Gopalatanam and Chavulamadum with lengths of 1500 M and 800 M respectively	The representative of the M/s.GVMC reported that once the 1st phase project comes in to operation then they

			BRTS Additional 7 Nos Corridors of about 100 Kms, Arterial roads of about 15 kms, Feeder roads of about 20 Kms and Pedestrial Footpath of about 6 Kms with a total (Flyover and BRTS) estimated project proposal of Rs. 2250 crores.	would take up the 2nd phase projects.
			Traffic Infrastructure for the traffic islands would be provided by GVMC and operational system maintained by traffic police.	

3.3 Municipal Solid waste Management

- Greater Visakhapatnam Municipal Corporation (GVMC) is one of the major cities in Andhra Pradesh generating about 670 TPD of municipal solid waste (MSW). At present this waste is being disposed at Kapulauppada (V) which is not scientific disposal site.
- The GVMC identified 2 sites one at Tarluvada (V) (500 Ac) and another site at Krishnapuram (350 Acs) for scientific disposal of MSW. The proposals for alienation of these sites were sent to District Collector, Visakhapatnam and it would be cleared by December 2010. Proposals for setting up scientific landfill and a bio-methanization plant with a cost of Rs.104 crores were already prepared by GVMC.
- After completion of the alienation process, at one of the above mentioned sites, the construction will be taken up by GVMC. It is scheduled to go for a scientific solid waste management facility by December, 2011.

Compliance: The representative of M/s.GVMC has reported that they are presently disposing the solid waste at Kapuluppada (V). He also informed that it is not a scientific disposal site. They have identified alternative site of 500 Acres at Tarluvada (V) for disposal of municipal solid waste and he informed that it may take another one year for the new scientific disposal site to be put into operation.

3.4 Bio-Medical waste Management

- The Visakhapatnam District is having 324 Health Care Establishments (HCEs) covering about 7671 beds. In the bowl area there are 7 Government Hospitals, 190 Private hospitals and others are 3 Nos.
- The HCEs are having authorization of A.P. Pollution Control Board under the BMW Rules and has tied up with Scientific Common Bio Medical Waste Treatment Facility i.e., M/s.Maridi Eco Industries (Andhra) Pvt. Ltd, located at Sy.No.314, Kapuluppada (V), Visakhapatnam District.
- The capacity of the Incinerator is 250 Kg/hr. The hospital waste collecting by the common waste facility (CBMWTF) from the bowl area is around 400 kg/day.
- APPCB has been monitoring the HCEs as well as the Common Treatment Facility regularly.

3.5 Vehicular pollution Control:

- The transport department is implementing emissions norms stipulated to the vehicles and monitoring pollution levels through testing centers for which licenses are issued by transport department under the A.P. Motor Vehicles Rules.

- Pollution Under Control (PUC) certificates are issued for the vehicles which passes the test and notices will be issued to the vehicles which fails to comply with the norms. The Validity of the Pollution Under Control certificate is 6 months from the date of issue. There are 40 test centres existing in Visakhapatnam.

- As per the G.O.Ms. No. 238, Dt. 23.11.2006 of the Government of Andhra Pradesh, Green Tax is being levied as follows.

Sl. No.	Class of Vehicles	Tax Levied
1.	Transport Vehicles that have completed 7 years of age from the date of their registration	Rs. 200/- (per annum)
2.	No-Transport vehicles that have completed 15 years of age from the date of their registration	
3.	Motor Cycles	Rs. 250/- (for 5 years)
4.	Other than Motor Cycles	Rs. 500/- (for 5 years)

- There will not be any levy of Green Tax if the vehicle is operated by LPG, CNG, battery or solar power.
- The Green Tax has been imposed with a view of discouraging old vehicles. Lead free petrol has been made available in the Visakhapatnam.

3.5.1 Additional Tax on Second Vehicle:

To discourage purchase of more vehicles by an individual, Government is taxing more on second/ subsequent vehicle.

Sl. No	Type of vehicle	At the time of registration of 1st Vehicle	Second of subsequent vehicle
1.	Motor Cycles	9 % of the cost of the Vehicle	14 % of the cost of the Vehicle
2.	Four wheeler motor vehicles whose cost is below Rs. 10 Lakhs	12%	14%
3.	Four wheeler motor vehicles whose cost exceeds Rs. 10 Lakhs	14%	14%
4.	All vehicles owned by companies/ institutions	14%	14%

Year	Vehicles registered	PUC Cases booked	Coll amount
2007	37,789	6	6000
2008	41,387	15	15000
2009	39,160	1583	1583000
2010	56,707	1120	1120000
2011	57,794	1263	1263000
TOTAL	**2,31,837**	**3987**	**3987000**

Compliance: The Motor Vehicle Inspector (MVI) of Road Transport Authority who attended the meeting reported that they are imposing green tax on the transport vehicles that have completed the age of 15 years from the date of registration. He informed that there will not be any green tax imposed on the vehicles operated by LPG, CNG and Battery. He informed that they are booking the cases of about 1100 per month and the fine collected is around Rs.10 Lakhs per month. He also informed that there are about 20,000 LPG driven vehicles in the Visakhapatnam District and two LPG filling stations are located one at Murali Nagar and the other at Madhurawada. He also reported that they are imposing fine for the vehicles moving in the port road which are moving with load and the material not covered with tarpaulin i.e., non compliance of Motor Vehicle Rules.

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Visakhapatnam

Sri. D. Rajeswara Rao,
Visakhapatnam

Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE REVIEW MEETING HELD ON 24.09.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

The CPCB vide Lr.No.B-29012/ESS(CPA)/2010-11834, dt.20.12.2010 informed the Board to constitute a Local committee comprising various stake holders and experts to carryout bi-monthly review for implementation of action points and regular follow up of implementation of action plans of the critically polluted area of Visakhapatnam. Accordingly, Board constituted a local committee with the following experts and stake holders for monitoring the implementation of action plan under CEPI programme.

1) Prof. S.Rama Krishna Rao, Dept. Civil Engineering, Andhra University (Retd.,), GITAM University, Visakhapatnam.
2) Dr. K.S.R.Murthy, Deputy Director (Rtd), National Institute of Oceanography (NIO), 176, LB Colony, Visakhapatnam – 530017.
3) Sri. B.S. Sastry, NGO, 43-9-130, T.S.N. Colony, Near Dondaparthy, Visakhapatnam.
4) Sri. D. Rajeswara Rao, 49-27-33/1, Madhura Nagar, Visakhapatnam – 16.
5) Sri. A. Satyanarayana, Representative of FAPCCI, (Management Committee Member of FAPCCI), D.No.17-1, Pendurthy, Visakhapatnam.
6) Joint Chief Env. Engineer, Member Convener, Zonal Office, Visakhapatnam.

The terms of reference for the committee given by CPCB is as follows:

1. The committee shall make field visits and verify the implementation of short term and long term action points.
2. The report so prepared and signed by all committee members shall be submitted to CPCB on bi-monthly basis through SPCBs.
3. The report received from SPCB shall be reviewed by steering committee at CPCB Head Office, Delhi in every six months.

In view of the above, a review meeting was convened by Joint Chief Env. Engineer, Zonal Office, Visakhapatnam on 17.06.2011 with the above committee. The committee reviewed the status of implementation of action plan under CEPI programme for the 7 industries identified in the bowl area, Visakhapatnam.

The field visits were also carried out for the following 7 industries, the disposal facilities of liquid and solid waste of M/s. Greater Visakhapatnam Municipal Corporation and the Common Bio Medical Waste Facility by the local committee from 18.08.2011 to 20.08.2011 for monitoring the implementation of Action plan under CEPI programme and the minutes are enclosed.

1) M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam
2) M/s.Rain Calcining Pvt. Ltd., Scindia Road, Naval Base, Visakhapatnam.
3) M/s.Adhra Petro Chemicals Ltd., Opp. Naval Dockyard, Visakhapatnam
4) M/s.Hindustan Petroleum Corporation Ltd., Visakh Refinery, Malkapuram, Visakhapatnam.
5) M/s.Coromandel Fertilizers Ltd., Sriharipuram, Visakhapatnam
6) M/s.Hindustan Zinc Ltd., Zinc Smelter P.O., Mindi (V), Visakhapatnam
7) M/s.Visakhapatnam Port Trust, Visakhapatnam.

A Review meeting was convened with the local committee on 24.09.2011 and discussed the status of implementation of Action plan under CEPI programme. After reviewing the various actions taken by the industries and considering the directions issued by the APPCB and its compliance, it is observed that there is substantial improvement in the environmental parameters recorded through monitoring by APPCB and respective industries. It is also brought to the notice of APPCB and the committee that the measures will be complied by December'2011 by the industries except M/s. Visakhapatnam Port Trust, Visakhapatnam and M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam.

The Visakhapatnam Port Trust has prepared a schedule for modernization of handling of dusty cargo and reduce the suspended particulate matter in the Ambient environment by mechanization and movement of cargo through closed conveyors instead of heavy vehicles by December'2012. It is proposed by Essar to install the Electro Static Precipitators in the second stream of Pellelitisation plant-II by December'2012.

In these circumstances the committee felt that the restrictions imposed in the bowl area may be lifted considering the developments and improvements because of constant monitoring by APPCB and the steps taken by the respective industries (please refer the minutes).

Therefore, it is felt that the industries should not be allowed to go ahead with expansions of their production capacities and M/s. Visakhapatnam Port Trust should be restricted to the extent of the Cargo it is handling as on today.

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MINUTES OF THE FIELD VISITS HELD FROM 18.08.2011 TO 20.08.2011 FOR MONITORING THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PROGRAMME

Central Pollution Control Board (CPCB) identified Visakhapatnam as one of the critically polluted areas and directed A.P.Pollution Control Board for review and implementation of Action Plan under CEPI programme for critically polluted area.

As per the directions of CPCB, a Local Committee has been constituted by the Board for bimonthly review of the implementation of Action points and regular follow-up of implementation of Action plans of the critically polluted areas.

In view of the above, the field visits are held by local committee from 18.08.2011 to 20.08.2011 for monitoring the implementation of Action plan under CEPI programme in the following schedule:

18.08.2011

1) M/s. Essar Steel Ltd, Near Flyover, Scindia Road, Visakhapatnam
2) M/s.Rain Calcining Pvt. Ltd., Scindia Road, Naval Base, Visakhapatnam.
3) M/s.Adhra Petro Chemicals Ltd., Opp. Naval Dockyard, Visakhapatnam

19.08.2011

1) M/s.Hindustan Petroleum Corporation Ltd., Visakh Refinery, Malkapuram, Visakhapatnam.
2) M/s.Coromandel Fertilizers Ltd., Sriharipuram, Visakhapatnam
3) M/s.Hindustan Zinc Ltd., Zinc Smelter P.O., Mindi (V), Visakhapatnam

20.08.2011

1) M/s.Visakhapatnam Port Trust, Visakhapatnam.
2) Mudasarlova STP 3) Old town STP 4) Kapuluppada (dump yard)
5) Appugarh STP 6) Maridi Eco Industries (CBMWTF).

The local committee members who attended the field visits are 1) Sri. B.S. Sastry, 2) Sri. D.Rajeswara Rao, 3) Prof. S. Rama Krishna Rao and 4) Sri. K.S.R. Murthy. Sri. K.S.A.Krishna, Senior Env. Engineer, Zonal Office, Visakhapatnam accompanied the local committee during the field visits.

The committee reviewed the status of implementation of action points specified in the CPCB Action plan for the critically polluted area in all the seven industries and the STPs of GVMC and the status of pollution control measures of CBMWTF namely M/s.Maridi Eco Industries (Andhra) Pvt. Ltd. The status of the industries, GVMC STPs and CBMWTF is detailed below:

1) M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area. The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs. 0.18 Cr. The industry is recycling entire water and it is a negative water balanced industry. The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorized agencies.

Action point: a) The industry used to operate the industry with multi-cyclones. It has provided ESP's to the indurating furnaces in the year 2007 with an investment of Rs. 15 Cr and meeting the emission norms.

Compliance: The industry installed two ESPs for the PP-I (Pellelitisation Plant-I) and they provided ESP for one stream of PP-II and informed that the study is taken up to provide ESP for the second stream in place of multi cyclones. The committee observed the site area and recommended the industry to expedite the installation of ESP. The industry informed that they have estimated the cost of ESP as Rs.8 Crores and reported that it would be put into operation by December'2012.

b) The industry has provided online stack analyser equipment to the indurating furnaces in the year 2006 with an investment of Rs. 0.18 Cr.

It has provided one CAAQM station in order to know the status of pollution and to operate the plant in an environment friendly manner.

Compliance: The industry has provided three online stack analysers. Out of the three, two stack analysers data is reflected in the website. The industry has to follow up for the reflection of data of 3rd stack analyzer with NIC. One CAAQM station is already installed, but the parameter of PM2.5 is not reflected. The industry has to follow up for reflection of data for the parameter PM2.5. Earlier, the industry informed that the 2nd CAAQM station would be installed and commissioned by the end of September'2011, but the committee observed that there is no progress. The industry reported that the 2nd CAAQM station will be installed and commissioned by March'2012 and the parameter PM2.5 will also be included by March'2012.

c) The industry has developed a green belt of 52 acres and proposes to develop additional plantation with an investment of Rs.0.30 Cr in the vacant space available.

Compliance: The industry informed that they have already developed 52 Acres of greenbelt. Earlier, the industry informed that they will plant 1000 saplings in this monsoon season. The committee observed that the committed greenbelt development in this monsoon season has not yet started and directed the industry to start immediately. The industry should clear the dumps of waste and keep the premises clean in order to contain dust generation and should maintain good house keeping.

2) M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters. The industry generates only cooling water as effluent. In the past the industry failed to meet the temperature parameter. In the year 2006, it provided an auxiliary cooling tower with an investment of Rs.15 lakhs. After commissioning the new cooling tower it is meeting the temperature norms. Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.

a) The industry has provided MDSS at all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance.

Compliance: Committee observed that the industry has constructed the wind breaking wall of length 350 mtrs and 11 mtrs height.

b) The industry has provided stack monitoring equipment to the kilns and has provided two CAAQM stations in order to operate the plan in environment friendly manner.

Compliance: The industry provided two online stack analysers and two CAAQM stations and the data is reflected in the website. The data of the parameter PM2.5 is not reflected. Earlier, the industry informed that the parameter PM2.5 will be included and the same would be done by 30th September'2011. Now the industry informed that they could be able to include the parameter PM2.5 by the end of October 2011.

c) The industry has developed a green belt of 25 acres.

Compliance: The industry informed that they have already developed a greenbelt of 25 Acres in their own premises and also in the outsourcing land (port area). Committee also visited the green belt area.

3) M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Iso-Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase. The industry generates wastes like Oxo- residue, Rhodium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.

a) The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs 0.35 Cr.

Compliance: The industry is monitoring the Volatile Organic compounds using UV spectrum. Earlier, the industry informed that one stack analyzer will be installed by the end of June'2011 and the other by November'2011 for the parametersSO_2, Nox, SPM, CO and HC. Now, the industry has installed one stack analyzer and the values are yet to be reflected in the website. The industry has to follow up with NIC for the same. The industry informed that the other stack analyzer would be installed by December'2011. The committee recommended that the parameter of Hydro Carbon shall be included immediately.

b) The industry has developed a green belt of 37 acres.

Compliance: Earlier, the industry informed that they will develop the greenbelt in the vacant places in the industry premises. The committee observed the development of greenbelt in the leased area i.e., port area and in the premises.

c) The industry generates effluent from the process and the effluent parameters in the past exceeded the standards stipulated. Now, the industry has up-graded the ETP with a cost of Rs. 2.0 Cr. At present, the ETP is under stabilization.

Compliance: The industry has upgraded the ETP by installing the Anaerobic digester and also the ETP got stabilized in July'2011. The committee observed the construction of STP to treat the domestic effluent is under progress. The industry informed that the STP would be commissioned by December'2011.

4) M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery.

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels. M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD. Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is reprocessed. The industry is in the process of sending the wastes to the authorised recyclers. In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycling purpose. The industry is in the process of sending these wastes to the authorised recyclers.

a) M/s. Hindustan Petroleum Corporation Ltd., commissioned online analyzers to 19 stacks and 3 CAAQM stations were established to monitor the pollutants SPM, SO_2, NOx, HC, CO with an investment of Rs.5 Crores.

<u>Compliance:</u> The industry informed that there are 30 stacks existing in their unit. Out of 30 stacks Board insisted to provide online analyzers for 15 stacks only. Earlier, it was informed by the industry that out of 15 stacks 8 stacks data would be connected by August'2011 and the other seven stacks by December'2011 for the parameters SO_2, NOx, HC & SPM. But, it was observed that the industry has not yet installed the stack analyzers and the same would be installed by December'2011 (as informed by the industry). The industry installed all the 3 CAAQM stations and the data is being reflected in the website. The committee observed that the values of PM2.5 are more than the values of PM10. The committee opined that the instrument needs to be calibrated as the values shown are not compatible with each other.

b) The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards.

<u>Compliance:</u> The industry commissioned the ETP-4 and the same was also got stablilized. Committee made a visit to the ETP-4 and took a note of all the treatment limits. Committee also visited the sulphur recovery units.
Committee suggested the industry to take action on the following:

1. The Captive power plant uses the waste oils and Naphtha. The composition and the generated gases are to be monitored.
2. The company informed that they are taking up projects with TERI to treat the waste using bio-remediation. The details are to be provided

5) M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently. The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions. The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated raod from the wharf area to the plant premises. The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.** The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65**

Crore. The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005. The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.

a) The industry has provided online stack analysers to Sulphuric acid plants for continuous monitoring of SO2 with an investment of Rs. 0.16 Cr. The industry has established one CAAQM station for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia with an investment of Rs.0.3 Crores.

Compliance: The industry provided two online stack analyzers to the two sulphuric acid plants and two CAAQM stations. The data is being reflected in the website. The Committee suggested that the online CAAQM stations should be kept in working condition.

b) The industry is having an ETP comprising neutralization and clari-flocculators, which requires up-gradation.

Compliance: The industry has completed the construction of ETP and the same was also got commissioned in 1st week of August'2011.

c) The industry has an accumulated huge quantity of Gypsum in an area of about 100 Acres.

The industry adopted dry disposal system of Gypsum and provided lining to an extent of 5 acres of existing Gypsum pond with an investment of Rs.24 Crores during April'2009 which eliminated huge generation of effluent from the gypsum pond.

The industry has provided HDPE & Geo membrane liner under the wagon loading area where gypsum is stored and transported from, during June 2010, to prevent contamination due to acidic seepages in the surroundings with a cost of Rs.7.5 Crores.

Compliance: The committee observed that gypsum is accumulated onsite and the same is yet to be disposed. The industry reported that around 15,00,000 tons of gypsum is accumulated and they have been disposing the gypsum at the rate of 12,00,000 Tons/year, which includes the generation of additional gypsum of 6,00,000 Tons/year. Hence, the accumulated gypsum will be disposed completely by 2013, and they further reported that they would approach Board for extension of time for complete disposal of gypsum.

6) M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process. The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers. The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009. At present stack emissions are meeting the standards. The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010. The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The

industry has provided water meters with totalisers at outlet of clarifier, feed to RO plant, totaliszer at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination. The industry constructed a secured land fill for safe disposal of jarosite cake in the year 2000 with an investment of Rs. 10 Cr. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores. The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.

a) The industry has started the work for closure of the old landfill.

Compliance: The committee observed the works going on for capping the jarosite pond. The HDPE lining is made and the vegetation layer of 600 mm and the green turfing is yet to be done. The industry informed that the same would be completed by January'2012.

b) The industry has an accumulated storage of moore cake, which is generated before 2001 in the premises.

Compliance: The committee observed that the moore cake is completely liquidated from the unlined storage area and the same was stored in the mastic lined storage area. Around 10,000 Tons of moore cake is still existing which is to be consumed in the zinc oxide plant for the recovery of zinc.

Other Observations:

The industry has installed two CAAQM stations one upwind and the other downwind. The values of PM10 are only reflected. The industry has to add the parameter of PM2.5. The industry and M/s. Coramandel fertilizers limited has commonly established a CAAQM monitoring station in Mulagada Village.

7) M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained. M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads. M/s. VPT has provided Mechanised Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs.. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions. M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated. VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.

a) M/s. VPT proposes to mechanize the coal handling at the GCB.

Compliance: The mechanization of GCB is under progress.

b) M/s. VPT proposes to isolate the dusty cargo by constructing a wall up to a height of 7M and geo-net above the wall for a height of 4M. Mechanical Dust Suppression System will be provided all along the wall to eliminate the dust emissions from the stock yard. Wall construction is in progress and the target date for mechanisation is June'2012.

Compliance: The committee observed that the east side wall of about 7.5 mtrs., was already constructed and the north side wall and wall at R11 are under construction stage. The geonet barrier is yet to be provided for the east side wall.

c) M/s. VPT proposes to reorganize the cargo handling in the berths and stock yards with a view to control dust nuisance.

M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emanation.

Compliance: The port authorities informed that once the GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started.

Other observations:

M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee opined that the port shall speed up the installation of CAAQM stations.

Committee recommended to direct the M/s VPT on the following:

1. VPT should focus on the reduction of dusty cargo or take measures to reduce the stock heights to 6ms as earlier directed by the Board.
2. VPT should maintain proper house keeping as heavy vehicles are moving and the mud and dust are pounded into finer particles and are lifted by wind frequently.
3. The solid wastes or soil pushed along road side are to be removed instantaneously.

Municipal Facilities

Sewage Treatment in Visakhapatnam City

1) The 13 MLD STP at Mudasarlova catering to the population of 2.5 Lakhs is completed and the same was also put into operation. The committee observed that the STP is being operated only one hour in the morning and one hour in the evening as the STP is receiving only 1 to 2 MLD of sewage. The treated sewage is discharged into the gedda which ultimately joins the sea.
2) The 25 MLD STP at Appugarh catering to the population of 2 Lakhs is under operation and the treated sewage is discharged into the sea.
3) The 38 MLD STP catering to the population of 2.5 Lakhs at old town is under operation. The committee observed that only 10 to 12 MLD of sewage is being received to this STP as the net work connections from the house holds are under progress. The part of the treated sewage is being taken by M/s. Essar Steels Ltd, for its industrial use and the remaining treated sewage is being discharged into the sea.

The GVMC Officials reported to the committee that they are constructing two STPs of 54 MLD each, one at Narava which is in construction stage and would be completed by May'2012 and the other one at Old town which is proposed to be constructed in the next phase.

Municipal Solid Waste Management

At present the waste is being disposed at Kapuluppada village which is not a scientific disposal site. M/s. GVMC has identified two sites one at Tharluwada village and the other at Krishnapuram for scientific disposal of Municipal solid waste.

Bio Medical Waste Management

The scientific Common Bio Medical Waste Treatment Facility i.e., M/s. Maridi Eco Industries (Andhra) Pvt. Ltd, is collecting the hospital waste from the hospitals located in Visakhapatnam, Vizianagaram and Srikakulam Districts. The capacity of the incinerator is 250 kg/hr. M/s. Maridi informed that they are collecting around Rs.95/- for one bed per month for lifting the waste. M/s. Maridi is receiving the hospital waste from the bowl area which is approximately around 400 kg/day.

Additional points:

1. The Sewage treatment plant in Appughar is not maintained properly and no incharge is fond.
2. It is observed that the laboratory is not equipped and no analyses is being carried out.
3. The treated sewage in the Appughar area is discharged with black solid masses and the Clari -flocculator is not efficiently working.
4. The other two treatment plants are working satisfactorily.
5. It is observed that the treated sewage is being used by Essar Industries .
6. The solid waste disposal is in a very bad shape. The trucks are dumping
7. The wastes on the roads and along the roads creating problems for the movement of vehicles.There is no supervision in the site and the haphazard disposal is creating a problem in the vicinity. The burning of the solid wastes are eminating the carcinogenic gaseslike the dioxins.

		L.O.A.	
JCEE ZO,Visakhapatnam	Dr.K.S.R.Murthy, Visakhapatnam	Sri. A. Satyanarayana Visakhapatnam	Sri. B.S. Sastry Visakhapatnam

Sri. D. Rajeswara Rao,
Visakhapatnam

Prof. S.Rama Krishna Rao
Visakhapatnam

MINUTES OF THE REVIEW MEETING HELD ON 17.06.2011 TO REVIEW THE STATUS OF IMPLEMENTATION OF ACTION PLAN UNDER CEPI PGORAMME FOR CRITICALLY POLLUTED AREA OF VISAKHAPATNAM

At the outset, the JCEE welcomed the members of the Local Committee and Representatives of Stake Holding Departments, concerned Regional Officer and the industries. The JCEE reviewed the status of implementation of action points and follow-up of action plan under CEPI programme for critically polluted area for the following seven industries.

1. M/s. Essar Steels Limited
2. M/s. Rain CII India Limited
3. M/s. Andhra Petrochemicals Limited
4. M/s. Hindustan Petroleum Corporation Limited, Visakha refinery
5. M/s. Coromandal Fertilizers Limited
6. M/s. Hindustan Zinc Limited
7. M/s. Visakhapatnam Port Trust

The members who attended the meeting are 1) Sri. B.S. Sastry & 2) Sri. D. Rajeswara Rao. The representatives of the 7 industries, the representative of GVMC Mr. Subhash, Dy. Executive Engineer & the representative from Road Transport Authority, Sri. T. Rajanna, Motor Vehicle Inspector attended the meeting.

The committee discussed upon the status of implementation of action points specified in the CPCB action plan for the critically polluted area. The committee reviewed each industry case to case and the compliance status with respect to the action points in the action plan are as follows:

1. M/s. Essar Steels Limited,

The industry receives iron ore fines from Biladilla mines and manufactures Iron ore pellets. It uses LSHS as a fuel in the furnace, low sulphur and low ash coal in the 25 MW captive power plant. The industry has provided conveyor belts for transfer of material to port area.

	Action Point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a) Stack emissions from the indurating furnaces.	The industry used to operate the industry with multi-cyclones. It has provided ESP's to the induarating furnaces in the year 2007 with an investment of Rs. 15 Cr and meeting the emission norms. Monitored values: <u>Pelletasation Plant - I</u> SPM – 75.7 mg/Nm3 dt: 07.05.2010 SPM – 92.0 mg/Nm3 dt: 08.06.2010 <u>Pelletasation Plant - II</u> SPM – 89.7 mg/Nm3 dt: 01.02.2010 <u>Captive Power Plant</u> SPM – 82.4 mg/Nm3 dt: 07.05.2010 SPM – 74.4 mg/Nm3 dt: 08.06.2010	It was reported by the industry that they provided ESP for one stream of PP-II and study is takenup to provide ESP for the second stream in place of multi cyclone to overcome space constraint.
	b) Transfer points	The industry has provided bag filters/ scrubbers at all the important transfer points in the year 2008, with an investment of Rs. 0.18 Cr.	-
	c) Online monitoring:	The industry has provided online stack analyser equipment to the indurating furnaces in the year 2006 with an	The industry has provided three online stack analysers. Out of the

		investment of Rs. 0.18 Cr. It has provided one CAAQM station in order to know the status of pollution and to operate the plant in an environment friendly manner.	three, two stack analysers data is reflected in the website. The industry has to follow up for the 3rd stack analyzer with NIC. One CAAQM station is already installed and the parameter of PM2.5 is not reflected. The industry has to follow up for reflection of data for the parameter PM2.5. The industry informed that the 2nd CAAQM station will be installed and commissioned by the end of September'2011.
	d) Green belt:	The industry has developed a green belt of 52 acres and proposes to develop additional plantation with an investment of Rs.0.30 Cr in the vacant space available.	Already developed 52 acres and the industry informed that they will plant 1000 saplings in this monsoon.
	B. Water pollution :	Not applicable as the industry is recycling entire water and it is a negative water balanced industry.	-
	C. Solid waste disposal:	The industry generates only recyclable wastes like wastes oils, used oils etc., they are being sent to the authorised agencies.	-

2. M/s. Rain CII India Limited,

The industry manufactures calcined coke. The industry receives petroleum coke as a raw material and it is fed to the rotary kiln for calcination. The gases from the kiln are fed to the incinerator to increase the residence time of the gases. The waste heat from the gases is used for steam generation and thereby electric power. The off gases from the boiler are sent to the flue gas de-sulphurization system where the gases are scrubbed with lime solution. The gases from the FGD are emitted through bag filters.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the kilns.	The industry has provided flue gas de - sulpurization for the kiln off gasses. It has provided the incinerator from the gases generated during calcination. The industry is generating electricity from the waste heat recovery. The industry is meeting the emission norms. Monitored values are given below: WHRB – 1 SPM – 62 mg/Nm3 dt: 12.01.2010 SO2 – 36 mg/Nm3 dt: 12.01.2010 WHRB – 2 SPM – 58.5 mg/Nm3 dt: 12.01.2010 SO2 – 42 mg/Nm3 dt: 12.01.2010	Complied
	b. Stock yards	The industry has provided MDSS to all stock yards. It has provided wind breaking wall all along the stock yards in the year 2010 on North side to avoid fugitive dust nuisance.	The industry reported that they have constructed the wind breaking wall.
	c. Road sweeping:	The industry has procured a road sweeping machine with a cost of Rs.0.25 Cr in the year 2004 and cleaning the internal roads.	Complied
	d. Online monitoring:	The industry has provided stack monitoring equipment to the kilns and has provided two CAAQM stations in order to operate the plan in environment friendly manner.	The industry provided two online stack analysers and two CAAQM stations and the data is reflected in the website. The parameter PM2.5 is not included and the same would be done by September 30th (as informed by the industry).
	e. Green belt:	The industry has developed a green belt of 25 acres.	-
	B. Water pollution :	The industry generates only cooling water as effluent. In the past the industry failed to meet the temperature parameter. In the year 2006, it provided an auxiliary cooling tower with an investment of Rs. 15 lakhs. After commissioning the new cooling tower it is meeting the temperature norms.	-
	C. Solid waste disposal:	Major solid waste generation from the industry is 98 TPD of CaSO4 sludge from the flue gas de-sulphurization system. It is being sold to the brick manufactures.	Complied

3. M/s.Andhra Petro Chemicals Ltd.,

The industry produces 2 Ethyl Hexanol - 166 MTPD, Normal Butanol -78 MTPD, and Iso-Butanol-8.4 MTPD using the raw materials Propylene- 180 MTPD & Naptha- 90 MTPD. The industry recently enhanced its production capacity and up-graded the Effluent treatment plant. At present the ETP is under stabilization phase.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	The industry is using gaseous fuels and clean liquid fuels for heating purposes. All process operations are carried out in closed loop and gaseous leaks, if any, are connected to the flare stacks.	-
	b. Continuous monitoring	The industry has provided the CAAQM station to monitor the AAQ within the plant with an investment of Rs 0.35 Cr.	The industry informed that one stack analyzer would be installed by end of June and the other by November'2011 for the parameters So2, Nox, SPM, Co and Hc. The industry installed one CAAQM station and the data of parameters PM10 and PM2.5 are reflected in the website.
	c. Green Belt	The industry has developed a green belt of 37 acres.	The industry informed that they will develop the greenbelt in he vacant places in the industry premises.
	B. Water Pollution:	The industry generates effluent from the process and the effluent parameters in the past exceeded the standards stipulated. Now, the industry has up-graded the ETP with a cost of Rs. 2.0 Cr. At present, the ETP is under stabilization.	The industry upgraded the ETP by installing the Anaerobic digester. The industry is under progress of construction of STP to treat the domestic effluent.
	C. Solid waste:	The industry generates wastes like Oxo- residue, Rohdium spent catalyst and ETP sludge. Oxo-residue is being used as a fuel in the plant, spent catalysts are being sent to the recyclers for regeneration, ETP sludge is being sent to the TSDF for disposal.	Followed.

4. M/s. Hindustan Petroleum Corporation Limited, Visakh Refinery

This is a 10 MMTPA Oil refinery which uses both indigenous crude and imported crude. It has facilities for manufacture of clean fuels.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	a. Stack emissions from the stacks.	M/s. HPCL (Refinery) has installed three Sulphur recovery units with an investment of Rs.160 Crores in the year 1999 to minimize SO2 emissions and is recovering 2200 tons of elemental Sulphur per month. The Refinery has provided 65 TPD of sulphur recovery unit along with clean fuel project with an investment of Rs.80 Crores during 2009. The industry has connected hot well off gases of CDUs to the Burners to minimize odour nuisance during the year 2007-08. The industry is using low sulfur fuels (0.5 by weight %) for their requirements and ensuring that the total SO_2 emissions from the refinery are not exceeding 11.5 TPD.	-
	b. Continuous monitoring	M/s. Hindustan Petroleum Corporation Ltd., commissioned online analyzers to 19 stacks and 3 CAAQM stations were established to monitor the pollutants SPM, SO2, NOx, HC, CO with an investment of Rs.5 Crores.	The industry informed that there are 30 stacks existing in the unit. Out of 30 stacks Board insisted to provide online analysers for 15 stacks only. Out of 15 stacks 8 stacks data would be connected by August'2011 and the other 7 stacks by December'2011 for the parameters So2, Nox, Hc & SPM. The industry informed that they will install all the CAAQM stations by 2nd week of July for the parameters PM10 and PM2.5.
	B. Water Pollution:	The Refinery has constructed ETP-I in 1993 and ETP-II in 1996 to meet the MINAS standards and it has completed Oil Ingress project in 2009 to avoid entry of excess oil into ETP with an investment of Rs.7.2 Crores and is meeting the standards .	The industry commissioned ETP-IV but informed that it will take another one month for stabilization.
	C. Solid waste:		
	a. Oily wastes:	Oil is recovered since 2002 from High Oil sludge and Low Oil Sludge, sent to Bio-remediation pit and the same is reprocessed. The industry is in the process of sending the wastes to the authorised recyclers.	-
	b. other solid wastes :	In addition to the oily wastes, the refinery generates spent catalysts etc., which can be used for recycle purpose. The industry is in the process of sending these wastes to the authorised recyclers.	-

5. M/s. Coromandal International Limited,

The industry manufactures Complex Fertilizers, Sulphuric Acid & Phosphoric Acid by using Sulphur, Rock Phosphate, MOP, Urea and Ammonia as basic raw materials. During 1997, the industry closed the urea plant permanently and during 1999-2000, the industry closed ammonia plant permanently.

	Action point	Present status	Compliance with respect to Action plan
	Stoppage of operation	The industry stopped ammonia production and urea plant in the year 1999. The industry de-commissioned pressurized NH3 storage tank and commissioned two atmospheric storage tanks of 5000 Tons each. The industry is importing NH3 through ships and through a pipeline to the premises. During 1997, the industry established molten sulphur facility and minimized solid sulphur consumption gradually thereby avoiding fugitive emissions.	-
	A. Air pollution:		
	Receipt & transport of raw materials	The industry provided Screw un loader at Wharf area to unload raw material of Sulphur, Rock Phosphate, etc., in place of Bucket Conveyor with an investment of **Rs.19 Crores.** It has a dedicated raod from the wharf area to the plant premises.	-
	Fugitive emissions from the warehouse	The industry has provided telescopic chute in the warehouse in the year 2010 with an investment of **Rs. 0.30 Cr.**	-
	Sulfuric acid plants	The industry has revamped 1400 TPD DCDA Sulfuric acid plant in the year 2002 with an investment of Rs.8 Crores. The industry provided alkali scrubber to the 300 TPD and 1400TPD sulphuric acid plants to minimize the emissions i.e., SO2, SO3 & Acid mist with an investment of **Rs.1.65 Crore.** **<u>Monitored Values</u>** **1400 TPD Sulphuric Acid Plant** SO_2 – 178.1 mg/Nm^3 Dt. 15.02.2010 SO_3 – 38.2 mg/Nm^3 Dt. 15.02.2010 Acid mist ND Dt. 15.02.2010 **300 TPD Sulphuric Acid Plant** SO_2 – 200.9 mg/Nm^3 Dt. 15.02.2010 SO_3 – 24.6 mg/Nm^3 Dt. 15.02.2010 Acid mist ND Dt. 15.02.2010	
	Reduction of fuel consumption	The industry has stopped fuel consumption in the complex fertilizer plants by installing air pre-heater by utilizing exothermic heat generated during reactions, in the year 2006 with an investment of **Rs.6.5 Crores.** The industry has Stopped 6MW DG set and the required power is being generated from turbo generator, where the steam generated from the sulfuric acid plants is used. The project was implemented in the year 2005.	

	Online Monitoring:	The industry has provided online stack analysers to Sulphuric acid plants for continuous monitoring of SO2 with an investment of **Rs. 0.16 Cr.** The industry has established one CAAQM station for continuous monitoring of SPM, RSPM, SO2, Fluorine and ammonia with an investment of **Rs.0.3 Crores.**	The industry provided two online stack analysers and the data is not reflected in the website. The industry has to contact NIC for the reflection of data. The industry installed two CAAQM stations but the parameter PM2.5 is not reflected in the website and the industry reported that this would be added by July 15th 2011.
	B. Water Pollution	The industry is having an ETP comprising neutralization and clari-flocculators, which requires up-gradation.	Industry informed that the construction of civil works of ETP is completed and the equipment would be installed by July'2011.
	C. Solid waste disposal		
	Gypsum disposal	The industry has an accumulated huge quantity of Gypsum in an area of about 100 Acres. The industry adopted dry disposal system of Gypsum and provided lining to an extent of 5 acres of existing Gypsum pond with an investment of **Rs.24 Crores** during April'2009 which eliminated huge generation effluent from the gypsum pond. The industry has provided HDPE & Geo membrane liner under the wagon loading area where gypsum is stored and transported from, during June 2010, to prevent contamination due to acidic seepages in the surroundings with a cost of **Rs.7.5 Crores.**	The gypsum accumulated on site i.e. about 15,00,000 T is yet to be disposed.
	Other Solid wastes	The industry generates other solid wastes like spent catalysts, acid residues etc., which are being disposed as per the Hazardous Waste Authorization.	

6. M/s. Hindustan Zinc Limited

M/s. Hindustan Zinc Limited, established in 1977, used to produce Zinc & Lead. Pollution Problems were more when the lead plant was in operation. As there was no improvement in the situation, A.P. Pollution Control Board issued Closure Order to the Lead Plant of H/s. Hindustan Zinc Ltd., on 07.06.1999. Accordingly, M/s. Hindustan Zinc Ltd., stopped the Lead Plant operation and removed it completely. During 2000, the industry revamped the Zinc plant and converted its process to Jarosite process.

	Action point	Present status	Compliance with respect to Action plan
	A. Air pollution:		
	Receipt & transport of raw materials	The industry used to receive its raw-material from mines through wagons. While unloading it used to cause fugitive emissions. During 2010, the industry has stopped receiving its ore concentrate through wagons and started to receive by containers.	-
	Sulfuric acid plant	The industry has commissioned Tail Gas Treatment Plant (for reducing SO2 emissions after recovery of SO2 in acid plant) in the year 1991. It has Installed a new TGT plant for minimizing the SO_2 emissions with an investment of Rs.12 Crores during March'2009. At present stack emissions are meeting the standards. **Monitored Values** **TGT stack** SO_2 – 116.0 mg/Nm^3 Dt. 09.08.2010 Acid mist – ND Dt. 09.08.2010	-
	B. Water Pollution	The industry used to discharge treated effluent into the Meghadrigedda overflow channel canal. The industry provided RO system and mechanical vapour recompression system to recover water from the effluent and using it in the process, thereby reducing fresh water consumption to implement zero discharge system during the year 2010.	-
		The industry has constructed additional concrete lined storage tank of 2 days capacity between clarifier and RO plant to store effluent during RO plant stoppages and to treat all the effluent through RO plant during 2010. The industry has provided water meters with totalisers at outlet of clarifier, feed to RO plant, totaliszer at Mechanical Vapour Recompression (MVR) to monitor the quantity of effluent treated in ETP during 2010. The industry has provided HDPE pipelines to convey industrial effluent from different plants to the ETP, in place of existing open drains, during 2010 there by reducing the chance of ground water contamination.	

	Solid Waste disposal		
	Jarosite	The industry constructed a secured land fill for safe disposal of jarosite cake in the year 2000 with an investment of Rs. 10 Cr. It has provided a new onsite secured landfill to dispose hazardous wastes generated in the plant during June'2009 with an investment of Rs.10 Crores.	
	Closure of the Jarosite Pond	The industry has started the work for closure of the old landfill.	The industry reported that they had placed the order for capping the Jarosite pond.
	Moore Cake	The industry has an accumulated storage of moore cake, which is generated before 2001 in the premises.	The moore cake is completely liquidated from the unlined storage area and 15,000 Tons of moore cake is stored in mastic lined concrete storage tank. This moore cake will be continuously consumed in the zinc oxide plant for recovery of zinc.
	Other Solid wastes	The industry is disposing of all the hazardous wastes from the premises as per the directions of the Board.	-

7. M/s. Visakhapatnam Port Trust,

M/s. Visakhapatnam Port Trust, Visakhapatnam was established during 1933 in the east coast of Andhra Pradesh and increased to 25 breaths to handle different types of cargoes in different forms. A.P. Pollution Control Board is regularly monitoring the Port activities and issuing directions as and when required. M/s. Visakhapatnam Port Trust has initiated major projects for mechanization of the cargo handling facilities and clearances are yet to be obtained.

	Action point	Present status	Action plan for improvement with Target date	Compliance with respect to Action plan
	A. Air pollution:	M/s VPT is taking measures, with a view to get improvement in the surrounding environment and reduction in levels of RSPM & TSPM in the Ambient Air. M/s VPT is carrying out water sprinkling round the clock with an increased frequency on all the dusty cargo handling/storage areas. Dusty cargo stacking in the areas abutting residential locality was stopped. High capacity trucks were introduced to transport the coking coal from GCB to yards duly providing covers, thereby reducing the movement of number of trucks and dust fly-off. M/s. VPT is ensuring that adequate spare sprinklers are available for immediate replacement of damaged sprinklers and to ensure continuous operation of all the sprinklers. M/s. VPT has provided water meters with totalizers to record the quantity of water used for sprinkling purpose. VPT has provided truck tyre washing facility to avoid dust transfer onto other roads. M/s. VPT has provided Mechanised Dust Suppression System at 3 major stock yards and West Quay Berths during 2002 with an investment of Rs.14 Crores. VPT is	M/s. VPT proposes to mechanize the coal handling at the GCB. M/s. VPT proposes to isolate the dusty cargo by constructing a wall up to a height of 7M and geo-net above the wall for a height of 4M. Mechanical Dust Suppression System will be provided all along the wall to eliminate the dust emissions from the stock yard. Wall construction is going on, the target date for mechanisation is June'2012. M/s. VPT proposes to reorganize the cargo handling in the berths and stock yards with a view to control dust nuisance. M/s. VPT is in the process of mechanization of stocking, loading and unloading of dusty cargo like coal and iron ore to eliminate the truck movement (about 6000 nos./day), and thus avoid dust emanation. These improvements are expected to be completed by 2012.	The work is under progress. East side wall is already constructed. North side wall and R-11 are under construction. The Geo-net barrier is not yet provided. GCB mechanization is under progress. Once the GCB is mechanized, the re-organization of the cargo handling in the berths and stock yards work will be started.

		using treated sewage for dust suppression. M/s. VPT has provided geo-net barrier at General Cargo Berth (GCB) area for a length of 240 mts with an investment of Rs.40 Lakhs. M/s. VPT has provided covering to conveyor belt to an extent of 100 M from Junction Houses H7 & H8 with an investment of Rs.50 Lakhs to minimize dust emissions.		
		M/s. Visakhapatnam Port Trust & NHAI completed the flyover connecting NH-5 and Port with an investment of Rs. 116 Crores. By utilizing this flyover, the dusty cargo truck movement through residential /commercial areas has been eliminated.		
	B. Water Pollution	VPT provided a 10 MLD sewage treatment plant for sewage generated in the city area with an investment of Rs. 3 Crores. The treated sewage is being used for dust suppression purpose in port area.		

*** M/s. Visakhapatnam Port Trust has to install three CAAQM stations. The committee called for the time bound action plan for installation of CAAQM stations.**

3.2 Sewage Treatment in Visakhapatnam City:

Sl. No	Particulars	Present status of Sewage treatment systems	Action plan for further improvement.	Compliance with respect to Action plan
1.	Grater Visakhapatnam Municipal Corporation (GVMC)	i) The area of GVMC is 530 Sq.Kms. and the population as per 2001 census is 14.35 Lakhs. The sewage generated at an average of 100lpcd is 143.50 mld as per 2001 census.	i) The project of providing sewerage system to central part of Visakhapatnam city under JNNURM has been taken up in four packages and is in progress. Nearly 37.15% of GVMC population (2001 census) will be covered after completion of the project. The length of sewerage net work that is being covered is 400.00 Kms. Two STPs of 13 mld capacity (nearing completion) and 108 mld capacity are being taken up in this project. The cost of the above STPs is Rs.10.50 Crores & Rs.47.00 Crores respectively.	
		ii) The population covered so far with UGD system comes to nearly 22.15% and the length of sewerage net work covered is 212.00Kms.Two STPs of 25 mld(Rs.10.00 Crores) & 38 mld (Rs.20.00 Crores) were constructed and are functioning.The sewage after treatment is being let out into the sea . The quantity of sewage treated at present in the above two STPs is 40.00 mld.	ii) The Detailed Project Report for Gajuwaka, Malkapuram and Yarada covering nearly 23.00 % of population of GVMC (2001 census) at an estimated cost of Rs.386.10 Crores was submitted to Govt. of India for approval. Three STPs of 53 mld (Rs.37.17 Crores); 30 mld (Rs.26.83 Crores) and 5 mld (Rs.7.75 Crores) are proposed in this Project.	
			iii) A Project Report has been approved by the State Govt. for providing sewerage system to the rest of the population (i.e., in the surrounding villages that were merged into GVMC) covering nearly 11.00% of GVMC population as per 2001 census. The DPR is under preparation. In this project 3 Nos. of STPs of 15 mld (Rs.8.25 Crores); 32 mld (Rs.17.60 Crores) and 13 mld (Rs.7.15 Crores) are proposed.	
			iv) In addition to the above the GVMC has been providing sewerage system to the public living in (5+11=16) 16 poor settlements duly covering nearly 6.70% of GVMC population (2001 census) 4 No. of STPs are proposed @ an estimated cost of Rs.11.15 Crores.	

			v) The STPs proposed by GVMC comprising of manly activated sludge process. The GVMC also called for Expression of Interest (EOI) from the concerned persons for utilization of treated water.	
			vi) GVMC proposed to treat to a BOD of 20 mg/lit, COD of 25 mg/lit and SS of 60 mg/lit.	
		The GVMC is operating the following STPs	The GVMC is in the process of providing the following STPs	
		1. A 10 MLD Plant in the Port area for treatment of sewage generated from part of One Town. This is being operated by M/s. Visakhapatnam Port Trust, and the treated sewage is being utilised by the Port for suppression of dust i.e. emanated from dusty cargo stock piles.	1. A 13 MLD plant at Mudasaralova, catering to the projected population of 2.5 lakhs is completed, and the network connections from the households are in progress. The treated sewage is proposed to be discharged into Sea.	The representative of M/s. GVMC reported that the 13 MLD STP at Mudasarlova is in operation.
		2. A 25 MLD plant at Appughar on the Beach Road catering to the population of 2 Lakhs is being maintained by M/s. GVMC, and the treated sewage is discharged into Sea.	2. A 54 MLD plant at Narava is in construction stage, and would be completed within an year. This STP is proposed to cater the projected population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	The representative of the GVMC reported that the 54 MLD STP at Narava is under progress. He also informed that the civil works are started and would be commissioned by March'2012
		3. A 38 MLD plant catering to the population of 2.5 lakhs is in operation at One Town. Part of the treated sewage is being used by M/s. Essar Steels Limited for its industrial use, and the remaining treated sewage is discharged into Sea.	3. A 54 MLD plant at Old Town is proposed in the next phase. This STP is proposed to cater the population of 5 lakhs, and the treated sewage is proposed to be discharged into Sea.	

		GVMC constructed Below Poverty Line housings under Wambay and Rajeev Gruha kalapa along with packaged STP's of 2 x 1.5 MLD and 1 x 2 MLD to cater to the population of 28,280 in total.	If the above STPs come into operation, the projected population covered under the UGD system comes to nearly 70 % and the length of sewage network covered will be 111 Sq. Kms. At present the GVMC population is 16 lakhs.	The representative of M/s.GVMC reported that the STPs which are in operation are covering about 60% of population under UGD system.
		GVMC constructed settlement housings at Gangavaram along with packaged STP's of 1 x 0.5 MLD and 1 x 2.5 MLD to cater to the population of 25,000 in total.	Core coverage in city with population of 70 % of population and 25% of habitation area. Suburbs would be covered and connected in phased manner under JNNURM+ Project which is to be completed by 2015.	
		The population covered under the above STPs and the UGD system comes to nearly 5 lakhs and the length of sewage network covered is 78 Sq.Kms.	<u>Other Civic Amenties proposed by GVMC under JNNURM projects</u>. Ist Phase JNNURM (2005-2012) <u>Flyover</u> Railway station to Asilmetta 1.55 Kms with a project cost of Rs 89 Crores.	The representative of M/s. GVMC reported that the flyover is under progress and expected to be commissioned by September '2012
			<u>BRTS</u> Pilot corridor about 40 Kms with an estimated cost of Rs 360 Crores.	The representative of M/s.GVMC reported that the BRTS project would be commissioned by March'2012

			<u>Truck terminal</u> GVMC earmarked truck terminals at Madhurawada and Gajuwaka at suburbs areas and are operational.	Being followed
			IInd Phase JNNURM+(2012-2015) <u>Flyovers</u> GVMC proposed flyovers at Gopalatanam and Chavulamadum with lengths of 1500 M and 800 M respectively	The representative of the M/s.GVMC reported that once the 1st phase project comes in to operation then they would take up the 2nd phase projects.
			<u>BRTS</u> Additional 7 Nos Corridors of about 100 Kms, Arterial roads of about 15 kms, Feeder roads of about 20 Kms and Pedestrial Footpath of about 6 Kms with a total (Flyover and BRTS) estimated project proposal of Rs. 2250 crores.	
			<u>Traffic</u> Infrastructure for the traffic islands would be provided by GVMC and operational system maintained by traffic police.	

3.3 Municipal Solid waste Management

- Greater Visakhapatnam Municipal Corporation (GVMC) is one of the major cities in Andhra Pradesh generating about 670 TPD of municipal solid waste (MSW). At present this waste is being disposed at Kapulauppada (V) which is not scientific disposal site.

- The GVMC identified 2 sites one at Tarluvada (V) (500 Ac) and another site at Krishnapuram (350 Acs) for scientific disposal of MSW. The proposals for alienation of these sites were sent to District Collector, Visakhapatnam and it would be cleared by December 2010. Proposals for setting up scientific landfill and a bio-methanization plant with a cost of Rs.104 crores were already prepared by GVMC.

- After completion of the alienation process, at one of the above mentioned sites, the construction will be taken up by GVMC. It is scheduled to go for a scientific solid waste management facility by December, 2011.

Compliance: The representative of M/s.GVMC has reported that they are presently disposing the solid waste at Kapuluppada (V). He also informed that it is not a scientific disposal site. They have identified alternative site of 500 Acres at Tarluvada (V) for disposal of municipal solid waste and he informed that it may take another one year for the new scientific disposal site to be put into operation.

3.4 Bio-Medical waste Management

- The Visakhapatnam District is having 324 Health Care Establishments (HCEs) covering about 7671 beds. In the bowl area there are 7 Government Hospitals, 190 Private hospitals and others are 3 Nos.
- The HCEs are having authorization of A.P. Pollution Control Board under the BMW Rules and has tied up with Scientific Common Bio Medical Waste Treatment Facility i.e., M/s.Maridi Eco Industries (Andhra) Pvt. Ltd, located at Sy.No.314, Kapuluppada (V), Visakhapatnam District.
- The capacity of the Incinerator is 250 Kg/hr. The hospital waste collecting by the common waste facility (CBMWTF) from the bowl area is around 400 kg/day.
- APPCB has been monitoring the HCEs as well as the Common Treatment Facility regularly.

3.5 Vehicular pollution Control:

- The transport department is implementing emissions norms stipulated to the vehicles and monitoring pollution levels through testing centers for which licenses are issued by transport department under the A.P. Motor Vehicles Rules.

- Pollution Under Control (PUC) certificates are issued for the vehicles which passes the test and notices will be issued to the vehicles which fails to comply with the norms. The Validity of the Pollution Under Control certificate is 6 months from the date of issue. There are 40 test centres existing in Visakhapatnam.
- As per the G.O.Ms. No. 238, Dt. 23.11.2006 of the Government of Andhra Pradesh, Green Tax is being levied as follows.

Sl. No.	Class of Vehicles	Tax Levied
1.	Transport Vehicles that have completed 7 years of age from the date of their registration	Rs. 200/- (per annum)
2.	No-Transport vehicles that have completed 15 years of age from the date of their registration	
3.	Motor Cycles	Rs. 250/- (for 5 years)
4.	Other than Motor Cycles	Rs. 500/- (for 5 years)

- There will not be any levy of Green Tax if the vehicle is operated by LPG, CNG, battery or solar power.

- The Green Tax has been imposed with a view of discouraging old vehicles. Lead free petrol has been made available in the Visakhapatnam.

3.5.1 Additional Tax on Second Vehicle:

To discourage purchase of more vehicles by an individual, Government is taxing more on second/ subsequent vehicle.

Sl. No	Type of vehicle	At the time of registration of 1st Vehicle	Second of subsequent vehicle
1.	Motor Cycles	9 % of the cost of the Vehicle	14 % of the cost of the Vehicle
2.	Four wheeler motor vehicles whose cost is below Rs. 10 Lakhs	12%	14%
3.	Four wheeler motor vehicles whose cost exceeds Rs. 10 Lakhs	14%	14%
4.	All vehicles owned by companies/ institutions	14%	14%

Compliance: The Motor Vehicle Inspector (MVI) of Road Transport Authority who attended the meeting reported that they are imposing green tax on the transport vehicles that have completed the age of 15 years from the date of registration. He informed that there will not be any green tax imposed on the vehicles operated by LPG, CNG and Battery. He informed that they are booking the cases of about 1100 per month and the fine collected is around Rs.10 Lakhs per month. He also informed that there are about 20,000 LPG driven vehicles in the Visakhapatnam District and two LPG filling stations are located one at Murali Nagar and the other at Madhurawada. He also reported that they are imposing fine for the vehicles moving in the port road which are moving with load and the material not covered with tarpaulin i.e., non compliance of Motor Vehicle Rules.

Sd/-
JCEE
ZO,Visakhapatnam

L.O.A.
Dr.K.S.R.Murthy,
Visakhapatnam

L.O.A.
Sri. A. Satyanarayana
Visakhapatnam

Sd/-
Sri. B.S. Sastry
Visakhapatnam

Sd/-
Sri. D. Rajeswara Rao,
Visakhapatnam

L.O.A.
Prof. S.Rama Krishna Rao
Visakhapatnam

Minutes of the "Local Committee for Patancheru - Bollaram Critically Polluted Area" meeting held on 01.02.2012 for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

The following local committee members were present during the meeting:

i) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru.

ii) Sri Dr. K. Mukkanti, Prof. and Head, Centre for Chemical Sciences and Technology, Institute of Science and Technology, JNTU, Kukatpally, Hyderabad.

iii) Sri P. Vishwanatham, JCEE, APPCB, ZO, R.C.Puram, Member-Convener.

The following industry representatives and complainants also attended.

Industry Representatives:

i) Sri K. Raja Rao, President of M/s.Model Industrial Association, IDA, Khazipally

ii) Sri S. Sripathi, Representative of M/s.Hetero Labs

iii) Sri T. Gandhi Reddy, Representative of M/s.Hetero Labs

iv) Sri Prasanna Kumar, Representative of M/s.Mylan Laboratories Ltd

v) Sri N. Krishana Kumar, Representative of M/s.Arch Pharma Labs Ltd

vi) Sri H.R.M. Rao, Representative of M/s. Lee Pharma Ltd

vii) Sri K.S.S. Bapuji, Representative of M/s.SMS Pharmaceuticals Ltd

Complainants:

i) Sri Prabhakar & Sri Srikanth Reddy

At the outset, the JCEE, Zonal Office, R.C.Puram welcomed the committee members, industry representatives and complainants. He informed that there are many complaints that the polluted water from the sump in Khazipally IDA is joining the Jillelavagu and ultimately joining the Khazipally tank and polluting the area. He also informed that during the visit of Khazipally IDA by the committee, on 03.01.2012, it was observed that the seepage water collected in the sump was overflowing and joining Jillelavagu which finally joins the Khazipally tank. He pointed out that in-spite of repeated instructions the Model Industrial Association is not regularly lifting the seepage water collected in the sump to M/s.PETL and allowing the overflow into Jillelavagu. In December, 2011 the Model Industrial Association has not lifted any seepage water collected to M/s. PETL due to which the contaminated water got accumulated in the area around the sump.

The complainants who attended the meeting informed that apart from the water pollution, there is severe chemical odour in Khazipally & Gaddapotharam industrial areas and requested to take immediate action.

Contd. Page 2...

The Committee after detailed discussions recommended the following:

- The Model Industrial Association shall immediately start lifting of seepage/ contaminated water collected in the sump to M/s. PETL. All the contaminated water from the sump and its surroundings shall be lifted within 10 days time to M/s. PETL.
- The 13 industries shall also regularly send the contaminated waste water collected in their respective check dams to M/s. PETL.
- As a permanent solution for this problem, the Model Industrial Association shall get study done by reputed institution / Organization to identify sources of seepages and to suggest control measures by April, 2012.
- All industries shall install MEE along with strippers in place of Forced Evaporation System (batch evaporation reactors) and to install ATFD to reduce the odour nuisance within 6 months.
- All soak pits and under ground effluent collection tanks shall be dismantled within one month by individual industries.

Sri Dr. K. Mukkanti
Prof. and Head for Centre for Chemical Sciences and Technology, Institute of Science and Technology, JNTU University, Kukatpally, Hyderabad.

Dr. A. Kishan Rao
NGO, Member of Local Area Expert Committee of Supreme Court Monitoring Committee, Patancheru, Medak District.

Sri. Sunil Kulkarni
Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA).

Joint Chief Environmental Engineer, Member Convener, Zonal Office, R.C.Puram, Medak district.

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE: R.C.PURAM

P.Vishwanatham
Joint Chief Environmental Engineer

25-35/11, Tulasi Reddy Complex,
2nd Floor, Opp. Govt. ITI College,
R.C.Puram, Medak Dist-502 032.

Lr. No.PTN-25/PCB/ZO/RCP/2012-

Date: 10.02.2012

To
The Member Secretary,
A.P. Pollution Control Board,
HYDERABAD.

Sir,

// Kind Attention: SEE (CFO) //

Sub: ZO, R.C.Puram – Minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru - Bollaram- Submitted - Reg.

Ref: 1) Procds. No. APPCB/Gen-17/BO/CFO/2011-73 dt 02.04.2011 constituting Local Committee.
2) Local Committee meeting held on 01.02.2012.

* * *

With reference to the above, copy of the minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru-Bollaram held on 01.02.2012 are herewith submitted for kind perusal.

In this regard it is to submit that there are many complaints that the polluted water from the sump in Khazipally IDA is joining the Jillelavagu and ultimately joining the Khazipally tank and polluting the area. The CEPI Committee visited the Khazipally IDA and observed that the seepage water collected in the sump was overflowing and joining Jillelavagu which finally joins the Khazipally tank. Sample of the stagnated waste water was collected from the sump, which was flowing towards Khazipally tank and analyzed. The analysis report shows the values of TDS -8,400 mg/lt and Ammonical Nitrogen -162 mg/lt which are very high. The CEPI Committee in the meeting held on 01.02.2012 directed the Model Industrial Association to immediately start lifting the seepage / contaminated water collected in the sump to M/s. PETL and send all the contaminated waste water to M/s. PETL within 10 days.

But, during the inspection of the Board Officials on 10.02.2012 it was observed that the Model Industrial Association is lifting very few number of tankers to M/s.PETL and the sump and the chek dam is still containing wsate water till the brim level. The local people made no. of complaints that the waste water from the sump is not lifted and PCB Officials are not taking any action inspite of repeated complaints. There are adverse reports in the press and electronic media on this issue.

Contd. Page 2....

In view of severe pollution being caused at Jillelavagu and Khazipally tank it is requested that, the 13 no. of industries (list enclosed) who are located adjacent to the two drains may be called for legal hearing for taking necessary action.

Yours faithfully,

***Encl**: Minutes & list of13 industries*

Jt. Chief Environmental Engineer

Copy to Sr. Environmental Engineer (Spl.-TF), Medak, R.C.Puram for information and necessary action.

Copy to the EE, RO, R.C.Puram for information with a direction to issue notices to all 13 industries and submit detailed inspection reports to SEE, (Spl.-TF), Medak, for taking necessary action.

Copy to the EE, RO-I, Sangareddy for information and necessary action.

List of 13 industries

1. **M/s.Lee Pharma Ltd, Gaddapotharam, Medak District.**
2. **M/s.Divis Pharmaceuticals Ltd, Gaddapotharam, Medak District.**
3. **M/s.Hetero Labs Ltd, Gaddapotharam, Medak District.**
4. **M/s. SMS Pharmaceuticals Ltd, Gaddapotharam, Medak District.**
5. **M/s.Matrix Laboratories Ltd, Gaddapotharam, Medak District.**
6. **M/s.Sibra Pharmaceuticals Ltd, Gaddapotharam, Medak District.**
7. **M/s.Virchow Chemicals Ltd, Gaddapotharam, Medak District.**
8. **M/s.Emmennar Bio Tech, Gaddapotharam, Medak District.**
9. **M/s. Apex Drugs & Intermediates Ltd., Unit-II, Gaddapotharam, Medak District.**
10. **M/s Virupaksha Organics Ltd., Gaddapotharam, Medak District.**
11. **M/s. Jupiter Bio Science Lt.d, Gaddapotharam, Medak District.**
12. **M/s. TPS Laboratories Ltd., Gaddapotharam, Medak District.**
13. **M/s. KRS Pharmaceuticals Ltd., Gaddapotharam, Medak District.**

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE: R.C.PURAM

P.Vishwanatham
Joint Chief Environmental Engineer

25-35/11, Tulasi Reddy Complex,
2nd Floor, Opp. Govt. ITI College,
R.C.Puram, Medak Dist-502 032.

Lr. No.PTN-25/PCB/ZO/RCP/2012- **Date: .02.2012**

To
The President,
M/s.Model Industrial Association
IDA, Khazipally
Medak Dist.

Sir,

Sub: ZO, R.C.Puram – Minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru - Bollaram- Communicated - Reg.

Ref: Local Committee meeting held on 01.02.2012.

* * *

Copy of the minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru-Bollaram held on 01.02.2012 is herewith communicated. You are directed to take immediate necessary action on the decisions taken in the meeting and submit the compliance report to this office under a copy to Environmental Engineer, Regional Office, R.C.Puram from time to time.

Yours faithfully,

Encl: Minutes

Jt. Chief Environmental Engineer

Copy submitted to the Member Secretary, APPCB, Board Office, Hyderabad for information.

Copy to Sr. Environmental Engineer (Spl.-TF), Medak, R.C.Puram for information.

Copy to the EE, RO, R.C.Puram for information and necessary action.
Copy to the EE, RO-I, Sangareddy for information and necessary action.

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE: R.C.PURAM

P.Vishwanatham
Joint Chief Environmental Engineer

25-35/11, Tulasi Reddy Complex,
2nd Floor, Opp. Govt. ITI College,
R.C.Puram, Medak Dist-502 032.

Memo No.PTN-25/PCB/ZO/RCP/2012- **Date: .02.2012**

Sub: ZO, R.C.Puram – Minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru - Bollaram- Communicated – Follow-up action - Reg.

Ref: Local Committee meeting held on 01.02.2012.

* * *

Copy of the minutes of the 6th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru-Bollaram held on 01.02.2012 is herewith communicated. You are directed to take follow-up action on the minutes of the meeting and report compliance from time to time with copy to SEE (STF-Medak) and SEE (CFO), Board Office for taking further necessary action.

***Encl**: Minutes*

Jt. Chief Environmental Engineer

To
The Environmental Engineer,
APPCB, Regional Office,
R.C.Puram

Copy to Sr. Environmental Engineer (CFO), APPCB, Board Office, Hyderabad for information.
Copy to Sr.Environmental Engineer (Spl.-TF), APPCB, Medak, R.C.Puram for information.

Minutes of the "Local Committee for Patancheru - Bollaram Critically Polluted Area" meeting held on 03.01.2012 for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

The following local committee members were present during the meeting:

i) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru.

ii) Sri. Sunil Kulkarni, Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA).

iii) Sri P. Vishwanatham, JCEE, ZO, R.C.Puram.

At the outset, the JCEE, Zonal Office, R.C.Puram welcomed the committee members and informed that as a follow-up action of the minutes of the earlier committee meeting held on 11.11.2011, the Board issued notices to the following industries for implementing the action plan.

1. M/s.Hetero Labs Ltd, Gaddapotharam,Medak district.
2. M/s.Hetero Drugs Ltd, Unit-I, Bonthapally, Medak dist.
3. M/s.Neuland Laboratories Ltd, Unit-I, Bonthapally, Medak dist.
4. M/s.Neuland Laboratories Ltd, Unit-II, Pashamailaram, Medak dist.
5. M/s.Suven Life Sciences Ltd, Pashamailaram, Medak dist.

He further informed that, the industries submitted their replies to the notices issued and a report was submitted to Member Secretary for taking necessary action after calling the industry representatives for legal hearing before the Taskforce committee of Board office.

The committee made a visit of IDA Khazipally on the same day and inspected the Khazipally sump constructed by Model industrial Association, Khazipally and checkdam constructed at Jillelavagu near sump and interacted with the local people. The committee observed that, the sump was completely filled and overflow is joining Jillelavagu, which finally enters into Khazipally cheruvu. The AEE, RO, R.C.Puram informed that the Model Industrial Association is not lifting the water from the sump since December, 2011 and hence there is overflow from the sump.

Samples of A) stagnated waste water collected from sump, which is flowing towards Khazipally tank, B) stagnated waste water collected from open land near TSDF (in front of M/s.Kekule Pharma Ltd.,) and analised. The analysis reports are tabulated as follows:

Sl. No.	Parameter	Units	Values	
			A	B
1.	pH		7.77	6.43
2.	Total Suspended Solids (TSS)	mg/l	470	630
3.	Total Dissolved Solids (TDS)	mg/l	8,400	15,900
4.	Chemical Oxygen Demand (COD)	mg/l	1,306	2,815
5.	Biological Oxygen Demand (BOD)	mg/l	328	374
6.	Ammonical Nitrogen as NH_3-N	mg/l	162	27

The analysis reports of the sample collected from the sump (sample-A) is showing the values of TDS and Ammonical Nitrogen on higher side and it needs to send this waste water to M/s.PETL for treatment and disposal.

The analysis reports of the sample collected from (Sample-B) open land near M/s.TSDF reveals that the values of COD, TDS and BOD are on higher side. Since, this stagnated waste water is having higher values of COD, TDS and BOD and M/s.TSDF is located near by to this site, the seepage from M/s.TSDF, if any, or any other source for these higher values are to be investigated.

The committee made the following remarks:

i) There is a need to carryout a study by institutions like NGRI to identify the sources of seepage and to take corrective steps for containment of seepage.

ii) The seepage collected in the sump shall be lifted regularly by Model industrial Association from time to time to M/s.PETL, Patancheru after ensuring that the inlet standards of M/s.PETL are met.

iii) There shall not be any over flow from the sump which in turn joins Jillelavagu.

iv) The issues shall be discussed with the Association representatives in the next meeting.

The committee also visited M/s. Lee Pharma Ltd., along with the local people and made the following recommendations:

- The industry installed MEE for treatment of HTDS effluents, but they are not achieving desired concentration. The concentrate is being stored in drums and is not being handled properly. The industry has to improve the performance of MEE and to install ATFD for making the concentrate into solids. The odour is observed at MEE indicating that the performance of stripper is not satisfactory.
- Solvent drums were stored openly and the industry needs to provide closed shed with elevated platform with spillage collection sump.
- The canteen waste was observed to be stagnated in the sump and the over flow is connected to storm water drain leading to outside the premises. The industry has to close the outlet of canteen waste sump into storm water drain and connect to STP.

- A mobile pump was observed to be put-up at septic tank for pumping the sanitary waste to STP. The industry has to make permanent arrangement of sending sanitary waste to STP from septic tank. The temporary arrangement of putting pump at septic tank shall be dispensed with.

Sri Dr. K. Mukkanti Prof. and Head for Centre for Chemical Sciences and Technology, Institute of Science and Technology, JNTU University, Kukatpally, Hyderabad.	**Dr. A. Kishan Rao NGO, Member of Local Area Expert Committee of Supreme Court Monitoring Committee, Patancheru, Medak District.**	**Sri. Sunil Kulkarni Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA).**	**Joint Chief Environmental Engineer, Member Convener, Zonal Office, R.C.Puram, Medak district.**

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE: R.C.PURAM

P.Vishwanatham
Joint Chief Environmental Engineer

25-35/11, Tulasi Reddy Complex,
2nd Floor, Opp. Govt. ITI College,
R.C.Puram, Medak Dist-502 032.

Lr. No.PTN-25/PCB/ZO/RCP/2012- **Date: 04.02.2012**

To
The Member Secretary,
A.P. Pollution Control Board,
HYDERABAD.

Sir,

// Kind Attention: SEE (CFO) //

Sub: ZO, R.C.Puram – Minutes of the 5th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru - Bollaram- Submitted - Reg.

Ref: 1) Procds. No. APPCB/Gen-17/BO/CFO/2011-73 dt 02.04.2011 constituting Local Committee.
2) Local Committee meeting held on 03.01.2012.

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With reference to the above, copy of the minutes of the 5th meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru-Bollaram held on 03.01.2012 are herewith submitted for favour of kind information and for taking necessary action.

Yours faithfully,

Jt. Chief Environmental Engineer

Copy to Sr. Environmental Engineer (Spl.-TF), Medak, R.C.Puram with a request to take necessary action against M/s. Lee Pharma Ltd.

Copy to the EE, RO, R.C.Puram for information and necessary action.

Minutes of the "Local Committee for Patancheru - Bollaram Critically Polluted Area" meeting held on 11.11.2011 for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

* * *

The following local committee members were present during the meeting:

i) Dr. K. Mukkanti, Prof. and Head, Institute of Science and Technology, JNTUH.
ii) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru.
iii) Sri P. Vishwanatham, JCEE, ZO, R.C.Puram.

Sri D. Narender, EE, RO-I, Sangareddy and Sri T. Sudarshanam, EE, RO, R.C.Puram also attended the meeting.

Sri Sunil Kulkarni Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA) did not attend the meeting as he was out of country.

At the outset, the JCEE, Zonal Office, R.C.Puram welcomed the committee members and informed that the Zonal Office obtained industry wise progress on implementation of action plan for achieving of ZLD/ upgradation of their treatment systems by the 27 nos. of industries who have submitted action plans. It was observed that the industries have implemented the ZLD/ upgradation of their treatment systems as per the action plan except the following industries:

S No.	Name and address of the industry	Action Plan	Time Schedule	Latest status
I.	M/s.Hetero Labs Ltd, Gaddapotharam, Medak dist.	1. The industry proposed zero discharge system consisting of biological ETP, RO Plant, Stripper, MEE and ATFD. The civil work is under progress. The revised target date for the project is December 2011. 2. The industry is operating existing R.O System and intake to cooling tower for make up is reduced by 20 KLD. 3. They are operating existing Stripper, MEE, ATFD for treatment and disposal of effluent. 4. The R & D team is putting efforts for optimization of raw materials consumption so as to reduce the pollution load and down stream cost of disposal. The industry was directed to submit the specific improvements achieved. 5. The industry is recycling 70% of steam condensate and using high pressure jets for reactor and vessels washing as a part of water conservation practices. The industry was directed to submit other specific improvements achieved and specific reduction of overall water consumption 6. The industry is carrying out VOCs monitoring in work place, regularly. The industry was directed to maintain record the results for review.	Dec, 2011	1. Civil work of the new ZLD facility is under advanced stage of completion. 2. Existing Stripper, MEE, ATFD and RO system are operated.

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The Committee also propose to inspect M/s.Al-kabeer Exports Pvt. Ltd, Rudraram (V), Medak dist., as the industry is located in catchment area of Nakkavagu.

The Committee advised to intensify monitoring in industrial estates so that no discharges shall be made by the industries into adjacent water bodies. The Committee further discussed the course of action to be taken for control of domestic sewage discharges into Nakkavagu.

The Committee Member Dr. A. Kishan Rao, brought to the notice of the Committee that there is a need to treat the sewage generated from Miyapur and other areas which is being discharged into Nakkavagu. He advised to take up the matter with GHMC for establishment of STPs to treat the sewage. He brought to the notice of the Committee that the Hon'ble High Court of A.P. in W.P.No.2135/06 directed that "All the local bodies in the State of A.P. i.e., Municipal Corporations, Municipal Councils, Panchayats, Urban Development authorities are directed to ensure that no one is allowed to put garbage or discharge dirty water or industrial waste in any of the water channels in the State of Andhra Pradesh".

This is submitted for favour of kind information and necessary action.

Yours faithfully,

Jt. Chief Environmental Engineer

Minutes of the "Local Committee for Patancheru-Bollaram Critically Polluted Area" meeting held on 21.10.2011 for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

* * *

The following local committee members were present during the meeting:

i) Sri Dr. K. Mukkanti, Prof. and Head, Institute of Science and Technology,JNTUH.
ii) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru.
iii) Sri. Sunil Kulkarni, Associate Vice President, M/s. Matrix Labs.
iv) Sri P. Vishwanatham, JCEE, ZO, R.C.Puram.

At the outset, the JCEE, Zonal Office, R.C.Puram welcomed the committee members and the committee members reviewed the progress on the implementation of action plan submitted by the industries. During the meeting, the committee observed that, though the discharge of industrial effluent into Nakkavagu is controlled, the domestic waste water from M/s.BHEL STP and other small colonies in & around Patancheru are discharging their domestic waste water into Isukavagu which is ultimately joining Nakkavagu and this needs to be controlled. The JCEE informed the committee that he along with other Officials of the ZO, R.C.Puram have inspected the STP of M/s.BHEL, R.C.Puram and observed that the STP was not in operation and he further informed that, it was decided to issue show cause notice to M/s.BHEL, R.C.Puram.

As decided in the Committee meeting held on 03.08.2011 the Committee visited M/s.Neuland Laboratories Ltd, IDA, Pashamailaram, Medak dist., to review the status of implementation of action plan for Zero Liquid Discharge (ZLD).

As per the action plan M/s.Neuland Laboratories Ltd, has committed to implement the following by December, 2011 with a proposed expenditure of Rs.8.99 Cr.

i) The industry installed stripper and MEE and are under operation.

ii) ATFD and RO systems are proposed to be installed.

iii) Taking actions for input / output modifications of process control and R & D towards waste minimization and as well as reduce the pollution loads. The industry was directed to submit the specific improvements achieved.

iv) Water conservation practices are adapted by reusing the MEE & ATFD condensate. The industry was directed to submit the specific improvements achieved.

v) The industry proposed continuous monitoring for Gas incinerator stack and continuous AAQM.

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The Committee observed the progress in implementation of Zero Liquid Discharge systems. The committee found that, the industry commissioned the stripper and MEE and is yet to install the ATFD and RO plant. The committee directed the industry to complete the ATFD and RO plant by 31.12.2011, as per the action plan.

The Committee advised the JCEE, ZO, R.C.Puram to obtain the status of implementation of action plan for ZLD by the individual major industries, so as to review them. The Committee decided to have meeting with industry representatives in about two weeks time regarding implementation of action plan.

Dr. K. Mukkanti Prof. and Head for Centre for Chemical Sciences and Technology, Institute of Science and Technology, JNTU University, Kukatpally, Hyderabad.

Dr. A. Kishan Rao NGO, Member of Local Area Expert Committee of Supreme Court Monitoring Committee, Patancheru, Medak District.

Sri. Sunil Kulkarni Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA).

Joint Chief Environmental Engineer, Member Convener, Zonal Office, R.C.Puram, Medak district.

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE: R.C.PURAM

P.Vishwanatham
Joint Chief Environmental Engineer

25-35/11, Tulasi Reddy Complex,
2nd Floor, Opp. Govt. ITI College,
R.C.Puram, Medak Dist-502 032.

Lr. No.PTN-25/PCB/ZO/RCP/2011- **Date: 22.11.2011**

To
The Member Secretary,
A.P. Pollution Control Board,
HYDERABAD.

Sir,

// Kind Attention: SEE (CFO) //

Sub: ZO, R.C.Puram – Minutes of the 3rd local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru - Bollaram- Submitted - Reg.

Ref: 1) Procds. No. APPCB/Gen-17/BO/CFO/2011-73 dt 02.04.2011 constituting Local Committee.
2) Local Committee meeting held on 21.10.2011.

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With reference to the above, the minutes of the 3rd meeting of the local committee constituted for monitoring of action plan under CEPI programme for critically polluted areas of Patancheru-Bollaram meeting held on 21.10.2011 are herewith enclosed.

The Committee visited M/s.Neuland Laboratories Ltd, IDA, Pashamailaram, Medak dist., to review the status of implementation of action plan for Zero Liquid Discharge (ZLD). The Committee observed the progress in implementation of Zero Liquid Discharge systems. The committee found that, the industry commissioned the stripper and MEE and is yet to install the ATFD and RO plant. The committee directed the industry to complete the ATFD and RO plant by 31.12.2011, as per the action plan.

The Committee advised the JCEE, ZO, R.C.Puram to obtain the status of implementation of action plan for ZLD by the individual major industries, so as to review them. The Committee decided to have meeting with industry representatives in about two weeks time regarding implementation of action plan.

This is submitted for favour of kind information and necessary action.

Yours faithfully,

Jt. Chief Environmental Engineer

Minutes of the "Local Committee for Patancheru-Bollaram Critically Polluted Area" meeting held on 03.08.2011 and 04.08.2011 for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

* * *

The following local committee members were present during the meeting:

i) Sri Dr. K. Mukkanti, Prof. and Head, Institute of Science and Technology,JNTUH.
ii) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru.
iii) Sri. Sunil Kulkarni, Associate Vice President, M/s. Matrix Labs.
iv) Sri B. Madhusudhana Rao, JCEE (FAC), ZO, R.C.Puram.

At the outset, the JCEE (FAC), Zonal Office, R.C.Puram welcomed the committee members and the committee members reviewed the progress on the implementation of action plan submitted by the industries. During the meeting, the committee observed that, though the discharge of industrial effluent into Nakkavagu is controlled, the domestic waste water from M/s.BHEL STP and other small colonies in & around Patancheru are discharging their domestic waste water into Isukavagu which is ultimately joining Nakkavagu and this needs to be controlled. The committee decided to inspect the 9 MLD STP of M/s.BHEL.

After the meeting, the committee visited the STP of M/s.BHEL, R.C.Puram on 04.08.2011 and observed that the STP has the following treatment units viz. Bar Screen, Detritor, Primary Clarifier, Primary digester, Secondary digester, Primary Bio Filter, Secondary bio filter, Trickling filter and Sludge Drying Beds. The Committee inspected all the treatment units and found that none of the treatment units are working except Bar screen. The primary bio filter and secondary bio filter are under maintenance. About 10 MLD of partially treated domestic wastewater was discharged from the STP of M/s. BHEL into Isukavagu which was joining Nakkavagu. While the committee inspecting the STP, the Executive Director of M/s.BHEL, R.C.Puram visited the STP and requested the committee to come for a meeting in his chambers to resolve the problem.

The committee members met the Executive Director of M/s.BHEL, R.C.Puram on 05.08.2011 and appraised the ED the situation at STP as witnessed by the Committee. M/s BHEL accepted to correct all the deviated situation and submitted an action plan to make the STP operational. The committee made it clear to M/s. BHEL management that it shall not discharge treated/un-treated domestic waste water into Isukavagu at any cost and it shall make necessary arrangements to see that M/s.BHEL STP treated waste water is taken back to the township of M/s.BHEL and utilize for onland irrigation. The minutes of the meeting held with ED, M/s BHEL is enclosed herewith.

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Minutes of the "Local Committee for Patancheru-Bollaram Critically Polluted Area" meeting held on 02.05.2011 at 2.00 PM for reviewing the implementation of "Action Plan of Critically polluted area of Patancheru - Bollaram".

* * *

The following local committee members were present during the meeting:

i) Sri Dr. K. Mukkanti, Prof. and Head, Institute of Science and Technology, JNTUH

ii) Dr. A. Kishan Rao, NGO, Member of LAEC of SCMC, Patancheru

iii) Sri. Sunil Kulkarni, Associate Vice President, M/s. Matrix Labs

iv) Sri B. Madhusudhana Rao, JCEE (FAC), ZO, R.C.Puram.

At the outset, the JCEE (FAC), Zonal Office, R.C.Puram welcomed the committee members and explained the purpose for constituting the local committee for the critically polluted area of Patancheru - Bollaram. The JCEE (FAC) made a brief presentation to the committee members on the back ground situation of the critically polluted area, steps taken by the APPCB to reduce the pollution problems in Patancheru - Bollaram and the action plans furnished to the CPCB for improving the environmental parameters in the area. The JCEE (FAC) also made a presentation to the committee about the method of evaluation for Comprehensive Environmental Pollution Index (CEPI) for the Patancheru – Bollaram area and the calculations furnished by the Board to CPCB to reduce the CEPI index. He said that, initially the CPCB has given a CEPI score of 70.07 for the area and after the corrective steps taken by the APPCB for improving the environmental parameters in the area, the CEPI score was reduced to 47.33, which was accepted by CPCB. In this regard, an action plan was submitted to CPCB. Accordingly, the MoEF, lifted the moratorium in respect of Patancheru-Bollaram industrial area and changed the classification from "critically polluted area" to "normal". He requested the local committee to give their valuable suggestions for implementation of the action plan and monitor the improvements made by M/s.PETL and individual industries.

Dr. K. Mukkanti said that the post monitoring of the facilities created by the CETP and the member industries play a key role for keeping the Patancheru - Bollaram area in normal condition.

Dr.A. Kishan Rao, congratulated the Board for taking steps for reducing the industrial pollution in Patancheru – Bollaram area. However, he opined that strict vigilance shall be continued on the industries for implementation of action plans furnished by them to further control the pollution in the area. He also informed that, the Board shall concentrate on proper treatment and disposal of domestic sewage from M/s.BHEL and also from Patancheru village, which is still joining Isukavagu.

Sri. Sunil Kulkarni said that the maximum no. of industries have effectively implemented the zero liquid discharge systems with result M/s.PETL is achieving the standards consistently. He further said that this should be ensured on a permanent basis.

After the meeting, the committee visited M/s.PETL, Patancheru and its treatment units viz. Equalization unit, Clarifloculator, aeration unit, Secondary Clarifiers, Sludge Decanter and Membrane Bio Reactor and expressed satisfaction.

The Committee observed that M/s.PETL is receiving about 1300 KL of pre-treated industrial effluents as per the prescribed inlet standards, everyday and treating the effluents to the prescribed outlet standards i.e., pH-7.8 (Standard -5.5 to 9.0), TSS-47 mg/lt (Standard – 100 mg/lt), TDIS -1946 mg/lt (Standard – 2100 mg/lt), COD-247 mg/lt (Standard – 500 mg/lt) and Ammonical Nitrogen- 4 mg/lt (Standard – 50 mg/lt). The treated effluents are totally connected to 18 Km pipeline, ultimately joins Amberpet STP.

The Committee also observed that even the Amberpet Sewage Treatment Plant (STP) outlet is as per the prescribed standards for discharging in to surface waters i.e., pH- 7.57 (Standard -5.5 to 9.0), TSS-7 mg/lt (Standard – 100 mg/lt), TDIS – 813 mg/lt (Standard – 2100 mg/lt) and COD- 107 mg/lt (Standard – 500 mg/lt).

The Committee verified the online VOC, TDS, TOC and Flow meters installed at the outlet of M/s.PETL. They observed that the same results are displayed on the Board provided outside M/s.PETL for public information.

The Committee suggested M/s.PETL to re-use the treated effluents in the member industries after MBR.

The Committee proposed to visit the individual major industries who have submitted action plans for improvement of the environmental parameters in the area and also to see the operations of the STP of M/s. BHEL at Ramachandrapuram.

Sri Dr. K. Mukkanti
Prof. and Head for Centre for Chemical Sciences and Technology, Institute of Science and Technology, JNTU University, Kukatpally, Hyderabad.

Dr. A. Kishan Rao
NGO, Member of Local Area Expert Committee of Supreme Court Monitoring Committee, Patancheru, Medak District.

Sri. Sunil Kulkarni
Associate Vice President, M/s. Matrix Laboratories Ltd., representative of Bulk Drug Manufacturers Association (BDMA).

Joint Chief Environmental Engineer, Member Convener, Zonal Office, R.C.Puram, Medak district.