

Material for
Study Visit of the Department - related
Parliamentary Standing Committee
on Science & Technology, Environment &
Forests to Visakhapatnam
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Ministry of Environment & Forests
Govt. Of India

Visakhapatnam

Visakhapatnam is a port city on the southeast coast of India. With a population of 38.32 lakhs it is the second largest city in the state of Andhra Pradesh (after Hyderabad) and the third largest city on the east coast of India (after Chennai and Kolkata). Visakhapatnam is located 625 kilometres (388 miles) east of the state capital, Hyderabad. The city is home to several state-owned heavy industries and a steel plant; it is one of India's largest seaports and has the country's oldest shipyard. Visakhapatnam is the only natural harbour on the east coast of India. It is nestled among the hills of the Eastern Ghats and faces the Bay of Bengal on the east. Visakhapatnam is the administrative headquarters of Visakhapatnam district and headquarters of the Eastern Naval Command of the Indian Navy.

Environmental issues

Industrial Pollution

Due to vast industrial growth and result of environmental deterioration, Vizag city has been declared as one of the critically polluted areas in 1989.

Following the assessments carried out by expert committees and joint teams of Central and State pollution Control Boards, action plans were made for the improvement of environmental conditions.

CPCB study in 2009 identified Vizag in 40th place with CEPI score of 70.82 due to vast industrial activities with available harbour facilities and excellent infrastructure. Moratorium was imposed and APPCB submitted action plans identifying for each industry and municipal body for improvement of environmental parameters in Vizag. CPCB conducted monitoring, evaluation and reassessment of CEPI score in Visakhapatnam during February- April, 2013 and the CEPI score is

52.31 and depicted a decreasing trend as compared to CEPI score assessed in 2009 and 2011. Hence MoEF vide OM dated September 17, 2013 lifted moratorium in Visakhapatnam.

The following are the major industries in Visakhapatnam which have undertaken action plans:

1. M/s Essar Steels Limited
2. M/s Rain CII India Limited
3. M/s Andhra Petro Chemicals Limited
4. M/s Hindustan Petroleum Corporation Limited, Visakh Refinery
5. M/s Coromandel International Limited
6. M/s Hindustan Zinc Limited
7. M/s Visakhapatnam Port Trust

M/s Essar Steel Limited

Engaged in production of 22, 333 TPD of iron pellets from iron ore fines with a captive power plant of 25 MW.

All the wastewater generated from the industries is reused by the industry and also they purchase treated sewage water for green belt development and dust suppression.

The industry have complied most of the action plan points except installation of ESP for the unit PP-II and is expected to be completed by September 2013.

M/s Rain India Limited

Producing electrically conductive carbon from petroleum coke by pyrolysis with production capacity of 1460 TPD.

Industry has provided 6 m wall and sprinkler systems to arrest dust emission. Construction of additional stock yard was under progress. The industry has installed CAAQM.

M/s Andhra Petrochemicals

Andhra Petrochemicals Limited is involved in production of 166 TPD of 2 ethyl hexanol, 78 TPD of n-butanol and 8.4 TPD iso-butanol was commissioned in 1984.

The industry has completed all action plans including a stripper for volatile compounds from the effluent before sent to bioreactor.

M/s Hindustan Petroleum Corporation Limited (HPCL)

Commissioned in the year of 1957 has present refining capacity of 8.33 MMTPA of crude.

There are three ETPs for treatment of wastewaters and bioremediation technology is followed for remediation of low oil containing sludge.

M/s HPCL has installed sulphur recovery systems and air pollution control system in FCCU. Low sulphur fuel is used in all other heating processes. The industry has completed all the CEPI action plans recommended.

M/s Coromandal International Fertilizer

The fertilizer unit commissioned in 1964 is involved in production of 3900 TPD of complex fertilizer, 1700 TPD of Sulphuric acid and 700 TPD of phosphoric acid was.

The industry installed DCDA technology for sulphuric acid plant, stopped urea production and implemented dry gypsum generation in phosphoric acid plant. An ETP to achieve zero discharge is installed above ground level for removal of phosphate and fluoride.

The industry completed most of the CEPI action plans except complete disposal of gypsum sludge and zero discharge in liquid effluent

M/s Hindustan Zinc Limited

Production of zinc and cadmium and secondary production of sulphuric acid. It was started in 1978 and now it is temporarily closed.

ETP with RO system is available. The industry has completed all the action points of CEPI.

Vizag Port Trust

The port has completed some of the action plans however mechanization is partial only. It was noticed that that the material handling of the port is 67 million tons which is higher than the consented capacity of 46 million tons. Coal, iron ore, Fertilizers and others are the major materials handled by the port.

Major Industries outside the Bowl area:

M/s Rashtriya Ispat Nigam Limited: M/s. Rashtriya Ispat Nigam Limited, also known as Visakhapatnam Steel Plant (VSP) is located in Visakhapatnam, AP. The plant was commissioned in 1992. It is an integrated iron & steel plant with capacity of 3 MTPA Crude Steel (CS). RINL-VSP is undergoing expansion program targeting production capacity of 6.3 MTPA of liquid steel. The process of steel making is through BF-BOF route. The main facilities at VSP includes 4 coke oven batteries, 2 sinter plants, 2 blast furnace, 3 LD convertors and mills.

Reported by APPCB, VSP is complying to effluent and emission norms and Particulate Matter emissions at VSP is 0.61 kg/TCS. VSP has specific water consumption of 2.58 m³/TCS best achievable in India.

New and cleaner technologies such as recovery of waste heat from hot coke, generation of power in gas expansion turbine from high pressure gas at BF top, utilization of LD gas as fuel, generation of process steam by recovery of heat in reheating furnaces in mills etc. are taken up for implementation during its modernization and expansion program.

Based on the data submitted in environmental statements, the environmental performance of the plant is satisfactory. The plant was monitored for coke oven effluent samples from MBC treatment plant during an inspection held on during July 17-18, 2012 and was found to be complying for all parameters except cyanide.

M/s Simhadri NTPC: The coal based superheat thermal power plant generates 1000MW through two units. The unit is complying with reference to air standards and also achieving 100 % utilization of fly ash.

Jawaharlal Nehru Pharmacy: It was developed by Government of Andhra Pradesh and M/s Ramky Group in 2006 for accommodation of around 200 pharmaceutical industries. At present around 43 industries are existing and all are connected to a CETP. The CETP (4.5 MLD) is equipped with evaporators and biological treatment methods for high TDS and low TDS effluents. The final discharge of the effluent is into the marine out fall. The discharges from the guard ponds take place after the approval of APPCB local office.

Industries:The Industries around vishakapatnam is as below:

Category	No. of industries
Green	48
Orange	210
Red	169
Total	427

Sewage Management: The entire area of Greater Vishakhapatnam Municipal Corporation(GVMC) is divided into 20 sewerage blocks. A 10 MLD STP in the port area is operated by M/s Vishakhapatnam Port Trust to treat sewage mainly by activated sludge process. A 25 MLD STP at Appughar on beach road is maintained by M/s GVMC and treated sewage is discharged into sea. Another 38MLD STP is operated by M/s GVMC at Old town and part of treated sewage is taken by M/s Essar Steels and partly discharged into sea.

Municipal Solid waste Management: More than 700 TPD of municipal solid waste is generated from Vishakhapatnam which is currently being disposed at Kapulauppada in un-scientific manner. Though GVMC has identified two sites one at Tarluvada village (500 acres) and another at Krishnapuram -350 acres for setting up of scientific landfill

and a bio-methanization plant; presently waste is still being dumped at Kapulauppada village.

Bio-medical Waste Management: Visakhapatnam district is having 324 Health Care Establishments covering 7671 beds. M/s Maridi Eco Industries (Andhra) Pvt. Ltd (Sy. No. 314, Kapulupada, bheemunipatnam (M), Visakhapatnam) is the common bio-medical incinerator of 250 Kg/hr capacity existing in the district and reported that it is collecting about 400 Kg/day of bio-medical waste.

TSDF Facilities: There is a TSDF site for handling of 1.2 lakh tons of landfill waste per annum and incinerator with capacity of 1.5 TPH. Both are in operation.

Salient points of environmental monitoring:

NAMP stations- 8nos. Monitoring twice in a week	Type	Location
	R	Industrial estate, Marripalem
	R	Panchayat Raj office, Mindi
	R	Police barracks
	R	Seetammadhara
	R	Ganapuram area
	S	INS, Virabahu
	I	APEPDCL, Pedagantyada
	I	Office building of CETP, Parawada
CAAQM-2 nos	Location	Parameters monitored
	GVMC	PM10, CO, O3, NOx, NH3 & Benzene
	APIIC	
Real time Noise monitoring stations- 2nos	Zoo park Junction	
	Siripuram Jn	
Water quality monitoring stations- Surface water monitoring is done monthly while ground water twice in a year.	Old stations-13 nos New stations-7 nos Total-20 nos	

Air Quality:

Vishakapatnam	2009			2010			2011			2012		
	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
	11	26	93	7	16	71	13	21	80	12	13	65

Ambient Air quality data with respect to SO₂ & NO₂ revealed that Visakapatnam are within the standard (NAAQS) of 50ug/m³ (annual standard for SO₂) & 40ug/m³ (annual standard for NO₂ respectively. With respect to PM₁₀, Visakapatnam is not meeting the national standard (NAAQS) of 60ug/m³ (annual Standard).

Vehicular Pollution Control:

Total number of vehicles registered in Vishakhapatnam is 8,13,000. The transport department is implementing emission norms stipulated to the vehicles by issuing PUC certificate (6 months validity from date of issue) and monitoring pollution levels through 40 test centres existing at Visakhapatnam. As per G.O.M's No. 238 dated 23.11.2006 of the Govt. of A.P, green tax is levied as follows

S.N	Class of vehicles	Tax levied
1	Transport vehicles that have completed 7 years of age from the date of their registration	200 /- annum
2	Motor cycles	250/- (for 5 years)
3	Other than Motor cycles	500/- (for 5 years)

Green tax is not levied on vehicles operated by LPG, CNG, battery or solar power. Additional tax is levied on second vehicle.