

01	Thermax Ltd.	Plot No. 903/1, GIDC Estate, Jhagadia, Bharuch,	Appraisal
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Project / Activity No.: 5(f)

Project status: Expansion

Chronology of EC Process:

- M/s: Thermax Ltd.(Unit-1) (herein after Project Proponent – PP) has submitted their application for this expansion project at MoEF vide letter dated 01/02/2012 as the project site is located within 10 KM from the critically polluted area as notified by the CPCB.
- TOR awarded by MoEF vide letter dated on 20/02/2013.
- PP has submitted final EIA/EMP report to MoEF&CC on 18/04/2014.
- MoEF&CC has transferred this case vide F.no. J-11011/108/2013-IA II (I) dated 15/02/2015 as per amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25.06.2014. As per amendment notification dated 25.06.2015, any project or activity specified in category 'B' will be appraised at the central level as category 'A' located in whole or in part within 5 km from the boundary of critically polluted areas as identified by the CPCB. The proposed project is located at a distance of 9 km from Ankleshwar Industrial Estate (Critically Polluted Area).
- Final EIA Report prepared by M/s: Aqua-Air Environmental Engineers Pvt. Ltd., Surat was submitted project proponent vide their no. NIL dated 07/05/2015.
- During the meeting held on 09/06/2016, the project was appraised based on the information furnished in the EIA Report and the details presented before the committee.
- The study period considered for EIA was October to December 2012. Air quality monitoring was carried out at eight locations. During the study period average concentration of all the conventional and project specific parameters such as Particulate Matter (PM10), Particulate Matter (PM2.5), Sulphur Dioxide (SO2), Oxides of Nitrogen (NOx), Ozone (O3), Lead (Pb), Carbon Monoxide (CO), Ammonia (NH3), Benzene (C6H6), Benzo (a) Pyrene (BaP), Arsenic (AS), Nickel (Ni), Fluoride, HC (Methane & Non-Methane) & VOCs were well within prescribed limit at all locations. The Industrial Source Complex – Short Term (ISCST3) dispersion model is a steady-state Gaussian plume model which is used for the prediction of maximum ground level concentration (GLC). Ground level concentrations calculated for proposed activities are superimposed on existing ambient air quality monitoring results and combined values are found within permissible National Ambient Air Quality Standards.
- Proposed expansion will be within the existing industry which is located in notified industrial area and thus public hearing is exempted as per MoEF&CC Office Memorandum no. J – 11013/36/2014-IA-I dated 10/12/2014.
- During the meeting on 09/06/2015, Committee noted that PP is achieving zero discharge at present and now proposes to discharge total effluent into pipeline of NCTL after treatment. On asking, PP informed that unit operates as ZLD as new Jhagadia pipeline of NCTL is not put in operation at present; however, they have obtained permission to discharge their effluent into pipeline of NCTL. Committee asked to submit the status of NCTL pipeline and membership certificate with discharge quantity. Committee noted that PP has not given stage wise characteristics of waste water effluent treatment. While discussing about action plan for odour problem of Mercaptan, PP informed that small quantity of Odorous chemicals like Mercaptan is used (2 kg / batch) with proper safety precaution and APCM provided to adsorb the odorous substance. On asking about control of fugitive emissions, PP assured that they will take all the precautionary measures to prevent and control fugitive emissions. They have proposed VOC

detectors at various places to identify any fugitive emissions. After deliberation, It was unanimously decided to consider the project for appraisal only after submission of the following: (1) Justification for discharging waste water in to NCTL pipeline for proposed expansion instead of doing existing practice of ZLD by complete reuse / recycle of treated effluent within the premises. Exact quantity of treated effluent to be discharge into pipeline of NCTL, present status of NCTL pipeline and Permission letter from NCTL with quantity in KL/day. (2) Details of segregation of the wastewater streams to be carried out, if any and plans for management and disposal of different waste water streams to be generated. Stage wise qualitative and quantitative analysis of waste water to be generated from the manufacturing process of each product to be manufactured along with mass balance. (3) Explore the possibility of reuse / recycle and other cleaner production options for reduction of wastes. Details of methods to be adopted for the water conservation. (4) Details of management of the hazardous wastes to be generated from the project stating detail of Source of generation, storage area for each type of waste, its handling and its disposal. Methodology of de-contamination and disposal of discarded containers and its record keeping. Explore the possibilities for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF. (5) An undertaking by the Project Proponent on the ownership of the EIA report as per the MoEF&CC OM dated 05/10/2011 and an undertaking by the Consultant regarding the prescribed TORs have been complied with and the data submitted is factually correct as per the MoEF&CC OM dated 04/08/2009. (6) Copy a certified report of the latest status of compliance of the conditions stipulated in the environmental clearance for the existing operation of the project by the Regional Office of the MoEF&CC. (7) Summary & Conclusion as per the generic structure given in Appendix III A of the EIA Notification 2006.

- PP has submitted point wise reply of above mentioned queries vide letter their dated 08/09/2015, which was received on dated 16/09/2015. . (Online Proposal no.SIA/GJ/IND2/1611/2015)

Project / Activity Details:

This is an existing unit, engaged in manufacturing of Synthetic Organic Chemicals and now applied for expansion as tabulated below:

Sr. no.	Product Name	Existing (MT/Month)	Additional (MT/Month)	Total after expansion MT/Month
1.	PPG: Performance Product Group	700	-	700
2.	Paper Chemicals	1000	-	1000
3.	OFC: Oil Field Chemicals	180	-	180
4.	Construction Chemical Products	-	1500	1500
5.	Technical Grade Products -PolyNaphthalene Sulfonate (PNS) -Polymelamine Sulfonate(PMS)	-		

	-PolyCarboxylate Ether (PCE)			
Total		1880	1500	3380

The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006. Plot area is @ 69618 sq. m. Unit has proposed 23206 sq. m area for green belt development. Estimated cost of proposed expansion is Rs. 14 Crores. Fresh water requirement after proposed expansion will be increased from 100 KL/day to 156 KL/day (13 KL Domestic & 143 KL Industrial) which will be supplied by the GIDC. Industrial Wastewater generation after the expansion will be increased from 22 KL/day to 39 KL/day. At present unit operates as ZLD (Zero Liquid Discharge) as new Jhagadia pipeline of NCTL is not put in operation. At present unit is having Primary, Secondary & Tertiary ETP followed by RO & MEE. They have installed RO plant having capacity of 11 m³/day and MEE plant having capacity of 10 m³/day. Unit has proposed additional ETP for proposed expansion. After proposed expansion industrial and domestic wastewater will be treated in effluent treatment plants and the final treated effluent will be collected in Treated Effluent Sump (TES) before final discharge through underground pipeline of Narmada Clean Tech Ltd. (NCTL) to deep sea (Arabian Sea). There is no proposal for reuse/recycling of waste water after proposed expansion. At present unit has provided one Boiler (1 TPH) and one DG set. HSD or Natural gas is used as fuel for Boiler & DG set. Now unit has proposed one Boiler (1 TPH) & one DG set. Natural gas (3600 SCM/day) or HSD (1440 Kg/day) will be used proposed Boiler (1 TPH). One DG set (500 KVA) is proposed for emergency purpose in which Natural gas (200 SCM/hr) or (HSD 80 Kg/hr) will be used as fuel. Natural Gas 8700 m³/day (5100 m³/day Existing + 3600 m³/day Additional Proposed), Diesel 3360 Kg/Day (1920 Kg/Day Existing + 1440 Kg/Day Additional Proposed) will be used as a fuel. PP presented that both boilers and DG sets will be operated on natural gas. In case of non availability of natural gas, boiler and DG set will be operated on HSD. Existing APCM for process vents: Unit has provided Water scrubber with Vent of PPG plant to control SPM, Sodium hypochlorite scrubber followed by carbon Adsorber with PPG plant to adsorb Mercaptan, Water Scrubber followed by carbon Adsorber with vent of OFC plant to control Solvent Heptanes and Water scrubber with the vent of Paper Chemicals plant to control SPM (fumes). Bag filter is provided with the blender vent of PPG fireside chemicals for the control of particulate emission. The vent lines of the receiver as well as the reactor of Formulation section are connected to two stage scrubbing system with sodium hypochlorite as the scrubbing medium to control odorous chemicals like Mercaptan. Finally the vent is connected to a carbon adsorber.

PP presented that there is no evolution of any process gas from formulation section of PPG or paper chemicals; however, all the reactors are connected to a water scrubber as a measure of safety. Proposed APCM for process vents: water scrubbers as APCM with vents of Formulation plants to control solvent vapour & SPM, Ventury Water scrubber followed by carbon absorber as APCM with process vent of Storage plant to control solvent vapor, Water scrubber as APCM with process vent of Formulation plant to control fumes & SPM and Bag filter as APCM with process vent of Construction chemical plant to control SPM. ETP waste (4 MT/Month) will be disposed off at TSDF site of BEIL, Ankleshwar. Discarded barrels / containers / bags / liners will be either reused or returned back to suppliers or sold only to the authorized vendors after decontamination. Used oil (0.08 MT/Month) will be sold only to the registered recyclers. Incinerable waste (2 MT/Month) will be sent to CHWIF of BEIL at Ankleshwar.

Observations/Discussions:

Technical presentation during the meeting included the Point wise compliance including technical details. PP submitted that they have limited open land for land irrigation and they not able to recycle treated effluent for any industrial use. Unit has submitted certificate from NCT regarding status of the pipeline and booked quantity for discharge into Jhaghadia Pipeline. Details regarding the segregation of

the wastewater streams and product wise information is submitted. However, stage wise qualitative analysis of waste water and stage wise reduction details are not adequate. PP stated that they have adopted recycle methods to reduce effluent generation and they will implement the rain water harvesting system. Details of hazardous waste management are submitted with commitment to explore the possibilities for co-processing of the HW prior to disposal into TSDF/CHWIF. Undertakings by the Project Proponent on the ownership of the EIA report and by the Consultant regarding the compliance of the prescribed TORs are submitted. Monitoring report by RO-Bhopal, MoEF&CC and its compliance status is submitted by the PP. However, it was observed that the Plant lay out submitted are not readable and committee was not convinced with the compliance status submitted for point no. 2 of general conditions in EC. After deliberation, It was unanimously decided to consider the project for further consideration only after submission of (1) the factual supportive documents for non-complied & partly complied points mentioned in the certified compliance report of the Regional Office of the MoEF&CC & (2) Stage wise qualitative and quantitative analysis of waste water (stage wise % reduction of main parameters of effluent).