

Project Brief

Reliance Industries Ltd (RIL), Dahej Manufacturing Division (DMD) is manufacturing variety of petrochemicals and downstream products viz ethylene, propylene, EDC, EO/EG, PTA, PET, PVC etc. RIL-DMD is located within the declared industrial area notified by Govt. of Gujarat at Dahej in Bharuch District in the state of Gujarat. The nearest rail station is at Baruch situated ~43 km from the site & the nearest airport is Vadodara Airport which is at a distance of ~95 km.

Dahej petrochemical manufacturing facility is proposing to debottleneck the existing plants which includes Gas Cracker (GC), Chlor Alkali (CA), Vinyl Chloride Monomer (VCM), Poly Vinyl Chloride (PVC), Ethylene Oxide/Ethylene Glycol (EO/EG), HDPE, Ethylene Vinyl Acetate (EVA). This proposal also includes setting up of new plant including Chlorinated Poly Vinyl Chloride (CPVC), Vinyl Chloride Monomer (VCM), Poly Vinyl Chloride (PVC) and Ethane Storage Tank. These plants will be located within the existing RIL DMD spread over 700 hectares. Hence, no additional land is required for the proposed project.

Gas Cracker plant is the mother plant of RIL-DMD which produces Ethylene and Propylene as a product and the same is used as a raw material in downstream plants. At present, major feed stock for cracker is from the ONGC Ghandhar field and propane is either imported or from RIL refinery at Jamnagar. A continuous reduction of feed stock supply from ONGC is envisaged. In view of reducing feed availability an alternative feedstock had to be identified to maintain the market leadership in Petchem sector and also to sustain operation of Cracker as a long term solution. Now, in view of Shale gas ethane availability, it is planned to create flexibility of cracking ethane in the process and increase existing plant capacity. The cold energy of the ethane will be utilized for increasing the capacity of the Gas cracker unit to produce more ethylene. This additional ethylene will be utilized in the existing operating unit to increase the capacity marginally by way of debottlenecking.

The DMD petrochemical plant has an integrated utilities system which includes plants for the treatment and distribution of raw water, steam/condensate, cooling water, DM water, fire water, compressed air, nitrogen & CCPP. Whereas offsite facilities includes the storage, receipts & transfer, loading and unloading of chemicals, products and by-products. The proposed DBN as well as the proposed new CPVC plant shall utilize the existing utilities during its operations and no expansion is proposed. However, for the proposed new VCM & PVC plant, new facilities such as Cooling Tower, Air Separation unit & Compressed air systems are envisaged.

The proposed expansion & debottlenecking at DMD shall not have any significant adverse impact on the environment setting of the region. In the proposed project, natural gas is used as fuel for combustion, which is a clean fuel. Hence, emission of SO₂ will be negligible, NO_x will be generated from the GC furnaces and such emissions shall be controlled and will be within stipulated standards. PM emission is envisaged from the process plants, although negligible, adequate measures shall be in place to control such emissions within stipulated standards. Adequate systems shall be in place to control fugitive emissions in the form of VOCs envisaged from proposed project. In the proposed project an additional furnace shall be installed in the GC and the new VCM plant. The furnace at GC will be equipped with a stack of ~ 38 m & the furnace at new VCM plant will be equipped with a stack of ~62 m height from the ground level to disperse the emissions adequately. At the newly proposed CPVC plant, Chlorine scrubbing system will be installed to prevent accidental release of chlorine into atmosphere. At the new VCM plant, an incinerator is proposed to burn out the heavy hydrocarbon generated from EDC cracking process. Adequate control system shall be in place

such as HCL scrubbing to keep emissions within stipulated standards. No adverse environmental impact is envisaged due to withdrawal of water by DMD. The water requirement of ~ 61,484 m³/d for the proposed project will be met by Irrigation Dept. & GIDC, Govt. of Gujarat. The wastewater generated from the proposed project will be treated at the existing wastewater treatment plant. All Hazardous material are handled as per MSIHC and HWM rules. The existing green belt spread in an area of ~231 Ha shall be strengthen during this proposed project.

The existing manpower at DMD of ~1933 persons would be utilized in the proposed expansion & debottlenecking activities & for the proposed new plants of CPVC, VCM, PVC & Ethane Storage Tank ~300 persons will be employed on regular basis. During the construction activity of CPVC, VCM, PVC & Ethane Storage tank local labor from the nearby region will be employed based on skill sets. The Capex for the proposed project is ~ Rs. 13,250 crores & is planned to be completed in ~ 27 months from the date of inception.