DEENDAYAL PORT TRUST

PRE-FEASIBLITY REPORT
FOR
PROPOSED REPLACEMENT AND REVAMPING OF PIPELINE NETWORK AT OIL JETTY AREA, DEENDAYAL PORT, KANDLA

(Prepared as Part of Application for Terms of Reference for EIA Studies as per Notification No. J-11013/41/2006-IA.II(I) dated 30th Dec., 2010)

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EXECUTIVE SUMMARY

The salient features of the project include:

Proposal	Replacement and Revamping of Pipeline network at Oil Jetty Area, Deendayal Port Trust, Kandla. Proposed project envisages replacement of the Existing Pipelines along with allied structures leading from Oil Jetties to the Y-Junction with Pipelines of higher capacity for improving the efficiency and safety for handling Edible Oils, Chemicals and utilities as Air & Water.
Location of Project	Deendayal Port Trust area, Kandla, Gandhidham Taluk, Kachchh Dist., Gujarat. (on western bank of Kandla Creek)
Latitude	23°01'31.3"N to 23°02'16.5"N*(Oil Jetty Area to be revamped)*
Longitude	70°13'05.6"E to 70°13'22.9"E*(Oil Jetty Area to be revamped)*
Land Use	The existing pipelines cross over concrete structures well above the water line. The land portion of the pipelines pass along dedicated routes. The entire route is within the premises of Deendayal Port.
Capacity	Existing Cargo Throughput of Oil Jetties whose pipelines are proposed to be revamped & replaced: 8 Million Tonnes per Year. Cargo Throughput of Oil Jetties whose pipelines are proposed to be revamped & replaced after Revamping: 10 million tonnes per year.
Resource Consumption (During Construction)	LPG: 14 t; Oxygen: 63000 Nm^3; In addition HSD shall also be consumed by diesel powered construction machinery.
Waste Generation	Expected to be 3500 t of scrapped steel pipes and supports
Waste disposal	Will auctioned off as scrap
Material Transport (During Construction)	By trucks and mobile cranes
Dredging Quantity	No dredging will be required
Water Demand for proposed project.	The domestic water requirement for the existing Oil jetty area is 200 KLD and it will remain unchanged after proposed revamping and replacement of the pipelines.
Source of water	Domestic purposes: Supplied by Gujarat Water Supply and Sewerage Board. Shortfall, if any, supplied in tankers.
Man Power	Revamped pipelines will be operated by external O&M agency hired by DPT.
Electricity Demand	*The power requirement for the proposed activity of replacement & revamping of existing pipelines will not change from existing requirement and will not require any additional power. The total power supply situation of existing Deendayal port is as follows:* • *Existing contract demand for electricity is 4.1 MW.* • *Maximum monthly electricity consumption during April, 2016 – Nov., 2017 was ~1.31 million units (in May,'17).* • *The existing power supply is from the grid.* • *2 x 1000 KVA DG Set have been installed for emergency power supply*
Proposed Investment	Rs.170.42 Crores

1.0 INTRODUCTION

Deendayal Port, Kandla is a major port located at the north-western apex of the Gulf of Kutch in Gandhidham Taluk of Kachchh District of Gujarat. The port is presently handling 100 Million Tonnes Per Year (Mt/yr) of cargo which is the highest amongst all Indian Ports. The cargo handled at Deendayal Port comprises of a mix of liquid cargo (crude oil, POL Products, Chemicals, Edible Oil etc.) and dry cargo (coal, ores, fertilisers & fertiliser raw materials, steel goods, containerised cargo etc.).

Presently Deendayal Port Trust has six nos. oil jetties located on the western side of Kandla Creek. The jetties themselves are located ~130 m - ~220 m offshore. The Jetties are linked to the shore by concrete bridges which also carry power lines and pipelines. The pipelines form the six oil jetties converge at "Y Junction" on the shore from where pipes lead to various storage facilities.

Deendayal Port Trust has decided to revamp the existing pipeline network leading from Oil Jetties, 1, 2, 3 & 4. Some of the existing pipelines along with allied structures leading from Oil Jetties to the Y-Junction will be replaced by pipelines of higher capacity for improving the efficiency and safety for handling Edible Oils, Chemicals and utilities as Air & Water. This will enable increased cargo-throughput and cargo mix.

This is the Pre-Feasibility Report for the Proposed Pipeline Replacement & Revamping Project. This report has been prepared on the basis of two reports:

1. "Study of Oil Pipelines & Improving the Network for Efficient, Smooth Handling of Liquid Cargo at Deendayal Port, Kandla" prepared by M/s Howe Engineering Projects (India) Pvt. Limited.
2. "Project Inception Report of Replacement and Revamping of Pipeline Network at Oil Jetties Area, Kandla" prepared by M/S MECON Limited.

The report including this introduction chapter includes:

- Introduction of the Project / Background Information
  - Identification of the Project and the Project Proponent
  - Brief Information of the Project
  - Need for the Project and its Importance to the Country or Region
  - Demand and Supply
  - Import vs. Indigenous Production
  - Export Possibilities
  - Domestic / Export Market
  - Employment Generation
- Project Description
  - Type of Project including Interlinked and Interdependent Project
  - Location
  - Details of Alternate Site
  - Size and Magnitude of Operation
  - Project Description
  - Raw Materials
  - Resource Optimization / Recycling and Resource
  - Site Services
  - Wastes
- Site Analysis
  - Connectivity
  - Land Form, Land Use, Ownership
  - Land use
  - Existing infrastructure
  - Soil classification

- Climate
- Social infrastructure available

- Planning Brief
  - Planning Concept
  - Land Use Planning
  - Assessment of Infrastructure Demand
  - Amenities / Facilities
- Proposed infrastructure
- Resettlement and Rehabilitation Plan
- Project Schedule and Cost Estimate

ACKNOWLEDGEMENT

MECON wishes to place on record its deep appreciation for the trust reposed in MECON by DPT and for the active interest and help extended by DPT officials.

2.0 INTRODUCTION OF THE PROJECT / BACKGROUND INFORMATION:

2.1 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT:

Kandla, also known as the Deendayal Port Trust is a seaport in Kutch District of Gujarat state in western India, near the city of Gandhidham. The Deendayal Port is situated in the Kandla Creek and is about 90 kms. from the mouth of Gulf of Kachchh.

Deendayal Port's journey began in 1931 with construction of RCC Jetty by Maharao Khengarji. Located on the Gulf of Kutch, it is one of major ports on west coast. Kandla was constructed in the 1950s as the chief seaport serving western India, after the partition of India from Pakistan left the port of Karachi in Pakistan. The Port of Deendayal is located on the Gulf of Kutch on the northwestern coast of India some 256 nautical miles southeast of the Port of Karachi in Pakistan and over 430 nautical miles north-northwest of the Port of Mumbai (Bombay). It is the largest port of India by volume of cargo handled. It rose to the No. 1 Port in India in the year 2007-08 and since then retained the position for the 9"' consecutive year. The port handled 72.225 million tonnes (Mt) of cargo in 2008-09, over 11% more than the previous year. Even as much of this growth has come from handling of crude oil imports, mainly for Essar Oil's Vadinar refinery in Gujarat, the port is also taking measures to boost non-POL cargo. Last fiscal, POL traffic accounted for 63 per cent of the total cargo handled at Deendayal Port, as against 59% in 2007-08. On 31.03.2016, Deendayal Port created history by handling 100 MMT cargos in a year - the first Major Port to achieve the milestone.

2.2 BRIEF INFORMATION OF THE PROJECT:

Proposed project envisages replacement of the Existing Pipelines along with allied structures leading from Oil Jetties to the Y-Junction with Pipelines of higher capacity for improving the efficiency and safety for handling Edible Oils, Chemicals and utilities as Air & Water. The entire work will be carried out within the port's existing premises. No clearance of vegetation will be required.

This will not only increase cargo-throughput (from 8 to 10 million tonnes per year) but also increase cargo-mix. The new pipeline system will be operated by an external O&M agency hired by Deendayal Port Trust. Hence there shall be no employment generation except during the construction phase.

2.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY OR REGION :

Kandla is the nearest port for most of northern India comprising of the states of Rajasthan, Punjab, Haryana, Himachal Pradesh, Delhi, Jammu & Kashmir, Uttarakhand and parts of Uttar Pradesh. Many industries have also come up in the Kachchh & Saurashtra Regions of Gujarat, which use the port for import of raw materials and export of finished goods.

The proposed project is designed to increase cargo handling capacity of the port, which will reduce turn-around time of ships. The improved efficiency will benefit shipping companies as well as port users by reducing costs. Increased cargo-throughput will also increase Deendayal Port's income.

2.4 DEMAND AND SUPPLY GAP :

Not applicable as proposed project envisages scrapping of some existing pipelines and laying new pipelines of higher capacity.

2.5 IMPORT VS INDIGENOUS PRODUCTION :

Not applicable as proposed project envisages scrapping of some existing pipelines and laying new pipelines of higher capacity.

2.6 EXPORT POSSIBILITIES :

Not applicable as proposed project envisages scrapping of some existing pipelines and laying new pipelines of higher capacity.

2.7 DOMESTIC / EXPORT MARKET :

Not applicable as proposed project envisages scrapping of some existing pipelines and laying new pipelines of higher capacity.

2.8 EMPLOYMENT GENERATION:

Presently Deendayal Port Trust employs 2634 persons. It is expected that maximum ~200 workers will be directly engaged at any given time during construction. These will be contractors' workers. The revamped pipelines will be operated by an external O&M agency hired by DPT.

3.0 PROJECT DESCRIPTION

3.1 TYPE OF PROJECT INCLUDING INTERLINKED AND INTER-DEPENDENT PROJECT

The proposed project falls under Category "A", as per EIA notification – 2006, Amendment Nov.-2009 & April -2011 of the Ministry of Environment &Forest, New Delhi.

3.2 LOCATION:

The project area is located in the oil jetty area of Deendayal Port, Kandla. The area falls under the villages of Tekra and Kandla in Gandhidham Taluk of Kachchh District of Gujaratbetween latitudes 23°01'36.2"N and 23°02'04.3"N and longitudes 70°13'02.7"E and 70°13'23.4"E.It may please be noted that Deendyayal Port extends well beyond these latitudes & longitudes.

3.3 DETAILS OF ALTERNATE SITE:

The present project envisages revamping of existing pipelines. Hence consideration of alternate sites is not applicable

3.4 SIZE AND MAGNITUDE OF OPERATION:

3.4.1 Existing Facilities at Deendayal Port

Total custom bonded Port Area inside the custom fencing is about 330 Hectares.

Deendayal Port Handled 100.05 MMT of cargo during the year 2015-16 and handled 105.00 MMT in the F.Y. 2016-17.

Existing Facilities at Kandla:

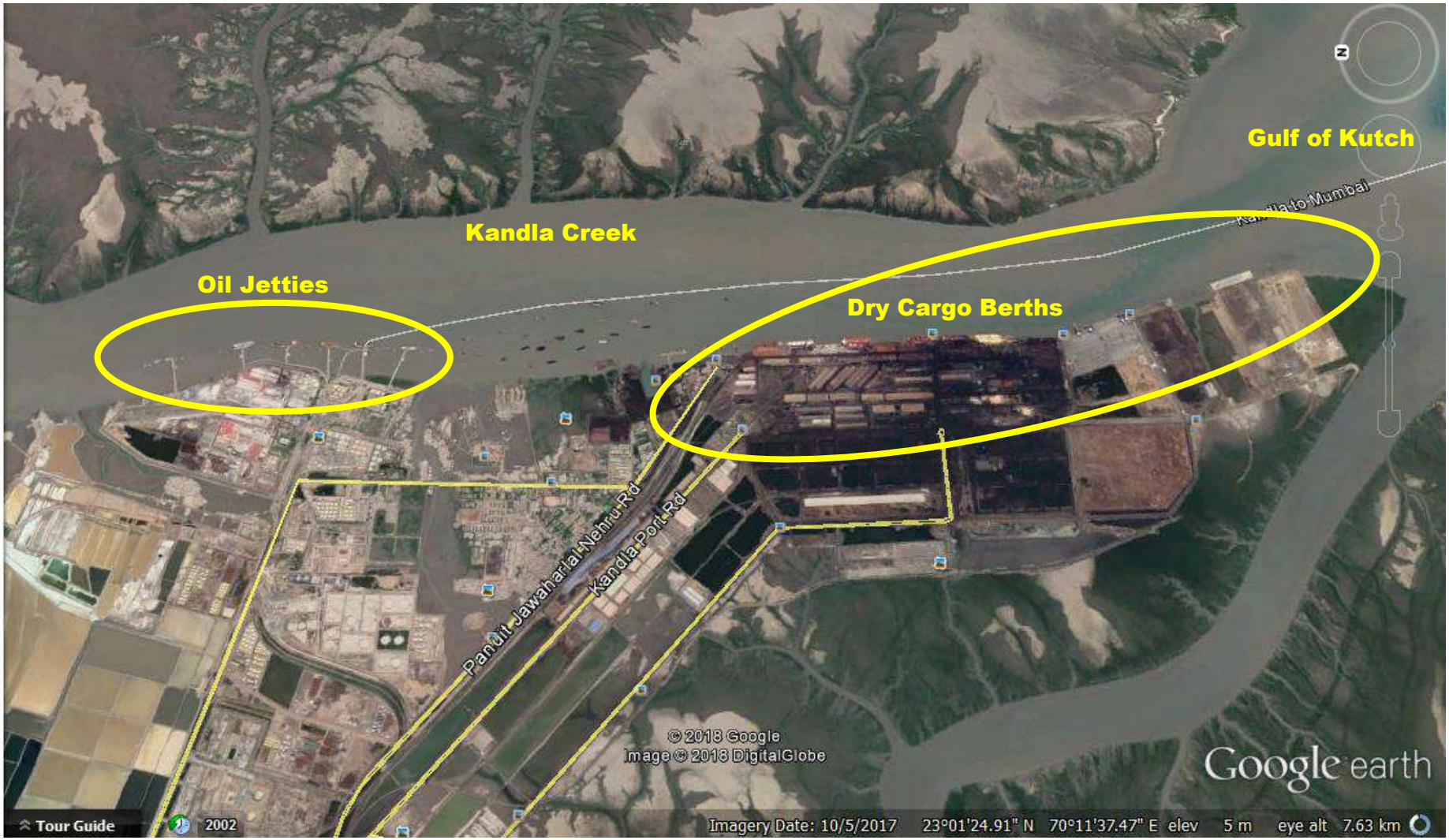
- 14 Dry cargo berths are available with Quay length of 3150 mtrs.
- Six oil jetties for handling POL products and other liquid cargo traffic at Kandla within Kandla Creek (see **Fig.1**)
- Dry bulk Terminal for handling Dry Bulk Cargo at Tuna Tekra with quay length of 1.2 km.
- Two Cargo moorings in the inner Harbour area for stream handling.

In addition Deendayal Port also operates three Single Buoy Mooring (SBM) at Vadinar in Jamnagar District.

Chemical & Liquid Handling Complex.

- Total Storage Capacity: 26.41 Lakh KL.
- Private Sector Storage Terminals: 16368 Lakh KL.
- Public sector & Co-operative undertakings: 9.73 Lakh KL.
- Loading arms for loading and unloading simultaneously.
- Near zero waiting Period for Vessels.
- Capacity Utilization at international levels ensuring Demurrage Free handling.
- Excellent discharge rates & faster turnaround.
- Lowest vessel related charges and Wharfage Charges.
- Suitable for ABC, A,B,C, LG, NG, EO Classless of Liquid & Chemicals.
- Tanks for storage of all categories of Liquid Cargoes like chemicals, LPG, Cryogenic Cargoes, Ammonia, Acids, Petroleum products and Edible Oils etc.
- Efficient handling ensuring minimum losses.
- Sophisticated pipeline Network (including stainless steel pipes).
- Sufficient parking space inside and outside the storage facilities.

Port presently has 6 oil Jetties (see **Fig.2**) of which the first four Oil Jetties, constructed during 1975 to 2000 belong to Deendayal port authority. The fifth oil jetty was constructed as a captive facility to cater to the needs of M/s IFFCO. The sixth Liquid cargo berth was developed as a captive facility jointly by IOCL and BPCL, is meant for use by Public sector oil companies Viz., IOCL, HPCL and BPCL. The pipelines in respect of captive jetties of IFFCO and IOCL in Oil jetty no 5 and 6 respectively are owned, operated and maintained by respective captive users. In order to cater to the increasing needs of Liquid cargo handling the port has taken up construction of Oil Jetty No. 7 at Old Kandla for which work order has been awarded



Fig; Google Earth Image of Deenadayal Port Area

Figure: 2- Google Earth Image of Oil Jetty Area

The Deendayal Port oil jetties can service vessels up to 10.70m draft. The port is planning to deepen the entrance of the Sogal Channel to 13m. The new Oil Jetty No 7 and the bunkering oil jetty will be designed to cater for the vessels up to 13m draught.

The Port has been growing steadily and to keep pace with the growing demand of the trade, it has been continuously upgrading its infrastructure. Deendayal Port which handled 8.44 Lakh tones in1957-58 is now handling 105 Million Tonnes Per Year (Mt/yr) and retains the number one position among all major ports in terms of volume of cargo handled.

3.5 PROJECT DESCRIPTION

The Liquid cargo handling facilities in Deendayal Port got developed over the last few decades with addition of oil jetties in a phased manner matching with increase in size and number of storage terminals. Consequently the number of pipe lines laid from each of the four jetties got multiplied and all converging at a junction called Y Junction before going out of port boundary. As the construction of jetties, laying of pipe lines from each jetty by public sector oil companies, various private terminal operators for edible oil and chemicals have all taken place over a long period of time and such development did not follow through a well-defined pipeline corridor, the lines have been laid without much clarity on routing and alignment. This has created a perplexing situation of a maze of pipelines crisscrossing each other. The whole area is filled with a flood of pipe lines presenting a bewildering picture of a challenging puzzle. As a result, the terminal operators who laid these pipe lines themselves find it not easy to identify own their respective lines, routing etc., thus impacting their safe operation and effective maintenance. With increasing demand for import of edible oils and chemicals the port has proposed for developing additional land area to put up new terminals. In line with this the port authority has permitted development of a site comprising of 19 plots adjacent to existing IOCL's terminal and allotted most of them. The allottees for these new terminals have already started developing their facilities and are now looking forward for permission from port to lay their own pipe lines from Port's Y junction to their upcoming terminals in the 19 plot area.

3.5.1 The Present Proposal

The present proposal envisages scrapping of certain pipelines and construction of new pipelines. The details are as follows:

Location	Pipelines to be Scrapped	New Pipelines to Be Laid	Remarks
Oil Jetty 1	Two nos. 12" dia. Marine loading arms along with 2 nos. 3"dia slop lines.	5 no 14"dia edible oil lines	❖ Removal of all pipelines (with certain exceptions) will be done by respective stakeholders phase-wise. ❖ 2 nos. IOC LPG 20"dia.pipelines on top deck to be retained. ❖ All lines to be erected between structural columns.
	1 no. 20"dia. Flushing line	8 nos. 10" dia. Chemical Lines	
	1 no. 8" dia. water supply line.	2 nos. air-line	
	Existing Edible Oils and Chemicals Pipelines	1 no. water supply line	
Oil Jetty 2	1 no. 20"dia. Flushing line	5 nos. 14"dia edible oil lines	❖ Removal of all pipelines (with certain exceptions) will be done by respective stakeholders phase-wise. ❖ 8" dia. MDI line of RKL on top deck to be retained. ❖ All lines to be erected between structural columns.
	1 no. 8" dia. water supply line.	8 nos. 10" dia. Chemical Lines	
	Existing Edible Oils and Chemicals Pipelines	2 nos. air-line	
		1 no. water supply line	

Location	Pipelines to be Scrapped	New Pipelines to Be Laid	Remarks
Oil Jetty 3	1 no. 8" dia. water supply line.	5 nos. 14"dia edible oil lines	❖ Removal of all pipelines (with certain exceptions) will be done by respective stakeholders phase-wise. ❖ 8" dia. MDI line of RKL on top deck to be retained. ❖ IOC 24", 20" dia. & 20" dia. KPT flushing Lines are to be retained. ❖ All lines to be erected between structural columns.
		8 nos. 10" dia. Chemical Lines	
	Existing Edible Oils and Chemicals Pipelines	2 nos. air-line	
		1 no. water supply line	
Oil Jetty 4	Three nos. 12" dia. Marine loading arms along with 2 nos. 3"dia slop lines.	5 nos. 14"dia edible oil lines	❖ Removal of all pipelines (with certain exceptions) will be done by respective stakeholders phase-wise. ❖ 2 nos. 24" dia. BPCL lines, 1 no 24" dia. HPCL line & 1 no 16" dia. IOC line are to be retained. ❖ 20" dia KPT flushing line is to be retained. ❖ All lines to be erected between structural columns.
	1 no. 8" dia. water supply line.	8 nos. 10" dia. Chemical Lines	
	Existing Edible Oils and Chemicals Pipelines	2 nos. air-line	
		1 no. water supply line	
Y Junction Area	Existing Edible Oils and Chemicals Pipelines along with allied structures	➢ Laying of all new proposed pipes on new pipe bridge at new location. ➢ Airline manifold near park area, then edible line manifold and in last chemical line manifold	❖ Removal of all pipelines will be done by respective stakeholders phase-wise.
Oil Jetty 5: Provision shall be kept for accessing Jetty 5 on pipeline corridor area and pump house for fire fighting facilities.			
Chemical Pipelines will be Stainless Steel and all Other Pipelines will be Mild Steel.			
Along with laying of new pipelines, the existing supporting structures will be thoroughly inspected for corrosion and damage. Anti-corrosion paint will be applied to existing structures. Sections, which are deemed to have become too corroded, will be replaced.			

3.6 RAW MATERIALS

The only raw materials required for the project are LPG, Oxygen and diesel. These will be required for cutting away the decommissioned pipelines. It has been estimated that 14 t of LPG and 63000 Nm^3 Oxygen *[@4 kg LPG and 18 Nm^3 Oxygen per tonne of pipes scrapped*] shall be consumed for scrapping of pipelines. In addition, HSD will be required for various diesel powered machinery, mobile cranes, trucks etc.

3.7 RESOURCE OPTIMIZATION / RECYCLING AND RESOURCE

The scrapped pipelines will be sold off as scrap metal. The existing pipe-bridges will be utilized for laying the new pipelines. Slops will be collected, treated and utilized for spraying on roads (for suppression of fugitive dust).

3.8 SITE SERVICES

3.8.1 Water Requirement:

The domestic water requirement for the existing Oil jetty area is 200 KLD and it will remain unchanged after proposed revamping and replacement of the pipelines. The potable water is supplied mostly by Gujarat Water Supply and Sewerage Board (GWSSB) an agency of the Govt. of Gujarat. If there is any shortfall the water is supplied in tankers. Sewage generated at the township is treated in sewage treatment plant. The entire quantity of treated sewage (700 m^3/day) will be reused in the existing Deendayal port for miscellaneous purposes.

The pipeline revamping and replacement project is not expected to lead to any increase in industrial water demand.

3.8.2 Power Requirement

The power requirement for the proposed activity of replacement & revamping of existing pipelines will not change from existing requirement and will not require any additional power. The total power supply situation of existing Deendayal port is as follows:

- Existing contract demand for electricity is 4.1 MW.
- Maximum monthly electricity consumption during April, 2016 – Nov., 2017 was ~1.31 million units (in May,'17).
- The existing power supply is from the grid.
- 2 x 1000 KVA DG Set have been installed for emergency power supply.

3.8.3 Amenities

The Port has all necessary amenities for personnel working in the port area, including rest shelters with drinking water and toilets. Canteen facilities are also available. Additionally, mobile bio-toilets and drinking water facilities have also been envisaged for construction phase workers. First Aid centers are available in the port area. Ambulances are available in the port area round the clock for casualty evacuation. The port has housing facilities for its personnel at Kandla as well as at Gandhidham. The port has also provided housing arrangements for CISF personnel deployed at the port. The port has its own well equipped hospital.

3.9 WASTES

The proposed project envisages scrapping of existing pipelines and constructing new higher-capacity pipelines in their place. The pipelines are not insulated. Thus, the only wastes which are likely to be generated are scrapped pipes and steel supports. It has been estimated that 20" dia. Pipes, 8" dia. pipes and 3"dia pipes will decommissioned and cut out. The total tonnage of pipes to be scrapped has been estimated to be 3500 tonnes. These will be stacked temporarily in a designated area, before being auctioned off as scrap metal. Further, during the revamping activities, phase-wise cleaning of existing lines for chemicals, edible oil as well as POL products by pigging will be done by the respective stakeholders. This will generate chemical as well as oily waste as part of in-pipe residues which will be handled and disposed by the respective stakeholders as per provisions of Hazardous Waste Management Rules, 2016.

4.0 SITE ANALYSIS

4.1 CONNECTIVITY

Deendayal Port, Kandla can be approached from Gandhidham by NH-8A. Gandhidham is linked to the national road network. The nearest railway station is at Gandhidham (~8 km away). Deendayal Port is linked to Gandhidham through its own railways. The nearest airport is also at Gandhidham (~14.5 km away).

4.2 LAND FORM, LAND USE, OWNERSHIP

The project area is located within the Oil-jetty Area of Deendayal Port. Part of the project area extends over Kandla Creek (inter-tidal zone as well as over water). The area is a "Customs Bonded Area" and in the possession of Deendayal Port Trust.

4.3 TOPOGRAPHY

The area is absolutely flat and barely above the high tide line (HTL).

4.4 LAND USE

The entire project area is located on the bank of Kandla Creek and is within the Oil-Jetty Area of Deendayal Port. The area comprises of water-body (Kandla Creek), Inter-tidal Zone (including mangrove vegetation) and built-up area (roads & concrete pavements, buildings, vacant areas between buildings).

4.5 EXISTING INFRASTRUCTURE

Deendayal Port being the largest port in the country (in terms of cargo handling) has comprehensive infrastructure for receipt, handling and dispatch of cargo. These facilities are owned and operated by Deendayal Port Trust, other port users (both public sector and private sector) as well as service providers. The port also has a dedicated Fire Department with comprehensive resources for fighting major fires. The port has its own well equipped hospital for its employees and their families. The port has townships for housing its own employees as well as CISF personnel. The port has also developed comprehensive social infrastructure.

4.6 SOIL CLASSIFICATION

The soil of the project area is mostly fine silt and sand.

4.7 CLIMATE

The study area lies in the tropical zone. The climate is semi-arid with very hot summers and cool winters. The average daily maximum temperatures during April, May and June (the hottest months), as recorded at the India Meteorological Department (IMD) Observatory at New Kandla are 35.3^{o}C, 36.0^{o}C and 35.1^{o}C respectively. During these months, maximum temperatures may exceed 45^{o}C.December, January and February are the coldest months. The average daily minimum temperatures during these months, as recorded at IMD, New Kandla are 15.3^{o}C, 13.6^{o}C and 15.9^{o}C respectively. The mean annual rainfall is 401.4 mm most of it(~91%) during the monsoon which lasts from June to September. The wettest months are July, August, June and September in that order.

The winds are generally moderate to high. The annual mean wind speed prevailing in the area is around 18 km/hr. Winds are usually stronger during late summer and monsoons. During summer and monsoon winds blow from SW and W, whereas during winter winds blow from N or NE. SW and W are the pre-dominant annual wind directions.

4.8 SOCIAL INFRASTRUCTURE AVAILABLE:

As has been mentioned earlier, Deendayal Port Trust has developed comprehensive infrastructure for its employees comprising of housing colonies with health-care, education, shopping, banking, postal services and entertainment facilities. Additional facilities are available in Gandhidham town.

5.0 PLANNING BRIEF:

5.1 PLANNING CONCEPT:

The project can be broadly classified as:

- Dismantling of marine unloading arms and pipelines in phased manner.
- Installation of new pipelines in a phased manner.

All removals of old pipelines and installation of new pipelines is proposed in three (3) phases:

Phase 1: The order of removal proposed in phase is as follows:

1. Removal of marine unloading arms, their connected airlines in Oil Jetty 1 & Oil Jetty 4 and Flushing Lines in Oil Jetty 2. Since these activities do not require any external permission, this activity can be initiated.
2. Requesting M/s HPCL (now taken over by M/s ONGC Ltd.), M/S BPCL, M/S IOCL, M/S IFFCO, M/S Synthetics & Chemicals to remove their redundant pipelines.
3. Removal of Flushing Lines from Oil Jetties 1, 3 & 4.
4. Installation of New Edible Oil Pipelines, Air/Nitrogen Pipelines in Oil Jetties along with an Elevated Corridor and New Edible Oil Exchange manifold at "Y" Junction.

Phase 2: Commissioning of Newly Laid Edible Oil Pipelines and subsequently removal of Existing Edible Oil Pipelines by the respective stakeholders. This will be taken up during the final stages of completion of Phase 1.

Laying of Air/Nitrogen Pipelines for Pigging Operation at all Jetties and Y- Junction and simultaneously the private parties should be asked to remove their air pipelines.

Phase 3: Removal of Existing Chemical pipelines by the respective stakeholders.and laying of New chemical pipelines.

5.2 LAND USE PLANNING:

The proposed project will be carried out within the area extending from Oil Jetty area to Y-junction of existing premises of Deendayal Port, Kandla. No additional land will be required for the proposed pipeline revamping & replacement project. The new pipelines will utilize the existing pipeline corridors. Hence there will be no change in land use / land cover within the existing premises also.

5.3 ASSESSMENT OF INFRASTRUCTURE DEMAND

Deendayal Port is an existing bustling port with all necessary infrastructure. The proposed replacement and revamping project will utilize the existing infrastructure.

5.4 AMENITIES / FACILITIES

Deendayal Port is operating since the 1960s and has adequate amenities / facilities for its work-force. These are always being improved upon / upgraded as and when required.

6.0 PROPOSED INFRASTRUCTURE:

As mentioned earlier, Deendayal Port has comprehensive infrastructure for handling dry as well liquid cargo. The infrastructure is constantly being upgraded to meet the requirements of port users, shipping companies and regulatory agencies both Indian as well as international.

7.0 REHABILITATION & RESETTLEMENT (R&R) PLAN :

The proposed revamping project will be carried only in the premises of Deendayal Port Trust. This land is already owned as well as in the possession of Deendayal Port Trust. Hence the question of resettlement and rehabilitation of land oustees does not arise.

8.0 PROJECT SCHEDULE & COST ESTIMATE

8.1 PROJECT SCHEDULE

Since removal of defunct / redundant pipelines do not require any external permission, this activity has been initiated.

The entire work of replacement & revamping of existing pipelines and allied structures will be completed within 24 (twenty-four) months from the date of receipt of Environmental and CRZ Clearance from Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India.

8.2 ESTIMATED PROJECT COST ALONG AND ECONOMIC VIABILITY OF THE PROJECT

The total project cost is estimated to be Rs. 170.42 Crores (Rupees One Hundred Seventy Crores and Forty-Two Lakhs Only).