Indian Oil

"EXECUTIVE SUMMARY"
FOR
PROPOSED POL TERMINAL
OF
INDIAN OIL CORPORATION LIMITED
AT
KORBA, CHATTISGARH

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Submitted by

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EXECUTIVE SUMMARY

1.1 INTRODUCTION

Indian Oil is India's flagship energy major and the country's largest commercial enterprise with a turnover of Rs. 3,28,744.27 crores and profits of Rs. 7,445.48 crores for the year 2010-11. It is also the highest ranked Indian company in the prestigious *Fortune* 'Global 500' listing at 98th position. Indian Oil is the 20st largest petroleum refining company in the world. Indian Oil and its group companies account for 48% petroleum products market share, 34.8% refining capacity owing 10 out of 20 refineries in the country and about 10,899 km of pipeline capacity across the country.

1.2 PROJECT DESCRIPTION

The proposed project site is located at Korba district in Chhattisgarh state, Longitude of 22º 26' 42.60" N and Latitude 82º 39' 34.10" E, respectively. It is located about 15 km distance from the main. Korba city and 25 kms from Korba airport. The land of the proposed POL terminal has been procured from government.

The general topography of the area is flat surrounded by hilly regions and the general elevation of the site is 252 msl.

1.2.1 TECHNOLOGY AND PROCESS DESCRIPTION

The key salient features of the proposed project are as follows:

Details of product wise tankage proposed at POL terminal are as follows:

Table 1.1: Proposed Tankage Capacity

Sr. No.	Tank No.	Product	SIZE OF TANKS	Nominal Capacity (KL)	Tank Type	Class
1.	HSD-1	HSD	34M DIA X13M HT.	11628	Cone Roof	B
2.	HSD-2	HSD	34M DIA X13M HT.	11628	Cone Roof	B
3.	HSD-3	HSD	26M DIA X14.5M HT.	7672	Cone Roof	B
4.	MS-1	MS	26M DIA X16M HT.	7389	Internal Floating Roof	A
5.	MS-2	MS	26M DIA X16M HT.	7389	Internal Floating Roof	A
6.	MS-3	MS	16M DIA X15M HT.	2614	Internal Floating Roof	A

7.	SKO-1	SKO	14M DIA X15M HT.	2301	Cone Roof	B
8.	SKO-2	SKO	14M DIA X15M HT.	2301	Cone Roof	B
9.	SKO-3	SKO	14M DIA X15M HT.	2301	Cone Roof	B
10.	ETHANOL-1	ETHANOL	4.12M DIA X15M HT.	200	U/G	A
11.	ETHANOL-2	ETHANOL	4.12M DIA X15M HT.	200	U/G	A
12		Transmix Tank	10 M DIA X 9 M HT			
SUB-TOTAL				**55623KL**		
FUTURE PROVISION :						
13	MS-4	MS	26M DIA X16M HT.	7389	Floating Roof	A
14	HSD-4	HSD	34M DIA X13M HT.	11628	Cone Roof	B
SUB-TOTAL				**19017**		
GRAND TOTAL				**74640**		

Total 9 above ground and 2 Under ground storage tanks are to be constructed and provision for two nos.of additional storage tanks , one each for HSD and MS to be kept in layout for future requirement.

- Provisions for construction of the future storage tanks for each product has been kept in the same dyke so as to synchronize with the mandatory tank cleaning due after commissioning.

- Tank foundation aprons/slope to be provided with the CC/Brick pitching and tank farm area to be paved with bricks or locally available cost affective material.

- Height of tank to be maximized based on techno economic considerations.

- Tank inlet and outlet shall be provided each with 2 Nos. of Gate valves (MOVs) and Plug Valve (MOV) between them.

- No interconnecting catwalks to be provided for storage tanks.

- All floating roof tanks to be provided with Rim Seal Fire Protection System and Foam Pourers as per OISD norms.

➢ **Distribution and Loading**

- 12 nos. of Bottom Loading Bays with Vapor Recovery System and Level 1 Automation to be provided in TLF Shed for distribution/loading of TTs .Adequate space for addition of bays in future is kept in the layout.

- One no. shed (TT Checking /Sealing Shed) with both side of Platforms, separate from TLF shed at TLF entry /exit to serve unlocking for incoming TTs and locking of outgoing Tts. Provision of suitable cabin to be made for storage of locks and accessories.

- Maximum loading (pumping) time for each TT: 5 minutes per TT of 12 KL capacity.

- Separate TLD platform (Multi purpose decanting points i.e. 3 nos. TLD platforms without shed one each for MS,HSD and SKO) in TLF corner close to pump house using the TLF RCC area for TT bay for decantation and ensuring same do not interfere the TT movement to loading bays . In addition to this , 2 nos. TT decantation points with covered platform to be provided close to the under ground ethanol Tanks for unloading of Ethanol TT.

➢ **Pipeline Network**

- Motorized Valves (MOVs) to be considered for size 400 mm dia and above.

- Independent pipeline from pipeline receiving station to storage tanks.

- Independent pipeline from TLD point to TLD pumps.

- Independent product pipeline from pipeline manifold.

- Jet nozzle for MS tanks connected to TLD pump for product circulation.

- Independent pipeline from each tank to TLF pumps.

- Independent product P/L from TLF pumps to TLF shed.

- Bottom loading arrangements with vapor recovery system (VRS) in TLF shed.

- Flexibility between HSD and SKO in one pump with spool piece drop arrangement.

- Tank to tank transfer through TLF manifold using standby (S/B) pump.

- Jet Nozzle operation for MS through TLD manifold using stand by (S/B) Pump.

- All pipelines to be laid above ground except where unavoidable.

- Pipelines in TLF area to be laid over head with control Valves at ground level.

- Flange joints to be minimized. All flange joints should be provided with jumpers.

- **Product Doping Facilities:**

- Blue Dye doping facilities as per norms. Provision should be made for injection of blue dye into SKO tanks during product receipt.

- Marker doping facilities as per standard norms in SKO tanks during product receipt.

- MFA dosing facility at TLF loading point .

- Ethanol blending facilities for MS as per norms.

- **Fire Fighting Facilities:**

- Full fledged auto-pressurized system to cover all facilities in the terminal as per OISD-117/118 norms floating roof tanks to be provided with Rim Seal Fire Protection System and Foam Pourers as per OISD norms.

- **Pollution Control Facilities:**

- Pollution Control facilities as per latest MOEF norms and meeting State Pollution Control Board Rules.

- Collection sumps will be provided with control valves outside each tank farm.

- One master separator at outlet point of oil/water drainage to ensure that effluent would meet pollution control norms and oil contents not to exceed 8 PPM level.

- Pipe drains for oily water from tank farms, pump house manifold area and TLF area leading to master oil water separator.

- Gravity type OWS of suitable capacity as per maximum rainfall to be provided along with arrangement for lifting oil and slop tank of suitable size.
  Surface drain (storm water) system independent of oil water drainage.

- Exhaust pipes of diesel engines of DG sets and fire fighting units as per State pollution control norms.

Table 1.2: Proposed Facilities and Magnitude

Sr. No.	Size (Dia x ht.)	Size
1.	Security Block Car/Scooter/Cycle Shed	5 M. X 5 M. 35 M X 6 M
2	Driver's Rest Room in T/T	14 M X 8 M

Sr. No.	Size (Dia x ht.)	Size
3.	Administrative Building	30 M. X 10 M.
4.	Store /Warehouse	15 M. X 12 M.
5	Aminity Block	16 M. X 17 M.
6	Electric Substation & D.G.	36 M. X 10.5 M.
7.	Fire Pump House	30 M. X 8 M.
8	Watch Tower	3 M X 3 M
9	Caliberation Facility	4 M X 4 M
10	T/T Checking and Sealing	4 M X 4 M
11	Cabin For Lock and Assessories	4 M X 4 M
12	Oil Water Seperator	2 M X 20 M
13	TLF Pump House with Manifold	30 M. X 20 M.
14.	Control Room	20 M. X 18 M.
15.	S and D Block	10 M. X 8 M.
16.	Vapour Recovery System	10 M. X 25 M.
17	Exchange Pit	10 M. X 25 M.
18	Static Water Sump	10 M. X 8 M.
19	MCC Panel Room	11 M. X 4 M.

1.3 BASELINE ENVIRONMENTAL STATUS

The area around the proposed termial, where the project activities will take place has been surveyed for physical features and existing environmental scenario. The area was surveyed around the proposed POL Terminal at Korba, Chhattisgarh. The field survey has been done for Summer Season during .

The climatic condition during the study period is presented in report for all the stations where the modification is proposed. The pre-dominant wind direction in the region is SW.The temperature varies from 30.3^0C 42.4^0C, whereas, the relative humidity varies from 23% to 68 %. Total rainfall recorded during the study period was 174.5 mm. The monthly mean wind speed was recorded 5.7 km/hr.

The ambient air quality is well within the limits as per the National Ambient Air Quality Standards in all the monitoring stations. The PM10 value varies from 53.6 to 71.3, SO2 9.4 to 22.3 and NOX 14.9 to 24.3. . All the results are reported in microgram per cubic meter ($\mu g/m^3$). The value of THC varies from 2.2 ppm to 5.8 ppm.

The land use around the project site is pre-dominantly semi-arable. The sand, silt and clay varied from 71– 77%, 11-20% and 8-13% respectively indicating that soil is Sand Silt. The soil moisture varied from 0.72 – 2.23 %, while bulk density varied between 1.54 to 1.61.

The pH varied from 6.65 to 7.55 indicating slightly acidic. The conductivity varied from 187 to 278 μmhos/cm. The average concentration of nitrogen, phosphorus and Potassium in the soil samples varies from 1.2 to 2.24, 29.2 to 65.2 mg/100gm & 0.2 to 0.4 mg/100gm respectively. The organic matter content of soil varied from 0.7 to 1.2%. The average sodium absorption ratio was 0.3, which is much below the value 9 where after the permeability of soil is affected.

The ecological study of the area has been conducted within 15 km radius of the project site in order to understand the existing status of flora and fauna to generate baseline information and evaluate the possible impacts on biological environment. It has been assessed that the impact on local flora and fauna will be negligible due to the proposed project.

The socio-economic conditions are presented in the report. The impact on socio-economic environment as some direct or indirect employment will be generated during the construction and operation phases.

1.4 ANTICIPATED ENVIRONMENT IMPACTS AND ENVIRONMENT MANAGEMENT PLAN

The potential impacts will be limited to the proposed terminal at Korba. No social issues are required to be addressed, as there is no rehabilitation and resettlement. The impact on soil quality is induced/ short term in nature, and can be avoided by applying good construction practices to reduce the impact, if any, on soils to a great extent. Adequate measures need to be worked out for minimizing the loss of soils, by way of storage of topsoil and then again laying it back after the completion of the construction of terminal.

Impacts on ambient air would mainly be due to dust emissions and movement of vehicles. However these impacts would be short-term in nature. Impacts on ambient air during operational phase would be due to emissions from DG set stacks and vehicles which will be very negligible and would be nullified by provision of scrubber and acoustic enclosure.

The detailed environmental management plan has been presented in the main report. IOCL make sure that all the statutory norms, emissions norms for air, water, and noise shall be maintained during the construction and operation phases and in line with the EMP.

1.5 ENVIRONMENTAL MONITORING PROGRAMME

IOCL shall carry out the post study monitoring programme as it provides useful information as follows.

- It helps to verify the predictions on environmental impacts presented in this study.
- It helps to indicate warnings of the development of any alarming environmental situations, and thus, provides opportunities for adopting appropriate control measures in advance.

1.6 PROJECT BENEFITS

The project will be improved supply position of the petroleum products in Chattisgarh state, which is vital for economic growth as well as improving the quality of life. The improved petroleum supply will have strong logistical support for delivering the products to customers at better quality and better price. Availability of product in vicinity of demand location will be reduced the price.

Establishment of large developmental projects improve the availability of the physical infrastructures like approach roads, drainage, communication and transportation facilities etc. The project will be provided employment potential under unskilled, semi-skilled and skilled categories, so the direct employment opportunities will be generated.