



EXECUTIVE SUMMARY (ENGLISH)

For

**Expansion in Already Existing Isolated Storage
and Handling of Hazardous Chemicals along with
other Allied Facilities**

At

**PLOT NO. 795/1A/3A/1/1, BPCL MIRAJ POL DEPOT,
NR. RAILWAY GOODS SHED, MIRAJ JUNCTION, MIRAJ-416410,
DISTRICT-SANGLI, MAHARASHTRA**

Land/Plot area: 39,902 m²

[Schedule 6 (b) Category–“B” as per EIA Notification 2006]

APPLICANT

**BHARAT PETROLEUM
CORPORATION LIMITED**

Plot No. 795/1A/3A/1/1, BPCL Miraj Pol
Depot, Miraj Junction, Miraj-416410,
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CONSULTANT

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1 PROJECT DESCRIPTION

M/s Bharat Petroleum Corporation Limited (BPCL) has an existing isolated petroleum storage and distribution facility at Miraj depot near Central Railway Miraj Maal Godam, Sangli, Maharashtra. This depot was initiated in the year of 1989. Now BPCL intend to expand the already existing isolated storage and handling of hazardous chemicals along with other Allied Facilities. This activity falls in Category - B under Project/Activity 6(b) schedule as per EIA Notification dated 14th September, 2006, as subsequent amendments. The co-ordinate of project site:

Latitude	Longitude
16°49'42.06"N	74°38'12.40"E

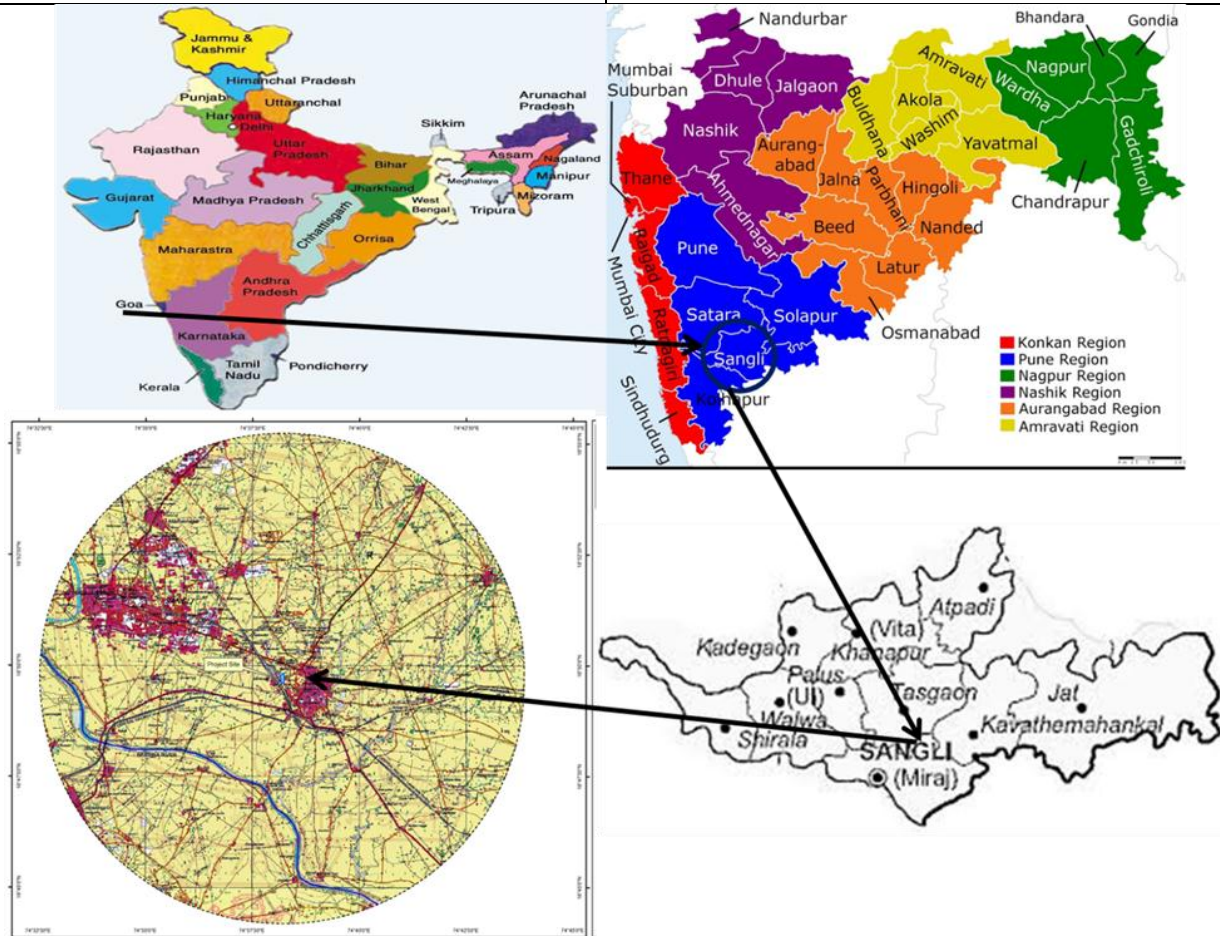


Figure 1. Location of the Project

Table 1. Environmental Sensitivity

Particulars	Description
Nearest Village	Takali village at 5.94 km in E
Nearest City	Miraj City
Nearest District	Sangli at 6.37 km in NW
Stream / Rivers	Krishna River at 4.80 km in S
Nearest Industry	Samruddhi Industries Ltd. at 5.03 km in N
Other Industry	IOCL Depot abutting to Northern boundary
Nearest Historical, religious and other	Nawab Mosque abutting to western boundary

Particulars	Description
important cultural places	None in 10 km radius
Forest & Wildlife Sanctuary/National Parks, Biosphere Reserves	
Nearest Hill/Mountain	
Sea	
Defense Installation	

Table 2. Project cost (Existing and Proposed) - Rs. in Crores

Particulars	Existing	Expansion	Total
Land Cost	75.00	00	75.00
Civil work and Tank Cost	0.30	3.00	3.30
Pumps purchase, installation, piping, electrical insulation, painting etc.	0.50	00	0.50
Cost of EMP	-	0.30	0.30
Total	75.80	3.30	79.10

Table 3. Bifurcation of Plot area (m²)

Particulars	Existing	Proposed	Total
Admin Building	350	0	350
Storage tank farm area	5770	900	6670
Utility	500	259	759
Green Belt	3450	9718	13168
Emergency Control Room (ECR)	120	0	120
Firewater Storage area	290	0	290
Loading Unloading area (Bay)	322	0	322
Other Building blocks (ex. Canteen, storage yard)	1300	0	1300
Misc (Int. Road, TLF, TT Parking, etc.)	3328	110	3438
Open area	24472	-10987	13485
Total	39902	0	39902

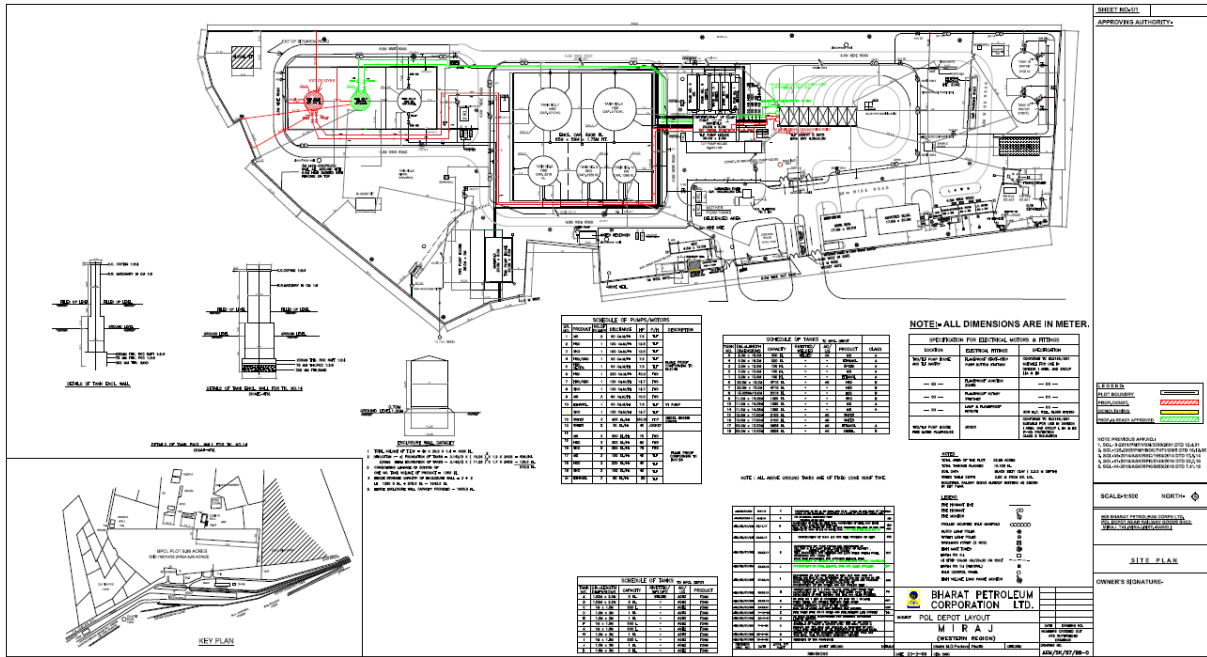


Figure 2 Layout Plan



Entry Gate



Admin Building Area



Tank Farm



Plantation

Figure 3 Photographs of Project Site

2 WATER

Source: Sangli Miraj Kupwad Municipal Corporation.

Construction Phase: 2.50 KLD

Operation Phase: 12.50 KLD

Table 4: Water Consumption

Activities	Existing (KLD)		Proposed (KLD)		Total (KLD)		Remark
	Fresh	Recycled	Fresh	Recycled	Fresh	Recycled	
Domestic	1.80	0.00	1.20	0.00	3.00	0.00	Fresh
Gardening	2.50	0.00	4.84	2.16	7.34	2.16	Fresh + STP Treated water
Total	4.30	0.00	6.04	2.16	10.34	2.16	
Grand Total	4.30		8.20		12.50		

3 ELECTRICITY

- **Electricity:** Existing 522 kW and for expansion 100 kW, hence total will be 622 kW will be sourced from Maharashtra State Electricity Board (MSEB).
- **Backup Power:** Existing 1 No. of D.G. sets of capacity 65 kVA and 1 Nos. of D.G. Set of capacity 250 kVA.

4 FUEL

- HSD – 30 L/h for existing D.G. Sets.
- HSD - 50 L/h for existing Fire water engine pumps.

5 MANPOWER

Construction Phase: 25 Nos. of people (Local)

Operation Phase: Total 70 Nos. of manpower required after expansion.

Table 5: Manpower Requirement

S. No.	Manpower Requirement	Existing	Proposed	Total
1.	Direct	35	5	40
2.	Indirect- Contract Basis	5	25	30
3.	Total	40	30	70

6 UTILITIES

BPCL Miraj Pol Depot is/will be operated in three shifts for 365 days in a year. For Automation, the existing 6 Nos. of pumps will be replaced with new automated pumps (8 Nos.) i.e. 6 Nos. will be regular working and standby 3 Nos. for Tank Lorry Filling and wagon decantation. Automation is in term of flow rate and capacity.

Table 6: Pumps Details

#	Description	Existing	Proposal	
		Manual Regular Pumps	Automated Pumps - Regular	Automated Pumps - Standby
1.	Tank Lorry Filling	6	6	3

2.	Vertical pumps for each UG tanks	5	5	0
3.	Wagon Decantation	6	6	3
4.	Biodiesel	-	2	0
5.	Ethanol	-	2	1

Raw Material details/ Engineering items Details

No raw material is required as no manufacturing process involved.

7 MAGNITUDE OF THE OPERATION

It is an expansion project of additional tanks of Biodiesel and Ethanol at an existing site with other allied facilities.

Table 7: Additional & Existing Storage Tanks details

Tank No.	Product	Capacity (KL)	Size Dia. X Height (m)
Proposed (A)			
T18	Biodiesel	858	9x13.5
T17	Ethanol	858	9 x13.5
Total Proposed		1716	
Existing (B)			
T01	Ethanol	100	3.2 x12.6
T02	Motor Spirit	100	3.2 x12.6
T03	Speed petrol	100	3.2x12.6
T04	Ethanol	200	4x16.2
T05	MS	200	4x16.2
T06	HSD	4710	20x15
T07	HSD	4710	20x15
T08	HSD	2316	14x15
T09	SKO	1365	11x14.38
T10	MS	1365	11x14.38
T14	MS	1365	11x14.38
Total Existing		16531	
Grand Total (A+B)		18247	

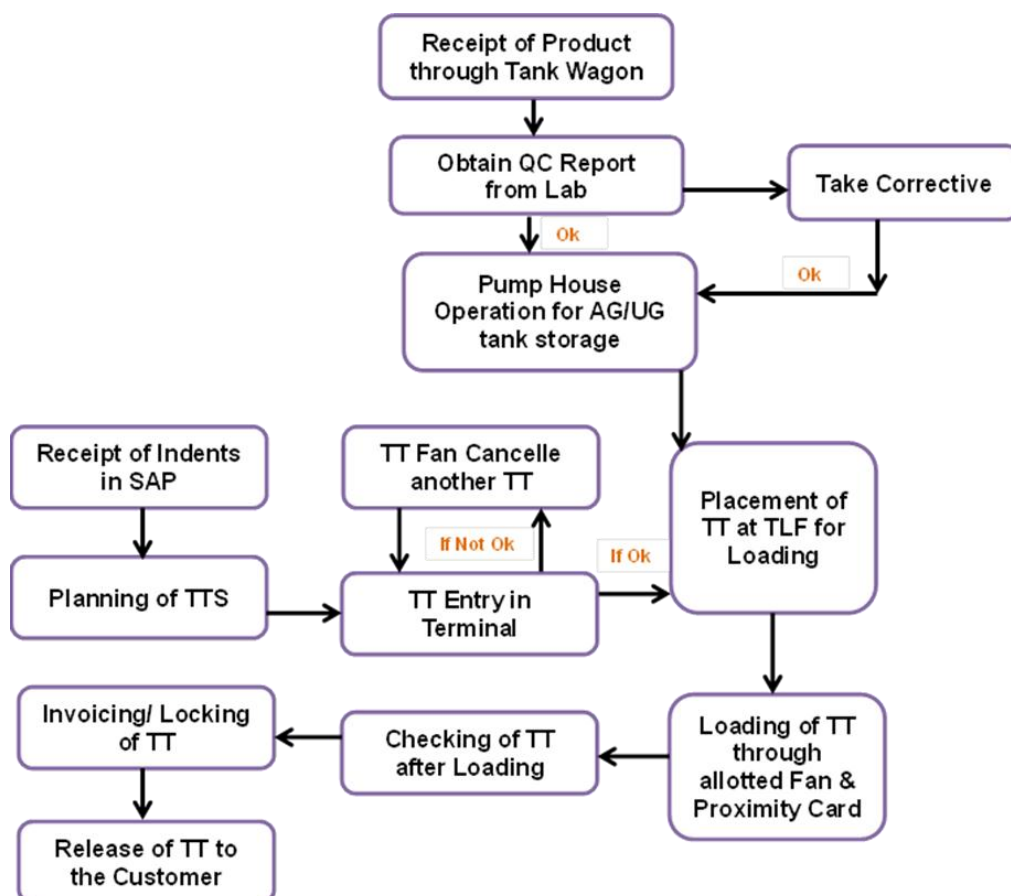


Figure 5. Process flow diagram of the Operation at Depot

8 AIR ENVIRONMENT

There will be flue gas emission from existing D.G. Sets and fire water engines, while there will be no process gas emission as expansion project has isolated chemical storage facility only with other allied facilities.

Table 9: Flue Gas Emission

#	Stack attached to	Capacity of Utility	Fuel	Fuel Consumption	Height (m)	Diameter (mm)	Pollutants	APC device
Existing								
1	Existing DG. Sets	1 Nos 65 kVA and 1 No. 250 kVA	HSD	30 L/h	7	0.1	PM <150 mg/NM ³ SO ₂ <100 ppm NO _x <50 ppm	Adequate stack height
2	Fire Water engine pumps	3 Nos	HSD	50 L/h.	7	0.1	PM <150 mg/NM ³ SO ₂ <100 ppm NO _x <50 ppm	Vent
No additional flue gas emission as no additional diesel operated utility proposed								

9 SOLID WASTE

Construction Phase: During demolition of existing tanks and few structures, debris and scrap will be generated which will be reused within premise.

Operation Phase: Tank cleaning sludge is and will be generated during operation phase.

Table 10. Solid/hazardous Waste Management

#	Name	Category	Quantity (per annum)			Management/Disposal
			Existing	Proposed	Total	
1.	Tank Cleaning Sludge	3.3	5.0 KLPA	2.5 KLPA	7.5 KLPA	Bioremediation Process

10 NOISE ENVIRONMENT

Noise is/will be generated due to various pump operations and vehicular movement *etc.* Existing green belt area is 3450 m² and 9718 m² area will be utilized as green belt in expansion. Green area will help in reducing the adverse effect of noise pollution in general.

11 OCCUPATIONAL HEALTH AND SAFETY

BPCL commitment towards safety can be reflected from its Health, Safety & Environment Policy prepared for the existing project.

- Integrated Fire Alarm System (Electrical & Manual) is/will be provided.
- Emergency Control Room is established.
- Assembly point is already provided.
- Sprinkler system and Foam Pourers for above ground tanks
- Main Hydrant Ring with DH/WCFM is/will be installed as per norms.
- Provided Smoke detectors in control room.
- Provided Fire Extinguishers (10, 25 & 75 KG) (Type: Foam, Water, Dry Powder, CO₂).
- Provided Electrical Siren (3 km Range).
- HVLR (High Volume Long Range) system-UL/FM Approved water cum Foam monitors.
- Mock drills are periodically conducted and factors like response time are evaluated.
- Fire squad team is formed for handling any emergency situation.
- First Aid Facility and training are provided.
- Personal protective gears and equipment's are provided to employees.

12 DESCRIPTION OF THE ENVIRONMENT

The baseline study for various environmental parameters viz. air, water, soil, noise has been conducted for one season Dec. 2017 to Feb. 2018. The PM10 observed in the range 62.5 – 87.8 µg/m³ and while PM2.5 was 32.3 – 48.0 µg/m³ which was under NAAQS limit. All other parameters are found within limit. The TDS in ground water ranged from 724 – 1248 mg/L while in surface water, it ranges between 258 - 290 mg/L. For ecological environment; the population of wild life is too less in the study region as the region is not enrich with floral diversity. No schedule-I faunal species has been recorded. No migratory bird species were found during the survey. The socio-economic conditions in the study area are not good.

Literacy rate of the study region is from 58.81% to 78.92%. Almost all the villages have more than 50 % people as non-workers. It indicates that the problem of unemployment can be solved by providing proper training and education. There is also need to establish more industries so that maximum number of employment can be generated.

13 IMPACT AND MITIGATION MEASURES

Possible impacts on land environment, air environment, water environment, noise environment, biological environment, socioeconomic environment and risk and hazard is been introduced and briefed in the chapter with their mitigation measures for both during construction as well as operation phase. Total Cumulative Score for various Environmental Parameters without mitigation measures is - 132 which is not appreciable adverse impact during construction phase. Total Cumulative Score for various Environmental Parameters with mitigation measures is +17 during construction phase which shows no appreciable beneficial impact. During operation phase total cumulative Score for various Environmental Parameters without mitigation measures was (-193) while after taking mitigation measures as suggested by the various experts and studies; the score was reduced and has increased towards positive scale upto +10. AQI of 8 locations is recorded satisfactory in study area. From the overall study and evaluation of impacts, it can be concluded that the overall negative impacts from various activities on different environmental parameters is negligible with proper EMP in place.

14 ENVIRONMENTAL MANAGEMENT PLAN

Proposed 10.0 KLD package STP for sewage treatment. Regular monitoring of the work zone will be ensured by EHS supervisor. Organic sludge and generated scrap proper disposal will be ensured. Project proponent had proposed Rs. 10.00 Lakhs for OHS for expansion project. BPCL had proposed 6.6 lakhs as CER cost for five years. BPCL will plant 2883 Nos. of Trees and 8650 Nos. of Shrubs within the next five years. BPCL has proposed 30.00 lakhs as a capital cost and 11.00 lakhs/annum as a recurring cost for EMP.

15 CONCLUSION

Based on the EIA study conducted in Winter Season of 2017-2018 and as per terms of reference given by SEAC, the following highlights emerge

- There will be negligible pollution potential on air, water and noise environment, which, with the implementation of the mitigation measures and EMP, can be reduced considerably.
- The proposed project activities will have positive beneficial effect on the local population, economic output and other related facilities viz. employment, development of business, transportation etc.
- Risk assessment including emergency response plan and DMP has been prepared to handle any sort of emergencies.
- Looking to the overall project justification, process, pollution potential and pollution prevention measures /technologies installed by proponent, environmental management activities of proponent; the proposed project would be environmentally acceptable, in compliance with environmental legislation and standards.