

**Laying of LPG Pipeline from Hassan to Cherlapally (HCPL) and augmentation of
Mangalore Hassan Mysore Solur LPG pipeline (MHMSPL)**

PROJECT DESCRIPTION

Introduction:-

M/s Hindustan Petroleum Corporation Limited (HPCL) is a 'Navaratna' PSU and Forbes 2000 and Global Fortune 500 company. HPCL has two oil refineries located in Mumbai (West Coast) and Vizag (East Coast) with capacities of 7.5 MMTPA & 8.3 MMTPA, respectively, churning out a wide range of petroleum products, viz. LPG, MS, SKO, ATF, HSD, Bitumen, etc., and various grades of lubricants, specialties and greases as per BIS standards.

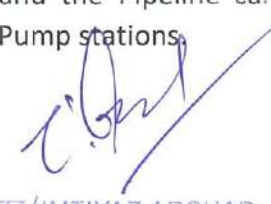
HPCL has the second largest share of product pipelines among OMCs in India with a pipeline network of more than 3370 kms for transportation of petroleum products and a vast marketing network consisting of 14 Zonal offices in major cities and 128 Regional Offices facilitated by a Supply & Distribution infrastructure comprising Terminals, Pipeline networks, Aviation Service Stations, LPG Bottling Plants, Inland Relay Depots & Retail Outlets, Lube and LPG Distributorships.

The company has commissioned 356 km Mangalore- Hassan- Yedyur- Mysore LPG Pipeline from its LPG import facilities at Mangalore to receipt LPG plant at Yedyuru via Hassan and a spur line to Mysore via Kalibadi. Pipeline is envisaged to have a capacity of 3.1 MMTPA to meet the demands of Karnataka and Southern Andhra Pradesh.

HPCL has now proposed to lay a pipeline from Hassan to its Bottling plant in Cherlapally with TOP at HPCL bottling Plant (Anantapur) at approx. Ch. 295 km with provision for hook up for BPCL bottling Plant (Kurnool) at Ch. 429 km & IOCL bottling Plant (Thimmapur) at Ch. 607 km to meet the requirements of Andhra Pradesh and Telangana. Details of the project are as below

1) Hassan Cherlapally LPG Pipeline (HCPL) :-

The Proposed LPG pipeline of 680 Km (approx.) will originate from the existing Hassan IP Station of MHMSPL (Mangalore Hassan Mysore Solur LPG Pipeline) in Karnataka to the existing Cherlapalli LPG plant in Secunderabad/Hyderabad. The pipeline will have tap off facility at existing Anantapur LPG plant of HPCL & Thimmapur LPG Plant of IOC with a provision to provide tap off to BPCL Plant at Kurnool. HCPL will have Phase-1 capacity of 2.2 MMTPA with one Pump station at Hassan and the Pipeline can be expandable to 3.1 MMTPA with 2 nos additional intermediate Pump stations.


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2) **Augmentation of MHMSPL: -**

Augmentation will include additional pumps at existing Mangalore Despatch station and conversion of existing Neriya IP station to a pumping station.


This Pipeline passes thru 3 District of Karnataka state, namely Hassan, Tumkur&Chitradurga, Two districts of Andhra Pradesh state namely Anantapur& Kurnool and 6 Districts of Telangana State Jogulamba Gadwal, Wanaparthy, Mahabubnagar, Nagarkurnool, Rangareddy and Medchal-Malkajgiri.

MAJOR FACILITIES :

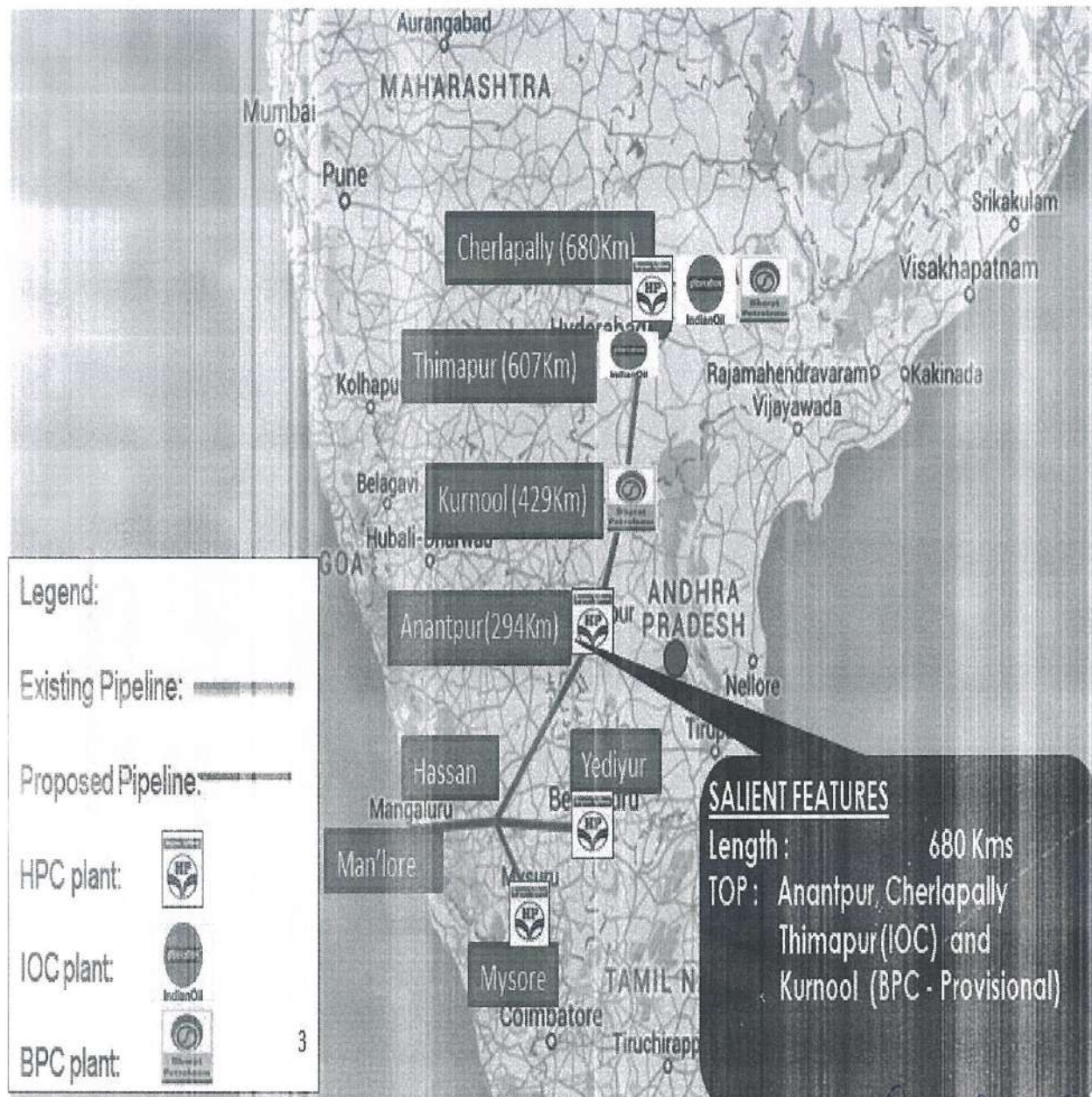
Followings are the Major facilities are envisaged to be built under this Project: -

- I. 680 Km/14" diameter Hassan – Cherlapalli LPG pipeline (HCPL) along with the associated CP/SV stations.
- II. Pipeline receiving facilities/Terminal at Cherlapalli LPG Plant
- III. Pumping station at Hassan. (Conversion of existing IP station)
- IV. Intermediate Pigging station near Hiriyur. (Ch.145 Km)
- V. Intermediate Pigging cum Tapoff stations at Anantapur (Ch. 295 Km) &Thimmapur (Ch. 607 Km)
- VI. Intermediate Pigging station with provisional tapoff at Kurnool Ch. 429 Km)
- VII. Intermediate pigging station near Jadcherla (Ch.545 Km.)
- VIII. Conversion of a pigging station to Pumping station at Neriya at Ch.82 Km of MHMSPL .
- IX. Additional pumps and related facilities at existing Mangalore Despatch Station of MHMSPL.

The chainages/pipeline length given above are approximate and are basis DFR. It will keep evolving post detailed route survey, cadastral survey/3(1) notification and final procurement of ROU in land/ land for stations with minor changes.


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Route MAP




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Project Outlay: -

Investment:

As part of DFR Study, M/s Mecon Ltd. had estimated the project cost of Rs.2022.34 Crore which includes, Land/ ROU, various Plant & Machinery, construction costs associated with the project and contingency. With Interest during construction, the total project cost is Rs. 2166.38 Crs. The estimated investment break up considering the above is as under:

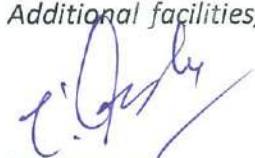
Description		Amount (In Rs. Cr.)		
		IC	FC	Total
A. Hassan Cherlapalli Pipeline with Associated facilities				
a.1	Project Cost	1815.68	22.71	1838.39
a.2	Contingency @ 5%	90.78	1.14	91.92
a.3	Interest during Construction/PPI (2:1 Debt : Equity)	137.49		
	Total (A)	2067.80		
B. Neriya pumping station incl. Mangalore additional pumps				
	Description	IC	FC	Total
b.1	Project Cost	51.49	36.16	87.65
b.2	Contingency	2.57	1.81	4.38
b.3	Interest during Construction/PPI (2:1 Debt : Equity)	6.55		
	Total (B)	98.58		
Total Project Cost without PPI/IDC : Rs 2022.34				
Total Project Cost with PPI/IDC : Rs 2166.38				


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MAJOR FACILITIES PROPOSED ARE AS FOLLOWS

Sl No	Facility	Capacity / Remarks
1. PIPELINE		
1.1	LINE PIPE	14" x 680 Km Approx
1.2	O.F.C BASED TELECOM SYSTEM	
1.3	SCADS & APPS	
1.4	PIPELINE INTRUSION DETECTION SYSTEM	
2. HASSAN PUMPING STATION		
2.1	MAINLINE PUMPS	(2w + 1s), 330 M3 / hr
2.2	BASKET FLITER	1 w + 1 s
2.3	METERING SYSTEM	1 w + 1 s
2.4	EOT CRANE (15 MT) AND JIB CRANCE (1MT)	15 T Capacity
2.5	FIRE FIGHTING SYSTEM	WATER TANKS, PUMPS & PIPELINES
3. IP CUM TAPOFF STATIONS (ANANTAPUR, KURNOOL & THIMMAPUR)		
3.1	PIG LAUNCHER / RECEIVER	
3.2	BASKET FILTERS	1 w + 1 s
3.3	METERING SYSTEM	1 w + 1 s
3.4	FIRE FIGHTING SYSTEM	WATER TANKS, PUMPS & PIPELINES
4. RECEIVING TERMINAL AT CHERLAPALLI		
4.1	PIG RECEIVER	
4.2	BASKET FILTERS	1 w + 1 s
4.3	METERING SYSTEM	1 w + 1 s
4.4	FIRE FIGHTING SYSTEM	WATER TANKS, PUMPS & PIPELINES
5. INTERMEDIATE PIGGING STATIONS (HIRIYUR & JADCHERLA)		
5.1	PIG LAUNCHER / RECEIVER	
6. MHMSPL AUGMENTATION AT MANGALORE & NERIYA		
6.1	MAINLINE PUMPS AT NERIYA	(3w + 1s), 330 M3 / hr
6.2	MAINLINE & BOOSTER PUMPS AT MANGALORE	(2w + 1s), 450 M3 / hr
6.3	BASKET FLITER	2 w + 1 s
6.4	EOT CRANE (15 MT) AND JIB CRANCE (1MT)	
6.5	FIRE FIGHTING SYSTEM AT NERIYA	WATER TANKS, PUMPS & PIPELINES
7. GENERAL		
7.1	SECTIONALISING VALVES AT SV STATIONS	35 SV STATIONS PROPOSED
7.2	CIVIL STRUCTURES AT ALL STATIONS	AS PER REQUIREMENT & DESIGN
7.3	STATION PIPING AT ALL STATIONS	
7.4	CONTROL VALVES AT ALL STATIONS	
7.5	ELECTRICAL SYSTEM AT ALL STATIONS	AS PER REQUIREMENT

NOTE: The details given above are approximate and not comprehensive. Additional facilities, change in numbers or capacities are expected during detailed engineering.


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STATEWISE FACILITIES ARE AS FOLLOWS:

Based on the detailed survey carried out, the pipeline and other facilities proposed in the three states are as follows.

1. KARNATAKA

- a. 180.321 Km, 14" dia underground pipeline. The pipeline will be laid in Right of User in land acquired under Petroleum & Mineral Pipeline Act, 1962.
- b. Pumping Station at Hassan at plot No 123-P, KIADB industrial area, Mysore Road, Hassan.
- c. One intermediate pigging station at Hiriyur Taluk & 9 Sectionalizing valve stations at various places proposed for segregating the pipeline in case of emergency

2. Andhra Pradesh

- a. 251.29 Km, 14" dia underground pipeline. The pipeline will be laid in Right of User in land acquired under Petroleum & Mineral Pipeline Act, 1962.
- b. Tapoff cum Pigging station at Anantapur (Hook up to Existing LPG bottling plant) and Kurnool.
- c. 12 Sectionalizing valve stations at various places proposed for segregating the pipeline in case of emergency

3. Telangana


- a. 235.95 Km, 14" dia underground pipeline. The pipeline will be laid in Right of User in land acquired under Petroleum & Mineral Pipeline Act, 1962.
- b. Tapoff cum Pigging station at Thimmapur. This will be hooked upto existing IOCL LPG bottling plant at Thimmapur by a 7.452 Km spurline (included in the length of pipeline mentioned in "a")
- c. Receiving station at Cherlapally (Hook up to existing LPG Bottling Plant)
- d. One intermediate Pigging Station near Jadcherla in Mahabubnagar District and 14 Sectionalizing valve stations at various places proposed for segregating the pipeline in case of emergency

Proposed investments in three states are as follows.

S.no	Facilities	State	Cost of the Facility
1	Pipeline portion for a length of 180.32 kms including 1 Pumping Station, One Intermediate Pigging Station and 9 Sectionalizing Valve stations	Karnataka	INR 68006 Lakhs

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2	Pipeline portion for a length of 251.29 kms including 12 Sectionalizing Valve stations, 2 Tap-off cum pigging stations	Andhra Pradesh	INR 71535 Lakhs
3	Pipeline portion for a length of 235.95 kms including 14 Sectionalizing Valve stations, 1 Pigging Station cum future pumping station 1 Tapoff cum pigging station and 1 receiving Station.	Telangana	INR 77097 Lakhs
	Total Capital Investment		INR 216638 Lakhs


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Sl. No.	Description	Uom	Districts						Total
			J Gadwal	Wanaparthi	Mahbubnagar	Nagarkurnool	Rangareddy	Medchal	
	Pipeline Length		23.982	67.281	48.013	1.393	84.167	11.113	235.949
A	No. Of Sectionalizing Valve stations	NOS	2	3	3	0	6	0	14
	Intermediate pigging Station				1		1		2
B	No. Of tapoff stations Receiving setup at Thimmapur IOC Plant	NOS	0	0			1		1
C	Fresh Water Requirement								0
1	Drinking water @ 3 security guard per SV, 6 security guards per pigging stn & 15 persons per tap off each consuming 10 Ltrs per day	KLD	0.06	0.15	0.15	0	0.33	0.15	0.84
2	Other Domestic requirement @ 3 security guard per SV, 6 security guards per pigging stn & 15 persons per Tap off each consuming 30 Ltrs per day	KLD	0.18	0.45	0.45	0	0.99	0.45	2.52
3	Waste water @ 80 % of 1 & 2	KLD	0.192	0.48	0.48	0	1.056	0.48	2.688
4	Gardening & Other cleaning Requirement @ 1 KLD per SV station and 2 KLD per IP & Tap off station	KLD	2	5	5	0	8	2	22
	TOTAL (1+2+4)	KLD	2.24	5.6	5.6	0	9.32	2.6	25.36
D	Diesel Requirement @ 2 LPD per SV, 5 LPD for Pigging Stn & 10 LPD per Tap off Stations	LD	4	10	11	0	22	10	57
E	Domestic Solid Waste @ 1kg /day per SV & 5 kg /day per IP/Tap off	KGD	2	5	8	0	11	5	31
F	Hazardous Waste (Basket Filter & Pig Barrel muck) @ 200 kg per IP Half yearly & nil at SV	KG/Half year	0	0	200	0	200	200	600
G	No of DG Sets	Nos x Capacity	2 x 50 KVA	3 x 50 KVA	3 x 50 KVA 1 x 75 KVA NIL	6 x 50 KVA 1 x 100 KVA NIL	1 x 100 KVA	14 x 50 KVA, 1 x 75 KVA 2 x 100 KVA	

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AIR POLLUTION SOURCES & CONTROL MEASURES

Stack No	Source of emission	Location and Numbers	Pollution Control measures	Stack top dimension (in Meters)	Stack Height above Roof level(meters)	Material of Construction	Fuel used
1	DG set - 100 KVA	1 No each at Thimmapur Tap off cum pigging station and Cherlapally Receiving Station (Total 2 Nos)	Acoustic enclosures with stack	0.05	2.5	MS	Diesel
2	DG Set - 75 KVA	1 No at Intermediate Pigging Station at Jadcherla, Mahabubnagar	Acoustic enclosures with stack	0.05	2	MS	Diesel
3	DG set - 50 KVA	1 each at 14 SV Stations and one at Thimmapur receiving setup (Total 14 Nos)	Acoustic enclosures with stack	0.05	2	MS	Diesel


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