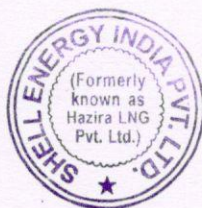




## **Project Note**

# **Hazira Capacity Expansion Project**

**SHELL ENERGY INDIA PRIVATE LIMITED**  
**(formerly known as Hazira LNG Private Limited)**

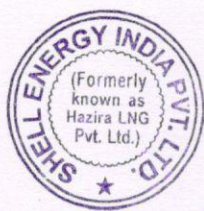


**SHELL ENERGY INDIA PVT. LTD.**  
**(Formerly known as Hazira LNG Pvt. Ltd.)**

*V. Anand*  
**Authorised Signatory**

## Contents

1.	<b>INTRODUCTION .....</b>	<b>3</b>
2.	<b>FACILITY LOCATION AND EXPANSION DETAILS .....</b>	<b>4</b>
3.	<b>PLOT REQUIREMENTS.....</b>	<b>6</b>
4.	<b>PROJECT BENEFITS AND EMPLOYMENT POTENTIAL .....</b>	<b>8</b>
5.	<b>COST BENEFIT ANALYSIS .....</b>	<b>9</b>
6.	<b>PARAMETERS FOR EVALUATION OF LOSS OF FOREST.....</b>	<b>10</b>



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## 1. INTRODUCTION

SHELL ENERGY INDIA PVT. LTD. (SEIPL) (Formerly known as HAZIRA LNG Pvt. Ltd.) SEIPL is 100% subsidiary of Royal Dutch Shell (RDS). The LNG Regasification facility was commissioned in 2005 with two LNG storage tanks of 160,000 m<sup>3</sup> capacity each, re-gasification capacity of 5.0 MTPA and 14 Kms long natural gas (NG) Send out pipeline from terminal to GSPL Mora terminal. SEIPL is expanding its regasification capacity from 5 MTPA to 10MTPA including additional Send out line. SEIPL have valid environment clearance for expansion. The expansion plan is consisting replica of current regasification facility. After detail review of expansion plan and to cater demand of small consumer which are not connected to gas grid, requirement of additional Fifth LNG tank with truck loading facilities with 8 loading bays is envisaged. Existing plot does not have space to accommodate additional facility of LNG storage and Truck loading unit.

Premises cannot accommodate Truck Loading Unit (TLU) as no land available for this facility after future LNG Tanks T-1003/1004. The capacity of the proposed TLU facility is approximately 0.6 MTPA. This will enable small industries and or industries, to have access to clean fuel (LNG); thus, helping to reduce their respective carbon foot prints.



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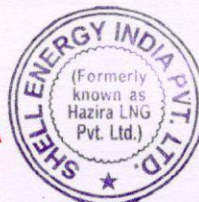
*Sunil Mehta*  
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## 2. FACILITY LOCATION AND EXPANSION DETAILS

SEIPL additional 5 MTPA terminal expansion site located within LNG facility at 21° 05' 10" North and 72° 37' 40" East, is situated at village Hazira Taluka Choryasi District Surat in the state of Gujarat on the West coast of India and is about 25 KMs from Surat and 130 nautical miles north of Mumbai. The site is about 40 KMs from the main Mumbai- Delhi trunk railway line and is in proximity is the National highways (NH)-8. The site is connected by National highways (NH) - 6. The Hazira Peninsula includes Hazira village (with approximately 6,000 inhabitants) and one of the largest industrial complexes of India.

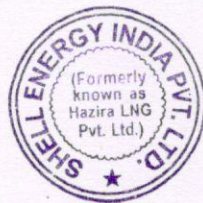
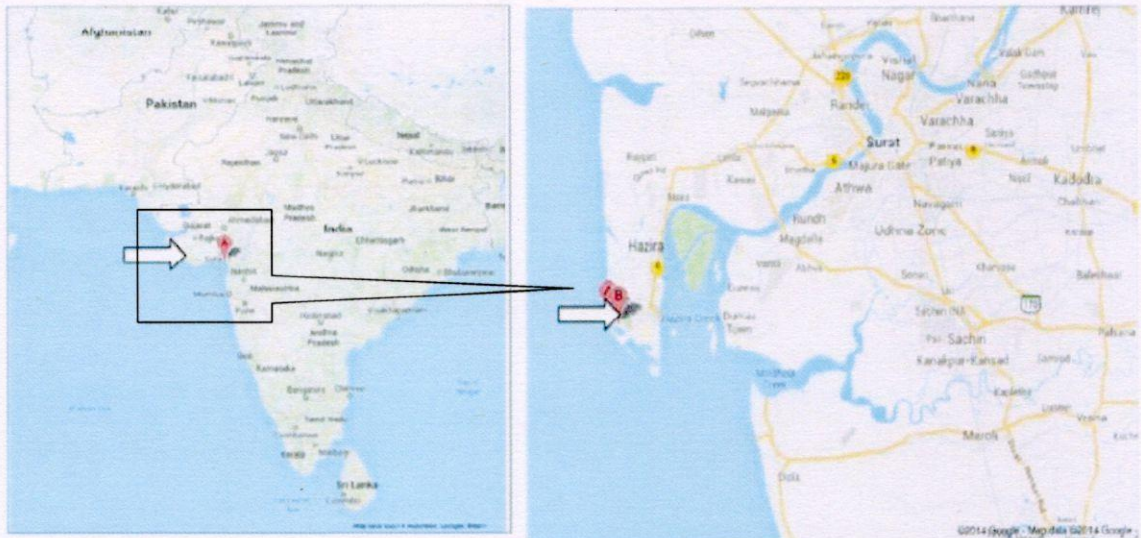
The first proposal of 5 MTPA expansion project have Two LNG storage tanks with regasification and utility facility including additional Send out line. This expansion project is within the current plot plan. New project proposal has added one more (Fifth) LNG tank and Truck loading units which need additional plot adjacent to current facility. Project proposal have following justification for the additional requirement of the tank and Truck loading facility

- LNG jetty expansion is not proposed. At 5 MTPA terminal capacity total 81 nos. of LNG cargos of 140000 m3 capacity are required, this comes to one cargo at every 4.5 days. After expansion to 10 MTPA there will be one cargo in every 2 day at the jetty. With this condition there will be no window available for jetty maintenance or jetty unavailability during bad weather. To overcome jetty constraints LNG storage capacity of the terminal can be increased which accommodate unloading of large capacity cargo due to availability of storage capacity.
- As per market survey there is ample opportunity to cover small industries and small-town city gas distribution facility, which are not connected with gas distribution circuit and comparatively less consumption of LNG. These customers, who are not connected to gas grid can be supplied LNG through LNG Trucks. There are many such customers who can be provided LNG in suitable quantities. This will help such customers grow their business and add to the growth of the economy.
- With the recent initiative of Government of India of allocating Geographical Areas through a bidding process, many players will require gas to cater to customers in their GAs. Supplying them LNG through trucks will help in enabling the GA operators supply natural gas in a short time to a large number of customers.
- Considering the above two factors, we are planning to expand out LNG truck loading facility multi-fold. LNG truck loading, supplying to many smaller customers either through gas grid or LNG trucks and handling more quantity of LNG through only one Jetty, will require an additional storage LNG tank.



## Project Note

The additional facility in new project proposal have 200000 m3 capacity LNG tank, Truck Loading Unit with 8 loading bays in two phases of 4 bays in each phase along with auxiliary facilities such as truck parking with driver rest area, Control Room cum Administrative Office, Fire system, Strom water facility, Roads for truck movement, electrical substation and other ancillaries.



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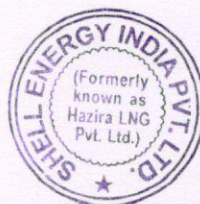
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### 3. PLOT REQUIREMENTS

SEPII and HPPL have in total of 43 hector plot in which 20.5 hector utilised for the current 5 MTPA regasification unit. Rest 23 hector is with HPPL land including Jetties and balance plot for capacity expansion to 10 MTPA regasification. The additional fifth LNG tank with Truck loading facility needs additional land.

The identified plot area adjacent is bounded by 5 corner points, by numbers 1, 2, 3, 4 and 5. The coordinates of corner points are tabulated below.

S. No.	Demarcation	Coordinates	
		Northing	Easting
1	1	2335475.951	252696.640
2	2	2335626.658	252963.302
3	3	2335248.036	253139.640
4	4	2335109.990	252895.381
5	5	2335321.100	252790.985



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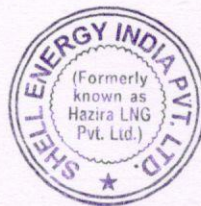
## Project Note

Total area of plot required is approximately 120000 m<sup>2</sup> i.e. ~12 hectares. Details of area requirement are tabulated below:

Sr. No.	Facility Description	Area (m <sup>2</sup> )	Remarks
1	LNG tank and associated facilities	41000	Full containment LNG tank of 200000 m <sup>3</sup> - Diameter 90m and 67m clear distance to property boundary or to other facilities
2	Truck Loading Bays Area	12000	8 bays- 100m x120m
3	Field Control Room (FCR) for TLU and weigh bridge area	11000	Including min. separation distance from LNG area
4	LNG Truck Parking & Driver Facilities	12000	Parking for min 10 LNG trucks as per PNGRB guideline
5	Pipe Sleepers & Utility pipe racks,	14000	
6	Roads, Storm water system	15500	including road all around tank, peripheral roads, open drains
7	Boundary wall and Green Belt	14500	min. 3m clear from boundary wall and 3m green patch all along periphery
<b>Total</b>		<b>121000</b>	

Village wise break-up of the forest land:

Village Name	Forest Land identified
Hazira	12 Ha.



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## 4. PROJECT BENEFITS AND EMPLOYMENT POTENTIAL

The project involves land of village - Hazira, which is notified as Forest land in the year 2014. The population of Hazira village is approximately 3000 (including migrated population). However, there is no inhabitation on this forest land. Due to the development of this project, opportunities will be created in the field of transportation, house rent; day to day domestic requirements. Qualified and skilled/semi-skilled people will have an employment opportunity. Employment generation from the project will consist of direct employment i.e. technical, commercial, managerial and indirect employment for the period of 10-15 years from setting up of LNG truck loading facility. Technical, Commercial and Maintenance activities will require about 10-15 professionals and workers.

This project will provide alternate and clean fuel (LNG) to small industries and industries that are not connected to gas grid. This will thus help to reduce their respective carbon footprints and build cleaner and healthy environment.



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## 5. COST BENEFIT ANALYSIS

The cost benefit analysis for setting up expansion project (one LNG Tank and 8 bays TLU unit) as under:

Sr. No	Description of items	Financial benefits (In Crores of rupees)	Remarks
1	Revenue from setting up of additional truck loading facility and LNG tank	812.99+4061.19 =4874.18	
2	Net Present Value to Govt. of India**	(0.53)	
3	Compensatory Afforestation charges***	(105.0)	
<b>Total Benefit</b>		<b>4768.65</b>	

- \* Revenue earned from setting up of truck loading facility and LNG tank for 10 years will be around Rs. 4874.18 Crores.
- \*\* Net Present Value of the forest land 12 ha under diversion at the present rate of Rs 4.38 lakhs per hectares born by the project works out to be Rs. 0.53 Crores (12 \* 0.0438).
- \*\*\* Compensatory Afforestation charges for area of 24 ha as per the scheme attached will be Rs.105.0 Crores.



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*Suneet Mehra*

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## 6. PARAMETERS FOR EVALUATION OF LOSS OF FOREST

NATURE OF PROPOSALS: Expansion of LNG Terminal Facility (TLU)

S. No.	Parameters	LNG Facility (TLU and LNG Tank) Backup
1	Loss of value of fuelwood and minor forest produce on an annual basis, including loss of man hours per annum of people who derived livelihood and wages from the harvest of these commodities.	1cmt = 3500Rs. (for prosopis juliflora-gado baval) ~2000 cmt x 3500 = 7000000/- = Rs.0.7Crores
2	Loss of Animal husbandry productivity, including loss of fodder	No such loss
3	Cost of Human resettlement	There is no human resettlement on proposed forest land since no human is affected.
4	Loss of public facilities and administrative infrastructure (Roads, Buildings, Schools, dispensaries, electric line, railways etc.) on forest land or which would require forest land if, these facilities were diverted due to the project	There are no such facilities on proposed forest land.
5	Environmental losses: (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance)	Environmental loss/Monetary Value of 1 hectare having density 0.1 is 12.67 Lakhs per hectare over period of 50 years. So environment loss/Monetary value of 12 hectare of forest having density 0.1 = 1.52 Crores over period of 50 years
6	Suffering to Outees	No Such Loss

Cost of the Projects: INR 280+1560=1840 Crore

Cost of projects including forest/Environment loss etc =1840 + loss of timber + environment loss

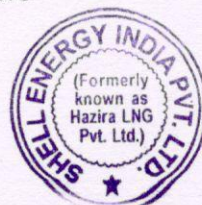
= 1840 + 0.7 + 1.52

=1842.22 Crore

Financial benefits of the project: 4874.18 Crore

Benefit Cost ratio: 4874.18/1842.22

= 2.65



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