



**EPC Bidding Document**

**NLC India Limited  
NLC Talabira Thermal  
Power Project- 3x800 MW  
Jharsuguda, Odisha**

**VOLUME: II-A**

**SECTION-III**

**PROJECT SYNOPSIS AND GENERAL INFORMATION**



**Development Consultants Pvt. Ltd.**

**Vol. II-A/Section-III  
Project Synopsis & General  
Information**

**SECTION-B**



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Vol. II-A/Section-III  
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SECTION-B

## VOLUME: II-A

### SECTION-III

#### PROJECT SYNOPSIS AND GENERAL INFORMATION

##### 1.00.00 INTRODUCTION

**NLC India Ltd. (NLCIL)** formerly Neyveli Lignite Corporation Limited is a 'Navratna', Government of India Enterprise engaged in mining of lignite and generation of power through lignite based thermal power plants. NLCIL was established by Government of India in 1956, following the discovery of lignite deposits in Neyveli, Tamil Nadu. NLCIL currently operates four open cast lignite mines in Neyveli (Tamil Nadu) and Barsingsar (Rajasthan) of total capacity of 30.6 Million Tonnes per Annum (MTPA). The company operates five pithead thermal power stations at the above locations with a total installed capacity of 3640 MW. NLCIL, through its subsidiary NTPL, has also recently commissioned a 1000 MW coal based power plant at Tuticorin (Tamil Nadu), 1001.56 MW solar plants and 51 MW wind power plant at Kazhuneerkulam (Tamil Nadu), thus bringing the total installed capacity of the company to 5581.56 MW.

In addition, another 3X660 MW coal based thermal power project at Ghatampur, U.P. in joint venture with U.P. is under execution

NLCIL have now taken up implementation of Coal based pit head type NLC Talabira Thermal Power Project, consisting of three (3) supercritical units of 800 MW capacity each, near Kumbhari & Tareikela villages in Jharsuguda District, Odisha. Development Consultants Private Limited (DCPL) has been appointed as the Consultant for the project.

##### 2.00.00 LOCATION

The plant and township of the project proposed to be located near Kumbhari and Tareikela villages on south west of Brijraj Nagar town on Sambalpur Rourkela highway in Jharsuguda district and ash disposal area is located near Thelkolai village in Sambalpur district. The main plant area is defined by the following coordinates:

| Description   | Latitude         | Longitude        |
|---------------|------------------|------------------|
| North Extreme | 21° 46' 56.11" N | 83° 59' 30.59" E |
| East Extreme  | 21° 46' 52.95" N | 84° 00' 20.72" E |
| South Extreme | 21° 45' 16.80" N | 83° 59' 9.36" E  |
| West Extreme  | 21° 46' 34.18" N | 83° 58' 50.54" E |

**3.00.00**

**ACCESS**

The project site is approachable from Sambalpur – Jharsuguda highway after crossing Bedhan River via state PWD road. Two separate 4 lane roads from Sambalpur – Jharsuguda highway have been envisaged for main approach to the project site. The nearest airports are at Bhubaneswar at a distance of 350 km and Raipur airport is at a distance of approx. 290 km. Nearest railway station at Jharsuguda on Howrah- Nagpur main (trunk) section is at a distance of 11 kms.

**4.00.00**

**WATER**

The consumptive water is proposed to be drawn from Hirakud reservoir at a location downstream of Rambella bridge, at a distance of about 22 km and shall be pumped to the in-plant raw water reservoir. In-principle approval of State Government is available. The intake pump house location is proposed at Khata No. 01 (5.34 Acres) of Jogipalli Village. However, water drawl point location, pipe routing and other details need to be finalized in consultation with WRD,GOO.

Total consumptive water requirement for the Project (3x800 MW units) is estimated as 6700 cu-m/hr. with ETP recovery and COC 5.

The chemical analysis of raw water to be used in the Plant is attached in Section-XV of this Volume II-A.

**5.00.00**

**FUEL**

The primary fuel for this plant is Coal.

Coal requirement of the project shall be met from Talabira -II & III captive mines of NLC India Limited located nearby. Coal requirement is estimated to be 11.37 MTPA considering a GCV of 3700 Kcal/kg, and PLF of 85%. The coal shall be transported from the linked mines through Belt Conveyor system from coal stock at mine end up to transfer point and thereafter by Pipe conveyor for crossing Bedhan River up to crusher house located in plant area..

The characteristics of Coal to be used in the Plant are attached in Section-XV of this Volume II-A.

LDO/HSD shall be used as start-up fuel and flame stabilizing fuel.

Fuel oil (LDO/HSD) will be transported by road tankers from the nearest oil depot.

The properties of Fuel oil (LDO/HSD) to be used in the Plant are attached in Section-XV of this Volume II-A.

## 6.00.00

### POWER EVACUATION

The power generated from the project will be evacuated through adequate no. of 765 kV & 400kV Transmission Lines Two (2) nos. of  $(765/\sqrt{3}) / (400/\sqrt{3}) / 33$  kV Interconnecting Transformer shall be provided between 765kV & 400kV GIS. Unit start-up power requirement shall be met by back charging 765 kV GIS and 400 kV GIS through ICTs. Unit start-up power requirement will be drawn from 400 kV bus through 400/11.5/11.5 kV Station Transformer

## 7.00.00

### IMPLEMENTATION SCHEDULE

The Project is planned to be executed through single EPC Contract. The scheduled key milestones of the Project (late finish), counted from the date of issue of LOA to the EPC Bidder for single EPC Package are as follows

- a) Completion of Trial operation of Unit no. I : 52<sup>th</sup> Month from LOA
- b) Completion of Trial operation of Unit no. II : 58<sup>th</sup> Month from LOA
- c) Completion of Trial operation of Unit no. III : 64<sup>th</sup> Month from LOA

## 8.00.00

### METEOROLOGICAL DATA

The meteorological station nearest from the site is Jharsuguda. Salient meteorological data of site is given below:

- a) Mean Ambient temperature : 33.1 °C maximum  
20.7 °C minimum  
27.5 °C average
- b) Extreme Ambient temperature : 48.0 °C maximum  
6.0 °C minimum
- c) Mean wet bulb temp : 26.3 °C
- d) Mean relative humidity :  
(i) At 8.30 hrs. 66%  
(ii) At 17.30 hrs. 50%
- e) Annual Rainfall : 1445 mm
- f) Wind load : In accordance with IS-875  
for a basic wind speed of  
50 m/sec, up to a height  
of 10 meters above mean  
ground level.
- g) Seismic Zone : Zone III as per IS:1893  
latest edition.
- h) Altitude : 203 M above MSL