

# OPTCL

*Lifeline of Orissa*



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[www.optcl.co.in](http://www.optcl.co.in)



## **OPTCL – The State Highway for Power**

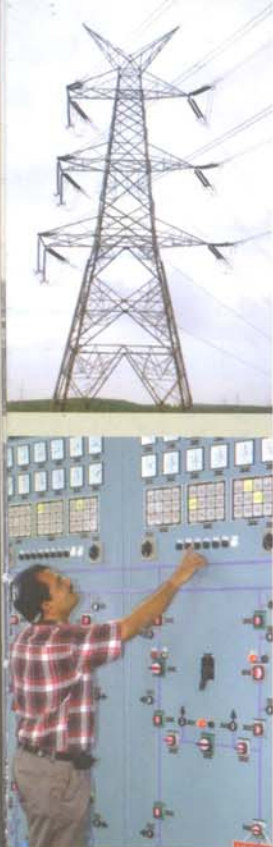
- » Well-coordinated Power Transmission System
- » Intra & Inter-State Transmission of Electricity
- » Grid Operation and Maintenance
- » Ultra Modern Load Despatch (SLDC)
- » Quality Manpower
- » Operate about 10489 Ckt. Km of Transmission Lines at 400 KV, 220 KV and 132 KV levels and 86 Grid Sub-Stations including Switching Stations (As on 01.01.2009).

## **Commitment**

- » Electricity to all in an affordable price
- » Steer power growth on a planned path







## Core Objectives

- » Discharge all functions of planning and coordination relating to Intra-State, Inter-State Transmission System with Central Transmission Utility, State Govt. Generating Companies, Regional Power Board Authority, Licensees or other persons notified by State Govt. in this behalf
- » Ensure development of an efficient and economical system of Intra-State and Inter-State Transmission Lines for smooth flow of electricity from Generating Stations to the Load Centres
- » Provide non-discriminatory open access to its Transmission System for use by any Licensee or Generating Company or any Consumer as and when such open access is provided by the State Commission on payment of transmission charges / surcharge as may be specified by the State Commission

## Infrastructure

(As on 01.01.2009)

- » Extra High Voltage Transmission System
- » 86 Grid Sub-Stations including Switching Stations with 1571 Bays
- » 10489 Ckt Km of Transmission Lines at 400 KV, 220 KV and 132 KV levels
- » 8945 MVA of Transformation Capacity
- » Length of Transmission Lines:
 

400KV DC line	: 442.703 Ckt-Km
220KV DC line	: 5166.191 Ckt-Km
132KV DC line	: 4879.877 Ckt-Km

## We are the Pioneer

We are the Pioneer in implementing dynamic reforms in Power Sector in order to ensure judicious distribution of power which would lead to overall economic progress in the state.



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## New Challenges

- » Large Scale Industrialization
- » Massive Rural Electrification through RGGVY and BGJY
- » Accelerated Growth in Generation Capacity

## Towards 765 KV Power Transmission

### Comprehensive Integrated Plans for Intra-State and Inter-State Power Transmission (January 2009)

#### A. Strengthening of Intra-State Transmission System

- » Establishment of 400/220 KV Sub-Station at Bolangir by LILO of Meramundali-Jeypore 400 KV S/C line
- » Establishment of 400/220 KV Sub-Station at Keonjhar by LILO of Rengali-Baripada 400 KV S/C line
- » Establishment of 400/220 KV Sub-Station at Sundargarh by LILO of both circuits of the existing Talcher-Rourkela 400 KV D/C line
- » Installation of 2x315 MVA, 400/220 KV Transformer at Berhampur
- » Suitable interconnection for providing 2nd feeder to Duburi 400 KV Sub-Station of OPTCL
- » 400 KV Purulia-Jamshedpur-Baripada-Mendhasal D/C line

#### B. Strengthening of Inter-State Transmission System

- » Establishment of 765/400 KV Pooling Station at Jharsuguda
- » Establishment of 765/400 KV Pooling Station at Dhenkanal







- » Establishment of 765/400 KV Pooling Station at Angul
- » Dhenkanal Pooling Station – Angul Pooling Station 765 KV 2xS/C
- » Angul Pooling Station – Jharsuguda Pooling Station 765 KV 2xS/C
- » Jharsuguda Pooling Station–Dhenkanal Pooling Station 765 KV 2xS/C
- » LILO of Rourkela-Raigarh 400 KV 2xD/C at Jharsuguda Pooling Station
- » \*LILO of Meramundali-Jeypore 400 KV S/C line at Angul Pooling Station
- » \*LILO of one circuit of Talcher-Meramundali 400 KV D/C line at Angul Pooling Station
- » \*LILO of Meramundali-Chandaka 400 KV D/C line at Dhenkanal Pooling Station

*[\* These LILO would be later disconnected when Angul and Dhenkanal Pooling Stations are developed as 765 KV as otherwise it would cause increased short circuit levels in the Grid]*

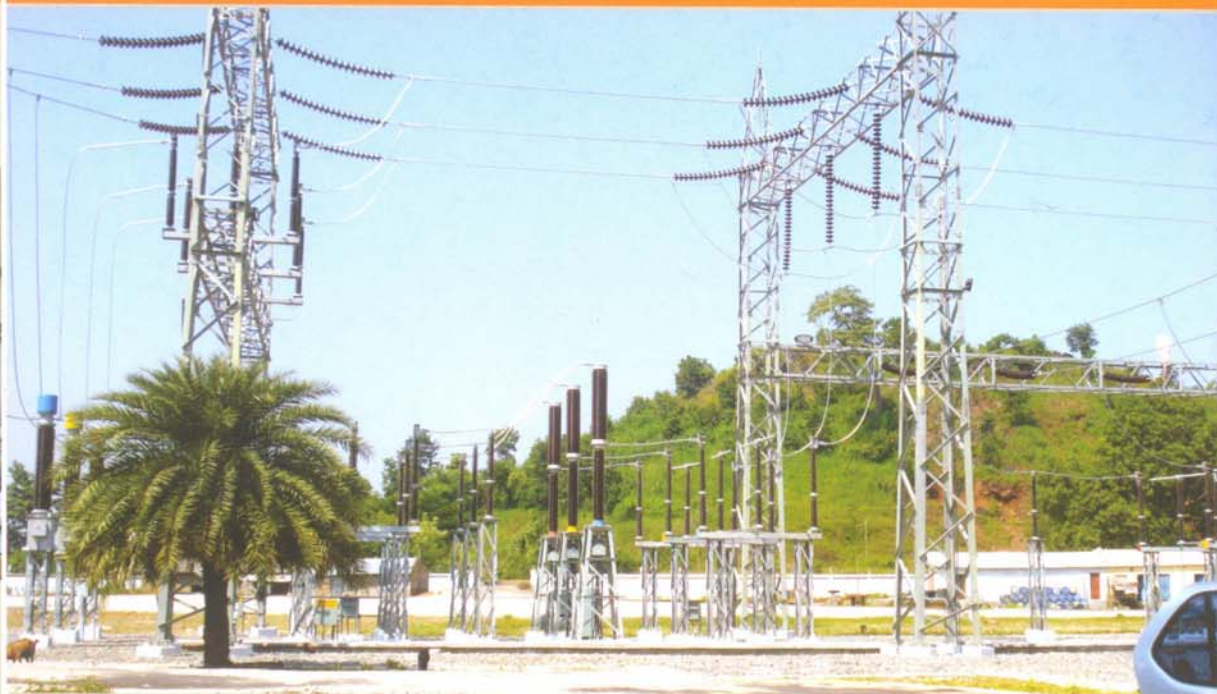
## State Load Despatch Centre (SLDC)

*State Load Despatch Centre (SLDC) is the apex body to ensure integrated operation of the power system. It is responsible for the real time Load Despatch functions, O&M of SCADA system and Energy Accounting.*



- » As System Operator, it involves operational planning, protection coordination, designing of safety net, frequency control, voltage control, issuing switching instructions, restoration of equipments, post disturbances etc.
- » As Market Operator, it involves generation resources scheduling-facilitating open access, energy accounting and settlements.
- » As an Agent for achieving economy and efficiency, it facilitates sharing of State Resources.





## Utilising IT Advancements

Keeping pace with the technology, comprehensive IT initiatives are in place for OPTCL/SLDC based on Business Plans.

### Major IT Dimensions:

- » Business Application Systems (ERP)  
*The ERP implementation focuses on Modules in the Key Areas viz. Energy Accounting and Settlement (EAS), Energy Trading / Billing, EHT Operation & Management, EHT Construction Projects, Finance and HR.*
- » Data Centres  
*Exclusive Data Centres for OPTCL, GRIDCO and SLDC*
- » Wide Area Network  
*Common Private OPTCL-GRIDCO-SLDC Wide Area Network*
- » Facility Management Service (FMS) Outsourcing



## Telecommunication

- » ULDC Scheme has been successfully implemented in OPTCL Sector considering 60 RTU Stations by POWERGRID and is presently operating with its control centre at SLDC, Bhubaneswar and 4 nos. Sub-LDCs situated at Jayanagar, Meramundali, Budhipadar & Bhubaneswar.
- » RTUs are located at major Sub-Stations & Power Houses and are connected to the respective Sub-LDC through PLCC and thereafter each Sub-LDC is connected with SLDC through Wideband Communication Channel.
- » OPTCL is taking benefit of real time SCADA for its smooth grid operation and management and earning revenue in terms of Unscheduled Interchange(UI) charges under ABT regime.





## Society & Environment are Our Priority

- » OPTCL is committed to deal with environmental and social issues while executing transmission projects.
- » Multi-Circuit and tall towers are adopted to avoid disturbance to habitation, wildlife, trees in ecologically sensitive areas.
- » As part of Environment Care, OPTCL encourages plantation of trees inside Sub-Station premises.



## Strengthening Orissa

- » OPTCL can be termed as the arterial network of Orissa, which ensures supply of electricity to different parts of the State.
- » The Company strives to operate and maintain an efficient, economical and well-coordinated power transmission system that meets overall performance standards.
- » Dedicated towards balanced growth of the State, OPTCL aims to upgrade the transmission network so as to increase its capacity to handle more and more power, which would realize the Company's dream for enabling 100% availability of power to each family in Orissa.
- » Constantly updating its technology and enhancing the skills of its workforce, OPTCL strives to provide quality, reliable and secure power with minimum transmission loss.



OPTCL

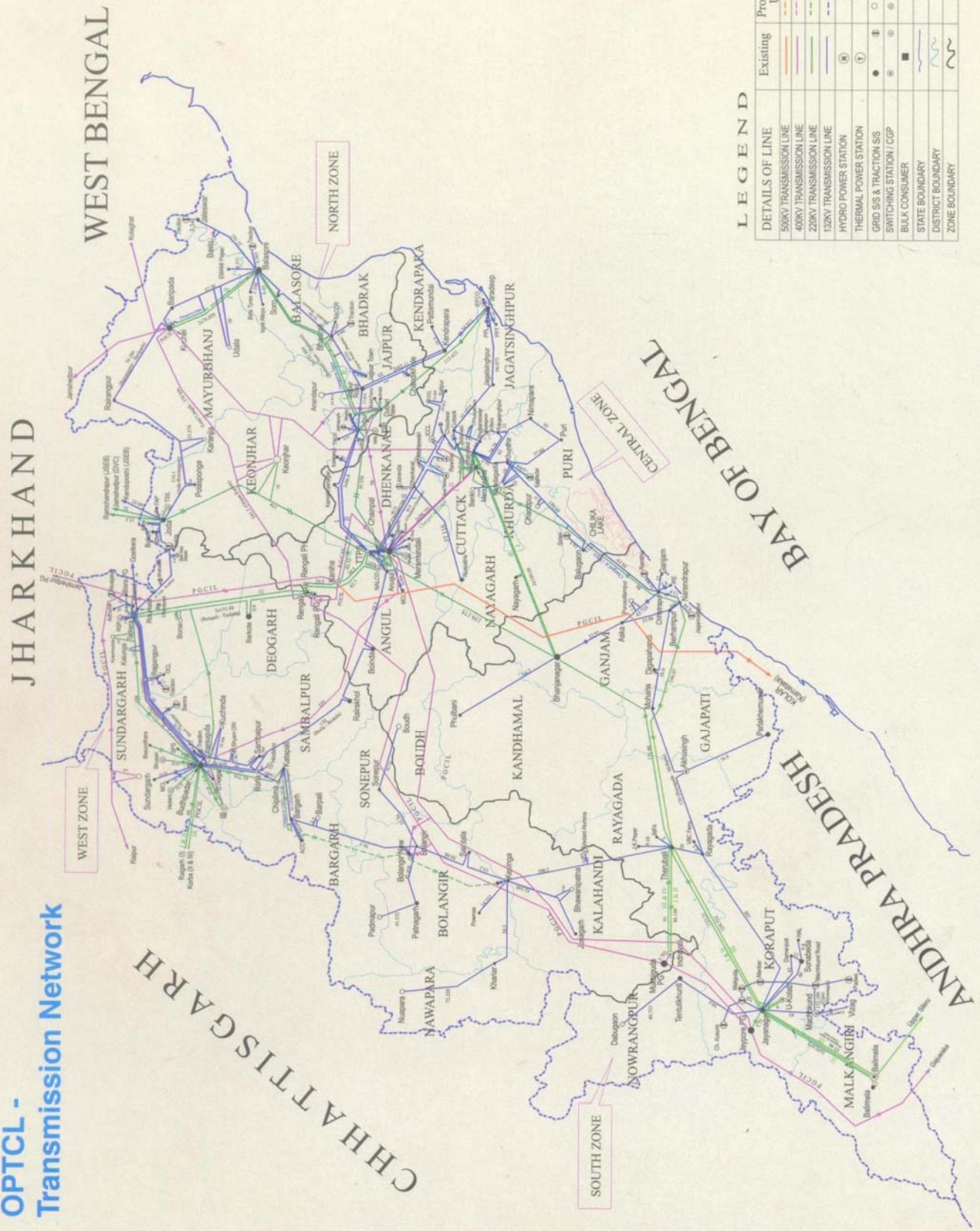


# OPTCL - Transmission Network



**Orissa Power Transmission Corporation Limited**  
Regd. Office : Janpath, Bhubaneswar - 22

designed and produced by sanket



## LEGEND

DETAILS OF LINE	Existing	Proposed / U/C
500KV TRANSMISSION LINE		
400KV TRANSMISSION LINE		
220KV TRANSMISSION LINE		
132KV TRANSMISSION LINE		
HYDRO POWER STATION		
GRID SS & TRACTION SS		
SWITCHING STATION / CGP		
BULK CONSUMER		
STATE BOUNDARY		
DISTRICT BOUNDARY		
ZONE BOUNDARY		