PRESENTATION

One Billion Tonne

Strategy for Coal Evacuation

17.02.2020

Coal Evacuation

Smooth evacuation of Coal is very crucial for sustaining Coal production and meeting customer demand.

Modes of evacuation of coal from Coal Mines:

- Conveyor Belt (3%)
- Merry Go Round (MGR) (18%)
- Road (19%)
- Railways (60%)

Coal Evacuation

- Conveyor Belt and MGR is suited for pit head Power Plants. NTPC has MGR system for pit head Power Plants.
- Road is suitable for short distances in small quantity. It is costly and not environmental friendly.
- Railway is only suitable mode of transport for evacuation of coal for long distance Power Plants and Industrial Customers.

Focus Area of Coal Evacuation

- Development of Coal loading infrastructure i.e., Silos/Rapid Loading System (RLS)
- Development of Private Siding connectivity i.e., Silo to Railway Main Line
- Development of Railway Main Line on JV/PPP mode or Deposit Work
- Monitoring Critical Capacity enhancement works by Railways
- Rail cum Sea (Coastal) movement of Coal
- Timely development of infrastructure for coal evacuation is as important as increasing production of Coal

Coal Evacuation

- ✓Coal Production of CIL is projected to increase from 630 Mt to 1000 Mt in next four years.
- ✓Major increase in production will come from SECL (Korba Coalfields, Mand-Raigarh Coalfields,), MCL (IB Valley, Talcher), CCL (North Karanpura) and Captive Blocks.
- ✓Coal Production from captive/Commercial Mining will also increase by 250 Mt in same areas.
- ✓Coal Evacuation is going to be the biggest challenge for sustaining Coal Production and meeting Customer demand.

SECL OUTLOOK

- SECL has undertaken major Rail Infrastructure development under PPP Model to meet challenges of Coal Evacuation.

- SECL has two major growth area of Coal production:

  Mand-Raigarh Coalfields and

  Korba Coalfields.

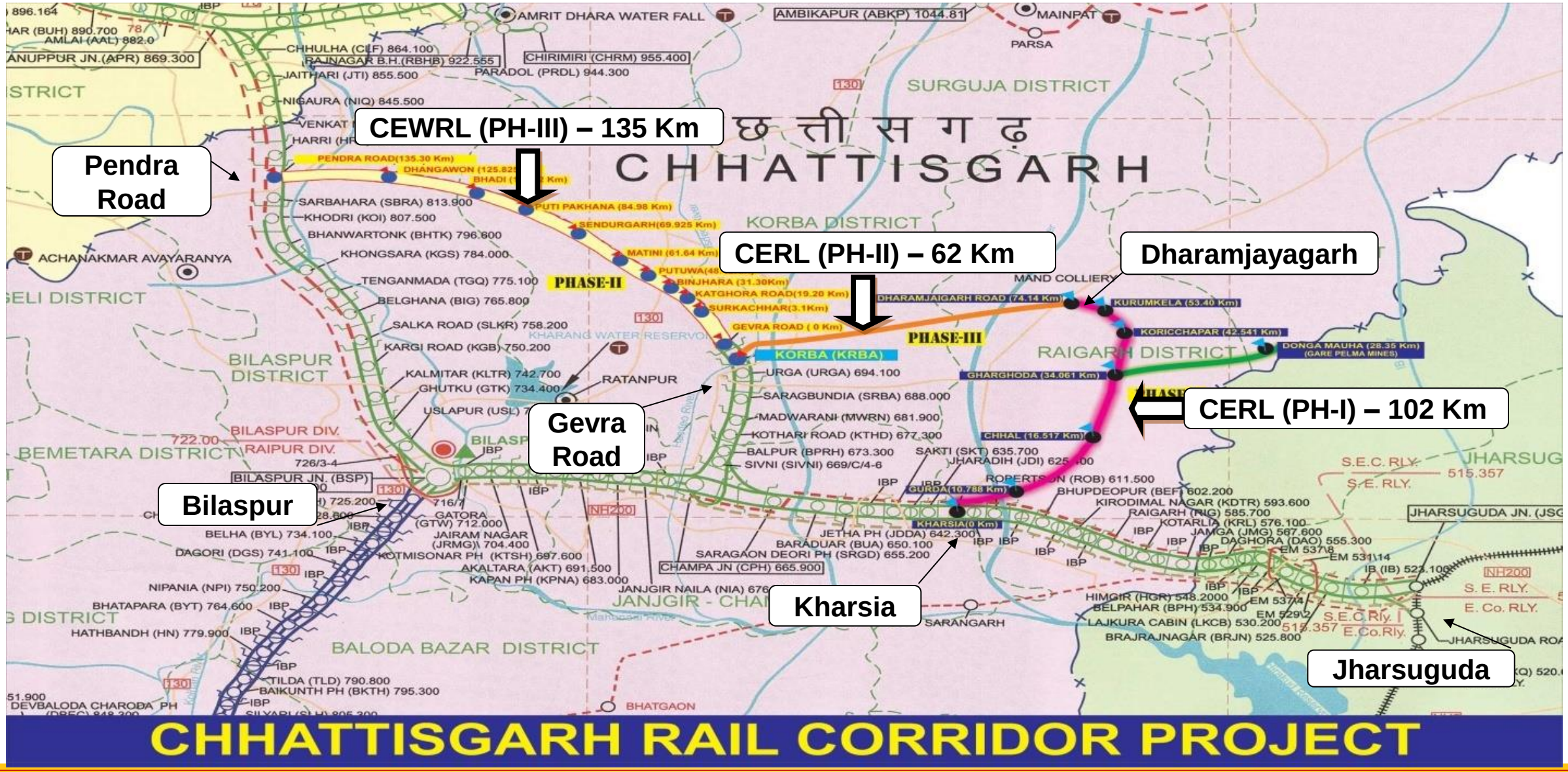
- Mand-Raigarh Coalfields has coal deposit of 185000 Million Tonne.

- Production has started in some mines and new mines are also going to develop in the area.

- New Mines

Chhal : 06.00 MT, Barod : 15.00 MT, Jampali: 02.000 MT, Bijari: 01.50 MT, Pelma: 15.00 MT, Durgapur: 06.00 MT, Syang: 17.00 MT.

Location Map of Project



SECL OUTLOOK

- Private Coal blocks of CSPGCL, Mahagenco, GSEB and Hindalco is coming up in the Gare-Pelma Sector.
- Mand-Raigarh Coalfields had no Rail Connectivity.
- CERL (Chhattisgarh East Railway Limited), a JV of SECL, IRCON and CSIDCL (representing GoCG) was incorporated on 12.03.2013, with a Shareholding of 64%, 26% and 10% respectively.
- Rail Corridor is being developed under JV Model of PPP policy of Railways. Revenue is shared between Railways and JV. IRCON is the Project Executing Agency.
- MoR has sanctioned 60% inflated Mileage to ensure Project IRR of 14%
- CERL Phase-I Project Cost is Rs 3055 crore
- CERL Phase-I Project Length 132 Km
- CERL Phase-I Peak Traffic 62 MT

CERL PHASE-I PROJECT : ACHEIVEMENT

- ✓Financial Closure achieved on 24.11.2017 with Debt-Equity ratio of 80:20. The debt component syndicated is Rs 2343.00 Crores with 8 Banks participating in the Consortium led by Indian Bank.

- ✓The Company has incurred the Capital Expenditure of more than Rs 2000.00 Crore till date.

- ✓First 44 Km i.e., Kharsia to Korichappar Commissioned on 12.10.2019. Coal Loading started from 12.10.2019.

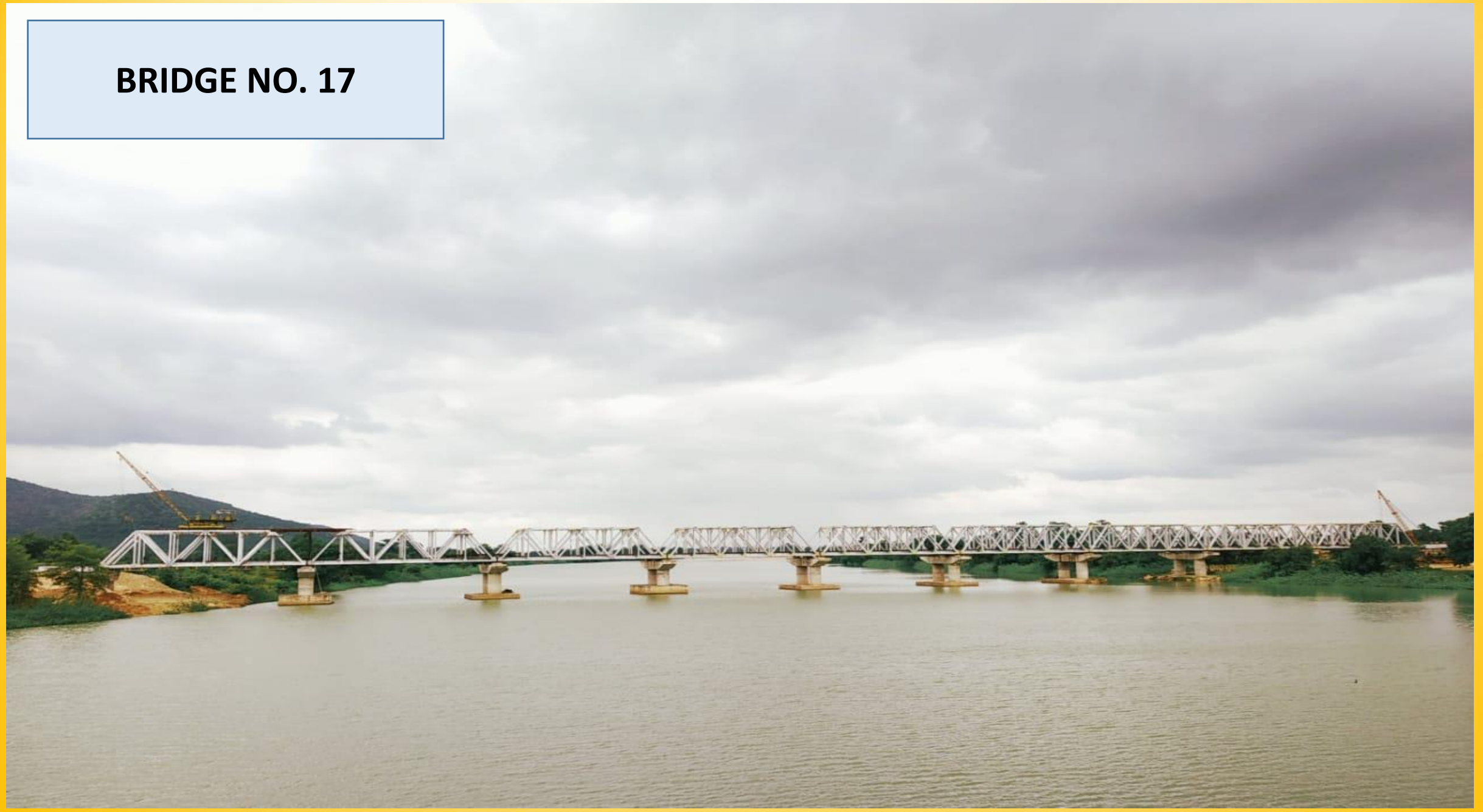
- ✓Revenue sharing started from Indian Railway. First Cheque received from Indian Railway on 08.01.2020.

First Train Run

First Train Run

First Train Run

BRIDGE NO. 17



CEWRL PROJECT

- ✓ Coal Production from Korba Coalfields will increase from present level of 100 MT to 150 MT in next four years.
- ✓ Korba Coalfields has biggest mine of Asia viz., Gevra. Coal Production of Gevra will increase from present level of 41 MT to 70 MT.
- ✓ Coal Production from Kusmunda will increase from 40 MT to 50 MT
- ✓ Coal Traffic from Korba Area is going from Korba and merging at Champa station in Main Line of Howrah-Mumbai trunk route of SECR. Champa to Bilaspur sector is super saturated. Already more than 100 trains are running each way.
- ✓ Alternative route from Korba to Pendra is planned to avoid super saturated section of SECR for taking Coal from Korba to Northern-Western India. Distance will reduce by 54 Km.

CEWRL PROJECT

- ✓ CEWRL (Chhattisgarh East-West Railway Limited), a JV of SECL, IRCON and CSIDCL (representing GoCG) was incorporated on 25.03.2013, with a Shareholding of 64%, 26% and 10% respectively for developing the East-West Rail Corridor under PPP policy of Railways. IRCON is the Project Monitoring Agency.
- ✓ MoR has sanctioned 40% inflated Mileage to ensure Project IRR of 14%.
- ✓ Gevra to Pendra Road is 135 Km double line electrified section.
- ✓ Estimated Project Cost is Rs 4970.00 Crores
- ✓ The project is expected to be completed by 31.03.2023.

CEWRL PROJECT : CURRENT STATUS

- ✓ Land Acquisition and Forest Clearance has been completed for the Main Line.
- ✓ Promoters has infused Equity to the tune of Rs 504.05 Crore.
- ✓ Final Sanction of Banks has been received for debt of Rs 3976.00 Crore. SBI is the lead Bank. Bank of Baroda, Punjab National Bank, Union Bank, Canara Bank and Indian Bank are part of Consortium.
- ✓ CEWRL faced challenges in getting sanctions from Banks due to adverse lending scenario.

Impact of Rail Corridor on One BT

SECL is geared up for challenges of Coal Evacuation due to quantum jump in Coal Production to meet 1 BT Target of CIL.

FUTURE SUGGESTION

- ✓ Jharsuguda to Sardega Railway Line has been developed by MCL. It has connectivity only in one direction at Jharsuguda. Capacity constraint of Main Line of SER/SECR will pose problem in evacuation of Coal.
- ✓ It is desirable that Sardega to Pelma, a Rail Corridor be planned for evacuation of Coal of MCL to Northern and Western India via alternative route of CERL & CEWRL.
- ✓ SECL or MCL can be Promoter Companies on behalf of Coal India
- ✓ Assistance of State Government of Orissa and State Government of Chhattisgarh will be required.


INDIA
RAILWAY MAP
N
NCL
CCL
BCCL
NEC
ECL
MCL
SECL
WCL
R-S-R
Important Broad Gauge Line
Other Broad Gauge Line
Metre Gauge
Narrow Gauge Line
Under Gauge Conversion
Under Process
Major Railway Junction
Other Stations
Map not to Scale

CRITICAL RAIL INFRASTRUCTURE PROJECTS

- ✓Coal Deposits are available in Eastern part of India . Coal is required to be transported from East to West and South of India.
- ✓Railway is the only suitable mode for transportation of Coal.
- ✓With 1 BT Production of Coal by CIL, Coal rake loading will increase from 276 rakes/day to 450 rakes/day. Projected growth rate is 14%.
- ✓Massive Capacity Enhancement in Railway system is required.
- ✓Ministry of Coal and Ministry of Railways has identified Critical Rail Infrastructure Projects which are reviewed in coordination meetings.

ENHACEMENT WORKS

Major throughput enhancement works funded by Railways:

- ✓Doubling from Singrauli to Shaktinagar via Karaila Road (45 Km)
- ✓Doubling Singrauli to Mahadiya and Mahadiya to Katani section (260 kms)
- ✓Third Line from Patratu to Tori to Son Nagar in Barka Khana Barwadi Garhwa Road (291 Km)
- ✓Fourth Line from Jharsugda to Bilaspur (195 Km)
- ✓DFC- Dadri to Sonenagar & extension upto Koderma
- ✓Third/Fourth Line from Talcher to Budapank (10 Km) and Budapank to Rajatgarh (124 Km)

CRITICAL RAIL PROJECTS

JV Model

- ✓Shivpur-Kathotia Railway Line SPV- JCRL
- ✓Angul Balrampur Rail Line SPV : MCRL

Important Deposit Work

- ✓Tori Shivpur
- ✓Jharshuguda-Barpali Sardega
- ✓Rail Connectivity to Lingraj Silo
- ✓Rail Line from Bhadrachalam to Sattupalli

STRATEGY FOR COAL EVACUATION

Challenges:

- Coal Production of CIL is going to increase from 630 MT to 1000 MT by 2023-24. Production will also increase by 250 MT from Captive/Commercial Mining.

- Coal Evacuation is going to be the biggest challenge of Coal Sector.

Strategies:

✓Developing efficient Coal loading system i.e., Silo/RLS by Coal Companies. Present system of pay loader loading should be gradually phased out.

✓Washed, Crushed and pre weighed Coal can be loaded in Wagon.

STRATEGY FOR COAL EVACUATION

- ✓Development of efficient Coal loading siding by Coal Companies. Bulb layout should be encouraged. Engine Reversal should be discouraged.
- ✓Development of Rail Infrastructure in JV mode under PPP policy of Indian Railways. CERL & CEWRL (Subsidiaries of SECL) is successful model may be replicated in other Coal Companies.
- ✓Faster execution of Critical Railway capacity enhancement works for debottlenecking congested railway network. Special Watch to be kept on rail Infrastructure Augmentation Work for evacuation of Coal from Talcher and IB Valley.
- ✓Inducting high capacity railway wagon i.e., 25 ton axle load.
- ✓Running of long haul trains. Present pay load of Indian Railway train is 4000 ton. Queens Land in Australia pay load is 11000 ton.

STRATEGY FOR COAL EVACUATION

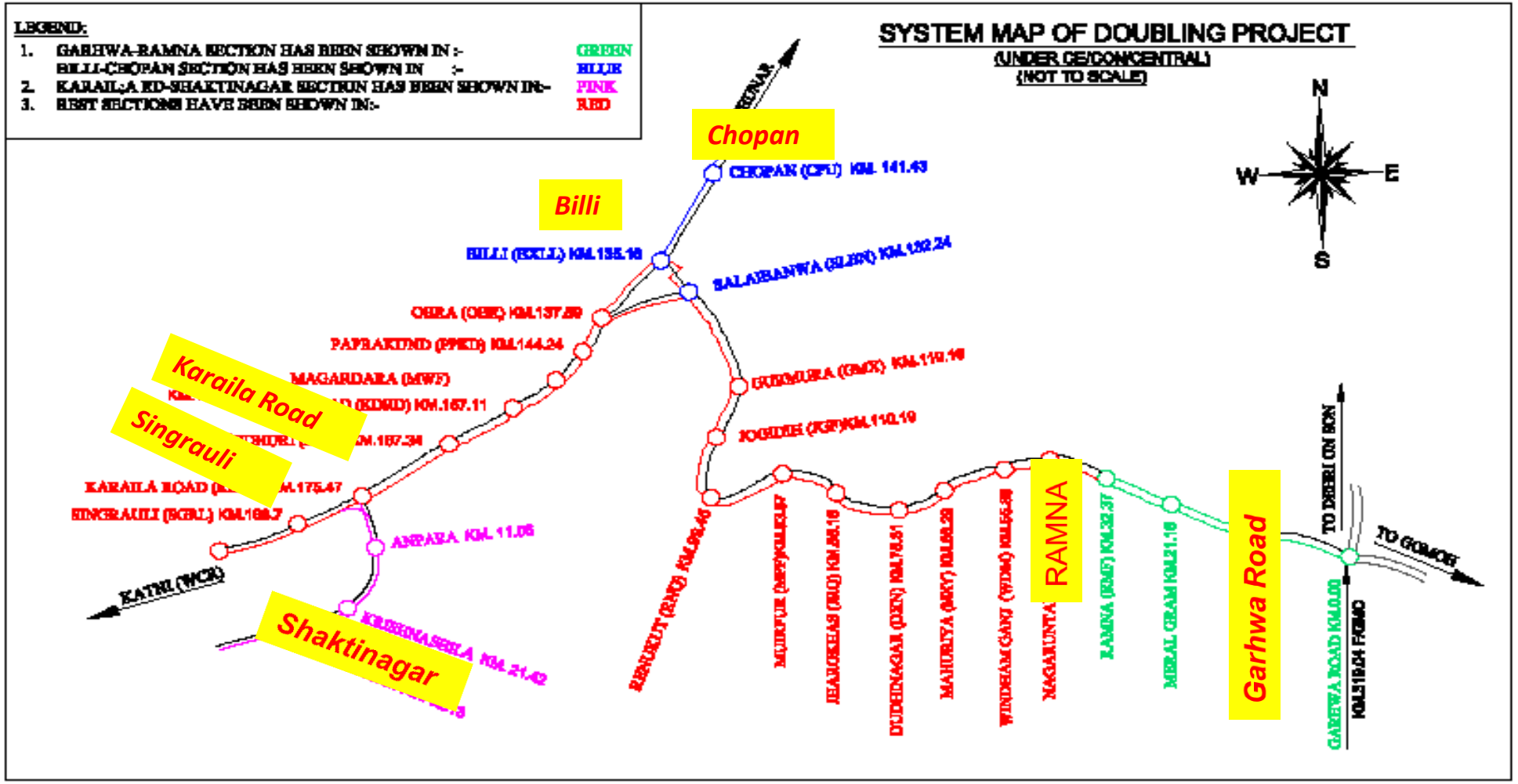
- ✓Rail cum Sea movement of Coal from Coalfields to Southern and Western part of India to be increased. Coastal movement will increase via Haldia/Paradip/Vizag Ports. Rail Infrastructure feeding to these Ports and Port infrastructure need to be augmented.

- ✓Considering constraint of Coal Transportation by Rail, more pit head Power Plants should be encouraged. CIL may enter into new area of pit head power generation.

- ✓Railway is planning capacity enhancement to meet increase in Coal production by CIL. There is a need for detailed planning for Railway Capacity enhancement to meet the requirement of Captive/Commercial Mining. The priority of Coal Transport for Coal India vis-à-vis Captive Mining/Commercial Mining will get redefined.

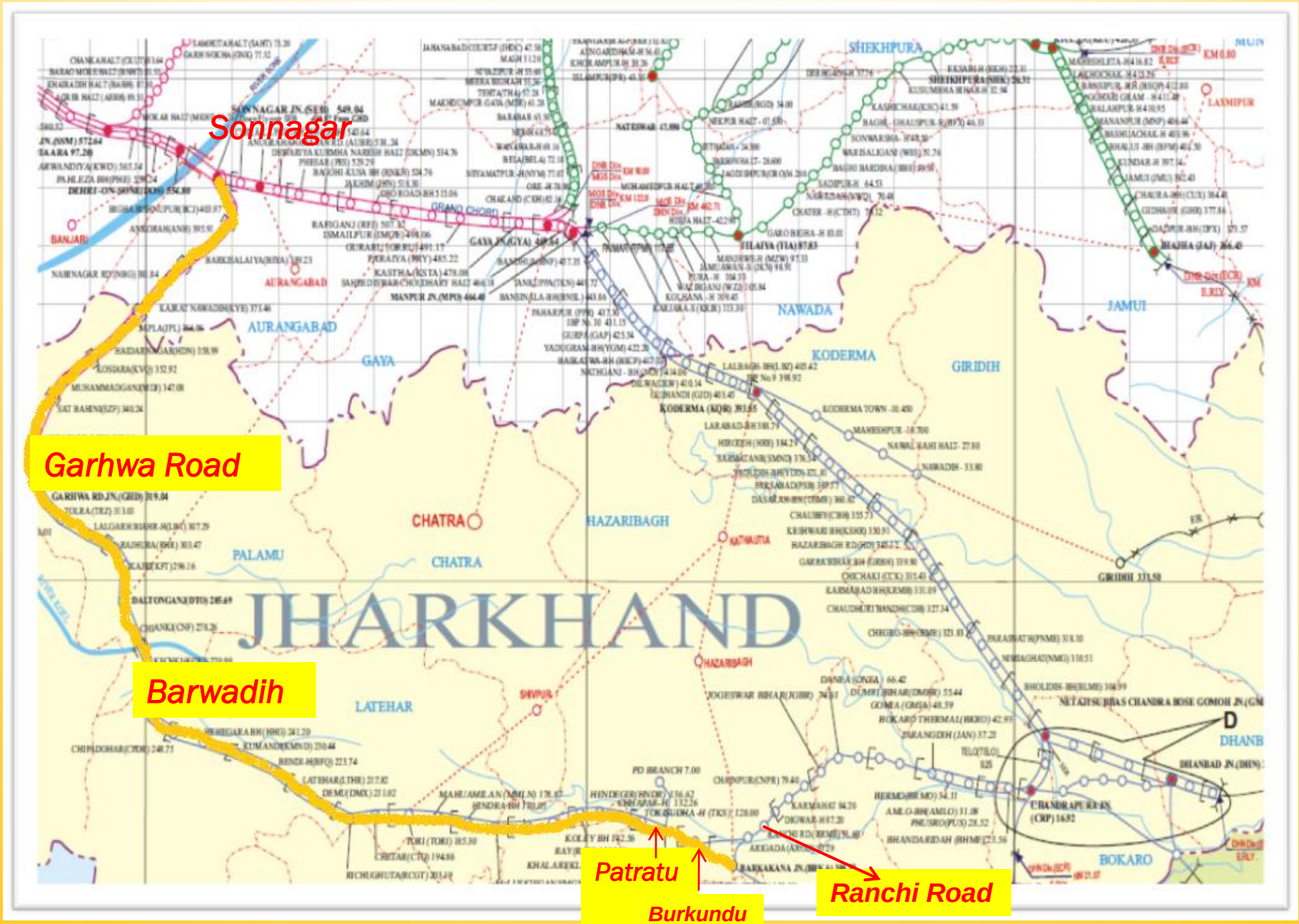
- ✓For efficient planning of Coal Evacuation Infrastructure, O-D Flow is very crucial. Effort should be made to define O-D Flow of 1 BT Coal Production.

Doubling of Rail line from Singrauli to Shaktinagar via Karaila Road (45 km)

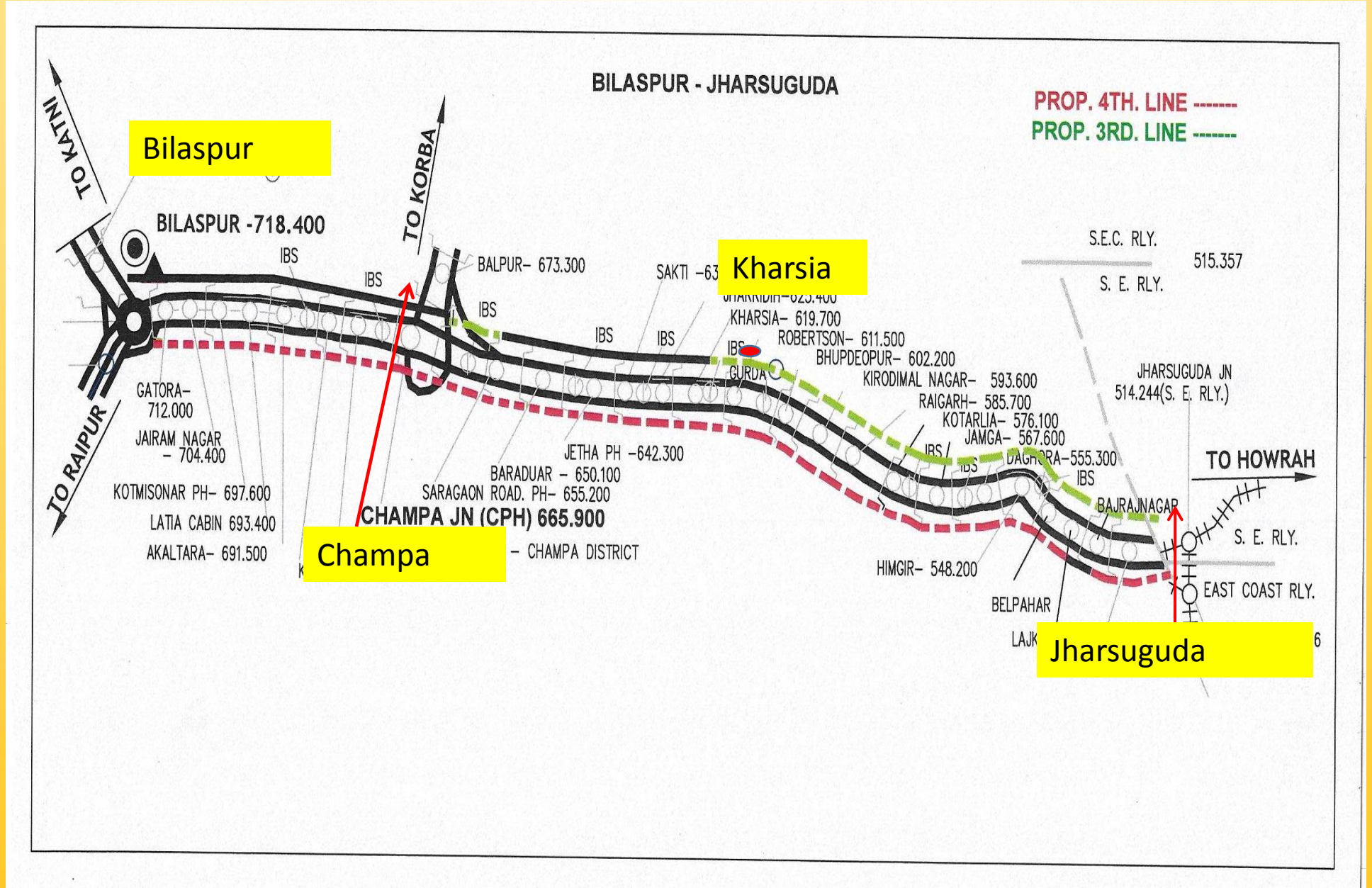


Doubling of Singrauli to Mahadiya and Mahadiya to Katni section (260 kms)

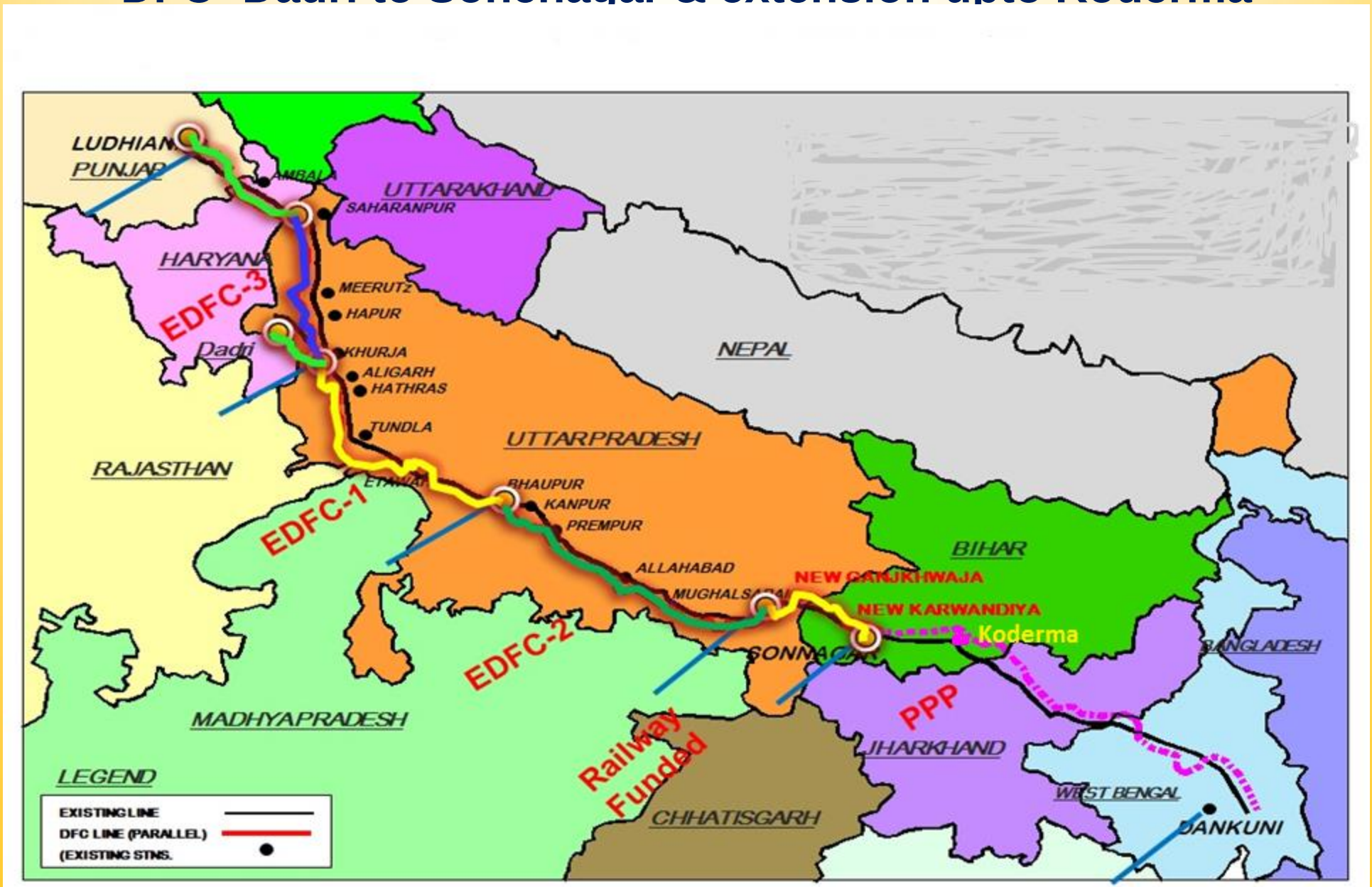
Third line Barkakana-Barwadih-Garhwa Road (291 km)



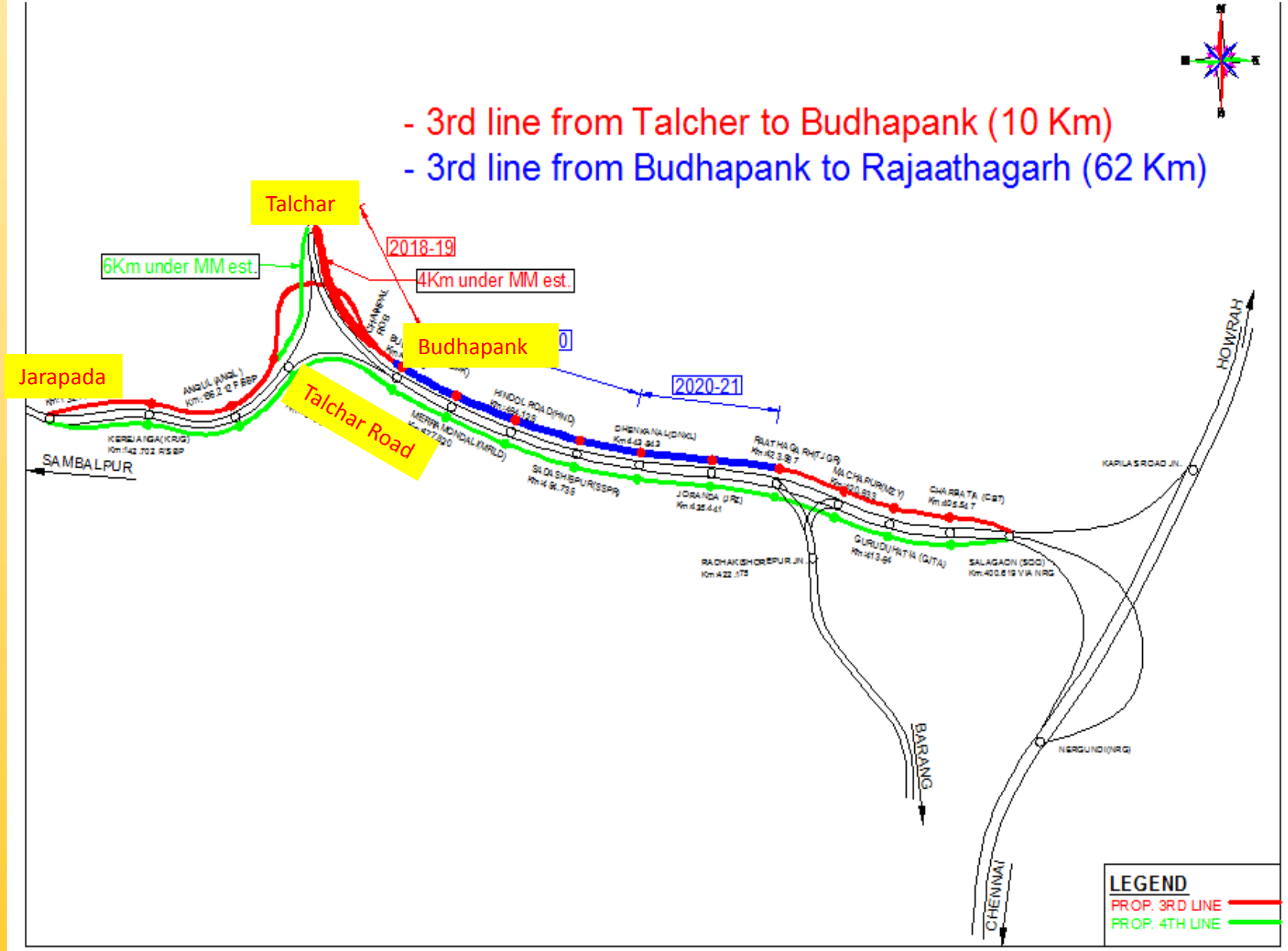
Fourth line between Jharsuguda to Bilaspur (195 km)



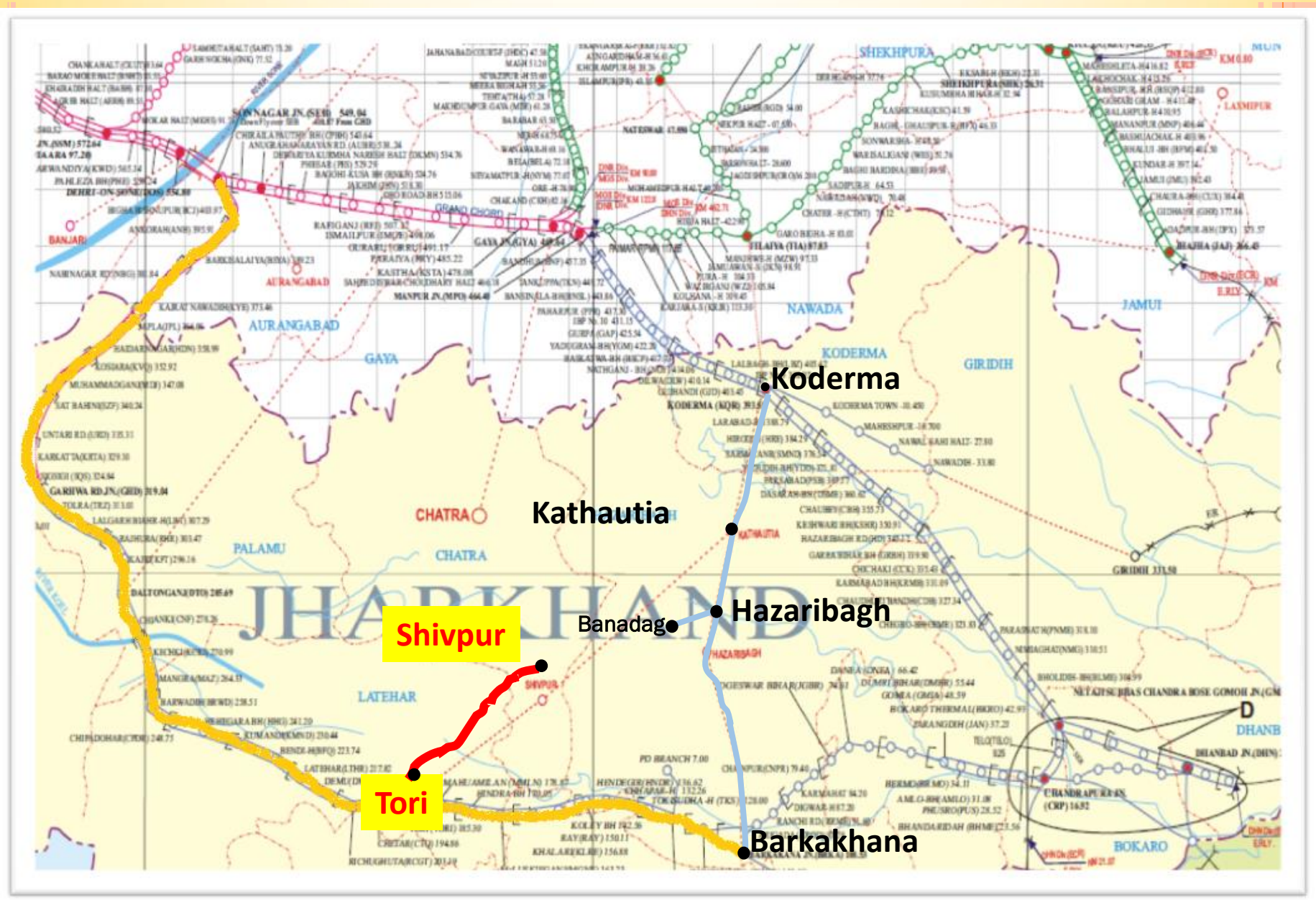
DFC- Dadri to Sonenagar & extension upto Koderma



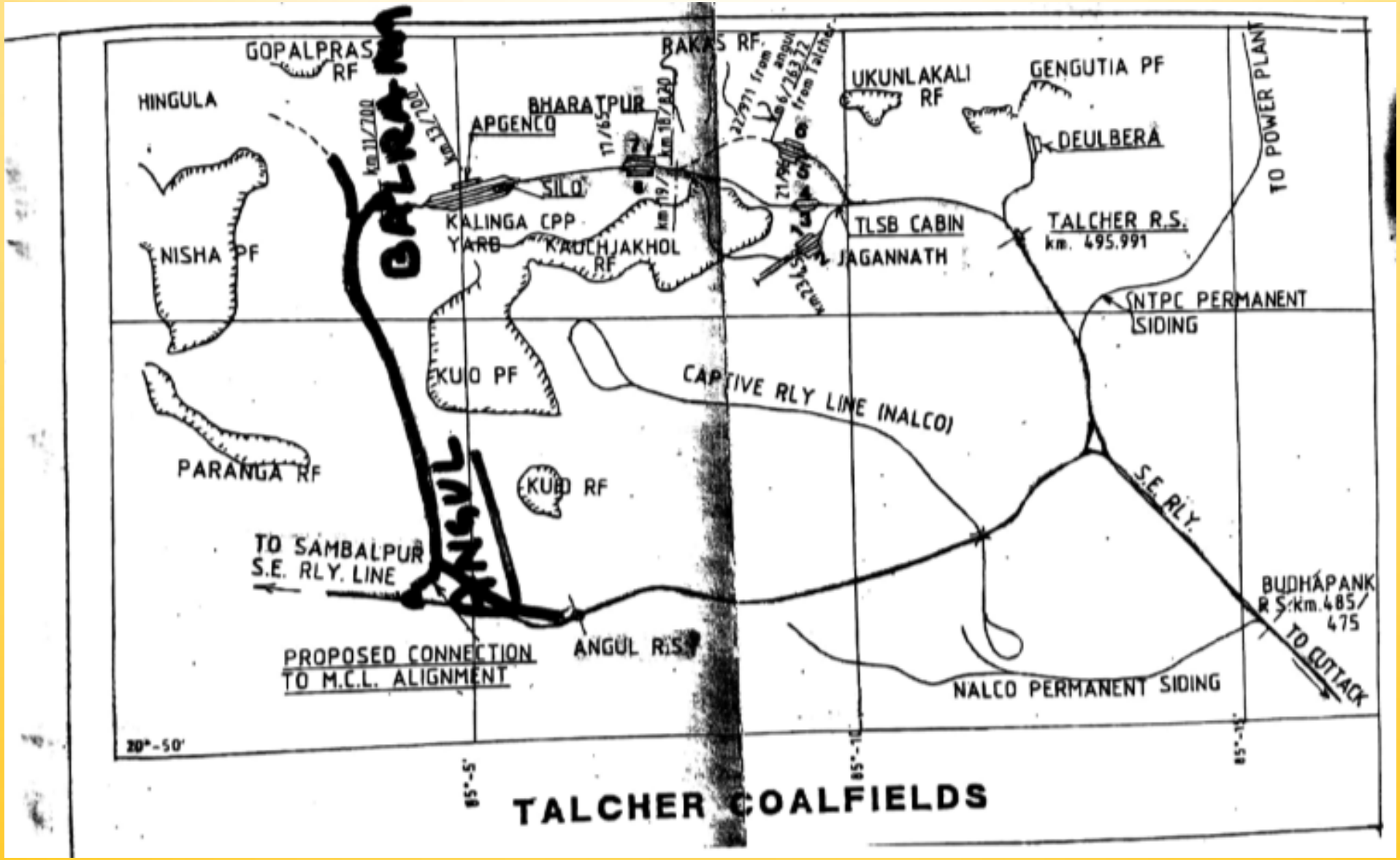
Third and Fourth lines from Talcher to Budhapank (10 km) and Third & Fourth line from Budhapank to Rajathgarh (124 km)



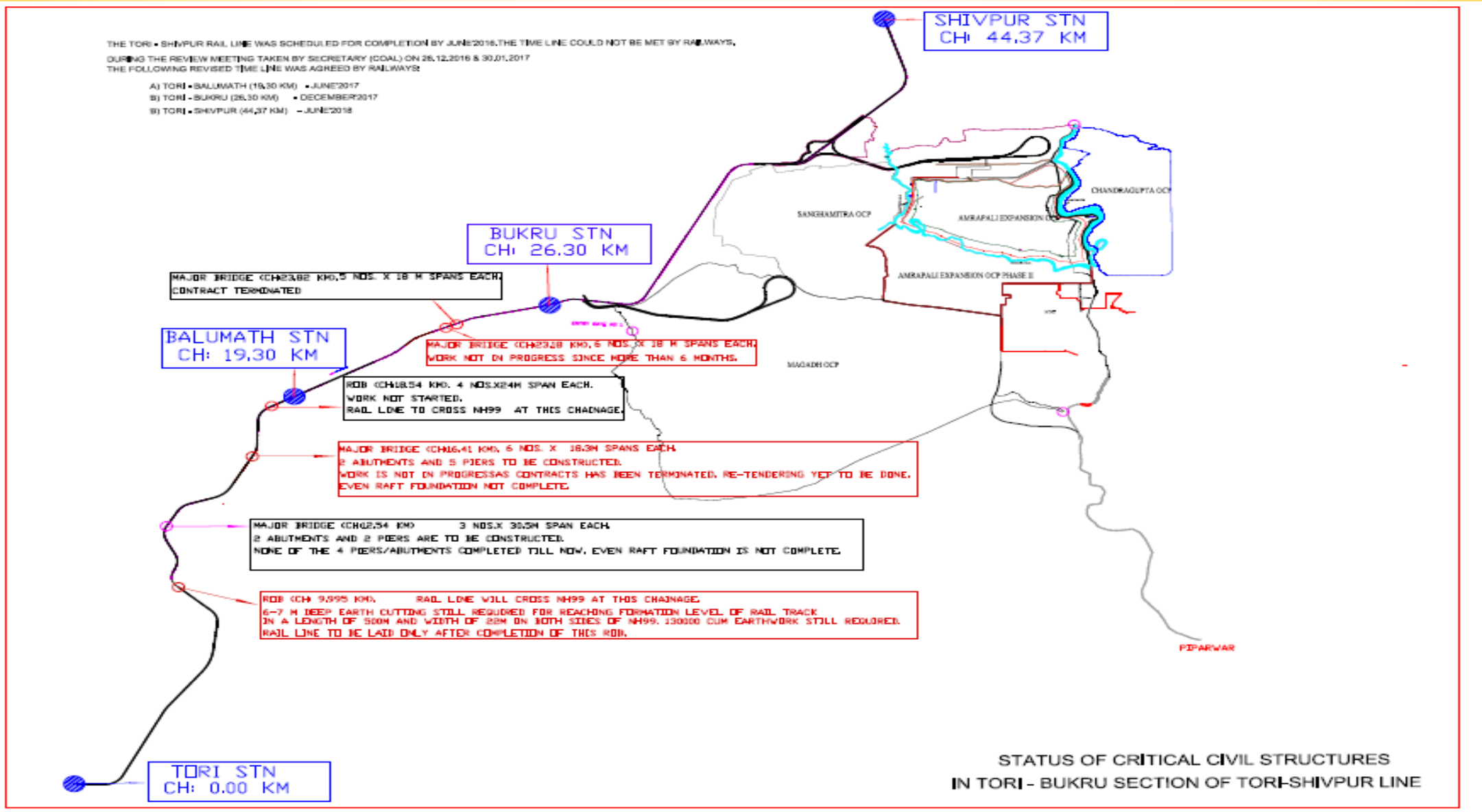
Shivpur-Kathautia Railway line (47.7 km)



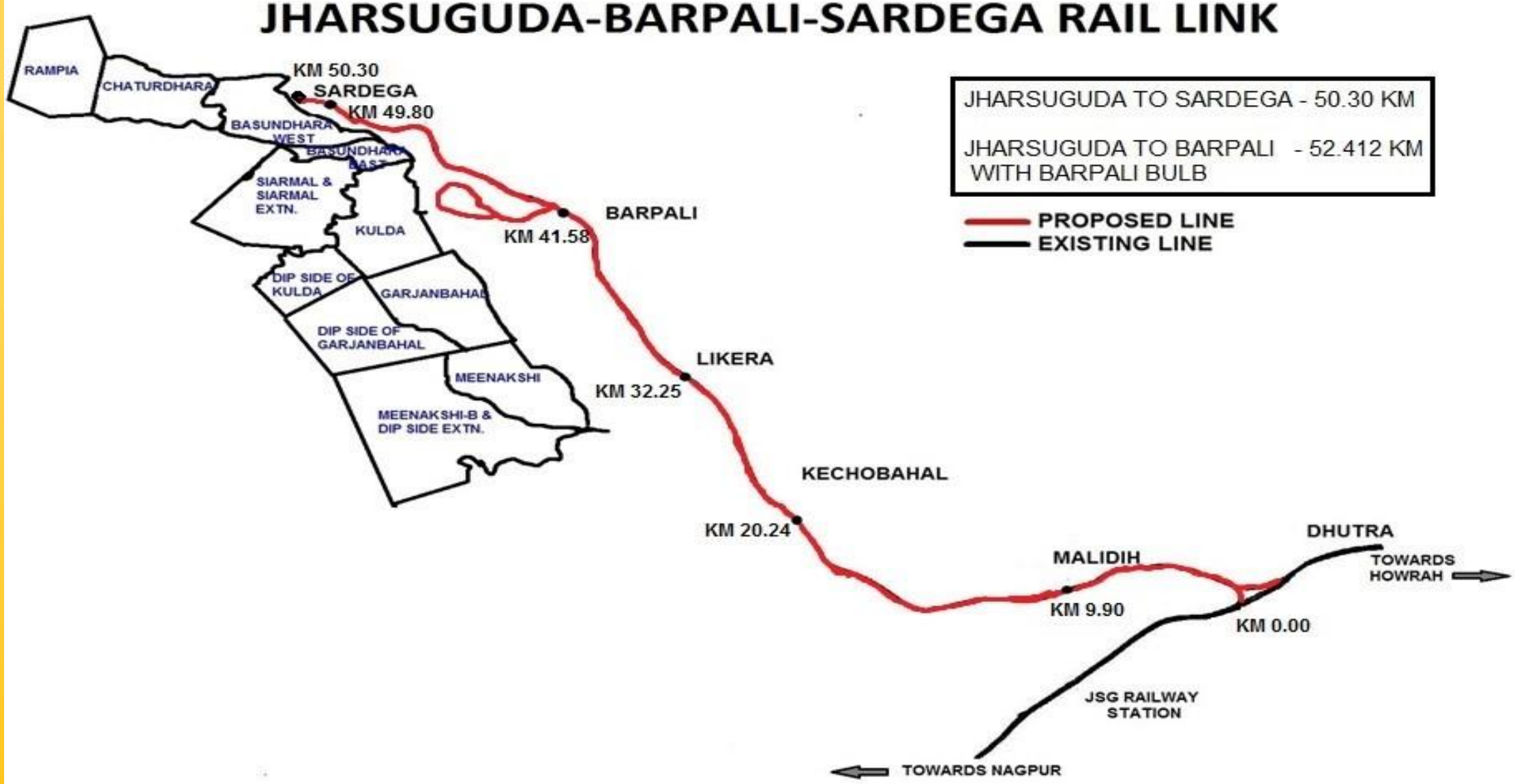
Angul-Balram Rail Link as part of Inner Corridor (14.22 km)



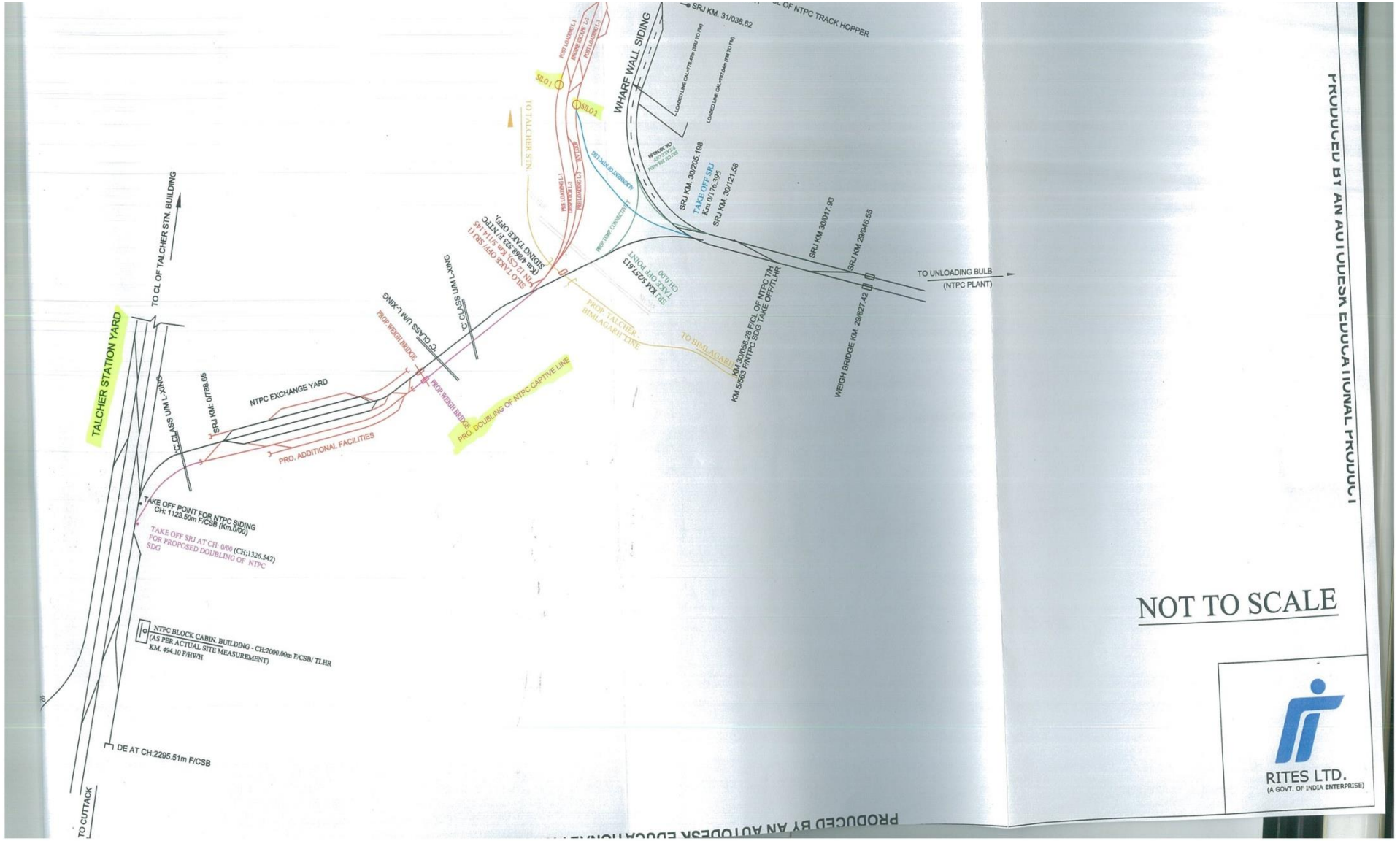
Tori-Shivpur Railway Line (44.37 km)



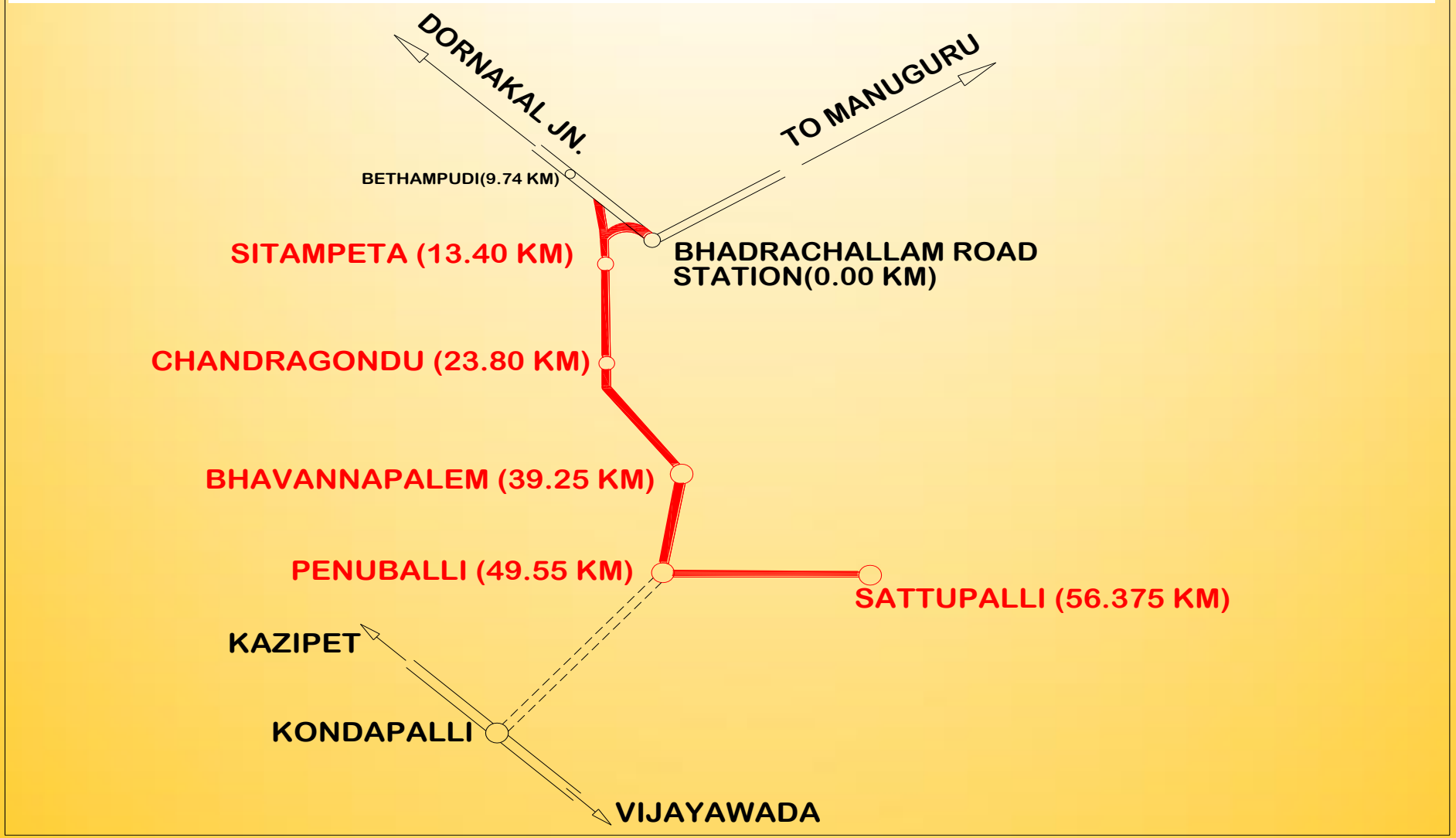
JHARSUGUDA-BARPALI-SARDEGA RAIL LINK



Rail connectivity of Lingaraj SILO with existing Deulbeda Siding at Talcher Coalfield of MCL in Odisha



Bhadrachalam to Sattupalli Railway line



Thank You