

**Proposed transmission system in WR for various generation projects in Jharkhand, Orissa, West Bengal, Chhattisgarh, M.P. and Maharashtra and other NTPC projects**

System studies have been carried out to identify transmission system strengthening for transfer of power from various generation complexes in Jharkhand, Orissa, West Bengal, Chhattisgarh, M.P and Maharashtra and other NTPC projects to major load centers in WR. The most of the capacity of the above generation complex includes generation projects of various IPPs who have applied for long term open access. Complex wise capacity is as under:

<b>Complex</b>	<b>NR</b>	<b>WR</b>
<b>IPPS</b>		
Jharkhand	2834	1640
Orrisa	2664	2875
West Bengal	1200	800
MP	1173	1897
Maharashtra	300	3500
Chhattisgarh	430	762
<b>UMPP &amp; NTPC projects</b>		
Tilaiya UMPP (Jharkhad)	1700	800
NTPC Projects (Barh-II, Nabinagar JV, Rihand-IV, Vindhyaachal-IV and Mauda)	760	2327
<b>Total</b>	<b>11061</b>	<b>14601</b>

**A) Power transfer from generation projects in Jharkhand, Orissa, West Bengal and Madhya Pradesh**

For transfer of power from generation projects in Eastern Region a high capacity 765kV corridor between Jharsaguda (Orrisa) and a pooling station near Dharamjaygarh in Chhattisgarh is considered. This pooling station is proposed to be established by LILO of Ranchi – WR Pooling Point 765kV 2xS/c lines at Dharamjaygarh. For onward dispersal of power and keeping in view the quantum of power transfer, Dharamjaygarh is proposed to be interconnected with Pooling station near Jabalpur through 765kV

2XS/c lines along with establishment of 400/765KV 3x1500MVA substation near Jabalpur. Power from various IPPS viz. RIL (Shadol) (1050 MW) and Today Home (1000 MW) is proposed to be pooled at Jabalpur Pooling Stations. For onward transfer of power beyond Jabalpur Pooling Stations, 765 kV high capacity Corridor between Jabalpur Pool-Bina is considered. For transfer of power towards western part of WR, a parallel high capacity 765kV corridor between Bina and Baroda via Indore is considered. Further, to facilitate immediate connectivity of generation projects and smooth operation of high capacity corridors, interconnection of Pooling station near Jabalpur having interconnection with 400kV Damoh as well as Jabalpur through a D/c lines is proposed.

For transfer of Power from Vindhyachal-IV STPP (1000 MW) and Rihand-IV STPP(1000 MW), it is proposed to develop a 400/765kV pooling station near Vindhyachal to pool the power from above generation projects. For onward transfer of power, it is proposed to develop a parallel 765 kV corridor between Vindhyachal Pooling and Gwalior via Satna. In addition, transfer of power from Jaiprakash Associates Ltd (1320 MW), interconnection between Generation project and Satna 400kV station through 400 kV D/c (Triple) is considered.

Further, for transfer of power beyond Bina from the generation projects in Vindhyachal/Rihand complex as well as Jharkhand/Orrisa and MP, a 765 kV corridor between Bina and Vadodra via Indore is considered.

Accordingly, following transmission system is proposed:

- Establishment of 765/400 kV, 3x1500 MVA sub station near Dharamjaygarh
- Dharamjaygarh - Pooling Station near Jabalpur 1200kV 2xS/c
- LILO of Ranchi – WR Pooling station 765 kV 2XS/c at Dharamjaygarh
- Establishment of 765/400 kV, 3x1500 MVA Pooling Station near Jabalpur
- Pooling Station near Jabalpur - Bina 765kV 2xS/c
- Establishment of 765/400 kV, 2x1500 MVA sub station Pooling Station near Vindhyachal
- Pooling Station near Vindhyachal – Satna - Gwalior 765kV 2xS/c
- Gwalior -Jaipur 765kV 2xS/c
- Pooling Station near Vindhyachal – Rihand-IV 400kV D/c (Triple)
- Bina-Indore 765 kV 2<sup>nd</sup> S/c
- Indore- Baroda 765 kV 2xS/c

- Pooling Station near Jabalpur – Jabalpur 400 kV D/c (Triple)
- Pooling Station near Jabalpur – Damoh 400 kV D/c
- Establishment of 765/400 kV 3x1500 MVA S/s at Vadodra  
Estimated Cost : Rs 11500 Cr

## **B) Power transfer from IPP projects in Champa –Janjgir and Raigarh Complex in Chhattisgarh**

In order to facilitate transfer of power from generation projects in Raigarh and Champa-Janjgir complex, establishment of 765/400kV Pooling station near Raigarh and Champa is considered. Further, interconnection amongst Raigarh, Champa Pooling Station and WR Pooling station near Sipat through 765 kV 2xS/c lines are considered. Considering serious ROW constraint beyond Raigarh/Raipur and quantum of power transfer, for onward transmission of power beyond Raigarh, it is proposed to interconnect Raigarh and Raipur through 1200kV transmission lines. In addition, keeping in view of serious ROW constraint and quantum of power transfer beyond Raipur, it is proposed to develop a parallel high capacity corridor through Raipur-Wardha-Aurangabad 1200kV 2xS/c lines (Wardha-Aurangabad 1200kV corridor is already covered as a part of Mundra tr. system). Beyond Aurangabad, for transfer of power towards western part, development of following tr. corridor is considered.

- Aurangabad- Padghe 765kV 2xS/c
- Aurangabad- Vaodoara 765kV 2xS/c
- Establishment of 3x1500 MVA,765/400 kV Padghe Substation

For transfer of Power from Maharashtra Energy Generation Limited (4000 MW) near Shahpur Distt. Raigad in Maharashtra, it is proposed to interconnect the project with Padghe and Pune through 765 kV lines.

Accordingly, following transmission system is proposed:

- Pooling station near Raigarh – Pooling Station near Raipur 1200kV 2xS/c
- Pooling Station near Raipur - Wardha 1200kV 2xS/c line
- Wardha –Aurangabad 1200kV 2<sup>nd</sup> S/c line
- Establishment of 765kV Pooling Station near Champa-Janjgir
- WR Pooling station near Sipat - Pooling Station near Champa-Janjgir 765 kV 2xS/c line

- Pooling station near Raigarh - Pooling Station near Champa-Janjgir 765 kV 2xS/c line
- Pooling station near Raigarh - WR Pooling station near Sipat 765 kV S/c line
- Establishment of 400/765/1200kV, 3x3000MVA Pooling station near Raigarh and Pooling Station near Raipur
- Aurangabad- Padghe 765kV 2xS/c line
- Aurangabad- Vaodoara 765kV 2xS/c line
- Establishment of 3x1500 MVA,765/400 kV Padghe Substation
- Operation of Wardha-Aurangabad line at 1200 kV level
- Establishment of 1200/765kV 2x3000MVA substation each at Wardha and Aurangabad

Estimated Cost : Rs 14000 Cr

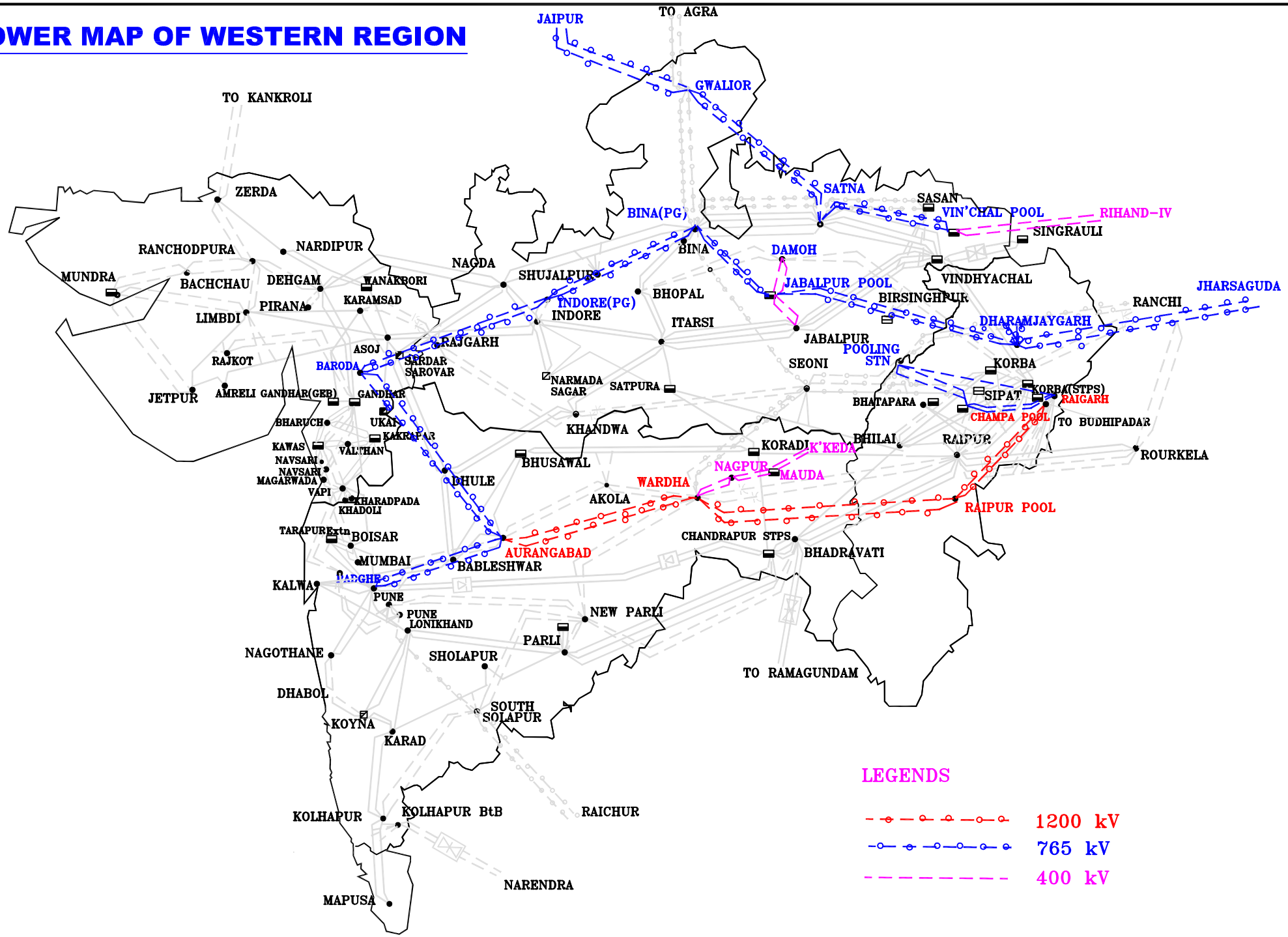
### **C) Power transfer from Mauda generation project in Maharashtra**

NTPC has proposed to set up Mauda TPS(2x500MW) near Wardha/Nagpur in Maharashtra by 2011-12 as a regional projects. In addition, a no. of generation projects have been envisaged around Koradi/Khaperkheda by Maharashtra State and other IPPs. Keeping in view the transmission system developmental plan of Maharashtra state, it is proposed to interconnect Mauda with Nagpur as well as Khaperkheda through 400 kV D/c line. In view of the above, following transmission system is proposed as a part of Mauda Transmission system:

- Mauda – Nagpur 400 kV D/c line
- Mauda – Khaperkheda 400 kV D/c line
- Nagpur- Wardha 400 kV D/c line
- Establishment of 400/220 kV,2x315 MVA Substation at Nagpur

Estimated Cost : Rs 270 Cr

# POWER MAP OF WESTERN REGION



## LEGENDS

- 1200 kV
- 765 kV
- 400 kV

