

The Past, Present and Future of High voltage DC(HVDC) Power Transmission

Under Construction and Future plans

Bangladesh

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Bangladesh at a Glance



▪ Official Name :

People's Republic of Bangladesh

- Political System : Parliamentary Democracy
- Area : 148460 km²
- Population : 159 million
- Total Exports : USD 30 billion
- Total Imports : USD 39 billion
- Remittance : USD 15 billion
- Foreign Reserve : USD 22 billion
- GDP Per Capita : USD 1116
- Power Capacity : 11,088 MW
- Per Capita Power Consumption: 324 kwh

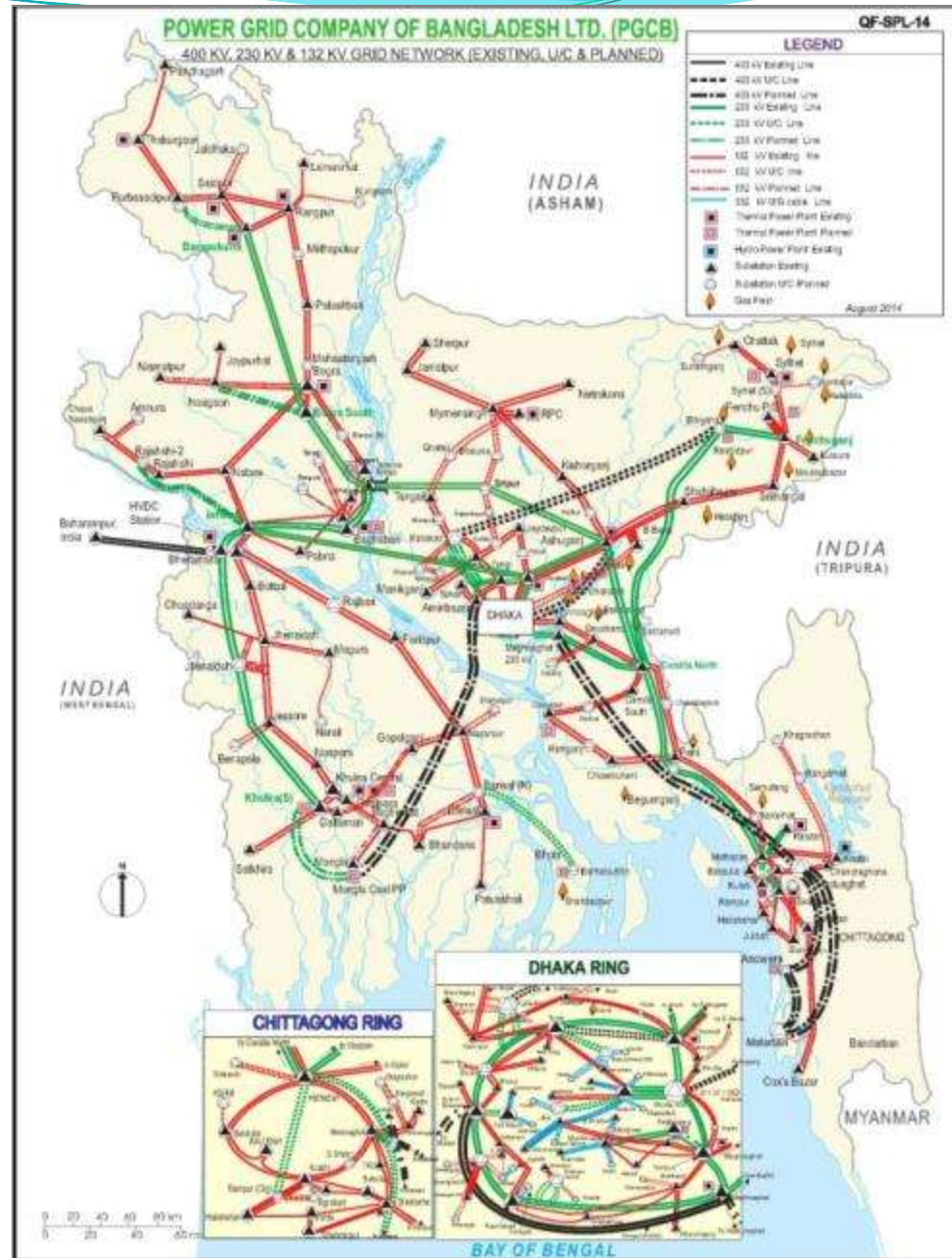
Bangladesh Grid Network

Grid Network Existing

2015

400kV Line: 165 ckt. Km
230kV Line: 3044 ckt. km
132kV Line: 6260 ckt. km

400/230kV SS: 01 (603 MVA)
230/132kV SS: 18(8775 MVA)
132/33kV SS: 111 (14543 MVA)



Power System Master Plan (up to 2030)

Updates of PSMP 2006: Due to change of planning perspective

PSMP 2010 : Long term planning up to 2030

Study Conducted by: TEPCO, Japan

Study completion: February 2011

Findings:

- Generation capacity requirement by 2021: 24,000 MW
- Generation capacity requirement by 2030: 39,000 MW
- Coal based generation capacity by 2030 : 20,000 MW

Summery of Demand & Generation Forecast

Master Plan-2010

Demand forecast

	Government Policy	Considering GDP: 06%	Considering GDP: 07%
2015	10 GW	8 GW	9 GW
2020	18 GW	10 GW	13 GW
2025	25 GW	14 GW	19 GW
2030	33 GW	18 GW	28 GW

Generation Plan

Gen. Capacity Present Proposition
18.2 GW
22.5 GW
29.3 GW
38.3 GW

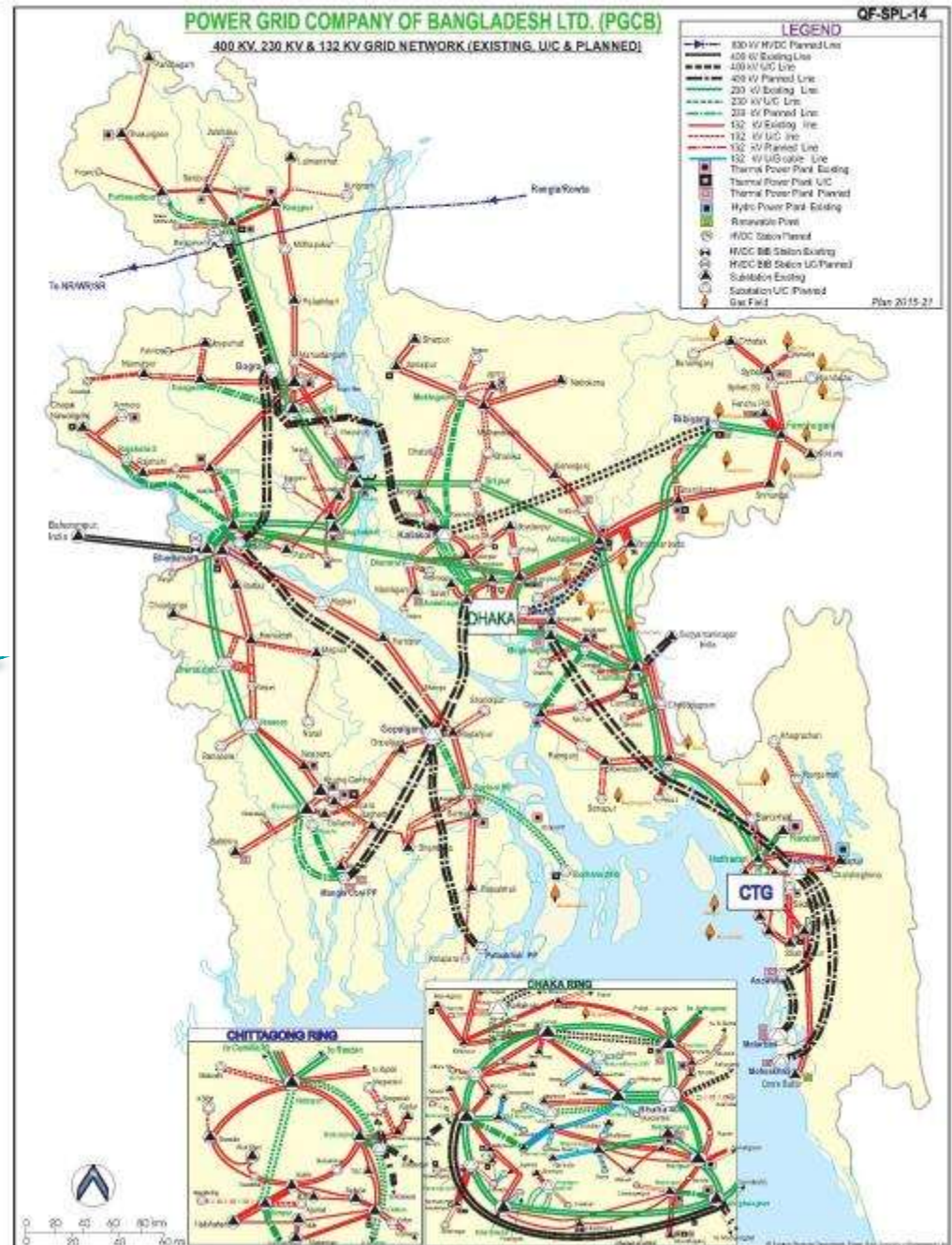
Grid Network

Existing, Under Construction & Planned

2021

400kV Line: 3687 ckt. km
230kV Line: 5324 ckt. km
132kV Line: 10175 ckt. Km

400/230kV SS: 17(14970 MVA)
230/132kV SS: 53 (38475 MVA)
132/33kV SS: 189 (33112 MVA)



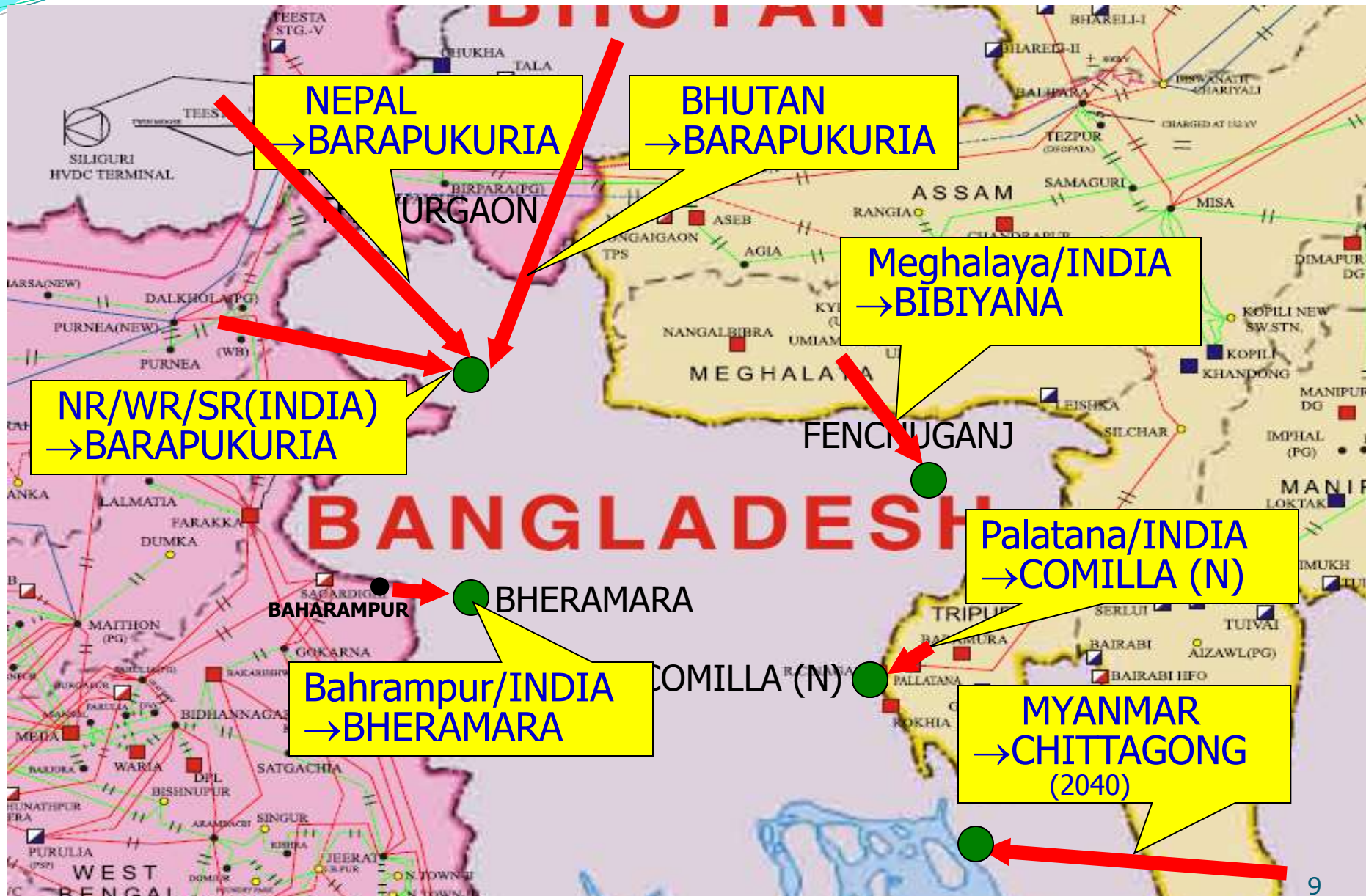
A large metal lattice tower for a power line is under construction in a rural landscape. The tower is made of silver metal and has a complex lattice structure. It is surrounded by green grass and some trees. In the background, there are rolling hills and a blue sky with some clouds. The text "Regional/Cross Border Link Under Construction & Future Plan" is overlaid on the image in a blue box with white text.

Regional/Cross Border Link Under Construction & Future Plan

Regional Power Exchange/Trading Plan

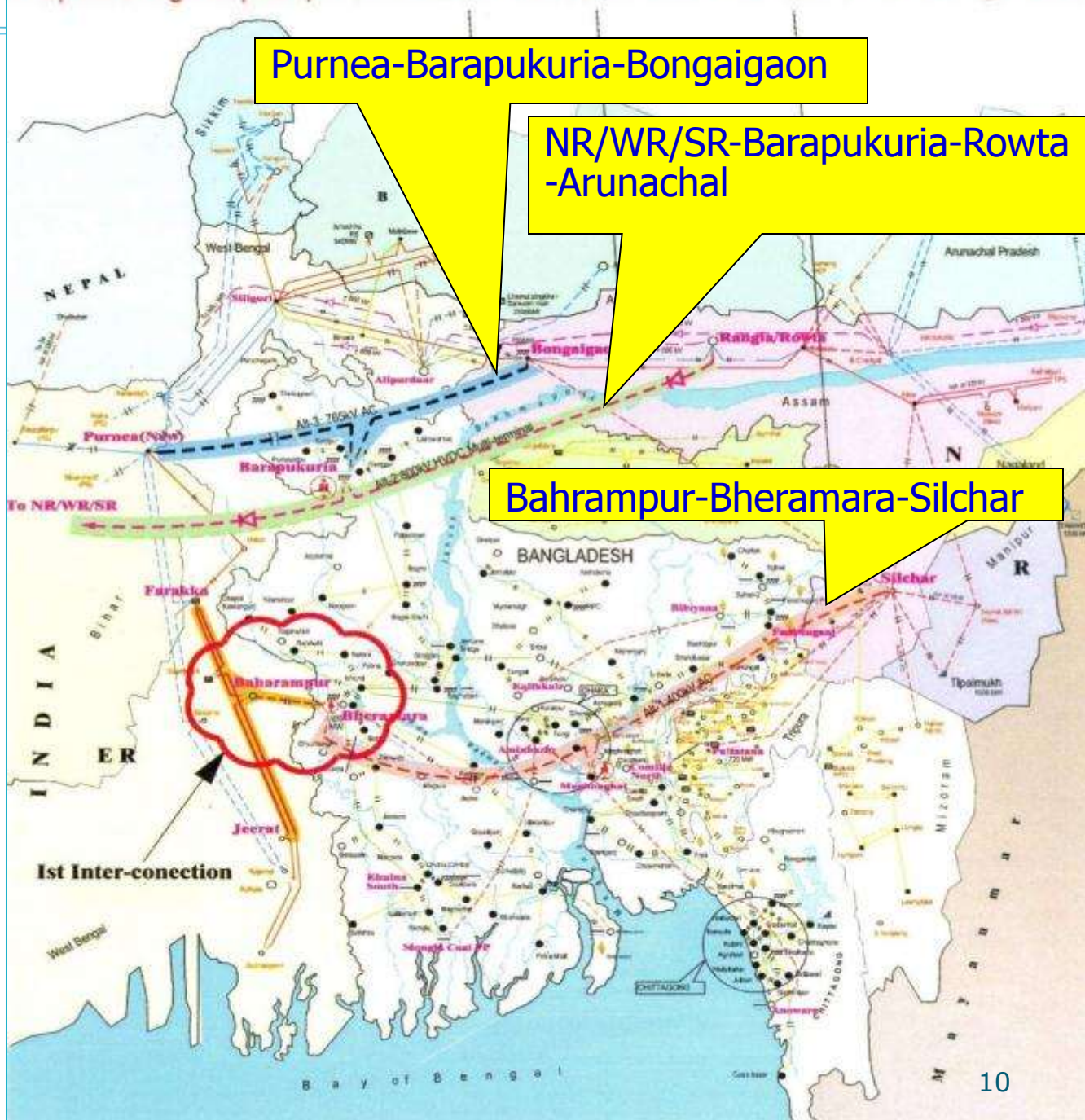
	Power Import (MW) by Year			
Name of Interconnection	2015	2020	2025	2030
Bheramara–Bahrapur	500 (2013)	Ph-1: 500 Ph-2: 500	Ph-1: 500 Ph-2: 500 Ph-3: 1,000	Ph-1: 500 Ph-2: 500 Ph-3: 1,000
Palatana/Silchar – Comilla	100	Ph-1: 100 Ph-2: 400	Ph-1: 100 Ph-2: 400	Ph-1: 100 Ph-2: 400
Arunachal(Rowta) – Barapukuria	0	0	1,000	1,000
Nepal-Barapukuria	0	0	0	1,000
Alipurduar-Barapukuria (Hydro Power from Bhutan)	0	0	0	1000
Meghalaya-Bibiyana	0	0	0	1,000
Total	600	1,500	3,500	6,500 ⁸

Regional Power Exchange: Possibilities in PSMP

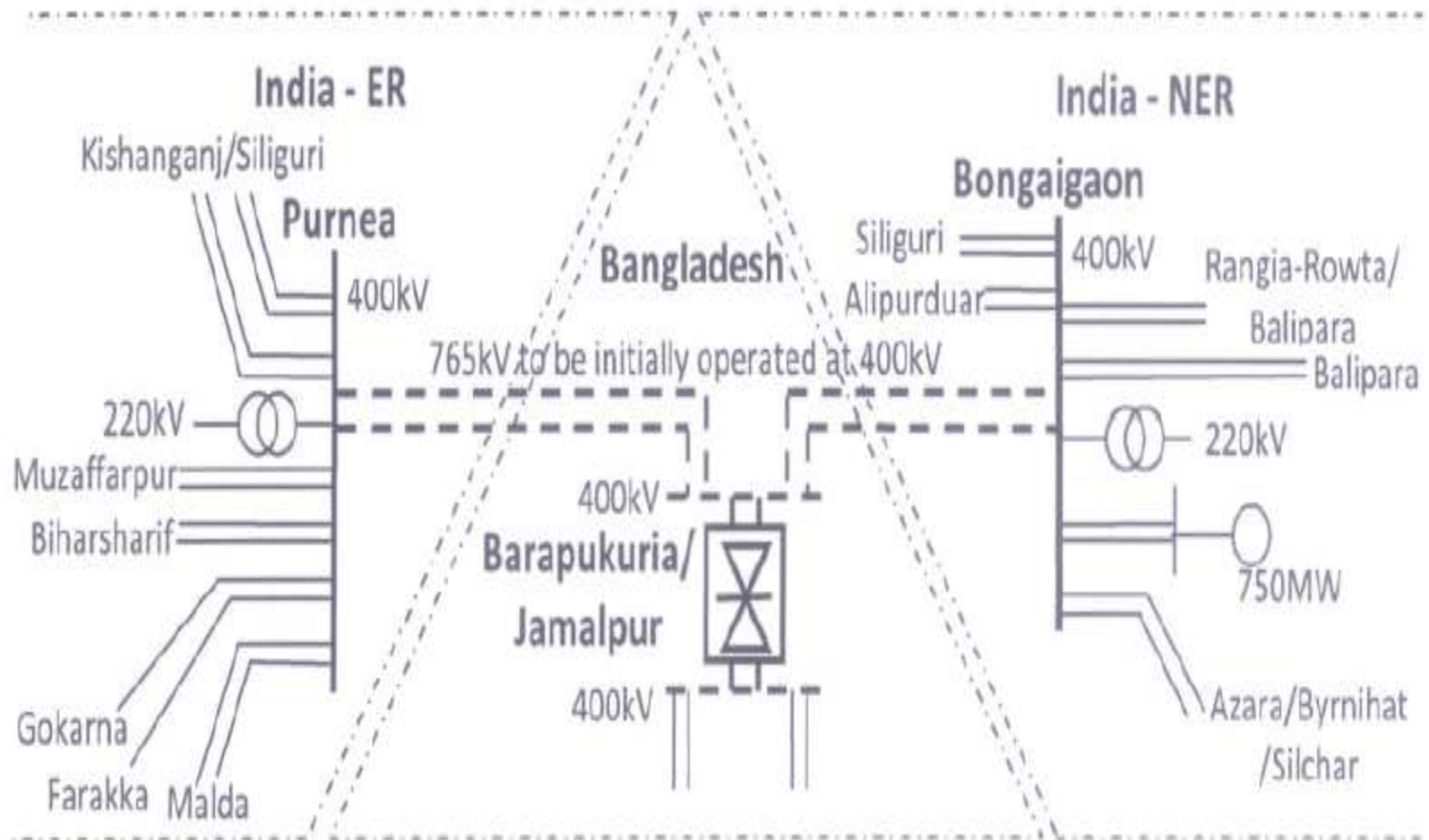


Potential Cross Border Interconn ection Options

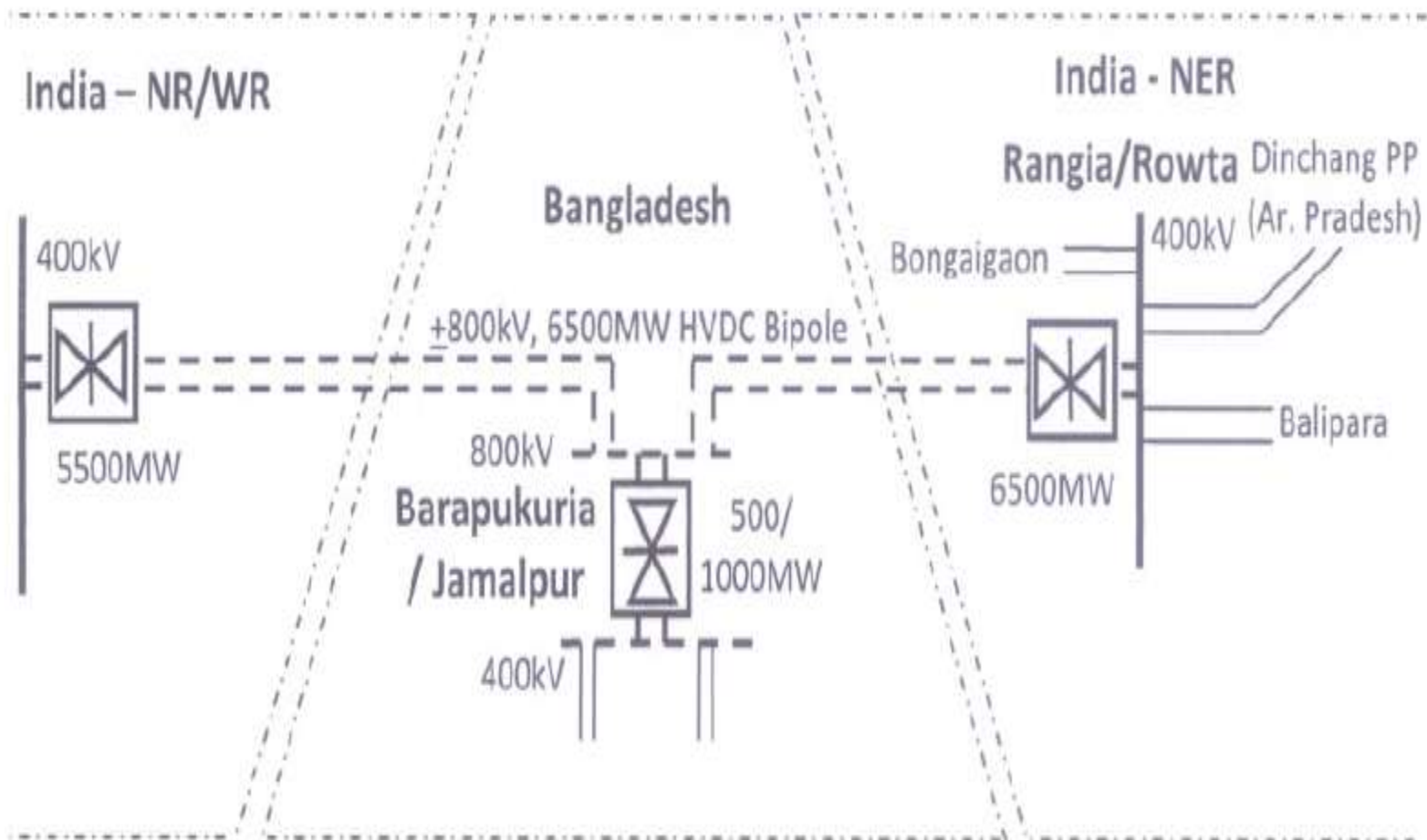
Proposed High Capacity Transmission Interconnection between India & Bangladesh



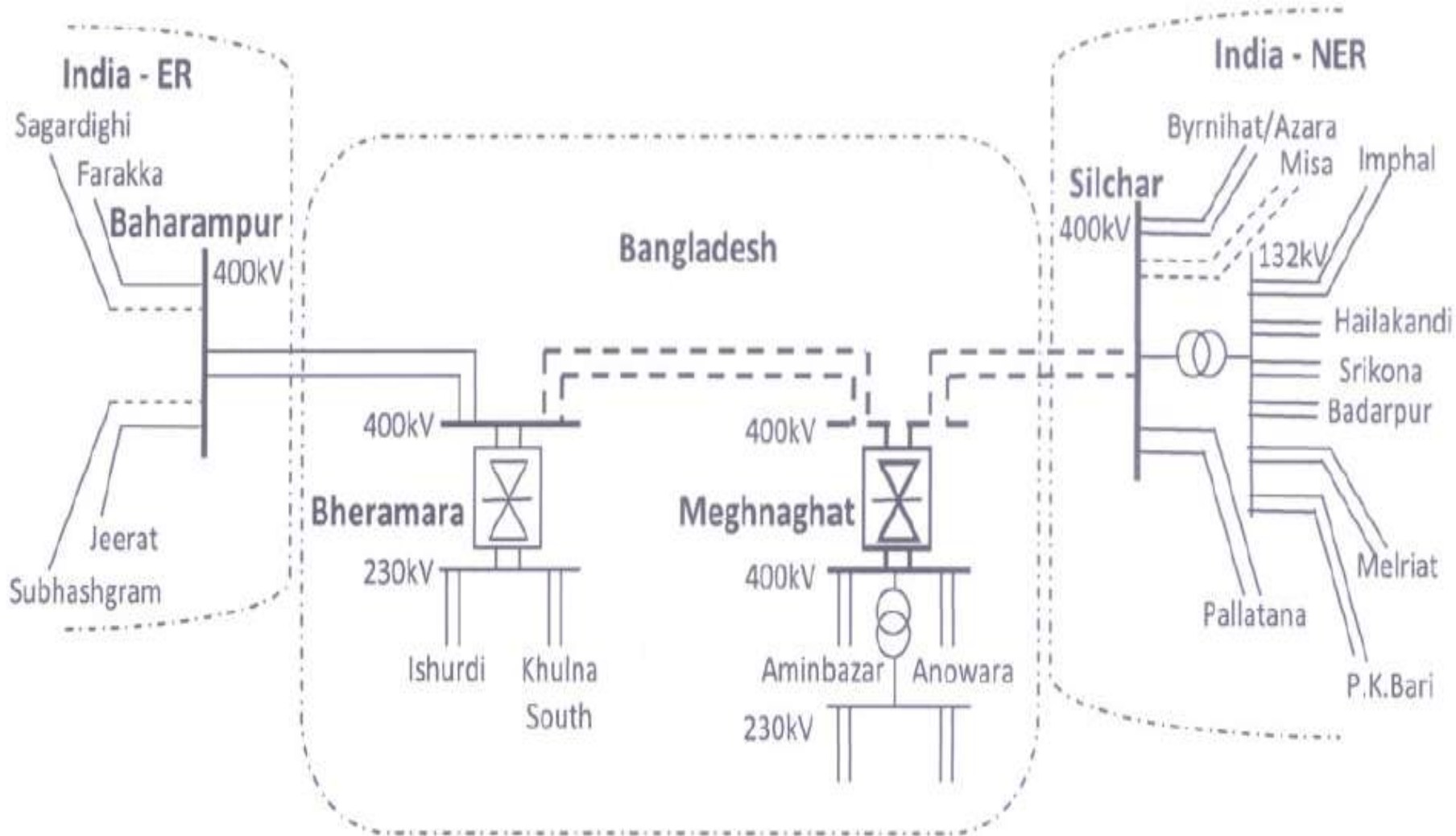
Purnea(India)-Barapukuria(BD)- Bongaigaon(India)



ER/WR/NR(India)- Barapukuria(BD)- Rowta/Arunachal (India)

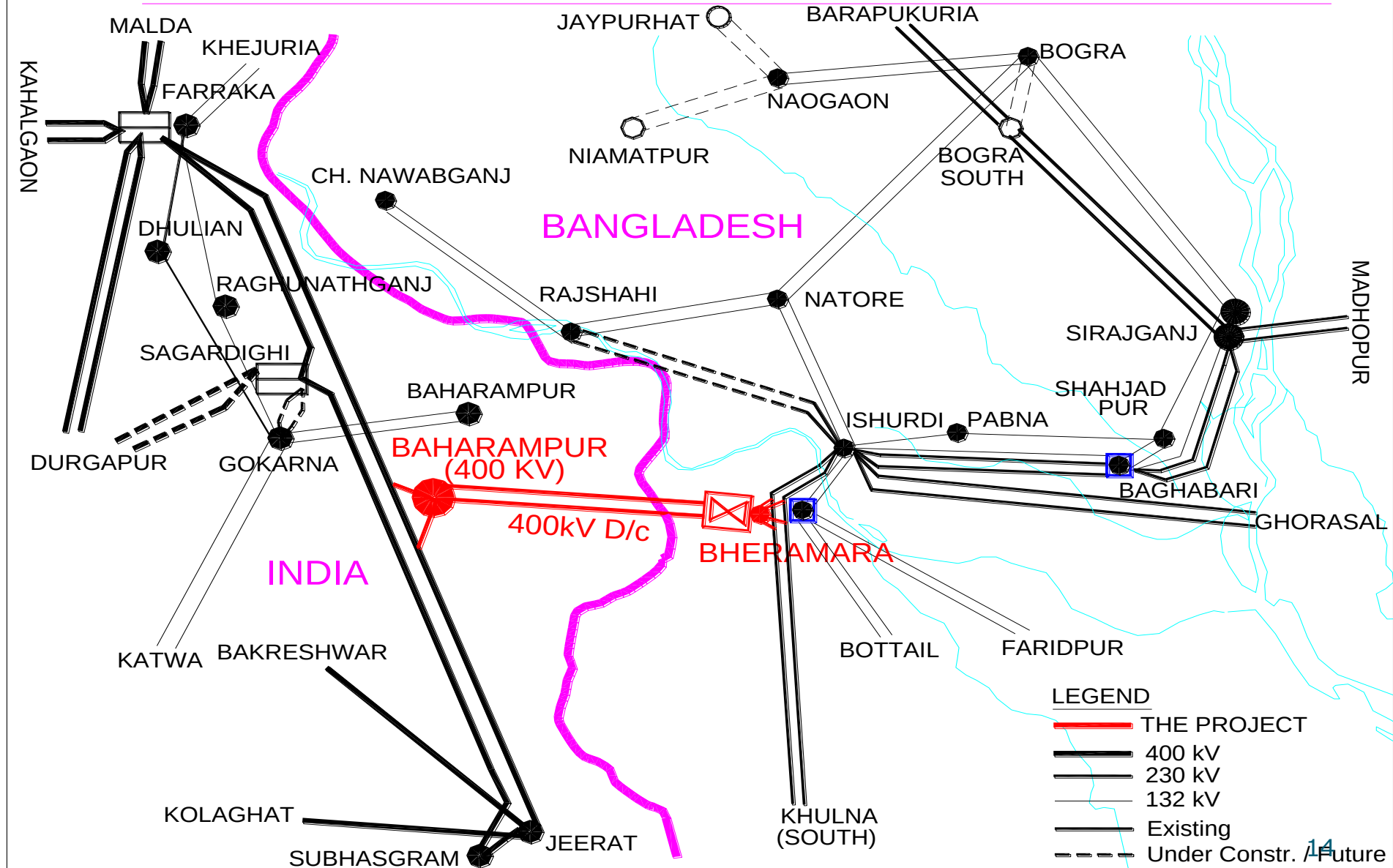


Bahrampur(India)–Bheramara/Meghnaghat(BD) - Silchar (India)

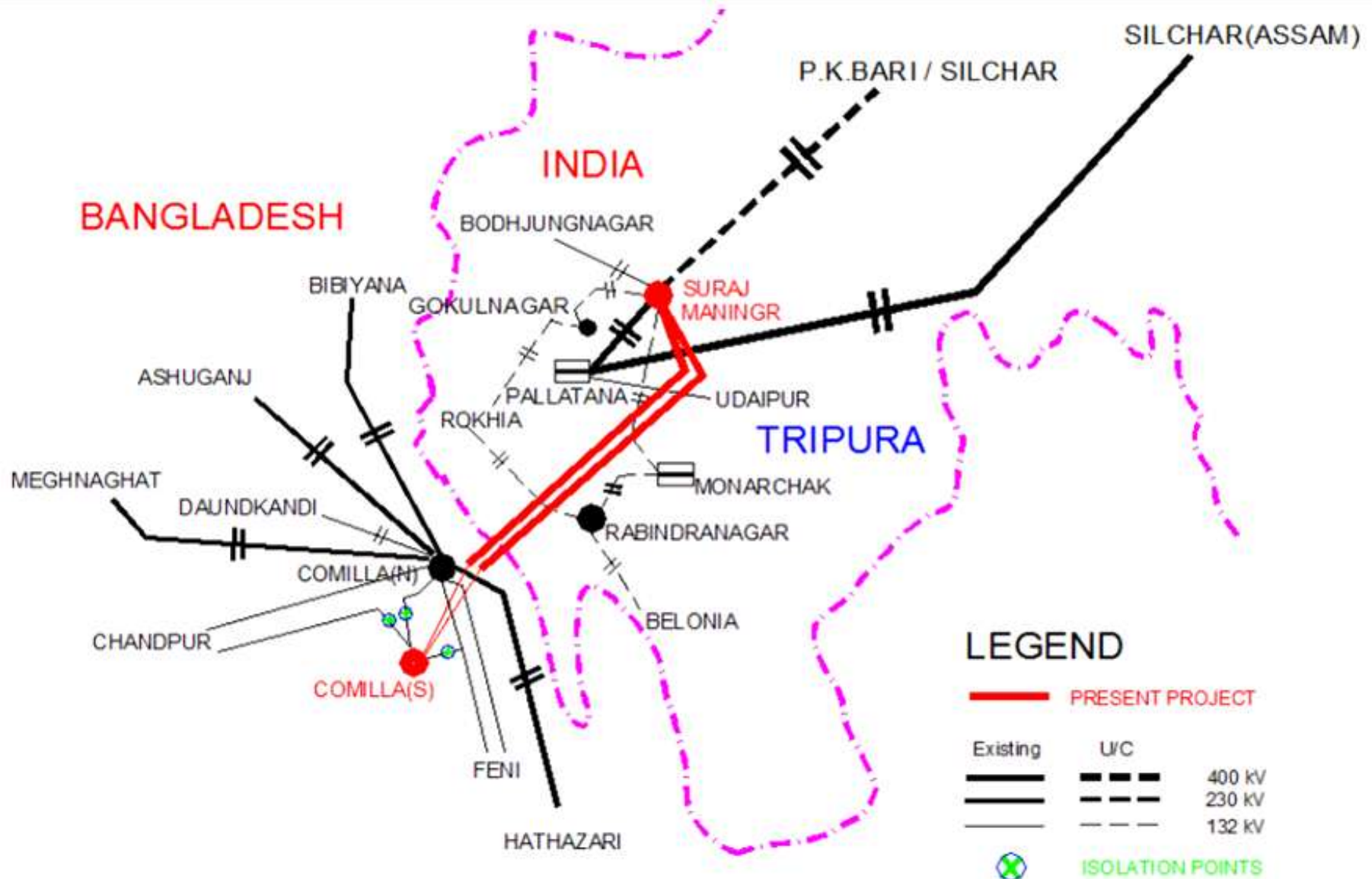


Existing LC Converter-HVDC(BtB) Link

INTERCONNECTION BETWEEN INDIA AND BANGLADESH GRIDS



Under Construction Radial Connection Palatana-Comilla



Challenges

- Lack of capacity charge provision in wheeling charge methodology.
- Fund arrangement to implement future development projects.
- Competency development to adopt advance technologies.

Thanks

