



**भारत सरकार Govt. of India**  
**विद्युत् मंत्रालय Ministry of Power**  
**केन्द्रीय विद्युत प्राधिकरण Central Electricity Authority**  
**नई दिल्ली New Delhi**

**Transmission Projects awarded  
through  
Tariff Based Competitive Bidding  
(TBCB) Route  
(Completed Projects)  
(As on 31.07.2023)**

(Published in fulfilment of CEA's obligation under section 73(i) & (j) of the Electricity Act, 2003)

(Disclaimer: The information published in this report is for indicative purpose only and shall not be used as a ground to claim time & cost overrun. Further, in no way this information, as per article 5.8 (Remedial measures) of TSA, relieves the TSP of its obligations in the agreement.)

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**Total Transmission Projects Awarded**

**: 83**

<b>Transmission Projects Commissioned/Ready for commissioning</b>	<b>:</b>	<b>45</b>
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## **(1) Transmission system associated with IPPs of Nagapattinam/ Cuddalore Area – Package A**

### **Background**

This transmission scheme has been planned for evacuation of power from various generating station being developed by IPPs in Nagapattinam/ Cuddalore area.

### **Scope of transmission project**

1. Nagapattinam Pooling Station-Salem 765 kV D/C line
2. Salem - Madhugiri 765 kV S/C line

### **General Details**

Special Purpose Vehicle (SPV)	:	Powergrid Nagapattinam-Madhugiri Transmission Limited (A subsidiary of PGCIL)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs in Cr)	:	1025
Levellised Tariff (Rs. Cr)	:	98.70
Request for Qualification	:	28.05.2011
Request for Proposal	:	20.09.2011
Letter of Intent	:	06.03.2012
Transmission Service Agreement (TSA)	:	02.02.2012
SPV acquisition	:	29.03.2012
Transmission License by CERC	:	20.06.2013
Tariff adoption by CERC	:	09.05.2013
Contract Performance Guarantee	:	29.03.2012
Clearance u/s 164 of EA2003	:	09.12.2013
Execution plan submitted to CEA	:	28.05.2011
NIT issued on	:	13.07.2012
EPC contract awarded on	:	16.05.2014
Scheduled Date of Completion	:	28.12.2015
<b>Actual Date of Completion</b>	:	<b>Jan' 2019</b>

### **Status of progress of transmission project**

Work awarded on 16.5.2014 to M/s Gammon and M/s ICOMM.

1. Nagapattinam Pooling Station-Salem 765 kV D/C line

Length	203 Km
Locations	543 Nos.

**Line commissioned on 23.10.16.**

2. Salem - Madhugiri 765 kV S/C line

Length	219 km
Locations	575 nos.

**Line completed on 31.12.18. DoCo declared on 26.01.19.**

**Transmission Project commissioned in Jan, 2019.**

## (2) Transmission System associated with IPPs of Vemagiri Package-A

### Background

The transmission corridor covered under the present project has been evolved to evacuate power from the proposed IPP generation projects in the Vemagiri area, Andhra Pradesh. Vemagiri area in Andhra Pradesh has huge potential of Gas based generation projects due to availability of Gas in Krishna-Godavari basin. The availability of the Gas as fuel has attracted many IPP developers to establish power plants in the vicinity. In this regard, 4 nos. of IPP generation projects with the total installed capacity of about 5400 MW have been granted LTA for quantum of 5150 MW. Further, as per the connectivity applications made, there are few more generation capacities likely to be available in the vicinity.

In view of above, considering the huge generation potential in this area a comprehensive transmission system has been planned so as to take care of the evacuation needs of generation projects of Vemagiri area. For this a 765/400 kV pooling station at Vemagiri (GIS) is to be established through LILO of Gazuwaka – Vijayawada 400kV S/c with bypass arrangements. All the power from different power plants will be pooled at this pooling station through 400kV transmission lines. The power so pooled at Vemagiri Pooling Station shall be further dispersed through high capacity transmission corridors of 1xD/c 765kV lines towards Hyderabad via Khammam to supply target beneficiaries in Southern region through displacement.

Further the generation project has target beneficiaries in Western Region & Northern Region of about 1230MW & 450 MW respectively, for this power transfer a 765kV high capacity corridor have been planned viz. Hyderabad – Wardha – Jabalpur Pooling station 765 kV D/c lines. These high capacity transmission lines in conjunction with the already planned High Capacity Power Transmission Corridor – IX i.e. Jabalpur Pooling Station – Orai – Bulandshahr 765 kV S/c shall provide adequate transmission capacity for transfer of power to target regions.

### Scope of transmission project

- 1 Vemagiri Pooling Station–Khammam 765 kV D/C line -I
2. Khammam - Hyderabad 765 kV D/C line-I

### General Details:

Special Purpose Vehicle (SPV)	:	Powergrid Vemagiri Transmission Limited (A subsidiary of PGCIL)
Bid Processor Coordinator (BPC)	:	Rural Electrification Corporation (RECTPL)
Request for Qualification	:	Not Applicable as project scrapped
Request for Proposal	:	Not Applicable as project scrapped
Letter of Intent	:	Not Applicable as project scrapped
Transmission Service Agreement (TSA)	:	Not Applicable as project scrapped
SPV acquisition	:	18.04.2012
Transmission License by CERC	:	<b>Not Applicable as project is scrapped</b>
Tariff adoption by CERC	:	----do---
Contract Performance Guarantee	:	----do---
Clearance u/s 164	:	----do---
Execution plan submitted to CEA	:	----do---
NIT issued on	:	----do---
EPC awarded on	:	----do---
Scheduled Date of Completion	:	17.04.2015

Anticipated Date of Completion : Project scrapped

**Status of Progress of transmission project:**

Project has been scrapped Vide Order dated. 06.04.2015, CERC has directed that Project is not required to be implemented and ordered Generator/CTU to pay the cost of SPV to POWERGRID in 80:20 ratios. Generator has challenged the CERC order in Appellate Tribunal and outcome is still awaited. Regulatory approval for the Project has been withdrawn by CERC.



### **(3) Transmission system for Strengthening in Southern Region for import of Power from ER**

#### **Background**

A Common High Capacity Transmission Corridor was planned for ISGS generations in Srikakulam area, which includes Srikakulam Pooling Station – Angul 765kV D/C line and Angul – Jharsuguda - Dharamjaigarh 765kV D/C lines. However, developments in coal regulation in Indonesia, Australia and other countries have resulted in slowing down of capacity addition based on imported coal. As a consequence, the Southern Region is expected to be a net importer of power from neighbouring regions. Under such uncertainty of generation projects and delay in implementation, the Southern Region may need to import huge quantum of power, which may need augmentation of existing / under implementation / planned inter-regional links. Under this transmission scheme, an additional inter-regional AC interconnection between Southern and Eastern regions is being established through Srikakulam Pooling Station to Vemagiri 765kV D/C line. This additional inter-regional link shall facilitate import of power to meet the requirement of power from other surplus regions. However, with the import through this link, beyond Khammam towards N'Sagar, critical loadings were observed and therefore, Khammam – N'Sagar 400kV D/C line is being envisaged to address such critical loadings. This line shall facilitate in dispersal of power to Southern Region constituents beyond Khammam.

#### **Scope of transmission project**

1. Srikakulam PP – Vemagiri-II Pooling Station 765kV D/c line.
2. Khammam – NagarjunaSagar 400 kV D/c line.

#### **General Details:**

Special Purpose Vehicle (SPV)	:	Powergrid Vizag Transmission Limited (A subsidiary of PGCIL)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	1180
Levellised Tariff (Rs. Cr)	:	231.134
Request for Qualification	:	26.10.2012
Request for Proposal	:	06.03.2013
Letter of Intent	:	31.07.2013
Transmission Service Agreement(TSA)	:	14.05.2013
SPV acquisition	:	30.08.2013
Transmission License by CERC	:	08.01.2014
Tariff adoption by CERC	:	23.01.2014
Contract Performance Guarantee	:	29.08.2013
Clearance u/s 164	:	21.05.2014
Submission of execution plan to CEA	:	Dec.'2013
NIT issued on	:	08.10.2013
EPC Contract awarded on	:	12.03.2014
Scheduled Date of Completion	:	29.08.2016
<b>Actual Date of Completion</b>	:	<b>Sep' 2016</b>

#### **Status of progress of transmission project**

Work awarded on 20.05.2014 to M/s TPL, M/s ICOMM, M/S L&T and M/s Gammon

**1. Srikakulam PP – Vemagiri-II PS 765 kV D/C line**

- Length 668 CKm, Locations: 877 nos.

**Line completed on 30.09.16**

**2. Khammam (existing) – Nagarjunasagar 400 kV D/C line**

- Length 288.84 ckm, Tower Locations 388 nos

**Line commissioned on 31.12.15**

**Project Commissioned in Sep-16.**

## **(4) ATS of Unchahar TPS**

### **Background**

Feroz Gandhi Unchahar TPP-I to III (5x210MW) in District Raebareli, Uttar Pradesh is an existing generation of M/s NTPC Limited. The generations are at 220kV and are being evacuated through 220kV lines. M/s NTPC has now proposed augmentation of generation capacity by developing 1x500 MW at Feroz Gandhi Unchahar TPP (FGUTPP-IV). The beneficiaries along with quantum as informed by M/s NTPC are UPPCL (167.38MW), UPCL (23.19MW), Delhi Discoms (72.39MW), Haryana Discoms (33 MW), Rajasthan Discoms (64.67 MW), HPSEB (18.91 MW), PDD (38.4MW), EDC (Union Territory of Chandigarh) (3.46MW). The step up voltage of the generator is at 400kV and the proposed generating station is 1km route length from existing generating station. M/s NTPC Limited had submitted application for connectivity and Long Term Access and was discussed during the Connectivity and Long Term Access meeting held on 19/12/2011. During the meeting, it was discussed and agreed to connect the new generation directly to Fatehpur 765/400kV Substation of POWERGRID through 400kV D/C. Fatehpur is a major substation in Northern Region. Beyond Fatehpur, there would be two numbers of 765kV Lines to Agra. Agra is also well connected with high capacity 400kV and 765kV lines. Hence, no constraint is envisaged in evacuation of power to its beneficiary.

### **Scope of transmission project**

1. Unchahar – Fatehpur 400 kV D/C line

### **General Details**

Special Purpose Vehicle (SPV)	:	Powergrid Unchahar Transmission Limited (A subsidiary of PGCIL)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	70
Levellised Tariff (Rs. Cr)	:	16.771
Request for Qualification	:	11.01.2013
Request for Proposal	:	17.10.2013
Letter of Intent	:	14.02.2014
Transmission Service Agreement(TSA)	:	20.12.2013
SPV acquisition	:	24.03.2014
Transmission License by CERC	:	21.07.2014
Tariff adoption by CERC	:	03.07.2014
Contract Performance Guarantee	:	20.03.2014
Clearance u/s 164	:	06.05.2015
Execution plan submitted to CEA	:	July'14
NIT issued on	:	25.07.2014
EPC contract awarded on	:	21.01.2015
Scheduled Date of Completion	:	24.09.2016
<b>Actual Date of Completion</b>	:	<b>Dec' 2016</b>

### **Status of progress of transmission project**

#### **1. Unchahar – Fatehpur 400 kV D/C line**

- Length: 106 ckm, Locations: 145 nos.
- Line completed on 24th Sep'16. The power flow started only after completion of NTPC Unchahar bays in Dec.'16.

**Project Commissioned in Dec-16.**

## **(5) NR System strengthening Scheme-NRSS-XXXI (Part-A)**

### **Background**

Kala Amb/ Poanta/ Giri area is an existing load centre in Himachal Pradesh with a present power demand of about 350 MVA, which is likely to increase about 500 MVA. However, the available generation and transmission network in the area is not adequate to meet the present load. In order to meet the present and future load requirement of the area, this transmission scheme has been proposed. Further considering the issue of hilly terrain & scarcity of land in Himachal Pradesh, the substation shall be established as GIS station and the LILO would be carried out on Multi-Circuit Towers to conserve R-o-W. Karcham-Wangtoo-Abdullapur 400kV D/C line is an existing Quad conductor line and is connected in the grid in parallel to triple snowbird lines. In order to increase the loadability of this line for better sharing of load, 40% series compensation on 400 kV Karcham Wangtoo – Abdullapur D/c line is proposed under the scheme. This would not only improve the loadability of 400kV Karcham Wangtoo 400kV D/C line but also help in reducing the oscillations in the area.

### **Scope of transmission project**

1. Establishment of a 7 x 105 MVA (1- ph.), 400/220 kV GIS substation at Kala Amb

#### **400 kV**

- Line Bays: 4 No.
- 400/220 kV ICT: 7 x 105 (1-ph)
- ICT bays: 2 no.
- Bus Reactor (80 MVAR): 2 no.
- Bus Reactor Bay: 2 no.
- Space for line/ICT bays: 4 no.
- Space for ICT: 1 no.

#### **220 kV**

- Line Bays: 6 no.
- ICT bays: 2 no.
- Space for line/ICT bays: 4 no.

2. LILO of both circuits of Karcham Wangtoo – Abdullapur 400 kV D/C (Quad Moose) line at Kala Amb (on multi Ckt towers)
3. 40% Series Compensation on 400 kV KarchamWangtoo – Kala Amb quad D/C line at Kala Amb ends

### **General Detail**

Special Purpose Vehicle(SPV) Limited	:	Powergrid Kala Amb Transmission (A subsidiary of PGCIL)
Bid Process Coordinator(BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	225
Levellised Tariff (Rs. Cr)	:	59.434
Request for Qualification	:	01.08.2013
Request for Proposal	:	09.12.2013
Date of Letter of Intent	:	26.02.2014

Transmission Service Agreement (TSA) :	02.01.2014
SPV acquisition :	12.05.2014
Transmission License by CERC :	21.07.2014
Tariff adoption by CERC :	03.07.2014
Contract Performance Guarantee :	08.05.2014
Clearance u/s 164 :	27.04.2016
Execution plan submitted to CEA :	Sept'14
NIT issued on :	21.04.2014
EPC contract awarded on :	09.12.2015
Scheduled Date of Completion :	12.07.2017
Anticipated date of completion :	12.07.2017
<b>Actual Date of Completion :</b>	<b>Jul' 2017</b>

### **Status of progress of transmission project**

1. 7x105 MVA, 400/220 kV GIS at Kala amb with 40% series compensation on 400 kV Karcham Wangtoo – Kala Amb D/C line at Kala Amb end

**Work completed and DOCO declared w.e.f. 12.07.17**

2. LILO of both ckt of Karcham Wangtoo - Abdullapur 400 kV D/C line at Kala Amb

**Work completed and DOCO declared w.e.f. 12.07.17.**

**Project Commissioned in July 2017.**

## **(6) Transmission System associated with Gadarwara STPS (2x800 MW) of NTPC (Part-A)**

### **Background**

NTPC Limited (NTPC) is establishing coal based Gadarwara STPS (2x800 MW) generation project at Gadarwara, Narsinghpur District in the State of Madhya Pradesh. NTPC Limited has been granted LTA for 1586.51 MW as per the LTA application and the details of drawl of power is given below:-

CSPDCL	63.46 MW,	MPTradeco	793.25 MW
GUVNL	209.86 MW,	MSEDCL	261.49 MW
Goa	10.47 MW,	DNH	6.03 MW
DD	3.96 MW,	Unallocated	237.99 MW

Transmission Scheme was planned for the evacuation and supply of power from Gadarwara STPS to the beneficiaries of the generation project. This transmission system strengthening shall facilitate immediate evacuation as well as supply of power to its beneficiaries with reliability and security. Beyond Solapur dispersal of power to the beneficiaries of the generation project shall be through existing/planned transmission network under inter-state Transmission System. The Transmission System has been split into two parts viz. Part A and Part B and both part-A and Part-B of Transmission scheme is to be implemented in the same time frame.

### **Scope of transmission project:**

1. Gadarwara STPS – Jabalpur Pool 765 kV D/C line\*  
\*Considering the time schedule of generation project, an interim arrangement through LILO of existing Seoni – Bina 765 kV S/C line shall be established at Gadarwara STPP. At a later date, LILO portion would be de-linked from Seoni – Bina 765 kV S/C line to restore the Seoni – Bina 765 kV S/C direct line, and the LILO portion shall be extended to Jabalpur 765/400 kV pooling station to form Gadarwara STPS – Jabalpur Pool 765 kV D/C line.
2. Gadarwara STPS – New Pooling Station near Warora 765 kV D/C line.
3. LILO of both circuits of Wardha – Parli (PG) 400 kV D/C Quad line at Pooling Station (Near Warora) (2 x D/C).
4. Establishment of 2x1500 MVA, 765/400 kV New Pooling Station near Warora.

### **765 kV**

ICTs: 7 x 500 MVA, 765/400 kV (1 spare unit)

ICT bays: 2 no.

Line bays: 6 no.

Bus reactor: 3 x 110 MVAR

Bus reactor bay: 1 no.

Line reactors: 7 x 110 MVAR (1 unit spare) (*for Gadarwara line*)

Line reactors switchable: 6 x 110 MVAR (*for Parli line*)

Space for future bays: 4 nos.

### **400 kV**

ICT bays: 2 nos.

Line bays: 4 nos.

Space for future 400 kV bays: 4 nos.

**General Details:-**

Special Purpose Vehicle (SPV)	:	Powergrid Warora Transmission Ltd
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Levelling Tariff	:	₹ 290.147 Cr
Request for Qualification	:	14.08.2014
Request for Proposal	:	14.11.2014
Letter of Intent	:	11.03.2015
Transmission Service Agreement (TSA)	:	09.02.2015
SPV acquisition	:	24.04.2015
Transmission License by CERC	:	05.08.2015
Tariff adoption by CERC	:	23.06.2015
Contract Performance Guarantee	:	18.04.2015
Clearance u/s 164	:	22.04.2017
Execution plan submitted to CEA	:	Jul'15
NIT issued on	:	08.06.2015
EPC contract awarded on	:	Sept.'15 onwards
Scheduled Date of Completion	:	November 2017*
*Revised Schedule Agreed by LTCs	:	January 2018
Actual date of completion	:	<b>July 2018</b>

**Status of progress of transmission project:**

- (1) Gadarwara STPS - Jabalpur PS 765 kV D/C line  
Awarded to M/s KEC on Dec'15.

Stage-1: Initially from Gadarwara to be LILO of Seoni-Bina 765kV S/C line,

- Length: 15.5 km
- Locations: 43 nos.
- Completion Target: Nov'16
- Actual completion: Nov'16

**Status: Line completed on 23.11.2016 and DOCO declared on 30.11.2016.**

Stage-2 : Dismantle the LILO and extend Line upto Jabalpur S/S,

- Length: 87.5 ckm
- Locations: 227 nos.
- Completion target: May'17
- Actual completion: May'17

**Status: Line completed on 23.05.2017 and DOCO declared on 31.05.2017.**

- (2) Gadarwara STPS- Warora P.S. (New) 765kV D/C line  
(Awarded to M/s Simplex on Dec'15)

- Length 313.3 km
- Locations 837 nos.
- Scheduled COD Nov'17
- Actual COD July'18

**Status: Line commissioned on 10.07.2018**

**3. LILO of both Ckts. of Wardha - Parli at Warora (New) Pooling Station**

(Awarded to M/s Gammon in Jan'16)

- Length : 98 Km
- Locations : 269 Nos.
- Scheduled COD : Nov'17
- Actual COD : May'18

**Status: Line commissioned in May'18.**

**4. 7x500 MVA, 765/400 kV Warora (New) pooling station**

(Substation Supply and Erection Package Award to M/s Siemens in Sep'15)

- Scheduled COD : Nov'17
- Revised Schedule : Jan' 18
- Actual COD : July' 18



## **(7) Transmission System associated with Gadawara STPS (2x800 MW) of NTPC (Part-B)**

### **Background**

NTPC Limited (NTPC) is establishing coal based Gadawara STPS (2x800 MW) generation project at Gadawara, Narsinghpur District in the State of Madhya Pradesh. NTPC Limited has been granted LTA for 1586.51 MW as per the LTA application and the details of drawl of power is given below:

CSPDCL	63.46 MW,	MPTradeco	793.25 MW
GUVNL	209.86 MW,	MSEDCL	261.49 MW
Goa	10.47 MW,	DNH	6.03 MW
DD	3.96 MW,	Unallocated	237.99 MW

Transmission Scheme was planned for the evacuation and supply of power from Gadawara STPS to the beneficiaries of the generation project. This transmission system strengthening shall facilitate immediate evacuation as well as supply of power to its beneficiaries with reliability and security. Beyond Sholapur dispersal of power to the beneficiaries of the generation project shall be through existing/planned transmission network under inter-state Transmission System. The Transmission System has been split into two parts viz. Part A and Part B and both part-A and Part-B of Transmission scheme is to be implemented in the same time frame.

### **Scope of transmission project:**

1. Warora (Pooling Station) – Parli (New) 765 kV D/C line.
2. Parli (New) – Solapur 765 kV D/C line.
3. Parli (New) – Parli (PG) 400 kV D/C (Quad) line.
4. Establishment of 2 x 1500 MVA 765/400 kV Parli (New) S/s.

### **765 kV**

ICTs: 7 x 500 MVA, 765/400 kV (1 spare unit)

ICT bays: 2 no.

Line bays: 4 no.

Bus reactor: 3 x 110 MVAR

Bus reactor bay: 1 no.

Line reactors: 7 x 110 MVAR (1 unit spare) (for Warora-Parli (new) 765kV D/c line)

Space for future bays: 4 no.

### **400 kV**

ICT bays: 2 no.

Line bays: 2 no.

Space for future 400 kV bays: 4 no.

### **General Details**

Special Purpose Vehicle (SPV)	:	Powergrid Parli Transmission Ltd.
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Levellised Tariff	:	₹ 256.727 Cr
Request for Qualification	:	07.08.2014
Request for Proposal	:	14.11.2014
Letter of Intent	:	11.03.2015
Transmission Service Agreement (TSA)	:	09.02.2015
SPV acquisition	:	24.04.2015

Transmission License by CERC	:	10.07.2015
Tariff adoption by CERC	:	23.06.2015
Contract Performance Guarantee	:	18.04.2015
Clearance u/s 164	:	Jun'17
Execution plan submitted to CEA	:	Nov'16
NIT issued on	:	22.06.2015
EPC contract awarded on	:	Sept.'2015
Scheduled Date of Completion	:	January 2018
<b>Actual Date of Completion</b>	:	<b>June' 2018</b>

**Status of progress of transmission project:**

**1.Warora Pooling Station - Parli (New) 765 kV D/C line**

Length:	347 km
Locations:	920 nos.
Scheduled COD	Jan'18

- **Line Commissioned in June'2018.**

**2.Parli (New) - Solapur 765 kV D/C line**

Length:	118 Km
Locations:	311 Nos.
Scheduled COD	Jan'18

- **Line commissioned, DoCo declared on 27.04.2018**

**3.Parli (New) – Parli (PG) 400 kV D/C (Q) line**

Length:	18.2km
Locations:	52 nos.
Scheduled COD	Jan'18

- **Line commissioned, DoCo declared on 27.04.2018**

**4.2x1500 MVA, 765/400 kV Parli (New) sub station**

Scheduled COD	:	Jan'18
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- **Substation partly commissioned on 27.04.2018, balance commissioned in June'18.**

## **(8) Transmission System Strengthening associated with Vindhyachal-V**

### **Background**

NTPC Limited (NTPC) is augmenting 1x500MW unit at Vindhyachal generation project at Vindhyachal, Dist. Singrauli in the State of Madhya Pradesh. NTPC Limited has been granted LTA for 495.78 MW as per the LTA application and the details of drawl of power is given below:

CSPDCL	32.90 MW,	MPTradeco	129.04 MW
GUVNL	110.34 MW,	MSEDCL	138.29 MW
Goa	5.47 MW,	DNH	3.24 MW
DD	2.09 MW,	Unallocated	74.41 MW

Transmission scheme was planned for the evacuation and supply of power from the Vindhyachal-V to the beneficiaries of the generation project. This transmission scheme shall facilitate supply of power to its beneficiaries with reliability and security. Beyond Jabalpur Pooling Station, dispersal of power to the beneficiaries of the generation project shall be through existing/planned transmission network under Inter-State Transmission System.

### **Scope of transmission project:**

Vindhyachal Pooling Station-Jabalpur Pooling Station 765kV D/c Line

### **General Details:**

Special Purpose Vehicle (SPV)	:	Powergrid Jabalpur Transmission Limited
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Levelling Tariff	:	₹ 210.998 Cr
Request for Qualification	:	20.08.2014
Request for Proposal	:	22.10.2014
Letter of Intent	:	10.02.2015
Transmission Service Agreement (TSA)	:	19.11.2014
SPV acquisition	:	26.02.2015
Transmission License by CERC	:	15.06.2015
Tariff adoption by CERC	:	28.05.2015
Contract Performance Guarantee	:	25.02.2015
Clearance u/s 164	:	Sep' 16
Submission of execution plan to CEA	:	July' 15
NIT issued on	:	26.06.2015
EPC contract awarded on	:	23.03.2016
Scheduled Date of Completion	:	26.06.2018
<b>Actual date of completion</b>	:	<b>31.12. 2018</b>

### **Status of progress of transmission project:-**

1. Vindhyachal Pooling Station - Jabalpur Pooling Station line 765 kV D/C line

Awarded to M/s Tata & M/s. KEC on Mar'15.

Length: 374.5 Km

Locations:	1010 nos.
Scheduled COD:	June'18
<b>Actual COD</b>	<b>Jan'19</b>

**Status:** Line completed on 31.12. 2018 & **commissioned w.e.f. 01.01.2019.**

## **(9) Strengthening of Transmission System beyond Vemagiri**

### **Background**

Presently Southern Region is facing severe power shortage. As per Operational data, the region faced Power deficit of about 8.4% (i.e. about 3270 MW) during 2014-15 (Apr'14-Feb'15). This power deficit situation has arisen mainly due to (i) delay/deferment of anticipated generation projects and (ii) also due to non-availability of gas for existing gas projects in Southern Region. Presently the existing/planned system can facilitate import of about 9000 - 10000 MW into Southern Region. However under certain scenarios of non-availability / delay in commissioning of some of the generation projects in Southern region expected power transfer requirement is about 16000 MW by 2018-19. In view of large deficit and requirement of transmission system to meet future power transfer requirements, high capacity Inter-regional strengthening schemes were identified. The Present Scheme is part of the above identified scheme.

To facilitate import of power from North-East-West (NEW) grid to Southern Region grid, Angul – Srikakulam – Vemagiri corridor was envisaged and is under implementation. Under present proposed scheme, a 765kV D/c from Vemagiri to Cuddapah via Chilakaluripeta, wherein a 765/400kV Substation has been proposed, which would facilitate dispersal of power beyond Vemagiri. Further High capacity 400kV D/c have been proposed from Vemagiri, Chilakaluripeta and Cuddapah for Injection/ dispersal of power.

### **Scope of transmission project-**

#### **Transmission Lines**

1. Vemagiri-II – Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactors at both ends.
2. Chilakaluripeta – Cuddapah 765kV D/c line with 240 MVAR switchable line reactors at both ends.
3. Chilakaluripeta – Narsaraopeta 400kV (quad) D/c line.
4. Cuddapah – Madhugiri 400kV (quad) D/c line with 80 MVAR switchable line reactors at both ends.
5. Srikakulam Pooling Station – Garividi 400 kV (Quad) D/c line with 80 MVAR switchable line reactors at Garividi end.

#### **Substation**

1. Establishment of 765/400 kV substation at Chilakaluripeta with 7x500 MVA (one spare unit) transformers and 2x240 MVAR bus reactors each.  
765/400kV Transformers bays at Chilakaluripeta: 2 nos.  
765 kV  
Line bays : 4 nos., Spare bays : 6 nos.  
400 kV  
Line bays : 2 nos., Spare bays : 8 nos.

#### **General Details**

Special Purpose Vehicle (SPV) : Powergrid Southern Interconnector Transmission Limited (A subsidiary of PGCIL)

Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Levelling Tariff	:	₹ 359.255 Cr.
Request for Qualification	:	12.04.2015
Request for Proposal	:	10.07.2015
Letter of Intent	:	29.10.2015
Transmission Service Agreement (TSA)	:	31.08.2015
SPV acquisition	:	04.12.2015
Transmission License by CERC	:	14.03.2016
Tariff adoption by CERC	:	09.02.2016
Contract Performance Guarantee	:	26.11.2015
Clearance u/s 164	:	16.08.2017
Execution plan submitted to CEA:	:	Mar'16
NIT issued on	:	18.12.2015
EPC awarded on	:	19.03.2016
Scheduled Date of Completion	:	03.04.2019
<b>Actual date of completion</b>	:	<b>16.01. 2020</b>

### **Status of progress of transmission project:-**

#### **1. Vemagiri - Chilakaluripeta 765kV D/C Line**

(Award placed in Mar'16 to M/s. KPTL)

Length: 279 Kms  
Locations: 748 nos.

- **Line completed and charged on 16.1.20.**

#### **2. Chilakaluripeta - Cudappah 765 kV D/C Line**

Length: 288 km  
Locations: 768 nos.

- **Line charged on 29.07.19 & completed trial operation on 30.07.19.**

#### **3. Cudappah - Madhugiri 400 kV D/C (Quad Moose) Line**

Length: 243 Km  
Locations: 650 nos.

- **Line commissioned on 26.02.19**

#### **4. Srikakulam - Garividi 400 kV (Quad Moose) D/C Line**

Length: 144 Km  
Locations: 393 nos.

- **Line commissioned on 04.08.18 & put under commercial operation w.e.f. 06.08.18.**

**5. Chilkaluraipeta - Narasaraopeta 400 kV (Quad Moose) D/C Line**

Length: 30 Km  
Locations: 81 nos.

- **Line commissioned w.e.f. 31.07.19.**

**6. 765/400kV Chilakularipeta Substation**

(Awarded to M/s GE T&D INDIA LTD)

- **765/400kV substation at Chilakaluripeta along with all bays and Equipment charged on 29.03.2019 & 30.03.2019 and completed trial operation on 31.03.2019**
- **2 nos. 400kV Line Bays associated with Chilakularipeta – Narasaraopeta Line are declared under Commercial Operation w.e.f. 31.07.19**

**7. Satenapalli (Narasaraopeta) 400 kV Substation extension**

(Awarded to M/s GE T&D INDIA LTD)

- **Substation commissioned & put under Commercial Operation w.e.f. 31.07.19.**

**8. Garividi 400 kV Substation extension**

**S/s commissioned & under commercial operation w.e.f. 06.08.2018.**

## **(10) Transmission system associated with LTA applications from Rajasthan SEZ Part-A**

### **Background**

India has set a target for establishing 175 GW renewable capacity by 2022, which includes 100 GW Solar, 60 GW Wind generation capacity. To identify ISTS connectivity of renewable energy projects from potential solar energy zones (SEZs) and potential wind energy zones (WEZs) of about 50 GW and 16.5 GW respectively, MNRE vide its order dated 08.06.2018 had constituted a Sub-Committee. SEZs and WEZs envisaged in 7 RE rich states (Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Maharashtra and Madhya Pradesh) were identified by SECI in association with MNRE in consultation with RE power developers. To ease the implementation of transmission infrastructure, it has been proposed to bifurcate these requirements in two phases. A total of 20GW solar & 9 GW wind projects has been planned in Phase-I (up to Dec. 2020) and 30 GW solar & 7.5 GW wind has been planned for Phase-II (December 2021)

### **Project Description**

The subject transmission scheme involves implementation of Ajmer (PG) – Phagi 765 kV D/c line which shall facilitate in transfer of power from RE sources in above complexes for onward dispersal of power to various beneficiaries.

The proposal has been technically agreed in the 2nd meeting of Northern Region Standing Committee on Transmission (NRSCT) held on 13.11.2018. The same was agreed in the 3rd ECT meeting held on 21.12.2018 for implementation through TBCB route with commissioning schedule as September, 2020

### **Scope of Transmission Project-**

#### **Transmission Lines**

1. Ajmer (PG) – Phagi (RVPN) 765kV D/C line.

#### **Substation**

1. 2 nos 765kV line bays (AIS) at Ajmer (PG) S/s for Ajmer (PG) –Phagi (RVPN) 765kV D/c line.
2. 01 no of 765kV bay (AIS) & 01 complete GIS DIA 765kV (2 main Breakers & 1 Tie Breaker) at Phagi S/S for Ajmer (PG) – Phagi (RVPN) 765kV D/c line.
3. 3 x 80 MVAR 765kV bus reactor with GIS bay (2main bay of new DIA being created for termination of 765kV D/c line from Ajmer) at Phagi S/s along with 1X80 spare MVAR, 765kV reactor (Spare).

### **General Details**

Special Purpose Vehicle (SPV)	:	AJMER PHAGI TRANSCO LIMITED
Bid Process Coordinator (BPC)	:	REC Transmission Projects Company Ltd
Estimated Cost	:	₹ 583 Cr



Levellised Tariff	:	₹ 61.331Cr.
Request for Qualification	:	12.01.2019
Request for Proposal	:	13.03.2019
Letter of Intent	:	29.08.2019
Transmission Service Agreement (TSA)	:	23.04.2019
SPV acquisition	:	03.10.2019
Transmission License by CERC	:	4.03.2020
Tariff adoption by CERC	:	4.03.2020
Contract Performance Guarantee	:	30.08.2019
Clearance u/s 164		Newspaper Notice Published on 23.11.2019
Execution plan submitted to CEA :		Submitted on 13.2.20
NIT issued on	:	All NOAs to Execution Agency issued.
EPC awarded on	:	NOAs for S/Stn, T/L & B/R issued
Scheduled Date of Completion	:	Dec'2020/ May'2021*
<b>Actual Date of Completion</b>	:	<b>May' 2021</b>

#### **Status of progress of transmission project:-**

##### **1. Ajmer (PG) – Phagi (RVPN) 765kV D/C line**

Length:	134.207 km
Locations:	359 nos.
Scheduled COD	Dec'20/ May'21*

**Commissioned in May'21.**

#### **Status of progress of Bay Extensions project:**

- NOAs for AIS Type 765kV Bay Extensions both at Ajmer and Phagi is placed to M/s ABB (Linxon) and GIS Type 765kV Bays at Phagi to M/s GE T&D India Ltd. All Bays charged.
- Bus Reactor Package awarded to M/s T&R on 27.11.2019 and charged on 30.04.2021.
- 1 No additional 1-Ph 80MVAR reactor is added at later date of RFP- awarded to M/s BTW on 28.02.20. Spare reactor reached site on 27.05.2021.

## **(11) New WR- NR 765 kV Inter-Regional corridor**

### **Background**

The transmission scheme has been approved in the 38th Standing Committee on Power System Planning of Northern Region held on 30th May, 2016 and 40th Standing Committee Meeting on Power System Planning in WR held on 01.06.2016. The corridor shall provide strong connectivity of NR and WR grid and would facilitate flow of power under various contingencies.

### **Scope of transmission project:**

- 765 kV D/C Vindhyachal Pooling Station- Varanasi D/C Transmission Line

### **General Detail:**

Special Purpose Vehicle (SPV)	:	WR-NR Power Transmission Limited
Bid Process Coordinator (BPC)	:	REC TPCL
Estimated Cost	:	₹ 916 Cr
Levellers Tariff	:	₹ 92.733 Cr
Request for Qualification	:	19.12.2016
Request for Proposal	:	22.09.2017
Letter of Intent	:	01.03.2018
Transmission Service Agreement (TSA)	:	27.04.2017
SPV acquisition	:	27.03.2018
Transmission License by CERC	:	27.08.2018
Tariff adoption by CERC	:	05.09.2018
Contract Performance Guarantee	:	Submitted on 27.03.2018
Clearance u/s 164	:	14.03.2019
Execution plan	:	Submitted in April'18
EPC awarded on	:	Awarded 11.04.2018
Scheduled Date of Completion	:	31.07.2021/ Dec'2021*/ Mar'22**
Actual Date of Completion	:	31.07.2021

### **Status of progress of transmission project:-**

- 1) 765 kV D/C Vindhyachal Pooling Station- Varanasi D/C Transmission Line  
Line awarded on 11.04.2018 to M/s KPTL.

• Length	:	189.5 Km
• Locations	:	521Nos.
Scheduled COD	:	July' 2021/ Dec'2021*/Mar'22**
Actual COD	:	July' 2021

## **(12) Transmission system associated with LTA applications from Rajasthan SEZ Part-B**

### **Background**

India has set a target for establishing 175 GW renewable capacity by 2022, which includes 100 GW Solar, 60 GW Wind generation capacity. To identify ISTS connectivity of renewable energy projects from potential solar energy zones (SEZs) and potential wind energy zones (WEZs) of about 50 GW and 16.5 GW respectively, MNRE vide its order dated 08.06.2018 had constituted a Sub-Committee. SEZs and WEZs envisaged in 7 RE rich states (Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Maharashtra and Madhya Pradesh) were identified by SECI in association with MNRE in consultation with RE power developers. To ease the implementation of transmission infrastructure, it has been proposed to bifurcate these requirements in two phases. A total of 20GW solar & 9 GW wind projects has been planned in Phase-I (up to Dec. 2020) and 30 GW solar & 7.5 GW wind has been planned for Phase-II (December 2021)

### **Scope of Transmission Project-**

#### **Transmission Line**

1. Fatehgarh-II – Bhadla-II 765kV D/c line.

#### **Substation**

1. 2 nos of 765kV bays each at Fatehgarh-II and Bhadla-II S/s for Fatehgarh-II – Bhadla-II 765kV D/c line.
2. 240MVAR switchable line reactor with NGR of 400ohm on each circuit of Fatehgarh-II – Bhadla-II 765kV D/c line at Fatehgarh-II end.

#### **General Details**

Special Purpose Vehicle (SPV)	:	FATEHGARH-II TRANSCO LIMITED
Bid Process Coordinator (BPC)	:	PFC Consulting Ltd.
Estimated Cost	:	₹ 676 Cr.
Levellised Tariff	:	₹ 71.558 Cr.
Request for Qualification	:	19.02.2019
Request for Proposal	:	03.06.2019
Letter of Intent	:	11.09.2019
Transmission Service Agreement (TSA)	:	16.07.2019
SPV acquisition	:	14.10.2019
Transmission License by CERC	:	4.03.2020
Tariff adoption by CERC	:	5.03.2020
Clearance u/s 164	:	Newspaper Notice Published on 30.11.2019. To be published again due to error in village list. Again published in Newspapers on 01.10.2020. Issued on 8 <sup>th</sup> March'21 and published on 1 <sup>st</sup> April'21.
Execution plan submitted to CEA :	:	Submitted on 13.03.20
NIT issued on	:	NIT for all Pkges issued.
EPC awarded on	:	NOAs except L/R Package issued
Scheduled Date of Completion	:	Dec'2020/ May'2021* /Aug'21**

**Actual COD**

**Aug'21**

**Status of progress of transmission project:-**

1. Fatehgarh-II – Bhadla-II 765kV D/c line.

Length:	187.346 km
Locations:	508 nos.
Foundation completed	508 nos.
Towers erected	508 nos.
Stringing completed	187.346 km
Scheduled COD	Dec'20/ May'21*/Aug'21**
Actual COD	Aug'21

**Line Charged in Aug'21**

**Status of progress of Bay Extensions project:-**

765kV Bay Extensions both at Fatehgarh-II (PG) Substation and Bhadla-II Substation (PG) was placed to M/s BHEL.

**Charged in Aug'21**

**Transmission project commissioned in Aug-2021.**

## **(13) Transmission system associated with LTA applications from Rajasthan SEZ Part-C**

### **Background**

India has set a target for establishing 175 GW renewable capacity by 2022, which includes 100 GW Solar, 60 GW Wind generation capacity. To identify ISTS connectivity of renewable energy projects from potential solar energy zones (SEZs) and potential wind energy zones (WEZs) of about 50 GW and 16.5 GW respectively, MNRE vide its order dated 08.06.2018 had constituted a Sub-Committee. SEZs and WEZs envisaged in 7 RE rich states (Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Maharashtra and Madhya Pradesh) were identified by SECI in association with MNRE in consultation with RE power developers. To ease the implementation of transmission infrastructure, it has been proposed to bifurcate these requirements in two phases. A total of 20GW solar & 9 GW wind projects has been planned in Phase-I (up to Dec. 2020) and 30 GW solar & 7.5 GW wind has been planned for Phase-II (December 2021)

### **Project Description**

Transmission system for 8.9 GW of solar RE projects from Bhadla (3.55 GW), Fatehgarh (3.5 GW), Bikaner (1.85 GW) complexes in Rajasthan was technically agreed in the 2<sup>nd</sup> meeting of NRSCT held on 13.11.2018. The scheme is required for evacuation of power from balance 6050 MW of RE potential out of total quantum of 8.9 GW (2.850 GW LTA already granted)

### **Scope of Transmission Project-**

#### **Transmission Lines**

1. Khetri – Sikar (PG) 400kV D/c line (AL59)  
400kV line bays at Sikar (PG) for Khetri – Sikar (PG) 400kV D/c line (Twin AL59)
2. Khetri– Jhatikara 765kV D/c line  
765kV bays at Jhatikara for Khetri– Jhatikara 765kV D/c line  
1x240 MVAR Switchable Line reactors for each circuit at Jhatikara end of Khetri – Jhatikara 765kV D/c line along with reactor bays

#### **Substation**

1. Establishment of 765/400kV, 2X1500 MVA S/s at suitable location near Khetri with 765kV (2x240MVAR) and 400kV (1x125 MVAR) bus reactor along with bays. Following line bays shall also be constructed under present scope of work:  
400kV line bay-2  
765kV line bay-2  
220kV line bays-7
2. 400kV line bays at Sikar (PG) for Khetri – Sikar (PG) 400kV D/c line (Twin AL59).
3. 765kV bays at Jhatikara for Khetri– Jhatikara 765kV D/c line.

#### **General Details**

Special Purpose Vehicle (SPV)	:	POWERGRID KHETRI TRANSMISSION SYSTEM LTD
Bid Process Coordinator (BPC)	:	REC Transmission Projects Company Ltd.
Estimated Cost	:	₹ 1365 Cr
Levelling Tariff	:	₹ 122.042Cr.
Request for Qualification	:	12.01.2019
Request for Proposal	:	13.03.2019
Letter of Intent	:	31.07.2019
Transmission Service Agreement (TSA)	:	23.04.2019
SPV acquisition	:	29.08.2019
Transmission License by CERC	:	Applied on 04.09.2019
Tariff adoption by CERC	:	Applied on 04.09.2019
Contract Performance Guarantee	:	30.08.2019
Clearance u/s 164	:	Notice Published in Newspaper on 07.11.2019 & 14.11.2019
Execution plan submitted to CEA :	:	is being prepared.
NIT issued on	:	All NOAs to Execution Agency issued.
EPC awarded on	:	All NOAs to Execution Agency issued
Scheduled Date of Completion	:	Dec'2020/ May'2021*/ Aug'21**

#### **Status of progress of transmission project:-**

1. Khetri– Jhatikara 765kV D/c line  
(Award placed in Sep'19 to M/s. TRANSRail)

Length: 146.022km  
Locations: 395 nos.

Scheduled COD Dec'20/ May'21\*/Aug'21\*\*  
Actual COD Oct 21 ( Complete System Charged)

#### **Line commissioned in Oct'21**

2. **Khetri– Sikar (PG) 400kV D/c line**  
(Award placed in Sep'19 to M/s. TRANSRail)

Length: 78.083 Km  
Locations: 207 nos.  
Scheduled COD Dec'20/ May'21\*/Aug'21\*\*  
Actual COD Oct'21

#### **Line commissioned in Oct'21**

#### **Status of progress of Substation and Bay Extensions project:-**

1. **765/400kV Khetri New Station**

Scheduled COD : Dec'20/ May'21/Aug'21\*  
Actual COD : Oct'21

## **2. Extension of 765kV Jhatikara Station**

Scheduled COD : Dec'20/ May'21/Aug'21\*  
Actual COD : Oct'21

## **3. Extension of 400 kV S (PG) Substation**

Bays Charged in August'21

**Project commissioned in Oct'21**

## (14) Eastern Region Strengthening Scheme-XXI

### Background:

Demand of Bihar has touched 3717 MW under unrestricted condition in FY 2016-17 and may go up to 8774MW by 2018-19 due to segregation of agricultural feeders. The demand is expected to reach about 11000 MW by the end of 13th plan (FY 2021-22). For meeting this demand, ISTS network including two (3) 400kV sub-stations at Sitamarhi, Saharsa and Chandauti (Gaya) (Total transformation capacity of 4900 MVA) along with augmentation of 400/132 kV Motihari S/s and associated 400kV transmission lines (about 500 ckm) have been planned.

### Scope of transmission project:-

#### Transmission Lines:

1.	Darbhanga – Sitamarhi (New) 400kV D/c line with Triple Snowbird conductor
2.	Sitamarhi (New) – Motihari 400kV D/c line with Triple Snowbird conductor
3.	LILO of both circuits of Nabinagar-II – Gaya 400kV D/c (Quad Moose) line of PGCIL at Chandauti (New)
4.	LILO of Kishanganj – Patna 400kV D/c (Quad Moose) line of PGCIL at Saharsa (New)

#### Substation

1.	<p>Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Sitamarhi (New)</p> <p><b>400 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 400/220 kV, 2x500 MVA</li> <li>• ICTs bays: 2 nos.</li> <li>• Line bays with space for switchable line reactor: 4 nos. [2 nos. for Darbhanga – Sitamarhi (New) 400kV D/c line with Triple Snowbird conductor and 2 nos. for Sitamarhi (New) – Motihari 400kV D/c line with Triple Snowbird conductor]</li> <li>• Bus reactor: 420kV, 2x125 MVAR</li> <li>• Bus reactor bay: 2 nos.</li> <li>• Space for future line bays (including space for switchable line reactor): 6 nos.</li> <li>• Space for future ICT bays: 2 nos.</li> </ul>
	<p><b>220 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 220/132 kV, 2x200 MVA</li> <li>• ICTs bays: 4 no.</li> <li>• Line bays: 4 no. [2 no. for Sitamarhi (New) – Motipur (BSPTCL) and 2 no. for Sitamarhi (New) – Motihari (New of BSPTCL) 220kV D/c lines]</li> <li>• Space for future line bays: 4 nos.</li> <li>• Space for future ICT bays: 4 nos.</li> </ul>



	<p><b>132 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs bays: 2 no.</li> <li>• Line bays: 4 no. [2 no. for Sitamarhi (New) – Sitamarhi 132kV D/c (Single Moose) line and 2 no. for Sitamarhi (New) – Pupri 132kV D/c line]</li> <li>• Space for future line bays: 4 nos.</li> <li>• Space for future ICT bays: 2 nos.</li> <li>• Space for future 400/220 kV, 2x500 MVA ICTs</li> <li>• Space for future 220/132 kV, 2x200 MVA ICTs</li> </ul>
2.	Establishment of 400/220/132 kV, 3x500 MVA + 3x200 MVA S/s at Chandauti (New)
	<p><b>400 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 400/220 kV, 3x500 MVA</li> <li>• ICTs bays: 3 no.</li> <li>• Line bays with space for switchable line reactor: 4 no. [4 no. for LILO of both circuits of Nabinagar-II – Gaya 400kV D/c (Quad Moose) line of PGCIL at Chandauti (New)]</li> <li>• Bus reactor: 420kV, 2x125 MVAR</li> <li>• Bus reactor bay: 2 nos.</li> <li>• Space for future line bays (including space for switchable line reactor): 6 no.</li> <li>• Space for future ICT bays: 2 nos.</li> </ul>
	<p><b>220 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 220/132 kV, 3x200 MVA</li> <li>• ICTs bays: 6 nos.</li> <li>• Line bays: 4 nos. [4 no. for LILO of Gaya (PGCIL) – Sonenagar 220kV D/c at Chandauti (New). Gaya (PGCIL) – Sonenagar shall be LILOed at Bodhgaya (BSPTCL) also, so as to form Gaya (PGCIL) – Bodhgaya (BSPTCL) – Chandauti (New) – Sonenagar 220kV D/c line]</li> <li>• Space for future line bays: 4 nos.</li> <li>• Space for future ICT bays: 4 nos.</li> </ul>
	<p><b>132 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs bays: 3 nos.</li> <li>• Line bays: 4 nos. [2 no. for LILO of Chandauti (BSPTCL) – Rafiganj and 2 no. for LILO of Chandauti (BSPTCL) – Sonenagar 132kV S/c (HTLS conductor of 240MVA, ampacity - 1050A) lines at Chandauti (New)]</li> <li>• Space for future line bays: 4 no.</li> <li>• Space for future ICT bays: 2 no.</li> <li>• Space for future 400/220 kV, 2x500 MVA ICTs</li> <li>• Space for future 220/132 kV, 2x200 MVA ICTs</li> </ul>
3.	Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Saharsa (New)

	<p><b>400 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 400/220 kV, 2x500 MVA</li> <li>• ICTs bays: 2 no.</li> <li>• Line bays with space for switchable line reactor: 4 no.[4 no. for LILO of Kishanganj – Patna 400kV D/c (Quad Moose) line of PGCIL at Saharsa (New)]</li> <li>• Bus reactor: 420kV, 2x125 MVAR</li> <li>• Bus reactor bay: 2 no.</li> <li>• Space for future line bays (including space for switchable line reactor): 6 no.</li> <li>• Space for future ICT bays: 2 no.</li> </ul>
	<p><b>220 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 220/132 kV, 2x200 MVA</li> <li>• ICTs bays: 4 no.</li> <li>• Line bays: 4 no. [2 no. for Saharsa (New) – Begusarai and 2 no. for Saharsa (New) – Khagaria (New) 220kV D/c lines]</li> <li>• Space for future line bays: 4 no.</li> <li>• Space for future ICT bays: 4 no.</li> </ul>
	<p><b>132 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs bays: 2 no.</li> <li>• Line bays: 2 no. [2 no. for Saharsa (New) – Saharsa 132kV D/c line]</li> <li>• Space for future line bays: 6 no.</li> <li>• Space for future ICT bays: 2 no.</li> <li>• Space for future 400/220 kV, 2x500 MVA ICTs Space for future 220/132 kV, 2x200 MVA ICTs</li> </ul>
4.	<p><b>Substation extension at Darbhanga S/s</b></p> <ul style="list-style-type: none"> <li>• 400kV Line bays with space for switchable line reactor: 2 no. [2 no. for Darbhanga – Sitamarhi (New) 400kV D/c line with Triple Snowbird conductor]</li> </ul>
5.	<p><b>Substation extension at Motihari S/s</b></p> <p><b>400kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 400/132 kV, 315 MVA (3rd)</li> <li>• ICT bays: 1 no.</li> <li>• Line bays with space for switchable line reactor: 2 no.[2 no. for Sitamarhi (New) – Motihari 400kV D/c line with Triple Snowbird conductor]</li> </ul> <p><b>132kV</b></p> <p>ICT bays: 1 no.</p>

**General Detail:**

Special Purpose Vehicle (SPV)	:	ERSS XXI Transmission Limited
Bid Process Coordinator (BPC)	:	REC TPCL
Estimated Cost	:	₹ 1321 Cr
Levellised Tariff	:	₹ 138.586 Cr
Request for Qualification	:	28.12.2016
Request for Proposal	:	11.08.2017
Letter of Intent	:	27.09.2017

Transmission Service Agreement (TSA) :	22.12.2017
SPV acquisition :	12.01.2018
Transmission License by CERC :	24.04.2018
Tariff adoption by CERC :	25.04.2018
Contract Performance Guarantee :	Submitted on 11.01.2018
Clearance u/s 164 :	14.05.19
Execution plan submitted to :	29.01.2018
EPC awarded on :	24.01.2018
Scheduled Date of Completion :	12.03.2021/ Aug'2021*/Nov'21**
Anticipated Date of Completion :	Oct'21

## **Status of progress of transmission project:**

### **1. Darbhanga – Sitamarhi (New) 400kV D/C line**

(Award placed on 24.01.2018 to M/s TATA)

- Locations: 221 Nos.
- Length 80 Km
- Scheduled COD : Jan'21/ Jun'21\*

**Line commissioned w.e.f. 12.04.2021.**

### **2. Sitamarhi (New) – Motihari 400kV D/C line**

Award placed on 24.01.2018 to M/s. TATA

- Length: 85.6 Km
- Locations: 230 Nos.
- Scheduled COD : Jan'21/ Jun'21\*

**Line Charged on 03.04.2021.**

### **3. LILO of both circuits of Nabinagar-II – Gaya 400KV D/c (Quad Moose) line of PGCIL at Chandauti (New)**

Award placed on 24.01.2018 to M/s. TATA

- Length: 2.9 Km
- Locations: 9 Nos.
- Scheduled COD : Mar'21/ Aug'21\*

**Commissioned on 11.03.2021.**

### **4. LILO of Kishanganj – Patna 400KV D/c (Quad Moose) line of PGCIL at Saharsa (New)**

- Length: :74.7Km
- Locations: : 211 Nos.
- Scheduled COD : Mar'21/ Aug'21\*/Nov'21\*\*
- Actual COD : Oct'21

**Line commissioned w.e.f. 17.10.2021.**

**5. Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Sitamarhi (New)**

Awarded on 27.02.2018 to M/s KEC

Scheduled COD : Jan'21/ Jun'21\*

**Commissioned on 12.04.2021.**

**6. Establishment of 400/220/132 kV, 3x500 MVA + 3x200 MVA S/s at Chandauti (New)**

○ Scheduled COD : Mar'21/ Aug'21\*

**Commissioned on 11.03.2021.**

**7. Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Saharsa (New)**

Scheduled COD : Mar'21/ Aug'21\*/Nov'21\*\*

Actual COD : Oct'21

**Commissioned w.e.f. 17.10.2021.**

**8. Substation extension at Darbhanga S/s**

○ Scheduled COD : Jan'21/ Jun'21\*/ Sep'21\*\*

**Commissioned on 12.04.2021.**

**9. Substation extension at Motihari S/s**

• Awarded on 27.02.2018 to M/s KEC

Scheduled COD : Jan'21/ Jun'21\*

Anticipated COD : **Commissioned w.e.f. 23.04.21.**

## **(15) Eastern Region Strengthening Scheme-XVIII**

### **Background**

The major generation projects in ER in future are envisaged in the central and western part of the region (Odisha, Jharkhand and Bihar); however, no major generation addition is expected in the eastern part (West Bengal). Thus, in order to provide reliable and secure power supply within the region from various future generation sources and also to facilitate power exchange with the neighbouring regions under various operating conditions, it was felt necessary to build a strong transmission network interconnecting eastern and western part of ER.

Accordingly, implementation of high capacity Ranchi – Medinipur – Jeerat 765kV D/c line along with establishment of 765/400kV substations at Medinipur and Jeerat, was approved in the 17th Standing Committee Meeting on Power System Planning of ER to provide a strong East – West connection in the Eastern Region as well as to feed large load centres of West Bengal viz. Jeerat and Subhashgram area. For further dispersal of power from these 765/400kV sub-stations, various 400kV lines have been planned.

### **Scope of transmission project:**

#### **Transmission Lines:**

- Ranchi (New) – Medinipur 765kV D/c line with Hexa ACSR Zebra conductor along with 765kV, 240 MVAR switchable line reactor with 750Ω NGR in each circuit at Medinipur end (total: 765kV, 7x80 MVAR single phase units, 1 unit as spare).
- Medinipur - Jeerat (New) 765kV D/c line with Hexa ACSR Zebra conductor along with 765kV, 240 MVAR switchable line reactor with 600 Ω NGR in each circuit at Jeerat (New) end (total: 765kV, 7x80 MVAR single phase units, 1 unit as spare).
- Jeerat (New) – Subhasgram 400kV D/c line (ACSR Quad Moose)
- Jeerat (New) – Jeerat (WBSETCL) 400kV D/c line (ACSR Quad Moose)
- LILO of both circuits of Chandithala – Kharagpur 400kV D/c line at Medinipur.
- LILO of Jeerat (WBSETCL) – Subhasgram (PG) 400kV S/c section at Rajarhat (POWERGRID) [Line deleted from scope]

### **Substation:**

#### **(1) Establishment of 765/400kV, 2×1500MVA substation at Medinipur**

#### **765kV**

- ICTs: 7×500 MVA, 765/400kV (1 spare unit)
- ICT bays: 2 no.
- Line bays: 4 no.
- Bus reactor: 7×110 MVAR single phase units including one (1) spare unit
- Bus reactor bay: 2 no.
- Space for future line bays (along with space for switchable line reactor): 4 no.
- Space for future ICT bays: 2 no.
- Space for future 765/400 kV ICT: (6x500MVA single phase units)

#### **400kV**

- ICT bays: 2 no.

- Line bays: 4 no.
- Bus reactor: 2×125 MVAR
- Bus reactor bay: 2 no.
- Space for future line bays (along with space for switchable line reactor): 6 no.
- Space for future ICT bays: 2 no.

## (2) Establishment of 765/400kV, 2x1500MVA substations at Jeerat (New)

### **765kV**

- ICTs: 7×500MVA, 765/400kV (1 spare unit)
- ICT bays: 2 no.
- Line bays: 2 no.
- Bus reactor: 7×110 MVAR single phase unit including one (1) spare unit
- Bus reactor bay: 2 no.
- Space for future line bays (along with space for switchable line reactor): 4 no.
- Space for future ICT bays: 2 no.
- Space for future 765/400 kV ICT: (6x500MVA single phase units)

### **400kV**

- ICT bays: 2 no.
  - Line bays: 4 no.
  - Bus reactor: 2×125 MVAR
  - Bus reactor bay: 2 no.
  - Space for future line bays (along with space for switchable line reactor): 4 no.
  - Space for future ICT bays: 2 no.
- 2 no. 400kV GIS line bays at Jeerat (WBSETCL)

### **General Details:**

Special Purpose Vehicle (SPV)	:	Powergrid Medinipur-Jeerat Transmission Limited (A subsidiary of POWERGRID)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost	:	₹ 3994 Cr
Levellised Tariff	:	₹ 498.652 Cr
Request for Qualification	:	14-Jun-2016
Request for Proposal	:	06-Oct-2016
Letter of Intent	:	21-Feb-2017
Transmission Service Agreement (TSA)	:	17-Nov-2016
SPV acquisition	:	28-Mar-2017
Transmission License by CERC	:	20-June-2017
Tariff adoption by CERC	:	12-June-2017
Contract Performance Guarantee	:	28-Mar-2017
Clearance u/s 164	:	15- Feb-2018
Execution plan submitted to CEA	:	2-June-2017
NIT issued on	:	02-Nov-2016
EPC awarded on	:	31-Mar-2017
Scheduled Date of Completion	:	28-Jul-2020/ Dec'20*
Actual Date of Completion	:	Aug-2022

### **Status of progress of transmission project:**

### 1. Ranchi – Medinipur 765kV D/C line

- Length : 269 Km
- Locations : 718 nos.
- Scheduled COD : July'2020/ Dec'2020\*
- Actual COD : Feb'21

**Line commissioned w.e.f. 09.02.2021.**

### 2. Medinipur - Jeerat (New) 765kV D/C line

Award placed on 31.03.2017 to M/s. L&T

- Length: 169 Km
- Locations: 461 nos.
- Scheduled COD July'2020/ Dec'2020\*
- Actual COD Sept' 2021

**Line commissioned w.e.f. 29.09.2021.**

### 3. Jeerat (New) – Subhasgram 400kV D/C line

(Award placed on 31.03.2017 to M/s. L&T)

- Length: 107 Km
- Locations: 313 nos.
- Scheduled COD July'2020/ Dec'2020\*
- Actual COD Aug '2022

**Line commissioned w.e.f. 26.08.2022.**

### 4. Jeerat (New) – Jeerat (WBSETCL) 400kV D/C line

Award placed on 31.03.2017 to M/s. L&T

- Length : 25.58 Km
- Locations : 81 nos.
- Scheduled COD : July'2020/ Dec'2020\*
- Anticipated COD : Sept'2021

**Commissioned wef 29.09.2021.**

### 5. LILO of Jeerat (WBSETCL) – Subhasgram (PG) 400kV at Rajarhat

(Award placed on 31.03.2017 to M/s. L&T)

- Length : 12 Km
- Locations : 37 nos.
- Scheduled COD : Jul' 20

**Status:** Scope Deleted vide CEA letter dated 04.04.18.

**6. LILO of both circuits of Chandithala – Kharagpur 400kV D/C line at Medinipur**  
(Award placed on 31.03.2017 to M/s. L&T)

Length	:	74 Km
Locations	:	199 Nos.
Scheduled COD	:	July' 2020/ Dec'2020*
Actual COD	:	Feb' 2021

**Line commissioned w.e.f. 09.02.2021.**

**7. 2x1500 MVA , 765/400 kV Substation at Medinipur**  
(Award placed on 29.09.2017 to M/s BHEL)

Scheduled COD	:	July'2020/ Dec'2020*
Actual COD	:	Sept' 2021

As per transmission service agreement dated 17.11.2016 Medinipur substation is commissioned w.e.f. 09.02.2021. However, bays related to Medinipur -Jeerat **line commissioned on 29.09.21**

**8. 2x1500 MVA , 765/400 kV Substation at Jeerat (New)**  
(Award placed on 29.09.2017 to M/s BHEL)

Land acquired	:	100 %
Civil work completed	:	100 %
Equipment supplied	:	100 %
Equipment erection	:	99 %
Scheduled COD	:	July'2020/ Dec'2020*
Actual COD	:	Sept' 2021

**As per transmission service agreement dated 17.11.2016, Jeerat substation is commissioned w.e.f. 29.09.2021. However, bays related to the Jeerat -Subhashgram line shall be commissioned with the completion of line.**

**9. Extension of 400 kV Substation at Jeerat (WBSETCL)**  
(Work being executed by WBSETCL.)

**Commissioned wef 29.09.21**

**The project Commissioned w.e.f. 26.08.2022.**



## **(16) Transmission System for providing connectivity to RE Projects at Bhuj-II (2000 MW ) in Gujarat**

### **Background**

Govt. of India has set a target for establishing 175 GW renewable capacity by 2022 which includes 100 GW Solar, 60 GW Wind generation capacity. This includes installation of 3.5 GW, 4.5 GW & 20 GW of solar/wind capacity in WR under Phase-I (Dec'20/Mar'21), Phase-II (Dec'21) & Phase-III (Beyond Dec'21) respectively.

For integration and evacuation of power from envisaged wind potential in Bhuj (2GW)/Dwarka (1.5GW) areas under Phase-I and Lakadia (2GW) under Phase-II, a high capacity 765kV and 400kV transmission system interconnecting Bhuj, Lakadia, Banaskantha, Vadodara & Dwarka along with establishment of 765/400/220kV new substations at Bhuj-II & Lakadia and 400/220kV new substation at Jam Khambhaliya (Dwarka) have been planned.

The subject transmission scheme involves implementation of Bhuj-II PS along with reconfiguration of Bhuj-PS – Lakadia PS 765kV D/C line so as to the establish Bhuj II – Lakadia 765 kV D/C line as well as Bhuj- Bhuj II 765kV D/C line. This would help in providing a strong ISTS Grid connectivity to various RE projects envisaged in the vicinity of the proposed Bhuj-II Pooling station.

The proposed Transmission System was discussed and agreed in the 1<sup>st</sup> meeting of Western Region Standing Committee on Transmission (WRSCT) held on 5.9.2018. Further in the 2<sup>nd</sup> WRSCT meeting held on 21.05.2019, 1×240 MVAR, 765 kV switchable line reactor in each circuit at Bhuj-II PS end of Bhuj II – Lakadia 765 kV D/c line was also agreed due to shift in location of Bhuj-II PS.

The Transmission System has also been agreed in 38<sup>th</sup> WRPC meeting held on 28.06.2019. Hon'ble Commission i.e CERC has also granted Regulatory Approval for the same vide order dated 10.10.2019 in petition No. 197/MP/2019.

### **Scope of Transmission Project:**

#### **Transmission Line**

1. Reconfiguration of Bhuj PS – Lakadia PS 765kV D/c line so as to establish Bhuj-II – Lakadia 765 kV D/C line as well as Bhuj-Bhuj-II 765kV D/C line

#### **Substation**

1. Establishment of 2×1500 MVA (765/400kV), 4×500 MVA (400/220kV) Bhuj-II PS (GIS) with 765kV (1×330 MVAR) and 420kV (1×125 MVAR) bus reactor  
(2×1500MVA (765/400kV), 4×500MVA (400/220kV)), 1×500 MVA (765/400kV), 1-ph ICT (spare unit);  
400 kV ICT bay-6nos.; 765 kV ICT bay-2nos.; 220 kV ICT bay-4 nos.; 765 kV line bay-4 nos.; 220 kV line bay -7nos.; 1×330 MVAR, 765 kV; 1×125 MVAR, 420 kV; 765 kV

reactor Bays -1 no.; 400 kV reactor Bays -1 no.; 1x110 MVAR, 765 kV, 1-ph Reactor (spare unit).

Space for Future provisions:

765/400 kV ICTs along with bays: 2 nos.; 400/220 kV ICTs along with bays: 5 nos.; 765 kV line bays: 4 nos.; 400 kV line bays: 6 nos.; 220 kV line bays: 9 nos.; 765 kV bus reactor along with bays: 1 no.; 400 kV bus reactor along with bays: 1 no

2. 1x240MVAR switchable Line reactor for each circuit at Bhuj-II PS end of Bhuj-II- lakadia 765 kV D/c line (2x240 MVAR, 765 kV with 400-ohm NGR; 765 kV Reactor Bays-2 no.; 1x80 MVAR, 765 kV, 1ph switchable line Reactor (spare unit) at Bhuj-II end).

### **General Details**

Special Purpose Vehicle (SPV)	: <b>POWERGRID BHUJ TRANSMISSION LIMITED (Formerly as Bhuj-II Transmission Ltd) (A subsidiary of POWERGRID)</b>
Bid Process Coordinator (BPC)	: PFC Consulting Ltd.
Estimated Cost	: ₹ 645 Cr.
Levellised Tariff	: ₹ 123.76 Cr.
Request for Proposal	: 12.06.2019
Letter of Intent	: 31.07.2019
Transmission Service Agreement (TSA)	: 23.04.2019
SPV acquisition	: 16.10.19
Transmission License by CERC	: 03.03.2020
Tariff adoption by CERC	: 05.03.2020
Clearance u/s 164	: Notification(Dt 24 <sup>th</sup> Jul'20) published in Gazette of India on 21 <sup>th</sup> August 2020.
Execution plan submitted to CEA	: Submitted on 20.05.2020.
NIT issued on	: NIT for all Pkges issued.
EPC awarded on	: All Package awarded
Scheduled Date of Completion	: Dec'2020/ May'2021*/Aug'21**
Actual Date of Completion	: Nov'22

### **Status of progress of transmission project:-**

1. **Reconfiguration of Bhuj PS – Lakadia PS 765kV D/c line so as to establish Bhuj-II –Lakadia 765 kV D/C line as well as Bhuj-Bhuj-II 765kV D/C line**  
**Award placed to M/s Transrail Lighting Limited**

- Length: 106 km
- Locations: 284 nos.
- Scheduled COD Dec'20/ May'21\*/Aug'21\*\*
- Actual COD Aug'22 (completed)

2. **Establishment of 765/400/220kV, Bhuj-II PS (GIS)**

Scheduled COD : Dec'20/ May'21\*/Aug'21\*\*  
Actual COD : Nov'22

## **(17) Transmission system associated with LTA applications from Rajasthan SEZ Part-F, Phase-II**

### **Background**

Government of India has set a target for establishing 175 GW renewable capacity by 2022, which includes 100 GW from Solar and 60 GW from Wind. This includes solar generation potential of about 20 GW in Rajasthan. Transmission system for evacuation of 8.9 GW under phase-I has already been taken up for implementation. Transmission system strengthening scheme for evacuation of power from solar energy zones in Rajasthan (11.1 GW – 3 GW through intra state) under Phase II, inter-alia includes evacuation of 1.05GW in Bhadla complex, 2.2GW in Fatehgarh complex, 1.9GW in Ramgarh and 2.95 GW in Bikaner.

For integration and evacuation of power from generation projects in the above areas, a high capacity 765kV and 400kV transmission system interconnecting Bhadla-II, Fatehgarh-II, Sikar & Khetri along with establishment of 765/400kV new substation at Sikar-II & Narela and 400/220kV new substation at Bikaner-II & Ramgarh-II have been planned.

The subject transmission scheme involves establishment of 400/220kV Bikaner-II S/s & implementation of Bikaner-II – Khetri 400kV D/c & Khetri - Bhiwadi 400kV D/c lines.

### **Scope of Transmission Project-**

#### **Transmission Line**

Bikaner II- Khetri 400kV D/C line (Twin HTLS)

Khetri - Bhiwadi 400kV D/C line (Twin HTLS)

#### **Substation**

1. Establishment of 400/220kV Bikaner II Pooling Station with  $\pm 300$  MVAR, 2x125 MVAR MSC, 1x125 MVAR MSR & 2x125MVAR, 420kV Bus Reactor, 4x80MVAR, 420kV Line Reactors.
2. Construction of 4 nos. of 400kV line bays at Khetri for Bikaner II – Khetri 400kV 2xD/c line & Construction of 2 nos. of 400kV line bays at Khetri for Khetri - Bhiwadi 400kV D/c line alongwith 4x80MVAR, 420kV Line Reactors
3. Construction of 2 nos. of 400 kV (GIS) line bays at Bhiwadi for Khetri- Bhiwadi 400kV D/c line

#### **General Details**

Special Purpose Vehicle (SPV) <b>Limited (A subsidiary of POWERGRID)</b>	:	<b>POWERGRID Bikaner Transmission System</b>
Bid Process Coordinator (BPC)	:	PFC Consulting Ltd.
Estimated Cost	:	₹ 1340.81 Cr.
Levelling Tariff	:	₹ 140.486Cr.
Request for Proposal	:	06.03.20
Letter of Intent	:	16.02.21
Transmission Service Agreement (TSA)	:	16.10.20
SPV acquisition	:	25.03.21
Transmission License by CERC	:	15.07.21
Tariff adoption by CERC	:	12.06.21
Clearance u/s 164	:	28.06.22
NIT issued on	:	NIT for all Pkges issued.

EPC awarded on	:	NOAs issued
Scheduled Date of Completion	:	Sep'22/Dec'22**
Actual COD	:	July'23

**Status of progress of transmission project:-**

**1. Bikaner II- Khetri 400kV D/C line (Twin HTLS)**

Length:	275 km
Locations:	732nos.
Scheduled COD	Sep'22/Dec'22**
Actual COD	Jun'23

**2. Khetri - Bhiwadi 400kV D/C line (Twin HTLS)**

Award placed to M/s TLL

Length:	125.6 km
Locations:	339 nos.
Scheduled COD	Sep'22/Dec'22**
Actual COD	Jun'23

**Status of progress of Substation and Bay Extensions:-**

**1. 400/220kV New Bikaner II Substation**

Scheduled COD	:	Sep'22/Dec'22**
Actual COD	:	Jun'23

**2. 400/220kV New Bikaner II Substation STATCOM  
(±300MVar 2x125MVar MSC, 1x125MVar MSR)**

Scheduled COD	:	Sep'22/Dec'22**
Actual COD	:	July'23

**3. Extension of 400kV Khetri Substation**

Scheduled COD	:	Sep'22/Dec'22**
Actual COD	:	Jun'23

**4. Extension of 400kV Bhiwadi Substation**

Scheduled COD	:	Sep'22/Dec'22**
Actual COD	:	Jun'23

## **(18) System strengthening for WR**

### **Background**

A large number of IPP projects totaling to an installed capacity of 35000 MW are proposed to come in Chhattisgarh, MP, Odisha, Jharkhand and West Bengal and scheduled to commissioned by 12<sup>th</sup> plan and targeted beneficiaries are constituents of NR & WR. For evacuating power from these IPPs and delivering it to the target beneficiaries a comprehensive system has been evolved. The evolved transmission system consists of (i) dedicated transmission system from generating station to pooling point and their interconnection (ii) System strengthening common to WR and NR (iii) System strengthening in WR (iv) System strengthening in NR. This scheme is part of High Capacity Power Transmission Corridor(HPTC)-I & V, which has been planned for evacuation of power from Phase-I generation projects in Odisha and system strengthening of WR respectively.

### **Scope of transmission project**

1. Jabalpur-Bhopal 765 kV S/C line
2. Bhopal-Indore 765 kV S/C line
3. Bhopal-Bhopal (MP) 400 kV D/C line
4. Aurangabad-Dhule 765 kV S/C line
5. Dhule-Vadodara 765 kV S/C line
6. Dhule - Dhule(Mah) 400 kV D/C Line
7. 2x1500 MVA 765/400 kV s/s at Bhopal
8. 2x1500 MVA, 765/400 kV s/s at Dhule

### **General Details**

Special Purpose Vehicle (SPV)	:	Bhopal Dhule Trans. Co. Ltd. (SPTL)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	2900
Levellised Tariff (Rs. Cr)	:	199.5
Request for Qualification	:	02.03.2010
Request for Proposal	:	10.01.2011
Letter of Intent	:	19.01.2011
Transmission Service Agreement (TSA)	:	07.12.2010
SPV acquisition	:	31.03.2011
Transmission License by CERC	:	12.10.2011
Tariff adoption by CERC	:	28.10.2011
Clearance u/s 164	:	29.01.2013
Execution plan submitted to CEA	:	
Scheduled Date of Completion	:	<b>30.03.2014</b>
Actual Date of Completion	:	<b>Jun'2015</b>

### **Status of progress of transmission project**

- |  |   |                              |
|--|---|------------------------------|
| 1. Jabalpur-Bhopal 765 kV S/C line     | : | Line commissioned on 06/2015 |
| 2. Bhopal-Indore 765 kV S/C line       | : | Line commissioned on 10/2014 |
| 3. Bhopal-Bhopal (MP) 400 kV D/C line. | : | Line commissioned on 07/2014 |
| 4. Aurangabad-Dhule 765 kV S/C line    | : | Line commissioned on 10/2014 |

- |   |   |                              |
|---|---|------------------------------|
| 1. Dhule-Vadodara 765 kV S/C line       | : | Line commissioned on 02/2015 |
| 2. Dhule - Dhule(Mah) 400 kV D/C Line   | : | Line commissioned on 11/2014 |
| 3. 2x1500 MVA 765/400 kV s/s at Bhopal: |   | S/s commissioned on 07/2014  |
| 8. 2x1500 MVA, 765/400 kV s/s at Dhule: |   | S/s Commissioned on 11/2014  |

**Transmission project commissioned on Jun-2015.**

## **(19) System strengthening for WR and NR**

### **Background**

A large number of IPP projects totaling to an installed capacity of 35000 MW are proposed to come in Chhattisgarh, MP, Odisha, Jharkhand and West Bengal and scheduled to commissioned by 12<sup>th</sup> plan and targeted beneficiaries are constituents of NR & WR. For evacuating power from these IPPs and delivering it to the target beneficiaries a comprehensive system has been evolved. The evolved transmission system consists of (i) dedicated transmission system from generating station to pooling point and their interconnection (ii) System strengthening common to WR and NR (iii) System strengthening in WR (iv) System strengthening in NR. This scheme is part of High Capacity Power Transmission Corridor (HPTC)-II, which has been planned for strengthening of transmission system required for transfer of power from Generating projects in Jharkhand to NR/WR.

### **Scope of transmission project**

1. Dhramjaygarh -Jabalpur 765 kV D/C line
2. Jabalpur-Bina 765 kV S/C line

### **General Details**

Special Purpose Vehicle(SPV)	:	Jabalpur Transmission Company Limited (Sterlite Power Trans. Limited)
Bid Process Coordinator(BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1720
Levellised Tariff (Rs. Cr)	:	142.1
Request for Qualification	:	
Request for Proposal	:	28.12.2010
Letter of Intent	:	31.01.2011
Transmission Service Agreement(TSA)	:	12.11.2013
SPV acquisition	:	31.03.2011
Transmission License by CERC	:	12.10.2011
Tariff adoption by CERC	:	28.10.2011
Contract Performance Guarantee	:	
Clearance u/s 164	:	2.07.2013
Execution plan submitted to CEA	:	
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	30.03.2014
Actual Date of Completion	:	Sep' 2015

### **Status of progress of transmission project**

1. Dhramjaygarh -Jabalpur 765 kV D/C lines - Line commissioned on 09/2015
2. Jabalpur-Bina 765 kV S/C line - Line commissioned on 06/2015

**Transmission project commissioned on September, 2015.**

## **(20) Scheme for enabling import of NER/ER surplus by Northern Region**

### **Background**

For meeting its power requirements in the XI plan and beyond, NR would need to import substantial amount of power from other regions. Most of this power would be imported from surplus ER and NER. For import of power by NR from generation projects proposed to come up in northern part of ER and NER, system strengthening would be required in the transmission corridors connecting from NER to ER and in the eastern part of ER. This transmission project has been proposed for strengthening of NER-ER transmission corridor. Though the scheme is physically located in North eastern and eastern region it has been conceived as an extension of NR network as this will be utilized mainly by NR for meeting its power import requirement from projects located in NER and Sikkim in ER. Substantial exportable power would be available in the NER after commissioning of Tripura Gas (740 MW), Bongaigaon TPS (9750 MW), Kameng HEP (600 MW). Subansiri HEP (2000 MW) would add further to the exportable surplus of NER. Power from hydro projects in Sikkim would also be imported by NR. The constituents of NR are likely to be allocated power from hydro projects of Kameng and Subansiri.

### **Scope of transmission project**

1. Bongaigaon - Siliguri 400 kV D/C line
2. Purnea – Bihar Shariff 400 kV D/C line

### **General Details**

Special Purpose Vehicle (SPV)	:	East-North Interconnection Company Ltd (A subsidiary of Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1700
Levelling Tariff (Rs. Cr)	:	118.8
Request for Qualification	:	
Request for Proposal	:	20.10.2008
Letter of Intent	:	07.01.2010
Transmission Service Agreement	:	10.08.2009
SPV acquisition	:	31.03.2010
Transmission License by CERC	:	28.10.2010
Tariff adoption by CERC	:	28.10.2010
Contract Performance Guarantee	:	
Clearance u/s 164	:	19.05.2011
Execution plan submitted to CEA	:	20.10.2008
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	
Actual Date of Completion	:	<b>Nov' 2014</b>

### **Status of progress of transmission project**

1. Bongaigaon-Siliguri 400 kV (Q) D/C: Line commissioned on 11/2014
2. Purnea-Bihar Shariff 400 kV D/C (Q): Line commissioned on 09/2013

**Transmission project commissioned on November, 2014.**



## **(21) Name of transmission project- Part ATS for RAPP U-7&8 in Rajasthan**

### **Background**

For evacuation of power from RAPP-5 to 8(1840 MW), RAPP-5&6 (440 MW) and RAPP-7&8 (2x700 MW), following composite system was evolved and planned to be developed in a phased manner matching with generation projects.

For RAPP -5&6 generation, following transmission system have been commissioned and are in operation;

- RAPP – Kankroli 400kV D/C line
- RAPP – Kota 400kV S/C line

For RAPP -7&8 generation, following transmission system have been planned

- RAPP – Jaipur 400kV D/C line with one ckt via Kota
- RAPP – Shujalpur 400kV D/C line

While element 1 is being taken by PGCIL, the element 2 is proposed under TBCB. This 400 kV line would also act as an inter-regional link between NR and WR. The link would also help in evacuation of power from the complex even in case of any grid constraints in NR.

### **Scope of transmission project**

1. RAPP – Shujalpur 400 kV D/C line

### **General Details**

Special Purpose Vehicle(SPV)	:	RAPP Transmission Company Limited (A subsidiary of Sterlite Power Trans. Limited)
Bid Process Coordinator(BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	310
Levellised Tariff (Rs. Cr)	:	36.5
Request for Qualification	:	10.01.2013
Request for Proposal	:	09.09.2013
Letter of Intent	:	17.09.2013
Transmission Service Agreement(TSA)	:	24.07.2013
SPV acquisition	:	12.03.2014
Transmission License by CERC	:	31.07.2014
Tariff adoption by CERC	:	23.07.2014
Contract Performance Guarantee	:	23.11.2013
Clearance u/s 164	:	07.01.2015
Execution plan submitted to CEA	:	30.06.2014
NIT issued on	:	08.11.2013
EPC contract awarded on	:	18.09.2014
Scheduled Date of Completion	:	28.02.2016
Actual Date of completion	:	November, 2016

### **Status of progress of transmission project**

- (1) RAPP - Shujalpur 400kV D/C line : Line Charged on 15<sup>th</sup> November 2016  
**Transmission project commissioned on Nov-16.**

## **(22) Eastern Region System Strengthening Scheme-VII**

### **Background**

In view of the growth of generation projects in different pockets of ER, it is felt desirable to strengthen the interconnection of the state grids with the regional grid to facilitate exchange of additional power between them. This scheme has been planned as the system-strengthening scheme for exchange of power between West Bengal grid and inter-state transmission system (ISTS).

### **Scope of transmission project**

1. Purulia PSPP – Ranchi 400 kV D/C line
2. Kharagpur – Chaibasa 400 kV D/C line

### **General Details**

Special Purpose Vehicle (SPV):	Purulia & Kharagpur Transmission Company Limited (A subsidiary of Sterlite Power Trans. Limited)	
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	370
Levelling Tariff (Rs. Cr)	:	58.9
Request for Qualification	:	28.12.2012
Request for Proposal	:	06.09.2013
Letter of Intent	:	17.09.2013
Transmission Service Agreement (TSA)	:	06.08.2013
SPV acquisition	:	09.12.2013
Transmission License by CERC	:	30.05.2014
Tariff adoption by CERC	:	20.08.2014
Contract Performance Guarantee	:	22.11.2013
Clearance u/s 164	:	20.05.2015
Execution plan submitted to CEA	:	10.03.2014
NIT issued on	:	08.11.2013
EPC contract awarded on	:	02.12.2014 (For KC Line) & 27.05.2015 (For PR line)
Scheduled Date of Completion	:	April 2016
Actual Date of completion	:	January, 2017

### **Status of progress of transmission project**

1. Purulia PSP (WB) – Ranchi (PG) 400 kV D/C line
  - Length: 223.4 Ckm .Line commissioned on 07-Jan-17
2. Chaibasa – Kharagpur 400 kV D/C line
  - Length: 323 Ckm                      Locations: 426 nos

**Line Completed on Jun-16, Project Commissioned on Jan-17.**

## **(23) Northern Region System Strengthening Scheme(NRSS-XXIX)**

### **Background**

Presently the power supply to the valley is through Kishenpur – Wagoora 400 kV D/C line, Kishanpur- Pampore 220 kV D/C line and Udampur – Pampore 132 kV D/C line. Kishanpur -newwanpoh 400 kV D/C Line is under construction. All the existing and under construction line are routed through Udampur – Batote – Banihal – Pir Panjal pass. The common corridor of the transmission line is highly prone to snow storm, landslides and other natural calamities making power supply to the Kashmir valley vulnerable. There was a complete collapse of power supply to Kashmir valley on 6th and 7th Jan.'12 due to heavy snowfall and breakdown/tripping of all three existing links between Jammu region and Kashmir valley. Further power supply to Jammu and Kashmir is basically through 400/220 kV Kishanpur substation and there is an immediate need for providing an alternate route for transfer of power from Jammu region to Kashmir valley. Further to need the high load growth anticipated in northern part of Kashmir and to cater to projected loads, a 400/220 kV substation at Amargarh in North Kashmir area is required. Accordingly, to mitigate above constraints present scheme has been proposed.

### **Scope of transmission project**

1. Establishment of 7 x 105 MVA, 400/220 kV GIS substation at Amargarh
2. Jalandhar – Samba 400 kV D/C line
3. Samba – Amargarh 400 kV D/C routed through Akhnoor & Rajouri
4. LILO of both circuits of Uri – Wagoora 400 kV D/c line at Amargarh

### **General Details**

Special Purpose Vehicle (SPV)	:	NRSS-XXIX Transmission Limited (Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	2621
Levelised Tariff(Rs. Cr)	:	437.705
Request for Qualification	:	02.08.2013
Request for Proposal	:	09.05.2014
Letter of Intent	:	23.05.2014
Transmission Service Agreement (TSA)	:	02.01.2014
SPV acquisition	:	04.08.2014
Transmission License by CERC	:	14.11.2014
Tariff adoption by CERC	:	10.12.2014
Contract Performance Guarantee	:	26.06.2014
Clearance u/s 164	:	30.09.2015
Execution plan submitted to CEA	:	07.11.2014
NIT issued on	:	15.09.2014(For J-S Line), 05.03.2015(For S-A line) & 18.09.2014(For Amargarh S/S)
EPC contract awarded on	:	15.12.2014(for JS Line), 29.07.2015 (for SA Line) & 21.12.15 (for Amargarh S/S)
Scheduled Date of Completion	:	04.10.2018
Actual Date of completion	:	August, 2018

## **Status of progress of transmission projects**

### **1. Jullandhar – Samba 400 kV D/C line**

Length: 270 Ckm .

**Line Commissioned on June-16.**

### **2. Samba – Amargarh 400 kV D/C line**

Length: 546.8 Ckm .

Locations: 761 nos

**Line Commissioned in Aug'18.**

### **3. 7x105 MVA, 400/220 kV Amargarh GIS**

**Substation commissioned in May'18.**

### **4. LILO of both circuit of Uri – Wagoora 400 kV D/C line at Amargarh**

Length: 13.64 ckm

Locations: 23 nos.

**Line commissioned in Mar'18/Apr'18.**

**Transmission Project commissioned on Aug'18.**

## **(24) Connectivity lines for Maheshwaram 765/400 kV Pooling Station**

### **Background**

Presently Southern Region is facing severe power shortage. This power deficit situation has arisen mainly due to (i) delay/deferment of anticipated generation projects and (ii) also due to non-availability of gas for existing gas projects in Southern Region. Presently the existing/planned system can facilitate import of about 9000 - 10000 MW into Southern Region. However, under certain scenarios of non-availability / delay in commissioning of some of the generation projects in Southern region expected power transfer requirement is about 16000 MW by 2018-19. In view of large deficit and requirement of transmission system to meet future power transfer requirements, high capacity Inter-regional strengthening schemes were identified. The Present Scheme is part of the above identified scheme.

### **Scope of transmission project**

1. Maheshwaram (PG) – Mehboob Nagar 400 kV D/C line
2. Nizamabad – Yeddumailaram (Shankarpalli) 400kV D/c line
3. 2 No. of 400 kV line bays at Mehboob Nagar S/S of TSTRANSCO
4. 2 No. of 400 kV line bays at Yeddumailaram S/S of TSTRANSCO.

### **General Detail**

Special Purpose Vehicle (SPV)	:	Maheshwaram Transmission Ltd. (Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	534
Levellised Tariff (Rs. Cr)	:	55.251
Request for Qualification	:	21.08.2014
Request for Proposal	:	03.08.2015
Letter of Intent	:	21.07.2015
Transmission Service Agreement (TSA)	:	10.06.2015
SPV acquisition	:	20.08.2015
Transmission License by CERC	:	23.11.2015
Date of tariff adoption by CERC	:	24.11.2015
Contract Performance Guarantee	:	18.08.2015
Clearance u/s 164	:	23.09.2016
NIT issued on	:	02.11.2015
EPC contract awarded on	:	13.01.2016
Execution plan submitted to CEA	:	01.12.2015
Scheduled Date of Completion	:	20.06.2018
Actual Date of completion	:	December, 2017

### **Status of progress of transmission project:**

#### **1. Maheshwaram – Mahboobnagar 400 kV D/C line**

- Length: 197.178 ckm
- Locations: 255 nos

**Line commissioned on Dec'17.**

**2. Nizamabad – Yeddumailaram (Shankarpalli) 400 kV D/C line**

- Length: 279.326 ckm
- Locations: 367 nos

**Line commissioned on Oct'17.**

**3. 2 No. of 400 kV line bays at Mehboob Nagar S/S of TSTRANSCO**

**Bay commissioned on Dec'17**

**4. 2 No. of 400 kV line bays at Yeddumailaram S/S of TSTRANSCO.**

**Bay commissioned on Oct'17.**

**Transmission Project commissioned on Dec'17.**

## **(25) Common Transmission system for phase-II generation projects in Orissa and immediate evacuation system for OPGC project (Orissa)**

### **Background**

Various IPPs, expected to be commissioned in Odisha, had applied for grant of connectivity and LTOA/LTA. Seven IPPs were considered under phase-I and transmission system for the same under implementation under HCTPC-I scheme. Further following 5 projects were considered under phase-II generation projects in Odisha;

Sterlite Energy Ltd (Ph-I project) (LTA of 1000 MW under Ph-II)	2400 MW
GMR Kamalanga Energy Ltd(Ph-II)	350 MW
OPGC	1350 MW
Darlipalli(NTPC)	1600 MW
NSL Nagapatnam Power & Infratech	1320 MW

and following transmission system has been finalized for evacuation of power from above mentioned generation projects;

#### **1. Immediate evacuation system for Ph-II generation projects in Odisha**

- Sterlite TPP – Jharsuguda 400 kV D/C line
- GMR – Angul 400 kV D/C line
- OPGC – Jharsuguda 400 kV D/C line
- Darlipalli –Jharsuguda 400 kV D/C line
- NSL Nagapatnam – Angul 400 kV D/C line

#### **2. Common transmission system associated with Ph-II generation projects in Odisha**

- Angul – Jharsuguda – Dharamjaygarh 765 kV D/C line(2<sup>nd</sup>)
- Jharsuguda – Raipur pool 765 kV D/C line
- LILO of Rourkela – Raigarh 400 kV D/C line(2<sup>nd</sup>) at Jharsuguda
- Addition of 2x1500 MVA, 765/400 kV ICT at Jharsuguda
- Addition of 2x1500 MVA, 765/400 kV ICT at Angul
- Split bus arrangement at 400 kV and 765 kV bus in both Angul and Jharsuguda

### **Scope of transmission project**

1. Jharsuguda – Raipur pool 765 kV D/C line
2. OPGC – Jharsuguda 400 kV D/C line

### **General Detail**

Special Purpose Vehicle (SPV)	:	Odisha Generation Phase-II Trans. Limited (A subsidiary of Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1698
Levellised Tariff (Rs. Cr)	:	139.793
Request for Qualification	:	23.04.2015
Request for Proposal	:	15.12.2015
Letter of Intent	:	06.01.2016
Transmission Service Agreement	:	20.11.2015
SPV acquisition	:	08.04.2016

Transmission License by CERC	:	30.06.2016
Tariff adoption by CERC		31.05.2016
Contract Performance Guarantee	:	28.01.2016
Clearance u/s 164	:	07.03.2017
Execution plan submitted to CEA	:	14.07.2016
NIT issued on	:	10.01.2016
EPC contractor awarded on	:	23.06.2016
Scheduled Date of Completion	:	08.08.2019
Actual Date of Completion	:	Dec'18

### **Status of progress of transmission project**

#### **1. Jharsuguda – Raipur 765 kV D/C (hexa) line**

Length:	609.9 CKm
Locations:	782 nos
Scheduled COD:	Aug'19

**Line commissioned on Dec'2018**

#### **2. OPGC TPS– Jharsuguda 400 kV D/C (triple) line**

- Length: 102.5 ckm
- Locations: 152 nos

**Line commissioned on Dec'17.**



## **(26) Creation of new 400 kV GIS in Gurgaon area and Palwal as a part of ISTS**

### **Background**

HVPNL furnished district wise load projections of Haryana for 13th Plan (2021-22). Looking at the load growth in Prithala and around Gurgaon areas, new three-400kV substation one at Kadarapur, other at Sohna Road in Gurgaon area and 400kV substation at Prithla in Palwal area as a part of Inter State Transmission System (ISTS) has been proposed to cater the load demand of Gurgaon and Palwal. The first two S/S are to cater the load demand of sector 58 to sector 67 and sector 68 to sector 80 sectors of Gurgaon respectively. The creation of Prithala S/S would meet the power demand of the area to be developed under Prithala Development Plan. Beside this it will also act as a main feeding source to Palwal, Rangla Rajpur and Meerpur Kurli.

### **Scope of transmission project**

1. Aligarh-Prithala 400 kV D/C HTLS line
2. Prithala-Kadarapur 400 kV D/C HTLS line
3. Kadarapur-Sohna road 400 kV D/C HTLS line
4. LILO of Gurgaon – Manesar 400 kV D/C (Q) line at Sohna Road
5. Neemrana(PG) – Dhanonda 400 kV D/C HTLS line
6. 2x500 MVA, 400/220 kV GIS at Kadarapur (Gurgaon)
7. 2x500 MVA, 400/220 kV GIS at Sohna Road (Gurgaon)
8. 2x500 MVA, 400/220 kV GIS at Prithala(Palwal)
9. 2 nos. of 400kV bays at Dhanonda S/S

### **General Detail**

Special Purpose Vehicle (SPV)	:	Gurgaon Palwal Transmission Limited. (Sterlite Grid 4 Limited; a subsidiary of Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1640
Levellised Tariff (Rs. Cr)	:	125.542
Request for Qualification	:	15.10.2015
Request for Proposal	:	07.03.2016
Letter of Intent	:	17.03.2016
Transmission Service Agreement (TSA)	:	04.03.2016
SPV acquisition	:	14.07.2016
Transmission License by CERC	:	29.09.2016
Tariff adoption by CERC	:	06.09.2016
Contract Performance Guarantee	:	11.07.2016
Clearance u/s 164	:	31.03.2017
Execution plan submitted to CEA	:	09.11.2016
NIT issued on	:	24.06.2016 (For Transmission Line) 21.04.2016 (For S/s- Pre-Bid tie up)
EPC contract awarded on	:	25.11.2016 (For Transmission Line) 28.10.2016 (For Substation)
Scheduled Date of Completion	:	Sep'19 (38 months)
Actual Date of Completion	:	Mar'20

## **Status of progress of transmission project:**

### **1. Aligarh-Prithala 400 kV D/C HTLS line**

Length: 98.92 CKm

Locations: 108 nos.

**Line declared deemed commissioned in July'19.**

### **2. Prithala-Kadarpur 400 kV D/C HTLS line**

Length: 57.9 Ckm

Locations: 69 nos.

Scheduled COD: May'19

Received Approval for Energization certificate from Electrical Inspector, CEA on 27-11-2019 and declared DOCO on 7-12-2019

### **3. Kadarpur-Sohna road 400 kV D/C HTLS line**

Length: 20.796 Ckm

Locations: 29 nos.

Scheduled COD: Sep'19

KS Line has been commissioned and declared under Commercial Operation (DOCO) w.e.f 21-03-2020

### **4. LILO of Gurgaon – Manesar 400 kV D/C (Q) line at Sohna Road**

Length: 2.16 Ckm

Locations: 6 nos.

Scheduled COD: Sep'19

LILO Line has been commissioned and declared under Commercial Operation (DOCO) w.e.f 13-03-2020.

### **5. Neemrana(PG) – Dhanonda 400 kV D/C HTLS line**

Length: 93.43 Ckm

Locations: 111 nos.

**Transmission line commissioned in Feb'19**

### **6. 2x500 MVA, 400/220 kV GIS at Kadarpur (Gurgaon)**

Scheduled COD May'19

**Substation declared deemed commissioned in Dec'19**

**7. 2x500 MVA, 400/220 kV GIS at Sohna Road (Gurgaon)**

Scheduled COD                      May'19

**Substation commissioned in Mar'20**

Received Approval for Energization certificate from Electrical Inspector, CEA dated 09-03-2020 & 29-03-2020 and 400kV GIS bays has been charged on 18-03-2020

**8. 2x500 MVA, 400/220 kV GIS at Prithala(Palwal)**

Scheduled COD                      May'19

**Substation declared deemed commissioned in July'19**

**9. 2 nos. of 400kV bays at Dhanonda S/S**

Scheduled COD                      May'19

**Bays charged on 20-06-2018 and 14-07-2018**

## **(27) Transmission system for NER System Strengthening Scheme-II (Part-B) and V (NER-IIB & V)**

### **Background**

This scheme has been planned to strengthen the interconnection between the states of Assam and Arunachal Pradesh and strong interconnection between northern and southern part of North Eastern Region and would also facilitate dispersal of power from central sector/private generation projects to various parts of NER.

### **Scope of transmission project**

1. Establishment of 400/132 kV, 7x105MVA single phase (including one spare) S/s at Surajmaninagar

#### **400kV**

- ICTs: 400/132 kV, 7x105 MVA single phase (including one spare)
- ICTs: bays: 2 no.
- Line bays: 2 no.  
[2 no. for Palatana – Surajmanigagar and 2 no. for Surajmaninagar – PK Bari 400 kV D/C Line]
- Bus reactor bays: 2x125 MVAR
- Bus reactor bays: 2 no.
- Space for future line bays (incl. space for sw. line reactor): 6 no.
- Space for ICT bays: 1 no.

#### **132 kV**

- ICTs bays: 2 no.
- Line bays: 2 no.  
[2 no. for Surjmaninagar (TSECL) - Surajmaninagar (TBCB) 132 kV Line with high capacity/HTLS (equivalent to single moose)]
- Space for future line bays: 6 no.
- Space for ICT Bays: 1 no.  
Space for future 400/132 kV, 315MVA ICT  
TSP is free to choose the location of Surajmaninaagar S/s within a radius of 10 km from the Surajmaninagar (TSECL) S/s.

2. Establishment of 400/132 kV, 7x105 MVA Single phase (including one spare) S/s at P.K. Bari.

#### **400 kV**

- ICTs 400/132 kV, MVA single (including one spare)
- ICTs bays: 2 no.
- Line bays: 4 no.  
[2 no. for Surajmaninagar – P. K. Bari and 2 no. for P. K. Bari – Silchar 400 kV D/C line]
- Bus reactor: 2x125 MVAR
- Bus reactor bays: 2 no.
- Space for future line bays (including space for sw. line reactor): 6 no.  
Space of ICT bays: 1 No

### **132 kV**

- ICTs bays; 2 no.
  - Line bays: 2 no.  
[2 no. for P.K. Bari (TSECL) – P. K. Bari (TBCB) 132kV D/C line with high Capacity/HTLS (equivalent of single moose)]
  - Space for future line bays: 6 no.
  - Space for ICT bays: 1 no.  
Space for future 400/132 kV, 315 MVA ICT
3. Surajmaninagar - P. K. Bari 400 kV D/c line (Twin ACSR Moose)
4. AGTPP (NEEPCO) – P.K. Bari (TSECL) 132 kV D/c line with high capacity HTLS conductor (equivalent to single moose ampacity at 85°C)
5. Biswanath Chariyalli (POWERGRID) – Itanagar 132kV D/c (Zebra conductor) line
6. Silchar (POWERGRID) – Misa (POWERGRID) 400kV D/c (Quad) line.
7. LILO of one circuit of Biswanath Chariyalli (POWERGRID) – Itanagar 132kV D/c (Zebra conductor) line at Gohpur (AEGCL)
8. Line Bays:
- 2 no. 132 kV line bays for termination of AGTPP (NEEPCO) – P.K. Bari (TSECL) 132kV D/c line at AGTPP (NEEPCO) Switchyard:
  - 2 no. 132 kV line bays for termination of AGTPP (NEEPCO) – P.K. Bari (TSECL) 132kV D/c line at P.K. Bari (TSECL) S/s:
  - 2 nos. 132kV line bays for termination of Biswanath Chariyalli (POWERGRID) – Itanagar 132kV D/c (Zebra conductor) line at Itanagar S/s (Ar. Pradesh)
  - 2 no. 400 kV line bays at Palatana GBPP switchyard for termination of Palatana - Surajmaninagar 400kV D/c line.

### **General Details**

Special Purpose Vehicle	:	NER II Transmission Limited (Sterlite Grid 4 Limited; a subsidiary of Sterlite Power Transmission Limited)
Bid Process Coordinator	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	2471
Levellised Tariff (Rs. Cr)	:	431.653
Request for Qualification	:	29.12.2015
Request for Proposal	:	18.01.2017
Letter of Intent	:	22.02.2017
Transmission Service Agreement (TSA)	:	27.12.2016
SPV acquisition	:	31.03.2017
Transmission License by CERC	:	20.06.2017
Tariff adoption by CERC	:	12.06.2017
Contract Performance Guarantee	:	27.03.2017
Clearance u/s 164	:	31.08.2018

Execution plan submitted to CEA : 24.07.2017  
Scheduled Date of Completion : Nov 2020  
Actual COD : March' 2021

**Status of progress of transmission project;**

**1. 2x315 MVA, 400/132 kV S/S at Surajmaninagar**

Scheduled COD : Jul'20  
**(Declared Deemed commissioning w.e.f. 27 Jan 2021 due to non-availability of upstream network)**

**2. 2x315 MVA, 400/132 kV S/S at P.K. Bari**

Scheduled COD : Jul'20  
**(Declared Deemed commissioning w.e.f. 27 Jan 2021 due to non-availability of upstream network)**

**3. Surajmaninagar - P. K. Bari 400 kV D/C line**

Length : 154.52 ckm  
Locations : 209 nos  
Scheduled COD : Jul'20  
**(Declared Deemed commissioning w.e.f. 27 Jan 2021 due to non-availability of upstream network)**

**4. AGTPP (NEEPCO) – P.K. Bari (TSECL) 132 kV D/c line**

Length : 166.8 ckm  
Locations : 236 nos.  
Scheduled COD : Mar'20  
Actual COD : 21 Feb 2021 [Declared under Commercial Operation (DOCO) w.e.f. 00:00 Hrs of 21-02-2021]

**5. Biswanath Chariyalli (PG) – Itanagar 132kV D/c (Zebra) line**

Length : 126 ckm  
Locations : 211 nos  
Scheduled COD : Mar'20  
Actual COD : 25 March 2021 (Declared under Commercial Operation (DOCO) w.e.f. 25-03-2021)

**6. Silchar (PG) – Misa (PG) 400kV D/c (Q) line**

Length : 356.56 ckm  
Locations : 487 nos  
Scheduled COD : Nov'20  
Actual COD : 27 Feb 2021 [Declared under Commercial Operation (DOCO) w.e.f. 00:00 Hrs of 27-02-2021]

**7. LILO of one circuit of Biswanath Chariyalli (PG) ) – Itanagar 132kV D/C (Zebra) line at Gohpur (AEGCL)**

Length : 16.2 ckm  
Locations : 30 nos.  
Scheduled COD : Mar'20  
Actual COD : 25 March 2021 (Declared under Commercial Operation (DOCO) w.e.f. 25-03-2021)

**8. Line bays**

**a) 2 no. 400 kV line bays at Palatana GBPP switchyard for termination of Palatana - Surajmaninagar 400kV D/c line**

Scheduled COD Jul'20  
Anticipated COD Jan'21  
**(Declared Deemed commissioning w.e.f. 27 Jan 2021 due to non-availability of upstream network)**

**b. 2 no. 132 kV line bays for termination of AGTPP (NEEPCO) – P.K. Bari (TSECL) 132kV D/c line at AGTPP (NEEPCO) Switchyard**

Scheduled COD Mar'20  
Actual COD 21 Feb 2021 [Declared under Commercial Operation (DOCO) w.e.f. 00:00 Hrs of 21-02-2021]

**c. 2 no. 132 kV line bays for termination of AGTPP (NEEPCO) – P.K. Bari (TSECL) 132kV D/c line at P.K. Bari (TSECL) S/s**

Scheduled COD Mar'20  
Actual COD 21 Feb 2021 [Declared under Commercial Operation (DOCO) w.e.f. 00:00 Hrs of 21-02-2021]

**d. 2 nos. 132kV line bays for termination of Biswanath Chariyalli (PG) – Itanagar 132kV D/c (Zebra) line at Itanagar S/s (Ar. Pradesh)**

Scheduled COD Mar'20  
Anticipated COD Mar'21

## **(28) Connectivity system for Khargone TPP (2x660 MW)**

### **Background**

NTPC Ltd. has planned to establish a 1320MW (2x660MW) thermal power project at Khargone in the state of Madhya Pradesh. Accordingly, transmission system for evacuation of power from generation project has been evolved.

### **Scope of transmission project**

1. LILO of one ckt of Khandwa - Rajgarh 400kV D/C line at Khargone TPP  
(The LILO shall be used for start-up power and commissioning activities requirement. After commissioning of balance transmission system, the LILO would be bypassed at Khargone generation switchyard and may be utilized only under contingency condition)
2. Khargone TPP – Khandwa pool 400 kV D/C (Quad) line
3. System strengthening in WR
  - i. Khandwa Pool – Indore 765kV D/C line
  - ii. Khandwa Pool – Dhule 765 kV D/C line
  - iii. Establishment of 765/400kV, 2x1500MVA pooling station at Khandwa  
**765 kV:**
    - ICTs: 7x500MVA, 765/400 kV (1 spare unit)
    - ICT bays: 2 no.
    - Line bays: 4 no. (2 no. for Khandwa pool – Indore 765 kV D/C & 2 no. for Khandwa Pool – Dhule 765 kV D/C)
    - Bus reactor: 3 X 80 MVAR
    - Bus reactor bay: 1 no.
    - Switchable Line reactors: 7 X 80 MVAR (1 unit is as a spare unit) for Khandwa Pool – Dhule 765 kV D/C (each 240 MVAR reactor with 800  $\Omega$  NGR along with its auxiliaries)
    - Space for line bays (future): 4 no.
    - Space for ICT bays (future): 3 no.
    - Space for 1500 MVA, 765/400 kV ICTs (future): 3 no.**400 kV:**
    - ICT bays: 2 no.
    - Line bays for termination of Khargone TPP– Khandwa PS 400 kV D/C line: 2 no.
    - Bus reactor: 1 X 125 MVAR
    - Bus reactor bay: 1
    - Space for line bays (future): 6 no.
    - Space for ICT bays (future): 3 no.
  - iv. 2 nos. of 765 kV line bays and 7 X 80 MVAR Switchable line reactors (1 unit as spare) along with 800  $\Omega$  NGR & its auxiliaries for Khandwa Pool – Dhule 765 kV D/C at Dhule 765/400 kV substation of M/s BDTCL.



## General Details

Special Purpose Vehicle (SPV)	: Khargone Transmission Limited (Sterlite Grid 4 Limited; a subsidiary of Sterlite Power Transmission Limited))
Bid Process Coordinator (BPC)	: RECTPCL
Estimated Cost (Rs. Cr)	: 2136
Levellised Tariff (Rs. Cr)	: 159.11334
Request for Qualification	: 30.11.2015
Request for Proposal	: 11.02.2016
Letter of Intent	: 26.05.2016
Transmission Service Agreement (TSA)	: 14.03.2016
SPV acquisition	: 22.08.2016
Transmission License by CERC	: 17.11.2016
Tariff adoption by CERC	: 11.11.2016
Contract Performance Guarantee	: 08.07.2016
Clearance u/s 164	: 05.07.2017
Execution plan submitted to CEA	: 18.12.2016
NIT issued on	: 27.05.2016 (For Transmission Lines) 29.06.2016 (For Substation)
EPC contract awarded on	: 25.11.2016 (For Transmission Lines)
Scheduled Date of Completion	: July 2019
<b>Actual Date of Completion</b>	: <b>Dec 2021</b>

### Status of progress of transmission project;

#### 3. LILO of one ckt of Khandwa - Rajgarh 400kV D/C line at Khargone TPP

Length	:13.574 CKm
Locations	:21 nos.

**Line Commissioned in Feb, 2018.**

#### 4. Khargone TPP – Khandwa pool 400 kV D/C (Quad) line

- Length: 50.1 CKm
- Locations: 66 nos.
- Scheduled COD: Jul'19

**Line Commissioned in Mar, 2020.**

### 3. System strengthening in WR

#### i. Khandwa Pool – Indore 765kV D/C line

Length:	180.08 CKm
Locations:	243 nos.
Scheduled COD:	Jul'19

**Line commissioned in Mar'20**

#### ii. Khandwa Pool – Dhule 765 kV D/C line

Length:	382.66 CKm
Locations:	493 nos.
Scheduled COD:	Jul'19
Actual COD:	Dec'21

**iii. Establishment of 2x1500MVA, 765/400kV, pooling station at Khandwa**

Scheduled COD                      Jul'19  
**Substation commissioned in Mar'20**

**iv. 2 No. of 765 kV line bays at Dhule S/S of BDTCL for Khandwa Pool – Dhule  
765kV D/C Line**

Scheduled COD                      Jul'19  
**Bay commissioned in Jun'19**

## **(29) WRSS – 21 Part – B – Transmission System Strengthening for Relieving Over Loadings Observed in Gujarat Intra-State System Due to Re-injections in Bhuj PS**

**Background** - The scheme involves implementation of Lakadia – Vadodara 765kV D/c line which helps in transfer of power from RE sources in the Kutchh area of Gujarat to Vadodara for onward dispersal of power to their respective beneficiaries

### **Scope of transmission project:**

1. Lakadia – Vadodara 765kV D/c line
2. 330MVAR switchable line reactors at both ends of Lakadia – Vadodara 765kV D/c line along with 500 ohms NGR at both ends of Lakadia – Vadodara 765kV D/c line (330 MVAR line reactor - 4 nos. & 765kV Reactor bay - 4 nos.)
3. 2 nos of 765kV bays each at Lakadia and Vadodara S/s for Lakadia – Vadodara 765kV D/c line (765kV line bay - 4 nos.)

### **General Detail**

Special Purpose Vehicle	: Lakadia – Vadodara Transmission Project Limited; Sterlite Grid 18 Limited (A Subsidiary of Sterlite Power Trans. Limited)
Bid Process Coordinator (BPC)	: PFCCL
Estimated Cost (Rs. Cr)	: 2314
Levelized Tariff (Rs. Cr)	: 178.866
Request for Qualification	: 17.01.2019
Request for Proposal	: 18.03.2019
Letter of Intent	: 31.07.2019
Transmission Service Agreement (TSA)	: 23.04.2019
SPV acquisition	: 26.11.2019
Transmission License by CERC	: 04.03.2020
Tariff adoption by CERC	: 05.03.2020
Contract Performance Guarantee	: 26.11.2019
Clearance u/s 164	: 25.09.2020
Execution plan submitted to CEA	: 18.03.2020
NIT issued on	:
EPC contract awarded on	: 16-01-2020, 23-01-2020 and 22-02-2020 (Transmission lines) 18-12-2019 (Bay Extension & Reactor)
Scheduled Date of Completion	: 31-12-2020/Aug'21*
Actual Date of Completion	: Jan'23

\*The Ministry of Power, GOI has granted extension of 5 months (for First wave of Covid-19) vide order nos 3/1/2020-Trans dated 27th July, 2020 and further 3 months extension (for Second wave of Covid-19) on 12 June, 2021 from Scheduled Commercial Operation Date (SCOD) for inter-state transmission projects i.e. total extension of 8 months from SCOD.

### **1. Lakadia – Vadodara 765kV D/c line**

Length : 669.5 CKm  
Locations : 812 nos  
Scheduled COD : 31-Dec-2020. /Aug'21\*  
Actual COD : Jan'23

### **2. 2 nos of 765kV bays at Vadodara S/s for Lakadia – Vadodara 765kV D/c line**

Scheduled COD : 31<sup>st</sup> Dec'2020/Aug'21\*  
Actual COD : Jan'23

### **3. 2 nos of 765kV bays at Lakadia S/s for Lakadia – Vadodara 765kV D/c line**

Scheduled COD : 31<sup>st</sup> Dec'2020/Aug'21\*  
Actual COD : Jan'23

### **4. 330MVAR switchable line reactors at both ends of Lakadia – Vadodara 765kV D/c line along with 500 ohms NGR at both ends of Lakadia – Vadodara 765kV D/c line (330 MVAR line reactor - 4 nos. & 765kV Reactor bay - 4 nos.)**

Scheduled COD : 31<sup>st</sup> Dec'2020/Aug'21\*  
Anticipated COD : Dec'22 (Work already completed)

## **(30) Eastern Region System Strengthening Scheme-VI(ERSS-VI)**

### **Background**

Future demand projection given by Bihar indicates a power demand of about 5600 MW by the year 2016-17. Out of this 2100 MW power demand is in northern part and 3500 MW power demand is in southern part of the state. Regarding power availability, Bihar would have additional share of 2500 MW from Central generation project. Northern part of Bihar has only 2 nos. s/s (Purnea and Muzaffarpur) with total capacity of 1260 MVA as against projected demand of 2100 MW during 2016-17. Keeping in view the load growth requirement by 2016-17, this ISTS scheme has been proposed.

### **Scope of transmission project**

1. Muzaffarpur(PG)- Darbhanga 400 kV D/C line with triple snowbird conductor
2. LILO of Barh –Gorakhpur 400 kV 2xD/C line at Motihari.
3. 2x500 MVA, 400/220 kV Darbhanga GIS with space for future extension
4. 2x500 MVA, 400/132 kV Motihari GIS with space for future extension

### **General Detail**

Special Purpose Vehicle (SPV)	:	Darbhanga Motihari Trans. Company Ltd (A subsidiary of Essel Infraprojects Ltd)
Bid Process Coordinator	:	PFCCL
Estimated Cost (Rs. Cr)	:	540
Levellised Tariff (Rs. Cr)	:	117.4
Request for Qualification	:	08.02.2013
Request for Proposal	:	27.05.2013
Letter of Intent	:	17.10.2013
Transmission Service Agreement (TSA)	:	06.08.2013
SPV acquisition	:	10.12.2013
Transmission License by CERC	:	30.05.2014
Tariff adoption by CERC	:	20.05.2014
Contract Performance Guarantee	:	05.12.2013
Clearance u/s 164	:	04.09.2014
Execution plan submitted to CEA	:	16.04.2014
NIT issued on	:	
EPC contract awarded on	:	04.03.2014
Scheduled Date of Completion	:	(Darbhanga Element – Jun 16, Motihari- Aug 16)
Actual Date of completion	:	August, 2017

### **Status of progress of transmission project**

#### **1. Muzaffarpur (PG) - Darbhanga 400 kV D/c line with triple snowbird conductor**

- Length: 125.6 ckm
- Locations: 178

Transmission Line successfully Charged and Presently in Commercial Operation from **Apr 2017**.

#### **2. LILO of Barh –Gorakhpur 400 kV 2xD/c line at Motihari**

- Length: 151.558 ckm
- Locations: 210 nos.

Transmission Line successfully Charged and Presently in Commercial Operation from **Aug 2017**.

### **3. 2x500 MVA, 400/220 kV Darbhanga GIS with space for future extension**

GIS Sub-station successfully charged and presently in commercial operation from **Apr 2017**.

### **4. 2x200 MVA, 400/132 kV Motihari GIS with space for future extension.**

400 kV GIS Substation charged and presently in commercial operation from **31st July 2017**.

**Transmission Project commissioned on August 2017.**

## **(31) Northern Region System Strengthening Scheme(NRSS) - XXXI (Part-B)**

### **Background**

A 2x315 MVA 400/220kV substation of PGCIL is existing at Amritsar and connected to Jalandhar through a 400 kV S/C line. To meet growing power demand at Amritsar a 500MVA 400/220 kV ICT is under implementation. To augment supply of power to Amritsar S/s 400kV connectivity to Parbati Pooling station and Makhu (PSTCL substation) is under implementation. However, the power supply to Amritsar area would be mainly through Jalandhar 400kV substation as during winters the generation of hydro projects would reduce to very low level as well as in case of low generation at Talwandi Saboo TPS, Makhu S/s may also draw power from Amritsar. Hence there is a necessity that power supply arrangement to Amritsar S/s is augmented. A HVDC station at Kurukshetra is being established for supply of power from pit head generating station of Chhattisgarh. Accordingly, for augmenting power supply to Amritsar S/s, this transmission scheme has been proposed under NRSS-XXXI – Part-B.

### **Scope of transmission project**

1. Kurukshetra – Malerkotla 400 kV D/C line
2. Malerkotla – Amritsar 400 kV D/C line.

### **General Details**

Special Purpose Vehicle (SPV)	:	NRSS XXXI (B) Transmission Limited. (A subsidiary of Essel Infra projects Ltd.)
Bid Process Coordinator (BPC)	:	RECTPCL
Estimated Cost (Rs. Cr)	:	370
Levelised Tariff(Rs. Cr)	:	88.65
Request for Qualification	:	31.07.2013
Request for Proposal	:	09.12.2013
Letter of Intent	:	26.02.2014
Transmission Service Agreement (TSA)	:	02.01.2014
SPV acquisition	:	12.05.2014
Transmission License by CERC	:	25.08.2014
Tariff adoption by CERC	:	07.08.2014
Contract Performance Guarantee	:	18.03.2014
Clearance u/s 164	:	15.10.2014
Execution plan submitted to CEA	:	01.08.2014
NIT issued on	:	
EPC contract awarded on	:	17.09.2014
Scheduled Date of Completion	:	Sep 2016
Actual Date of Completion	:	April, 2017

### **Status of progress of transmission project**

#### **1. Kurukshetra – Malerkotla 400 kV D/C line**

- Length: 278.4 ckm

Under Commercial Operation from **Jan 2017**

**2. Malerkotla – Amritsar 400 kV D/C line.**

- Length: 151.558 ckm
- Locations: 210 nos.

Under Commercial operation from **Apr 2017**.

**Transmission Project commissioned on April 2017.**



## **(32) Western Region System Strengthening – II under Project – B (Maharashtra)**

### **Background**

Western Region is the most progressive region in the country with largest generation capacity and large future load growth. WR System Strengthening Scheme – II under Project – B and Project – C has been formulated looking into the long term transmission requirements of the region for the forthcoming 8 to 10 years. This would allow inter regional exchange of power without any constraint, permitting open access to all the constituents within the region. The execution of this scheme would facilitate import/export of bulk power from/to other regions and help in the formation of National Grid.

### **Scope of transmission project (Project-B: For Regional Strengthening in Southern Maharashtra):**

1. Parli (New) – Pune 400 kV D/C line
2. Pune – Aurangabad 400 kV D/C line
3. Parli (New) – Solapur 400 kV D/C line
4. Solapur – Kolhapur 400 kV D/C line
5. LILO of Lonikhand – Kalwa 400 kV D/C line at Pune
6. LILO of Sholapur – Karad 400 kV S/C line at Solapur

### **General Detail**

Special Purpose Vehicle (SPV) : Western Transco Power Ltd.  
(A subsidiary of Adani Transmission Limited)

### **Status of progress of transmission project**

#### **1. Parli (New) – Pune 400 kV D/C line**

Length : 311 KMs  
Locations : 833 nos

**Line is declared under Commercial Operation w.e.f. 01.12.2013.**

#### **2. Pune – Aurangabad 400 kV D/C line**

Length : 257 KMs  
Locations : 711 nos

**Line is declared under Commercial Operation w.e.f. 01.01.2014.**

#### **3. Parli (New) – Solapur 400 kV D/C line**

Length : 136 KMs  
Locations : 354 nos

**Line is declared under Commercial Operation w.e.f. 01.11.2011.**

**4. Solapur – Kolhapur 400 kV D/C line**

Length : 220 KMs  
Locations : 578 nos

**Line commissioned on 01.07.2012.**

**5. LILO of Lonikhand – Kalwa 400 kV D/C line at Pune**

Length : 0.5 KMs  
Locations : 5 nos

**Line commissioned on 15.04.2011.**

**6. LILO of Sholapur – Karad 400 kV S/C line at Solapur**

Length : 1.3 KMs  
Locations : 9 nos

**Line commissioned on 01.08.2013.**

## **(33) Western Region System Strengthening – II under Project – C (Gujarat)**

### **Background**

Western Region is the most progressive region in the country with largest generation capacity and large future load growth. WR System Strengthening Scheme – II under Project – B and Project – C has been formulated looking into the long term transmission requirements of the region for the forthcoming 8 to 10 years. This would allow inter regional exchange of power without any constraint, permitting open access to all the constituents within the region. The execution of this scheme would facilitate import/export of bulk power from/to other regions and help in the formation of National Grid.

### **Scope of transmission project (Project-C: For Regional Strengthening in Gujarat):**

1. Rajgarh – Karamsad 400 kV D/C line
2. Limdi (Chorania) – Vadavi 400 kV D/C line
3. Vadavi – Zerda (Kansari) 400 kV D/C line

### **General Detail**

Special Purpose Vehicle (SPV) : Western Transmission (Gujarat) Ltd.  
(A subsidiary of Adani Transmission Limited)

### **Status of progress of transmission project**

#### **1. Rajgarh – Karamsad 400 kV D/C line**

Length : 243 KMs  
Locations : 654 nos

**Line under Commercial Operation w.e.f. 29.12.2015.**

#### **2. Limdi (Chorania) – Vadavi 400 kV D/C line**

Length : 103 KMs  
Locations : 270 nos

**Line under Commercial Operation w.e.f. 16.05.2011.**

#### **3. Vadavi – Zerda (Kansari) 400 kV D/C line**

Length : 141 KMs  
Locations : 375 nos

**Line is declared under Commercial Operation w.e.f. 16.11.2011.**

## **(34) Additional system strengthening for Sipat STPS**

### **Background**

To enhance redundancy in Sipat STPS power evacuation system, this transmission scheme has been evolved.

### **Scope of transmission project**

1. Sipat – Bilaspur Pooling Station 765 kV 3<sup>rd</sup> S/C line
2. Bilaspur Pooling Station - Rajanandgaon 765 kV D/C line

### **General Detail**

Special Purpose Vehicle (SPV)	:	Sipat Transmission Ltd (A subsidiary of Adani transmission Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1097
Levellers Tariff (Rs. Cr)	:	79.21
Request for Qualification	:	01.01.2015
Request for Proposal	:	07.04.2015
Letter of Intent	:	28.07.2015
Transmission Service Agreement (TSA)	:	24.06.2015
SPV acquisition	:	23.11.2015
Transmission License by CERC	:	07.03.2016
Tariff adoption by CERC	:	28.01.2016
Contract Performance Guarantee	:	30.10.2015
Clearance u/s 164	:	03.08.2016
Execution plan submitted to CEA	:	21.03.2016
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	22.03.2019
Actual Date of Completion	:	May'18 (works completed), Mar'19 (Commissioned)

### **Status of progress of transmission project**

#### **1. Sipat STPS - Bilaspur 765 kV S/C (Q) line**

Length : 24.22 ckm  
Locations : 73 nos

**Transmission line commissioned in Aug'18.**

#### **2. Bilaspur - Rajnandgaon 765 kV D/C (hexa) line**

Length : 324.07 ckm  
Locations : 428 nos

**Transmission line commissioned in Mar'19.**

#### **3. 765 kV Bay at Sipat s/s**

**Commissioned Aug'18**

**Project commissioned.**

## **(35) Additional system strengthening for Chhattisgarh (B)**

### **Background**

The transmission corridor covered under present project has been evolved to provide reliable evacuation of power from various IPPs coming up in Chhattisgarh.

### **Scope of transmission project**

1. Raipur(pool) – Rajnandgaon 765 kV D/C line
2. Rajnandgaon – Pooling station near warora 765 kV D/C line
3. Establishment of pooling station near Rajnandgaon

#### **765 kV**

- Line bays 6 nos
- Bus reactor 3x110 MVar
- Bus reactor bay 1 no.
- Line reactors 7x110 MVar(1 unit spare, switchable for warora line)
- Space for 765kV line bays 4 nos
- Space for 765 kV ICT bays 3 nos

#### **400 kV**

- Space for 400 kV ICT bays 3 nos
- Space for 400 kV line bays 4 nos

### **General Details**

Special Purpose Vehicle(SPV)	:	Raipur- Rajnandgaon Warora Trans. Ltd (A subsidiary of Adani transmission Limited)
Bid Process Coordinator(BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	2260
Levellised Tariff (Rs. Cr)	:	177.928
Request for Qualification	:	01.01.2015
Request for Proposal	:	13.04.2015
Letter of Intent	:	28.07.2015
Transmission Service Agreement(TSA)	:	24.06.2015
SPV acquisition	:	23.11.2015
Transmission License by CERC	:	29.02.2016
Tariff adoption by CERC	:	29.01.2016
Contract Performance Guarantee	:	30.10.2015
Clearance u/s 164	:	15.06.2016
Execution plan submitted to CEA	:	21.03.2016
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	22.11.2018
Actual Date of Completion	:	Mar'19

### **Status of progress of transmission project**

#### **1. Raipur - Rajnandgaon 765 kV D/C (hexa) line**

- Length: 79.56 ckm
- Locations: 104 nos

**Transmission line commissioned in Mar'19.**

**2. Rajnandgaon - Warora 765 kV D/C (hexa) line**

- Length: 532 ckm
- Locations: 688 nos

**Transmission line commissioned in Mar'19.**

**3. 765 kV Rajnandgaon switching station**

**Commissioned in Mar'19.**

## **(36) System strengthening for IPPs in Chhattisgarh and other generation projects in western region**

### **Background**

The immediate evacuation of Vindhyachal STPP- IV & V consists of Vindhyachal-IV - Vindhyachal Pool station 400 kV D/C (Quad) line. NTPC requested to provide additional outlet from Vindhyachal-IV generation project in order to increase the reliability of power evacuation system for Vindhyachal STPP-IV & V project. With 765 kV and 400 kV interconnection there would be more flexibility in operation as well as utilization of the 765/400 kV transformation capacity.

### **Scope of transmission project**

1. 400 kV interconnection at Gwalior 765/400 kV s/s
  - (i) Gwalior-Morena 400 kV D/C (Q) line
  - (ii) 2x315 MVA, 400/220 kV substation at Morena
2. Additional evacuation line from Vindhyachal-IV & V STPP (3x500 MW)
  - (i) Vindhyachal STPS - IV & V – Vindhyachal pool 400 kV D/C (Q) line
  - (ii) 400 kV bays (2 nos.) at Vindhyachal STPP switchyard
3. Additional system strengthening scheme for Chhattisgarh IPP's (Part-A)
  - (i) Sasan UMPP – Vindhyachal Pooling Station 765 kV S/C (Q) line
  - (ii) Raigarh (Kotra) – Champa (Pool) 765 kV S/C (Q) line
  - (iii) Champa (Pool) – Dharamjaygarh 765 kV S/C (Q) line
  - (iv) LILO of one ckt of Aurangabad – Padghe 765 kV D/C (hexa) line at Pune
  - (v) 765 kV bays at Sasan UMPP

### **General Detail**

Special Purpose Vehicle (SPV)	:	Chhattisgarh-WR Transmission Ltd (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	1285
Levellers Tariff (Rs. Cr)	:	132.402
Request for Qualification	:	29.12.2014
Request for Proposal	:	13.04.2015
Letter of Intent	:	28.07.2015
Transmission Service Agreement(TSA)	:	24.06.2015
SPV acquisition	:	23.11.2015
Transmission License by CERC	:	29.02.2016
Tariff adoption by CERC	:	28.01.2016
Contract Performance Guarantee	:	30.10.2015
Clearance u/s 164	:	25.10.2016
Execution plan to CEA	:	21.03.2016
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	22.03.2019
<b>Actual Date of Completion</b>	:	<b>Aug'19 (commissioned)</b>

## Status of progress of transmission project

### 1. 400 kV interconnection at Gwalior 765/400 kV s/s

#### (i) Gwalior - Morena 400 kV D/C (Q) line

Length: 95.6 ckm

Locations: 145 nos

Transmission line commissioned in **May'18**.

#### (ii) 2x315 MVA, 400/220 kV Morena substation

Substation commissioned in **May'18**.

### 2. Additional evacuation line from Vindhyachal-IV & V STPP (3x500 MW)

#### (i) Vindhyachal STPS - IV & V – Vindhyachal pool 400 kV D/C (Q) line

Length: 54.62 ckm

Locations: 87 nos

Line commissioned in **Mar'18**.

#### (ii) 400 kV bays (2 nos.) at Vindhyachal STPP switchyard

Commissioned in **Mar'18**.

### 3. Additional system strengthening scheme for Chhattisgarh IPP's (Part-A)

#### (i) Sasan UMPP – Vindhyachal Pooling Station 765 kV S/C (Q) line

Length: 5.892 ckm

Locations: 22 nos

Line commissioned in **Apr'18**.

#### (ii) Raigarh (Kotra) – Champa (Pool) 765 kV S/C (Q) line

Length: 97 ckm

Locations: 261 nos

**Line commissioned in Aug'18.**

#### (iii) Champa (Pool) – Dharamjaygarh 765 kV S/C (Q) line

- Length: 51.1 ckm

- Locations: 150 nos

**Commissioned Jul'18.**

#### (iv) LILO of one ckt of Aurangabad – Padghe 765 kV D/C (hexa) line at Pune

- Length: 129 ckm

- Locations: 180 nos

**Commissioned Aug'19.**

#### (v) 765 kV bays at Sasan UMPP

**Bays Commissioned in Apr'18.**



## **(37) Transmission System for Ultra Mega Solar Park in Fatehgarh, Distt. Jaisalmer Rajasthan**

### **Background**

Government of India has taken an initiative for development of Solar Power Parks in various parts of the country. As part of above initiative, Solar Power parks are being developed by various developers near Bhadla & Jaisalmer in Rajasthan.

MNRE has authorised M/s. Adani Renewable Energy Park Rajasthan Ltd. (AREPRL) (JVC of Govt. of Rajasthan and AREPL) as solar park developer for 1500 MW capacity at Fatehgarh, Distt. Jaisalmer, Rajasthan. Out of above generation capacity, M/s. AREPRL has applied for Connectivity & Long Term Access in ISTS for 1000 MW.

To evacuate power from the Fatehgarh UMSP (1000 MW), it was finalized to establish 400 KV Pooling Station at Fatehgarh along with 765 KV Fatehgarh Pool – Bhadla (PG) D/C line (to be operated at 400 KV). Also, in order to address reactive power management aspect including during low / no solar generation periods, 1x125 MVar bus reactor (at 400 KV bus) at Fatehgarh Pooling Station is finalized.

### **Scope of transmission project:**

1. Establishment of 400 KV pooling station at Fatehgarh
2. 765 kV Fatehgarh Pooling sub-station - Bhadla (PG) D/C line (to be operated at 400 kV).
3. 2 nos of 400 kV line bays at Fatehgarh Pooling substation
4. 1x125 MVAR Bus reactor at 400kV Fatehgarh Pooling sub-station along with associated bay
5. Space for future 220 kV ( 12 Nos. ) line bays.
6. Space for future 400 kV ( 8 Nos. ) line bays along with line reactors at Fatehgarh Pooling station.
7. Space for future 220/400 kV transformers ( 5 nos.) along with associated transformer bays at each level.
8. Space for future 400 KV bus reactors ( 2 nos.) along with associated bays.

### **General Detail**

Special Purpose Vehicle (SPV)	:	Fatehgarh-Bhadla Transmission Limited (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	624
Request for Qualification	:	30.12.2016
Request for Proposal	:	30.04.2017
Letter of Intent	:	21.02.2018
Transmission Service Agreement(TSA)	:	10.01.2018
SPV acquisition	:	14.03.2018
Transmission License by CERC	:	27.08.2018 (Order date)
Tariff adoption by CERC	:	27.08.2018

Contract Performance Guarantee	:	12.03.2018
Clearance u/s 164	:	Authorization on revised route received on 14.11.2019 after 110 days.
Execution plan to CEA	:	09.07.2018
NIT issued on	:	
EPC contract awarded on	:	
Scheduled Date of Completion	:	30.09.2019
Actual Date of Completion	:	Commissioned on 31-07-2021

**(i) 765 kV Fatehgarh Pooling sub-station - Bhadla (PG) D/C line (to be operated at 400 kV)**

- Length (as per revised route): 292 ckm
- Locations (as per revised route): 405 nos
- Schedule completion: 30.09.2019
- Actual completion: Ckt-1 was Charged from Bhadla (PG) end on 16-07-2021 and Ckt-2 was charged on 24-07-2021 and COD declared effective from 31-07-2021

**(ii) Establishment of 400 KV Pooling Station At Fategarh**

- Schedule completion: 30.09.2019
- Actual completion: Charged on 24-07-2021

**(iii) 2 nos of 400 kV line bays at Fatehgarh Pooling substation &**

**(iv) 1x125 MVAR Bus reactor at 400kV Fatehgarh Pooling sub-station along with associated bay**

- Schedule completion: 30.09.2019
- Actual completion: Charged on 24-07-2021 and COD declared effective from 31-07-2021

## **(38) Transmission System Associated with LTA applications from Rajasthan SEZ Part-D**

### **Background**

Government of India has set a target for establishing 175 GW renewable capacity by 2022 which includes 100 GW Solar, 60 GW Wind generation capacity. Towards this, solar generation potential of about 3.55 GW in Bhadla complex, 3.5 GW in Fatehgarh complex and 1.85 GW in Bikaner has been envisaged. For integration and evacuation of power from generation projects in the above areas, a high capacity 765 kV and 400 kV transmission system interconnecting Bhadla, Fatehgarh, Bikaner, Sikar & Khetri along with establishment of 765/400 kV new substation at Bhadla-II, Fatehgarh-II & Khetri have been planned.

The subject transmission scheme involves implementation of Bikaner – Khetri 765 kV D/C line which shall help in transfer of power from RE sources in above complexes for onward dispersal of power to various beneficiaries.

The proposal has been technically agreed in the 2<sup>nd</sup> meeting of Northern Region Standing committee on Transmission (NRSCT) held on 13.11.2018. The same was agreed in the 3<sup>rd</sup> ECT meeting held on 21.12.2018 for implementing through TBCB route with a commissioning schedule as December, 2020.

### **Scope of transmission project:**

1. Bikaner (PG) – Khetri S/S 765 kV D/C line.
2. 765 kV Bays at Bikaner (PG) & Khetri for Bikaner (PG) – Khetri S/S 765 kV D/C line (765 kV line bays: 4 nos).
3. 1x240 MVar switchable line reactor for each circuit at each end of Bikaner – Khetri 765 kV D/C line along with reactor bays (1x240 MVar Line reactor – 4nos, 765 kV Reactor bay – 4 nos). 1x80 MVar, 765 kV, 1-ph Reactor (spare unit) (For 2x240 MVar line reactor on Bikaner – Khetri 765 kV D/C line at Bikaner end).

### **General Detail**

Special Purpose Vehicle (SPV)	:	Bikaner-Khetri Transmission Limited (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	PFC Consulting Limited
Estimated Cost (Rs. Cr)	:	INR 1630 Cr
Request for Qualification	:	17.01.2019
Request for Proposal	:	18.03.2019
Letter of Intent	:	31.07.2019
Transmission Service Agreement(TSA)	:	23.04.2019
SPV acquisition	:	19.09.2019
Transmission License by CERC	:	27.12.2019
Tariff adoption by CERC	:	27.12.2019
Contract Performance Guarantee	:	22.08.2019
Clearance u/s 164	:	31.08.2020

Execution plan to CEA	:	submitted on 16.01.2020
NIT issued on	:	
EPC contract awarded on	:	16.11.2019
Scheduled Date of Completion	:	31.12.2020/31-Aug-2021*
Actual Completion	:	Sept'21

\*The Ministry of Power, GOI has granted extension of 5 months (for First wave of Covid-19) vide order nos 3/1/2020-Trans dated 27th July, 2020 and further 3 months extension (for Second wave of Covid-19) on 12 June, 2021 from Scheduled Commercial Operation Date (SCOD) for inter-state transmission projects i.e. total extension of 8 months from SCOD. Accordingly revised SCoD comes out as 31-Aug-2021.

**(i) Bikaner (PG) – Khetri S/S 765 kV D/C line**

- Length: 481 ckm
- Locations: 621 nos
- Schedule completion: Dec'20/Aug-21\*
- Actual completion: Deemed COD declared with effect from 04-09-2021.

**(ii) 765 kV Bays at Bikaner (PG) & Khetri for Bikaner (PG) – Khetri S/S 765 kV D/C line (765 kV line bays: 4 nos).**

- Schedule completion: Dec'20/Aug-21\*
- Actual completion: . Deemed COD declared with effect from 04-09-2021.

**(iii) 1x240 MVar switchable line reactor for each circuit at each end of Bikaner – Khetri 765 kV D/C line along with reactor bays (1x240 MVar Line reactor – 4nos, 765 kV Reactor bay – 4 nos)**

- Schedule completion: 31.12.2020
- Anticipated completion: .Deemed COD declared with effect from 04-09-2021.

**Transmission project commissioned in Sep-2021.**

### **(39) Transmission System for Western Region Strengthening Scheme – 21 (WRSS – 21) Part – A – Transmission System Strengthening for Relieving Over Loadings Observed in Gujarat Intra-State System Due to Re-injections in Bhuj PS**

#### **Background**

Government of India has set a target for establishing 175 GW renewable capacity by 2022 which includes 100 GW Solar, 60 GW Wind generation capacity. This includes wind potential of about 6 GW in Bhuj complex, 2 GW in Lakadia and 1.5 GW in Dwarka. For integration and evacuation of power from generation projects in the above areas, a high 765 kV and 400 kV transmission system interconnecting Bhuj, Lakadia, Banaskantha, Vadodara & Dwarka along with establishment of 765/440/220 kV new substations at Bhuj-II & Lakadia and 400/220 kV new substation at Jam Khambhaliya (Dwarka) have been planned.

The subject transmission scheme involves establishment of 765/400 kV Lakadia Pooling station along with LILO of Bhachau – EPGL 400 kV D/C (triple) line at Lakadia PS and Bhuj PS – Lakadia PS 765 kV D/C line which helps in transfer of power from RE sources in the Kutch area of Gujarat (Bhuj complex) to Lakadia for onward dispersal of power to their respective beneficiaries.

The proposal has been agreed in the 1<sup>st</sup> meeting of Western Region Standing Committee on Transmission (WRSCT) held on 05.09.2018. The same was agreed in the 3<sup>rd</sup> ECT meeting on 21.12.2018 for implementing through TCB route with a commissioning schedule as December, 2020. In line with Ministry of Power letter dated 27.07.2019, project completion period is extended for further 5 months in view of pandemic impact of Covid-19 and hence, revised commissioning schedule is May'2020. Ministry of Power further extended project completion period for 3 months vide letter dated 12.06.21; revised commissioning schedule is Aug'21.

#### **Scope of transmission project:**

1. Establishment of 2x1500 MVA, 765/400 kV Lakadia PS with 765 kV (1x330 MVAR) & 420 kV (1x125 MVAR) bus reactor
  - 2x1500 MVA, 765/400 kV
  - 400 kV ICT bay – 2
  - 765 kV ICT bay – 2
  - 400 kV line bay – 4
  - 765 kV line bay – 2
  - 1x330 MVAR, 765 kV,
  - 1x125 MVAR, 420 kV
  - 765 kV Reactor bay – 1
  - 420 kV Reactor bay – 1
  - Future provisions, Space for:
    - (i) 765/400 kV ICTs along with bays: 2 nos
    - (ii) 400/220 kV ICTs along with bays: 8 nos
    - (iii) 765 kV line bays: 4 nos

- (iv) 400 kV line bays: 6 nos
- (v) 220 kV line bays: 16 nos
- (vi) 765 kV bus reactor along with bays: 1 no
- (vii) 400 kV bus reactor along with bays: 1 no
- 2. LILO of Bhachau – EPGL line 400 kV D/C (triple) line at Lakadia PS.
- 3. Bhuj PS – Lakadia PS 765 kV D/C line.
- 4. 2 nos of 765 kV bays at Bhuj PS for Bhuj PS – Lakadia PS 765 D/C line.

## General Detail

Special Purpose Vehicle (SPV)	:	WRSS XXI(A) Transco Limited (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	REC Transmission Projects Co. Ltd.
Estimated Cost (Rs. Cr)	:	INR 1090 Cr
Request for Qualification	:	12.01.2019
Request for Proposal	:	13.03.2019
Letter of Intent	:	31.07.2019
Transmission Service Agreement(TSA)	:	23.04.2019
SPV acquisition	:	14.10.2019
Transmission License by CERC	:	received on 24.01.2020
Tariff adoption by CERC	:	received on 27.01.2020
Contract Performance Guarantee	:	
Clearance u/s 164	:	submitted to CEA on 16.01.20, Acknowledgment received on 06.05.20 Approved on 22-07-2020.
Execution plan to CEA	:	submitted on 10.02.2020
NIT issued on	:	
EPC contract awarded on	:	31.10.2019
Scheduled Date of Completion	:	31.12.2020/31-Aug-2021*
Actual completion	:	13.10.2022

### (i) Bhuj PS – Lakadia PS 765 kV D/C line

- Length: 214 ckm
- Locations: 280 nos
- Schedule completion: 31-12-2020/31-08-2021\*
  - Actual Completion: 13.10.2022

### (ii) LILO of Bhachau – EPGL line 400 kV D/C (triple) line at Lakadia PS

- Length: 76 ckm
- Locations: 121 nos
- Schedule completion: 31-12-2020/31-08-2021\*
- Anticipated completion: charged on 28.09.22.

**(iii) Establishment of 2x1500 MVA, 765/400 kV Lakadia PS with 765 kV (1x330 MVAR) & 420 kV (1x125 MVAR) bus reactor**

- Schedule completion: 31.12.2020/31-Aug-2021\*
- Anticipated completion: 15-09-2022

**For 400kV Switchyard Portion**, commissioned on 21.09.22.

**For 765kV Switchyard Portion**, Charging Permission received from Electrical Inspector on 20.09.2022.

**(iv) 2 Nos 765kV Bays at Bhuj PGCIL substation.**

- Schedule completion: 31.12.2020/31-Aug-2021\*
- Actual completion: Commissioned on 02.06.2022

## **(40) Transmission System for Transmission System Associated with RE Generations at Bhuj-II, Dwarka & Lakadia**

### **Background**

Govt. of India has set a target for establishing 175 GW renewable capacity by 2022 which includes 100 GW Solar, 60 GW Wind generation capacity. This includes wind potential of about 6GW in Bhuj complex, 2GW in Lakadia and 1.5GW in Dwarka. For integration and evacuation of power from generation projects in the above areas, a high capacity 765kV and 400kV transmission system interconnecting Bhuj, Lakadia, Banaskantha, Vadodara & Dwarka along with establishment of 765/400/220kV new substations at Bhuj-II & Lakadia and 400/220kV new substation at Jam Khambhaliya (Dwarka) have been planned.

The subject transmission scheme involves implementation of Lakadia – Banaskantha 765kV D/c line which is required for transfer of power from RE sources in the Bhuj, Lakadia & Dwarka complexes of Gujarat to Banaskantha for onward dispersal of power to their respective beneficiaries.

The proposal has been agreed in the 1st meeting of Western Region Standing Committee on Transmission (WRSCT) held on 5.9.2018. The same was agreed in the 3rd ECT meeting held on 21.12.2018 for implementation through TBCB route with a commissioning schedule of June 2021 or as per the progress of connectivity/LTA applications of RE projects from WEZ in Gujarat.

### **Scope of transmission project:**

1. Lakadia PS – Banaskantha PS 765kV D/c line.
2. 765kV Bays at Lakadia and Banaskantha sub-stations for Lakadia PS – Banaskantha PS 765kV D/c line.
3. 2x240MVar switchable Line reactor along with bays at Banaskantha end of Lakadia PS – Banaskantha PS 765kV D/c line and 1x80 MVar, 765 kV, 1 ph switchable line reactor (Spare unit) at Banaskantha end.

### **General Detail**

Special Purpose Vehicle (SPV)	:	Lakadia Banaskantha Transco Limited (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	REC Transmission Projects Co. Ltd.
Estimated Cost (Rs. Cr)	:	INR 1052 Cr
Request for Qualification	:	12.01.2019
Request for Proposal	:	13.03.2019
Letter of Intent	:	28.10.2019
Transmission Service Agreement(TSA)	:	23.10.2019
SPV acquisition	:	13.11.2019



Transmission License by CERC	:	03.03.2020
Tariff adoption by CERC	:	05.03.2020
Contract Performance Guarantee	:	
Clearance u/s 164	:	submitted on 24.02.2020
Execution plan to CEA	:	07.03.2020
NIT issued on	:	
EPC contract awarded on	:	24.12.2019
Scheduled Date of Completion	:	30.06.2021/28.02.2022*
Actual date of completion	:	Oct'22

**(i) Lakadia PS – Banaskantha PS 765kV D/c line**

- Length: 352 ckm
- Locations: 472 nos
- Schedule completion: 30-06-2021/28-02-2022\*
- Actual completion: 13.10.2022; Line has commercially energized

**(ii) 765 kv Bay at Lakadia & Banaskantha- 2 no's at each end**

- Land acquisition : Completed in PGCIL Scope
- Engineering : 100%
- Civil Works: : 100%
- Equipment supplied : 100%
- Erection works: : All Equipment erection completed.
- Schedule completion: 30-06-2021/28-02-2022\*
- Actual completion: Banaskantha end bays Charged on 07.07.2022 and Lakadia bays charged on 13.10.2022.

**(iii) Installation for 7 no's 80 mVAR 765 kV Reactors at Banaskantha , PGCIL SS**

- Land acquisition: Completed in PGCIL Scope
- Schedule completion: Jun'21/Feb'22\*
- Anticipated completion: Reactor has commissioned along with bays on 05.07.22 to 07.07.22.

## **(41) Transmission System for Jam Khambaliya Pooling Station and Interconnection of Jam Khambaliya Pooling Station for Providing Connectivity to RE Projects (1500 MW) in Dwarka (Gujarat) and Installation of 400/220 kV ICT along with Associated Bays at CGPL Switchyard**

### **Background**

#### **Connectivity System for RE projects (1500 MW) in Dwarka (Gujarat)**

Govt. of India has set a target for establishing 175 GW renewable capacity by 2022 which includes 100 GW Solar, 60 GW Wind generation capacity. This includes wind potential of +about 6GW in Bhuj complex, 2GW in Lakadia and 1.5GW in Dwarka. For integration and evacuation of power from generation projects in the above areas, a high capacity 765kV and 400kV transmission system interconnecting Bhuj, Lakadia, Banaskantha, Vadodara & Dwarka along with establishment of 765/400/220kV new substations at Bhuj-II & Lakadia and 400/220kV new substation at Jam Khambhaliya (Dwarka) have been planned.

The subject transmission scheme involves establishment of 400/220kV Jam Khambhaliya Pooling station along with extension of Essar–Lakadia/ Bhachau 400kV D/c (triple snowbird) line upto Jam Khambhaliya PS for providing connectivity to RE projects in Dwarka (Gujarat). This could be utilized for injection of power (~1500 MW) from wind or solar projects in the area.

The proposal has been agreed in the 1st meeting of Western Region Standing Committee on Transmission (WRSCT) held on 5.9.2018. The same was agreed in the 3rd ECT meeting held on 21.12.2018 for implementation through TBCB route with a commissioning schedule of June, 2020.

#### **Installation of 400/220 kV ICT along with associated bays at M/s CGPL Switchyard**

Over the years, the National Grid has become robust; however, the systems have also become more complex and the uncertainties have increased a lot, particularly in terms of weather and natural calamities. This leads to low probability high impact incidents impacting pockets of the grid often leading to prolonged power supply outages. Therefore, Resilience of the grid becomes important. A resilient system recognizes the fact that there can be failures in the system but has well proven systems for quick revival.

The same principle also applies to large power plants like the Ultra Mega Power Projects (UMPPs) and other large power stations. In view of the above, the 500 MVA, 400/220 kV ICT at CGPL Mundra was agreed by the members during the 1st WRSCT meeting held on 05.09.2018 from the viewpoint of having a resilient system in place. The scheme would provide the startup power to CGPL through Nanikhakhar-CGPL 220 kV S/C line (existing). The line would normally be kept open from CGPL end. The scheme was discussed in the 2nd NCT meeting held on 04.12.2018 & 3rd ECT meeting held on 21.12.2018 wherein it was agreed to implement the same through TBCB route.

**Scope of transmission project:****A) Jam Khambhaliya Pooling Station for providing connectivity to RE projects (1500 MW) in Dwarka (Gujarat)**

1. Establishment of 4x500 MVA, 400/220 kV Jam Khambhaliya PS (GIS).
2. 1x125 MVAR, 420 kV Bus reactor at Jam Khambhaliya PS along with reactor bay.

**B) Interconnection of Jam Khambhaliya Pooling station for providing connectivity to RE projects (1500 MW) in Dwarka (Gujarat)**

1. Extension of Essar-Lakadia/Bhachau 400 kV D/C (triple snowbird) line upto Jam Khambhaliya PS.
2. 2 nos of 400 kV line Bays at Jam Khambhaliya PS for termination of Jam Khambhaliya PS – Lakadia 400 kV D/C (triple) line.
3. 63 MVAR switchable line reactor at both ends of Lakadia – Jam Khambhaliya 400 kV D/C line along with 500 Ohms NGR on both circuits & at both ends of Lakadia – Jam Khambhaliya 400 kV D/C line.

**C) Installation of 400/220 kV ICT along with associated bays at M/s. CGPL Switchyard**

1. 1x500 MVA, 400/220 ICT at CGPL Mundra switchyard

**General Detail**

Special Purpose Vehicle (SPV)	:	Jam Khambhaliya Transco Limited (A subsidiary of Adani Transmission Limited)
Bid Process Coordinator (BPC)	:	REC Transmission Projects Co. Ltd.
Estimated Cost (Rs. Cr)	:	INR 394 Cr
Request for Qualification	:	12.01.2019
Request for Proposal	:	13.03.2019
Letter of Intent	:	28.10.2019
Transmission Service Agreement(TSA)	:	23.10.2019
SPV acquisition	:	13.11.2019
Transmission License by CERC	:	24.03.2020
Tariff adoption by CERC	:	24.03.2020
Contract Performance Guarantee	:	
Clearance u/s 164	:	submitted to CEA on 10.02.2020 Acknowledgment received on 13.05.20 Approval received on 22.07.20
Execution plan to CEA	:	submitted on 07.03.2020
NIT issued on	:	
EPC contract awarded on	:	awarded on 31.01.2020
Scheduled Date of Completion	:	31.03.2021/30.11.2021*
Actual completion	:	Apr-2022 excluding CGPL element. CGPL element by Nov-22

- \*The Ministry of Power, GOI has granted extension of 5 months (for First wave of Covid-19) vide order nos 3/1/2020-Trans dated 27th July, 2020 and further 3 months extension (for Second wave of Covid-19) on 12 June, 2021 from Scheduled Commercial Operation Date (SCOD) for inter-state transmission projects i.e. total extension of 8 months from SCOD.

**(i) Establishment of 4x500 MVA, 400/220 kV Jam Khambhaliya PS (GIS)**

- Schedule completion : 31.03.2021/30.11.2021\*
- Actual completion : Commissioned on 02.04.2022.

**(ii) Extension of Essar-Lakadia/Bhachau 400 kV D/C (triple snowbird) line up to Jam Khambhaliya PS**

- Schedule completion : 31.03.2021/30.11.2021\*
- Actual completion : Commissioned on 02.04.2022.

**(iii) 1x500 MVA, 400/220 ICT at CGPL Mundra switchyard**

- Schedule completion :31.03.2021 /Nov'21\*
- Actual completion : Nov'22

## **(42) Transmission System required for evacuation of power from Kudgi TPS (3x800 MW) Phase-I of NTPC**

### **Background**

NTPC Limited is establishing coal based Kudgi STPP (3x800 MW) generation project at village Kudgi, Bijapur District in the State of Karnataka. NTPC Limited has been granted LTA for 2392.49 MW as per the LTA application and details of drawl of power is given as under:

Karnataka Discoms	1196.24 MW	KSEB	119.18 MW
TANGEDCO	300.10 MW	AP Discoms	418.10 MW

Transmission scheme is planned for the evacuation and supply of power from the Kudgi TPS to the beneficiaries of the generation project. This transmission scheme shall facilitate immediate evacuation as well as supply of power to its beneficiaries with reliability and security. Beyond Madhugiri & Bidadi dispersal of power to the beneficiaries of the generation project shall be through existing/planned transmission network under Inter-State Transmission System.

### **Scope of transmission project**

1. Kudgi TPS - Narendra (New) 400 kV 2 x D/C Quad lines
2. Narendra (New) - Madhugiri 765 kV D/C line (initially operated at 400 kV level)
3. Madhugiri - Bidadi 400 kV D/C (quad) line

### **General Details**

Special Purpose Vehicle (SPV)	:	Kudgi Transmission Ltd. (L&T Infra)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	1240
Levelised Tariff (Rs. Cr)	:	179.58652
Request for Qualification	:	
Request for Proposal	:	12.03.2013
Letter of Intent	:	31.07.2013
Transmission Service Agreement (TSA)	:	14.05.2013
SPV acquisition	:	30.08.2013
Transmission License by CERC	:	07.01.2014
Tariff adoption by CERC	:	08.01.2014
Contract Performance Guarantee	:	22.08.2013
Clearance u/s 164	:	24.04.2014
Execution plan submitted to CEA	:	Submitted
NIT issued on	:	
EPC contract awarded on	:	21.02.2014
Scheduled Date of Completion	:	28.2.2015/29.12.2015
Actual Date of completion	:	September, 2016

### **Status of progress of transmission project**

1. Kudgi TPS – Narendra 400 kV 2xD/C line (I&II) - Line 1&2 completed on 27.03.2015 and commissioned in Nov-15 & Jun-16 respectively
2. Narendra (New) – Madhugiri 765 kV D/C line (758 ckm) - Line Commissioned on 23.09.2016 at 400kV
3. Madhugiri (Tumkur) – Bidadi 400 kV D/C line (186 ckm) - Commissioned on 24.8.16

**Transmission Project Commissioned on Sep-16.**

## **(43) Transmission System for Patran 400kV S/S**

### **Background**

Patiala and Sangrur district of Punjab has a lot of agriculture load. A partial Grid Disturbance had taken place on 20<sup>th</sup> July 2011 and analysis of Grid disturbance had also indicated the requirement of a 400/220 kV Substation in this area. In the vicinity there are 5 nos of 220 kV grid stations, namely Mansa, Rajla, Sangrur, Sunam & Patran, having total transformation capacity of about 1180 MVA. In addition, 3 nos of 220 kV new substations are also coming up in the area, at Pasiana, Bangan & Kakarla. Accordingly, to meet the growing load a 400/220 kV substation at Patran has been proposed. The 400/220 kV S/s at Patran would be connected to the grid by LILO of Patial-Kaithal 400 kV D/C. To avoid unbalanced loading, LILO of both circuits is proposed. From these substations, 220 kV lines can be drawn to new Patran, Mansa, Pasiana etc. S/s. Looking into load growth potential it is expected that 800-900 MW load would be there in the vicinity. In view of the above 2x500 MVA transformers have been proposed. Considering the fact that the location of the substation is in a very fertile area of the Punjab where the acquisition of land is going to be a challenging task. Accordingly, it is proposed to develop this substation as Gas Insulated substation.

### **Scope of transmission project**

1. LILO of both circuits of Patiala-Kaithal 400kV D/C line at Patran (Triple snow Bird)
2. 2x500 MVA, 400/220 kV substation at Patran

#### **400 kV**

- Line bays 4 nos
- Transformer bays 2 nos
- Space provision for 6 bays

#### **220 kV**

- Line bays 6 nos
- Transformer bays 2 nos
- Space provision for 6 bays

### **General Details**

Special Purpose Vehicle(SPV)	:	Patran Transmission Company Ltd. (A subsidiary of Techno Electric and Engineering Company Ltd)
Bid Process Coordinator(BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	200
Levellised Tariff (Rs. Cr)	:	27.4
Request for Qualification	:	11.03.2013
Request for Proposal	:	10.09.2013
Letter of Intent	:	17.09.2013
Transmission Service Agreement(TSA)	:	12.05.2014
SPV acquisition	:	13.11.2013
Transmission License by CERC	:	14.07.2014
Tariff adoption by CERC	:	05.08.2014
Contract Performance Guarantee	:	04.09.2013
Clearance u/s 164	:	29.02.2016
Execution plan submitted to CEA	:	05.08.2014

NIT issued on	:	No NIT issued by PTCL
EPC contract awarded on	:	01.02.2014
Scheduled Date of Completion	:	11.11.2016
Actual Date of Commissioning	:	17.06.2016
Trial run completed (monitored by POSOCO)	:	18.06.2016
Actual COD	:	21.06.2016

**Status of progress of transmission project;**

**1. LILO of both circuits of Patiala-Kaithal 400kV D/C at Patran (Triple snow Bird Conductor)**

Length:	200 meter
Locations:	2

**Line Completed on Jun-16**

**2. 2x500 MVA, 400/220 kV Patran substation**

Transmission project completed in June 2016 and commissioned in May 2017. 220 KV downstream transmission lines from Patran S/S competed and commissioned by PSTCL in May 2017.

**Transmission Project Commissioned on May 2017.**

## **(44) Transmission System Associated with Krishnapattnam UMPP- Synchronous interconnection between SR and WR (Part-B)**

### **Background**

For evacuation of power from Krishnapattnam UMPP (4000 MW) and export of power from various IPPs coming up in SR to their target beneficiaries in WR and NR, synchronous integration of the Southern Region with the rest of Indian grid had been planned through two number of 765 KV S/C lines between Sholapur and Raichur. With this interconnection a synchronously connected all India Grid would come into existence. Out of the two 765 KV Raichur- Sholapur lines planned, the Raichur- Sholapur 765 KV line-1 is covered under the scheme "Synchronous interconnection between Southern Region and Western Region" which is to be implemented through tariff based competitive bidding route.

### **Scope of transmission project**

1. Raichur-Sholapur 765 KV Single Circuit Line-1

### **General Details**

Special Purpose Vehicle (SPV)	:	Raichur Solapur Trans. Company Limited. (A Consortium of Patel, Simplex infra and BS Transcomm)
Bid Process Coordinator (BPC)	:	Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:	440
Levelised Tariff(Rs. Cr)	:	29.39569
SPV acquisition	:	7.1.2011
Scheduled Date of Completion	:	7.1. 2014
Actual Date of Completion	:	30.6.2014

### **Status of progress of transmission project**

1. Raichur-Sholapur 765 kV S/C line-1 – 208 ckm

**Transmission Project commissioned on 30.06.2014 .**



## **(45) Transmission system strengthening in Indian system for transfer of power from new HEP's in Bhutan**

### **Background**

Punatsangchhu-I (1200MW), Punatsangchhu-II (990MW), Mangdechhu(720MW) and Wangchhu (570MW) Hydro Generation Projects in Bhutan are at various stages of development. Power from these generation projects would be transferred to India after meeting small local demand in Bhutan. Power from these generation projects is proposed to be brought to Alipurduar sub-station in West Bengal (India). This transmission scheme has been planned for power transfer from Alipurduar onwards to ER and towards NR, it shall be done through + 800 kV, 6000MW Bishwanath Chariyal (Assam) – Alipurduar (West Bengal) – Agra (Uttar Pradesh) HVDC bipole link.

### **Scope of transmission project**

#### **Transmission Lines:**

1. Alipurduar - Siliguri 400 kV D/C line (2nd) with Quad moose conductor
2. Kishanganj - Darbhanga 400kV D/C line with Quad moose conductor

#### **400 kV Bay Requirements:**

1. 400 kV line bays at Darbhanga: 2 nos.
2. 80 MVAR switchable line reactors (400 Ohm NGR) in each circuit at Darbhanga end of Kishanganj - Darbhanga 400kV D/C (quad) line

### **General Details**

Special Purpose Vehicle (SPV)	: Alipurduar Transmission Ltd. (A subsidiary of Kalpataru Power Transmission Ltd.)
Bid Process Coordinator (BPC)	: Rural Electrification Corporation
Estimated Cost (Rs. Cr)	:
Request for Qualification	: 16.04.2015
Request for Proposal	: 08.07.2015
Letter of Intent	: 29.10.2015
Transmission Service Agreement (TSA)	: 22.09.2015
SPV acquisition	: 06.01.2016
Transmission License by CERC	: 21.03.2016
Tariff adoption by CERC	: 22.03.2016
Contract Performance Guarantee	: 04.01.2016
Clearance u/s 164 in Gazette	: 20.10.2016
Execution plan submitted to CEA	: 05.05.2016
NIT issued on	: N.A.
EPC awarded on	: 19.01.2016
Scheduled Date of Completion	: 05.03.2019
Anticipated Date of Completion	: 05.03.2019

### **Status of progress of transmission project**

#### **1. Alipurduar (PG) – Siliguri (PG) 400 KV D/C line**

Length:	115.48 Km
Locations:	321 nos

**The Line Commissioned on 16<sup>th</sup> Jan'20 & the Commercial Operations Date declared on 17<sup>th</sup> Jan'20.**

## **2. Kishanganj (PG) – Darbhanga (DMTCL) 400 KV D/C line**

Length:	209 ckm
Locations:	545 nos.

**The Line Commissioned & the Schedule Commercial Operations Date declared on 6<sup>th</sup> Mar'19.**

## **3. 2 nos 400 kV line bays at Darbhanga and 80 MVAR switchable line reactors**

Land acquired	: 100% (Land provided by DMTCL)
Civil works completed	: 100%
Equipment supplied	: 100%
Equipment erected	: 100%
Schedule COD	: Mar '19

## **(46) North Eastern Region Strengthening Scheme (NERSS-VI)**

### **Background**

The expansion of 400 kV network in NER is planned through new 400 kV line and up gradation of existing 400 kV lines presently charged at 132 kV to its rated voltage of 400 kV. A 400 kV ring is being established in Assam and Meghalaya connecting Silchar – Misa – Balipara – Bongaigaon – Azara/Byrnihat - Silchar substations. Another 400 kV ring is being established interconnecting Assam and Tripura through Silchar – Palatana – Surajmaninagar – P. K. Bari – Silchar corridor.

The extension of 400 kV system to the states of Manipur and Nagaland by interconnecting them with Assam has been planned through a 400 kV ring connecting Silchar- Imphal – New Kohima – New Mariani – Misa – Silchar along with new 400 kV substation at New Mariani and charging the New Mariani – Misa line at its rated voltage of 400 kV. Additionally, the Silchar- Imphal – New Kohima- New Mariani – Misa corridor would be an alternate for Silchar – Misa line.

The present scheme will form the Imphal – New Kohima – New Mariani section of Silchar- Imphal – New Kohima – New Mariani – Misa – Silchar 400 kV ring along with establishment of new 400/200 kV substation at New Kohima. This would require up gradation of the New Mariani S/s of POWERGRID to 400 KV and LILO of the Kathalguri – Misa D/C line at New Mariani S/s along with charging of Misa – New Mariani section at rated voltage of 400 KV (under the scope of POWERGRID). The New Mariani – Kathalguri section would be kept charged at 220 KV.

The subject scheme has been approved in the 5<sup>th</sup> Standing Committee Meeting on Power System Planning of North Eastern Region held on 08-08-2015 at Imphal, 15<sup>th</sup> NERPC/TCC meeting held on 21-08-2015 at Guwahati and 35<sup>th</sup> Empowered Committee meeting on Transmission held on 14-09-2015 at New Delhi.

### **Scope of transmission project:**

#### **A. Establishment of 400/220 kV, 7x167 MVA s/s at new Kohima**

##### 400 kV

ICTs: 400/220 kV, 7x167 MVA  
ICTs bays: 2 nos.  
Line bays: 4 nos.  
Bus Reactor: 2x125 MVAR  
400 kV bus reactor bays: 2 nos.  
Space for future bays: 4 nos. (along with space for switchable line reactor)

##### 220 kV

ICTs bays: 2 nos.  
Line bays: 4 nos.  
Space for future bays: 4 nos.  
Space for 400/220 kV 500 MVA ICT along with associated bays

#### **B. Imphal-New Kohima 400 kV D/C line (Twin Moose ACSR)**

## General Details

Special Purpose Vehicle	:	Kohima-Mariani Transmission. Ltd
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Request for Qualification	:	15.02.2016
Request for Proposal	:	25.11.2016
Letter of Intent	:	17.01.2017
Transmission Service Agreement (TSA)	:	02.09.2016
SPV acquisition	:	31.03.2017
Transmission License by CERC	:	10.07.2017
Tariff adoption by CERC	:	06.07.2017
Contract Performance Guarantee	:	07.03.2017
Clearance u/s 164	:	Obtained in Feb'18
Execution plan submitted to CEA	:	29.07.2017
NIT issued on	:	14.01.2016
EPC contract awarded on	:	28.06.2017
Scheduled Date of Completion	:	31 <sup>st</sup> Jul. 2020
Actual Date of Completion	:	31st Jul. 2020 (Element no. 1 & no. 3)
Actual Date of Completion	:	13th Oct. 2020 (Element no. 2)

### 1. Establishment of 400/220 kV, 7x167 MVA s/s at new Kohima

- Schedule COD Jul' 2020.
- Actual COD Jul'2020

### 2. Imphal-New Kohima 400 kV D/C line

Length:	135.867 Km approx.
Locations:	324 Nos approx.
Schedule COD:	Jul'2020

**Line is declared achieved COD as on 13th Oct 2020**

### 3. New Kohima - Mariani 400 kV D/c line

Length	118.20 Km Approx.
Locations:	282 Nos Approx.
Schedule COD:	Jul'2020.

**Line is declared achieved COD as on 31st Jul. 2020**

## **(47) Transmission system associated with DGEN TPS (1200 MW) of Torrent Power Ltd.**

### **Background**

This transmission scheme has been proposed for evacuation of power from DGEN TPS (1200MW) of Torrent Power Limited. DGEN Transmission Company Limited awarded through TBCB route shall implement the project.

### **Scope of transmission project**

1. DGEN TPS – Vadodara 400 kV D/C line
2. Navsari - Bhesatan 220 kV D/C line

### **General Detail**

Special Purpose Vehicle (SPV)	:	DGEN Transmission Company Ltd. (A subsidiary of M/s Instalaciones Inabensa, S.A. Spain)
Bid Process Coordinator (BPC)	:	Power Finance Corporation
Estimated Cost (Rs. Cr)	:	275
Levelling Tariff (Rs. Cr)	:	58.401
Request for Qualification	:	30.10.2012
Request for Proposal	:	25.03.2014
Letter of Intent	:	19.05.2014
Transmission Service Agreement(TSA)	:	30.04.2014
SPV acquisition	:	17.03.2015
Transmission License by CERC	:	24.06.2015
Tariff adoption by CERC	:	10.06.2015
Contract Performance Guarantee	:	13.03.2015
Clearance u/s 164	:	22.04.2016
Execution plan submitted to CEA	:	10.07.2015
NIT issued on	:	-
EPC contract awarded on	:	30.06.2015
Scheduled Date of Completion	:	16.05.2018
Anticipated Date of Completion	:	DTCL requested to scrap project

### **Status of Progress of transmission project**

- Project authority had not started construction activity as per execution plan. Matter was taken up with the project authority and notice served in August/Sept 2016 but project authority did not respond.
- Member(PS), CEA took a meeting on 26.04.2017 to review the progress of Tr. project wherein project authority informed to close the project due to financial constraints in parent company. CEA vide letter dated 14.06.2017 informed CERC to take appropriate action.