

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 31.10.2023)

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

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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 28.12.2015 Scheduled Date of Completion **Actual Date of Completion** Jan' 2019

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. Khamam 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 : Not Applicable as project is scrapped

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 Khamman 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)

Sep' 2016

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

Status of progress of transmission project

Actual Date of Completion

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 11.01.2013 Request for Qualification 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

Status of progress of transmission project

1. Unchahar - Fatehpur 400 kV D/C line

Actual Date of Completion

- 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.

Dec' 2016

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) : Powergrid Kala Amb Transmission

Limited (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 **Actual Date of Completion** Jul' 2017

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:

- 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

Levellised 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 : July 2018

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 Gadarwara STPS (2x800 MW) of NTPC (Part-B)

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 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 January 2018 Scheduled Date of Completion **Actual Date of Completion** June' 2018

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

• 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

Levellised 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 Actual date of completion 31.12. 2018

Status of progress of transmission project:-

 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
Actual COD Jan'19

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 k\/

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

Levellised 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 Actual date of completion 16.01, 2020

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

- 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*

Actual Date of Completion May' 2021

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 rector 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 Levellised 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 KmLocations : 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

- 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 againdue to error in village list. Again published in Newspapers on 01.10.2020. Issued on 8th March'21 and published on 1st April'21.

Execution plan submitted to CEA:

NIT issued on

Submitted on 13.03.20

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 Fathegarh-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 2nd 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)
- 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

TANSMISISON SYSTEM LTD

Bid Process Coordinator (BPC) : REC Transmission Projects Company Ltd.

Estimated Cost : ₹ 1365 Cr
Levellised 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.	 Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Sitamarhi (New) 400 kV ICTs: 400/220 kV, 2x500 MVA ICTs bays: 2 nos. 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] Bus reactor: 420kV, 2x125 MVAR Bus reactor bay: 2 nos. Space for future line bays (including space for switchable line reactor): 6 nos. Space for future ICT bays: 2 nos.
	 220 kV ICTs: 220/132 kV, 2x200 MVA ICTs bays: 4 no. 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] Space for future line bays: 4 nos. Space for future ICT bays: 4 nos.

132 kV ICTs bays: 2 no. • 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] Space for future line bays: 4 nos. Space for future ICT bays: 2 nos. Space for future 400/220 kV, 2x500 MVA ICTs Space for future 220/132 kV, 2x200 MVA ICTs Establishment of 400/220/132 kV, 3x500 MVA + 3x200 MVA S/s at Chandauti (New) 2. 400 kV ICTs: 400/220 kV, 3x500 MVA • ICTs bays: 3 no. 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)] Bus reactor: 420kV, 2x125 MVAR Bus reactor bay: 2 nos. • Space for future line bays (including space for switchable line reactor): 6 no. Space for future ICT bays: 2 nos. 220 kV ICTs: 220/132 kV, 3x200 MVA ICTs bays: 6 nos. 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] Space for future line bays: 4 nos. Space for future ICT bays: 4 nos. 132 kV ICTs bays: 3 nos. • 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)] Space for future line bays: 4 no. Space for future ICT bays: 2 no. Space for future 400/220 kV, 2x500 MVA ICTs Space for future 220/132 kV, 2x200 MVA ICTs Establishment of 400/220/132 kV, 2x500 MVA + 2x200 MVA S/s at Saharsa (New) 3.

400 kV

- ICTs: 400/220 kV, 2x500 MVA
- ICTs bays: 2 no.
- 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)]
- Bus reactor: 420kV, 2x125 MVAR
- Bus reactor bay: 2 no.
- Space for future line bays (including space for switchable line reactor): 6 no.
 Space for future ICT bays: 2 no.

220 kV

- ICTs: 220/132 kV, 2x200 MVA
- ICTs bays: 4 no.
- Line bays: 4 no.

[2 no. for Saharsa (New) – Begusarai and 2 no. for Saharsa (New) – Khagaria (New) 220kV D/c lines]

- Space for future line bays: 4 no.
- Space for future ICT bays: 4 no.

132 kV

- ICTs bays: 2 no.
- Line bays: 2 no.

[2 no. for Saharsa (New) – Saharsa 132kV D/c line]

- Space for future line bays: 6 no.
- Space for future ICT bays: 2 no.
- Space for future 400/220 kV, 2x500 MVA ICTs
 Space for future 220/132 kV, 2x200 MVA ICTs

Substation extension at Darbhanga S/s

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]

5. Substation extension at Motihari S/s

400kV

- ICTs: 400/132 kV, 315 MVA (3rd)
- ICT bays: 1 no.
- Line bays with space for switchable line reactor: 2 no.[2 no. for Sitamarhi (New) Motihari 400kV D/c line with Triple Snowbird conductor]

132kV

ICT bays: 1 no.

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 : 12.03.2021/ Aug'2021*/Nov'21** : Oct'21 Scheduled Date of Completion

Anticipated Date of Completion

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. 80 Km Length

• 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 Length.Locations:Scheduled COD 230 Nos.

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

2.9 Km Length: 9 Nos. Locations:

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)

o 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 rector 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 KmLocations: 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 KmLocations: 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 KmLocations : 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 KmLocations : 37 nos.Scheduled COD : Jul' 20

Status: Scope <u>Deleted</u> 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 1st meeting of Western Region Standing Committee on Transmission (WRSCT) held on 5.9.2018. Further in the 2nd 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 38th 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

 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.; 1×110 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) : **POWERGRID BHUJ TRANSMISSION LIMITED**

(Formerly as Bhuj-II Transmission Ltd) (A subsidiary of POWERGRID)

Bid Process Coordinator (BPC) : PFC Consulting Ltd.

: ₹ 645 Cr. **Estimated Cost** 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 24th Jul'20) published in

Gazette of India on 21th 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 kmLocations: 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 generaton 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 ± 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

Clearance u/s 164

Special Purpose Vehicle (SPV) : POWERGRID Bikaner Transmission System

28.06.22

Limited (A subsidiary of POWERGRID)

Bid Process Coordinator (BPC) PFC Consulting Ltd. **Estimated Cost** ₹ 1340.81 Cr. Levellised 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

NIT issued on : NIT for all Pkges issued.

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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 12th 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 : 30.03.2014
Actual Date of Completion : Jun'2015

Status of progress of transmission project

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

Dhule-Vadodara 765 kV S/C line : Line commissioned on 02/2015
 Dhule - Dhule(Mah) 400 kV D/C Line : Line commissioned on 11/2014
 2x1500 MVA 765/400 kV s/s at Bhopal: S/s commissioned on 07/2014
 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 12th 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 TPS9750 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 Biharshariff 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 Levellised 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 : Nov' 2014

Status of progress of transmission project

Bongaigaon-Siliguri 400 kV (Q) D/C: Line commissioned on 11/2014
 Purnea-Biharsharif 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 15th 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

NIT issued on

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 Levellised 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 10.03.2014 Execution plan submitted to CEA

EPC contract awarded on : 02.12.2014 (For KC Line) &

27.05.2015 (For PR line)

08.11.2013

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 Udhampur – Pampore 132 kV D/C line. Kishanpur-newwanpoh 400 kV D/C Line is under construction. All the existing and under construction line are rooted through Udhampur – 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 04.08.2014 SPV acquisition 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. Maheswaram (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

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)

GMR Kamalanga Energy Ltd(Ph-II)

OPGC

Darlipalli(NTPC)

NSL Nagapatnam Power & Infratech

2400 MW

350 MW

1600 MW

1600 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(2nd)
 - Jharsuguda Raipur pool 765 kV D/C line
 - LILO of Rourkela Raigarh 400 kV D/C line(2nd) 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 ckmLocations: 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 Gurgoan areas, new three-400kV substation one at Kadarpur, 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 Gurgoan 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-Kadarpur 400 kV D/C HTLS line
- 3. Kadarpur-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 Kadarpur (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 07.03.2016 Request for Proposal 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. Estabishment 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: 2no.

[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

Clearance u/s 164

Special Purpose Vehicle : NER II Transmission Limited (Sterlite

Grid 4 Limited; a subsidiary of Sterlite Power

Transmission Limited)

31.08.2018

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

60

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 Anticopated 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 Ω 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 Ω 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

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
Actual Date of Completion : Dec 2021

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
- 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 : 23.04.2019

(TSA)

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 : 31st 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 : 31st 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 : 31st 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 ckmLocations: 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 3rd 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 Levellised 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 nosSpace for 765 kV ICT bays 3 nos

400 kV

Space for 400 kV ICT bays
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 ckmLocations: 104 nos

Transmission line commissioned in Mar'19.

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

Length: 532 ckmLocations: 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 Levellised 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

Actual Date of Completion : Aug'19 (commissioned)

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 ckmLocations: 150 nos

Commissioned Jul'18.

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

LengthLocations:129 ckm180 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 UMSPP (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 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 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).
- 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 ckmLocations: 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 – Trasnsmission 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 1st meeting of Western Region Standing Committee on Transmission (WRSCT) held on 05.09.2018. The same was agreed in the 3rd ECT meeting on 21.12.2018 for implementing through TBCB 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:

- 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 ckmLocations: 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 ckmLocations: 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 enegized

(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 Khambaliya 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) Development of Additional Inter regional AC link for import into Southern region i.e Warora-Warangal and Chilakaluripeta – Hyderabad – Kurnool 765 kV link

Background

To facilitate import of 16000 MW power to Southern region by 2018-19 based on the pessimistic scenario of non-availability / delay in commissioning of some of the generation projects in Southern region, this 765 kV additional transmission link has been proposed in case of contingencies including total outage of an entire inter-regional link and other critical regional lines for reliability.

Scope of transmission project

1. Establishment of 765/400 kV substations at Warangal (New) with 2X1500 MVA transformers and 2X240 MVAR bus reactors.

765 kV bay requirement (in Warangal)

Line bays: 06 No. Transformer bays: 02 No. Space for future line bays: 06 No.

400 kV bay requirement (in Warangal)

Line bays: 02 No. Transformer bays: 02 No. Space for future line bays: 08 No.

- **2.** Warora (Pool) Warangal (New) 765 kV D/C line with 240 MVAR switchable line reactor at both ends
- **3.** Warangal (New) Hyderabad 765 kV D/C line with 240 MVAR switchable line reactor at Warangal end of each circuit.
- **4.** Warangal (New) Warangal (existing) 400 kV (quad) D/C line.
- **5.** Hyderabad- KurNo.ol 765 kV D/C line with 240 MVAR switchable line reactor at KurNo.ol end of each circuit.
- **6.** Warangal (New) Chilakaluripeta 765 kV D/C line with 240 MVAR switchable line reactor at both ends of each circuit.
- 7. 240 MVAR Switchable Line Reactors with Bays at Warora (Pool) end in each circuit of Warora (Pool)- Rajnandgaon 765kV D/c line with NGR (700 Ohm)

General Detail

Special Purpose Vehicle (SPV) : Warora Kurnool Transmission Ltd.

(A subsidiary of Adani Transmission Ltd)

Bid Process Coordinator (BPC) **PFCCL** 4805 Estimated Cost (Rs. cr) Request for Qualification 11.09.2015 Request for Proposal 30.11.2015 Letter of Intent 29.02.2016 Transmission Service Agreement (TSA) 06.01.2016 SPV acquisition 06.07.2016 Transmission License by CERC 29.09.2016 Tariff adoption by CERC 30.08.2016

Clearance u/s 164 : Gazette publication on 10.07.2017

01.07.2016

Execution plan submitted to CEA : 02.11.2016

NIT issued on :

Contract Performance Guarantee

EPC contract awarded on : 30.08.2016 Scheduled Date of Completion : Nov-2019 New SPV acquisition as per CERC Order : 26.03.2021 Actual Date of Completion : Sep'23*

*Deemed COD (28.09.2023) for Warora (Pool) – Warangal (New) 765 kV D/C line. However the line was charged on 17.10.2023

Ministry of Power(MoP) vide their letter No. 7/1/2017-Trans dated 16.04.2020 conveyed the following.

- 1. MoP, GoI has decided that M/s WKTL, the developer of Warora-Warangal 765 kV D/C Transmission Line is required to complete the balance works in above line as per the original approved route in the coal bearing area of WCL involving 16 towers without any further delay and also to comply all other decisions of MoP conveyed as per above letter dated 16.04.2020. Further, WKTL is required to complete all the elements in the above Scheme within the framework of the contractual obligations. It is also requested that the latest status and implementation schedule of all the elements of above line may be conveyed to CEA at the earliest.
- 2. Lead Long Term Transmission Customer(LTTC), i.e., TANGENDCO Ltd, is requested to take necessary action as per TSA to ensure that there is No. further delay in completion of the above project.

M/s WKTL was also advised that in case of any constraints in completion of the above project as per established procedure, the developer may approach CERC for redressal of the issues if any, as MoP/CEA only facilitates the project implementation in a time bound manner. The Project was stalled due to force majeure issues including No.n resolution of issues pertaining to coal bearing areas associated with Western Coal Fields (WCL) and Singareni Coll. Co. Ltd. (SCCL)

Status of progress of transmission project

1. Establishment of 765/400 kV substations at Warangal (New) with 2X1500 MVA transformers and 2X240 MVAR bus reactors.

Schedule completion : Nov'19Actual completion : Aug'23

2. Warora (Pool) – Warangal (New) 765 kV D/C line with 240 MVAR switchable line reactor at both ends

Length: 664 ckm
Locations: 845 Nos.
Schedule completion: Nov'19

• Actual COD: Sep '23 (Deemed COD on 28.09.2023, However, Ckt-I & Ckt –II charged on 16.10.2023 & 17.10.2023 respectively)

- 3. Warangal (New) Hyderabad 765 kV D/C line with 240 MVAR switchable line reactor at Warangal end of each circuit.
 - Length: 268 ckm

Locations: 345 Nos.
Schedule completion: Nov'19
Actual COD: Aug '23

4. Warangal (New) – Warangal (existing) 400 kV (quad) D/C line

Length: 94.9 ckm
Locations: 126 Nos.
Scheduled COD: Nov'19
Actual COD: Jun'23

5. Hyderabad- Kur No.ol 765 kV D/C line with 240 MVAR switchable line reactor at Kur No.ol end of each circuit

Length: 337 ckm
Locations: 432 Nos.
Scheduled COD: Nov'19
Actual COD: Jul'23

6. Warangal (New) – Chilakaluripeta 765 kV D/C line with 240 MVAR switchable line reactor at both ends of each circuit

Length: 390 ckm
Locations: 508 Nos.
Scheduled COD: Nov'19
Actual COD: Sep'23

7. 240 MVAR Switchable Line Reactors with Bays at Warora (Pool) end in each circuit of Warora (Pool)- Rajnandgaon 765kV D/c line with NGR (700 Ohm)

Scheduled COD: Nov'18

Under commercial operation w.e.f. 29.03.2019

(43) Transmission System for Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone) along with LILO of both circuits of Pugalur – Pugalur (HVDC) 400 kV D/C line (with Quad Moose ACSR Conductor) at Karur PS

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. Solar Energy Corporation of India (SECI) in association with MNRE has identified Solar Energy Zones (SEZ) and Wind Energy Zones (WEZ) of 66.5 GW in seven RE rich states (Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Maharashtra and Madhya Pradesh) to be evacuated through ISTS. Out of total 66.5 GW REZs, 18.5 GW (Solar-10 GW & Wind8.5 GW) of potential has been identified in the states of Tamil Nadu, Andhra Pradesh and Karnataka in Southern Region. The transmission system was evolved for integration of 18.5 GW of identified prioritized SEZs and WEZs in states of Tamil Nadu, Andhra Pradesh and Karnataka with the ISTS network in Southern Region. The transmission system associated with potential RE capacity, based on inputs from SECI/ MNRE has been prioritized for implementation into three phases in the meeting held on 30.08.2019 at CEA, New Delhi. Out of the 18.5 GW REZ in Southern Region, 5.5 GW under Phase-I (Part-II) & 5 GW under Phase-II of the prioritized wind and solar zones has been targeted for completion by Dec'21 and balance 8 GW under Phase-III has been targeted for completion beyond Dec'21.

The proposal has been agreed in the 3rd NCT and 4^{th} ECT meeting held on 21.12.2018 for implementation through TBCB route with a commissioning schedule of June, 2020.

The 2.5 GW wind potential identified in Karur / Tiruppur area of Tamil Nadu has been prioritized under Phase-III for implementation beyond Dec'21. The subject transmission scheme involves establishment of Karur Pooling Station and its interconnection with ISTS grid for evacuation of wind potential from Karur / Tiruppur area of Tamil Nadu. The transmission system has been agreed in the 1st meeting of Southern Region Standing Committee on Transmission (SRSCT) held on 07.09.2018. The National Committee on Transmission in its 3rd meeting held on 01.03.2019 has recommended the implementation of the subject transmission scheme through TBCB route. The transmission scheme was also deliberated in the 4th meeting of Empowered committee on Transmission held on 12.07.2019. Ministry of Power vide its letter No. 15/3/2018-Trans-Pt (3) dated 15.10.2019 has forwarded the Gazette Notification dated 10.10.2019 appointing PFCCL as BPC for implementation of the subject scheme through TBCB route.

Scope of transmission project:

- A) Establishment of 2x500 MVA, 400/230 kV Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone)
- B) LILO of both circuits of Pugalur Pugalur (HVDC) 400 kV D/C line (with Quad Moose ACSR Conductor) at Karur PS
- C) Installation 2x125 MVAR, 420 kV Bus reactors at Karur PS 125 MVAR reactors.

General Detail

Special Purpose Vehicle (SPV) : Karur Transmission Limited

(A subsidiary of Adani Transmission Limited)

Bid Process Coordinator (BPC) : PFC Consulting Limited

Estimated Cost (Rs. cr)

Request for Qualification: 21.10.2019Request for Proposal: 20.02.2020Letter of Intent: 22.12.2021Transmission Service Agreement (TSA): 08.11.2021SPV acquisition: 18.01.2022

Transmission License by CERC

Tariff adoption by CERC : 17.05.2022
Contract Performance Guarantee : 11.01.2022
Clearance u/s 164 : 03.09.2022
Execution plan to CEA : 05.05.2022

NIT issued on :

EPC contract awarded on : Mar-2022 Scheduled Date of Completion : July-2023 Actual completion : Oct-2023

Status of progress of transmission project:

A) Establishment of 2x500 MVA, 400/230 kV Karur PS

Schedule completion : July-2023Actual completion : Oct-2023

B) LILO of both circuits of Pugalur – Pugalur (HVDC) 400 kV D/C line (with Quad Moose ACSR Conductor) at Karur PS

Schedule completion :July-2023Actual completion : Oct-2023

C) Installation 2x125 MVAR, 420 kV Bus reactors at Karur PS 125 MVAR reactors.

Schedule completion : July-2023Actual completion : Oct-2023

Transmission Line along with 400kV Switchyard was successfully commissioned on 24.10.2023. Based on CTU's charging instruction ICT can't be kept under no load condition. Since, downstream (230kV line) is yet to ready by LTTC (JSW). Once downstream will be ready then 230kV switchyard along with ICT shall be commissioned.

(44) 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

- 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.

(45) Transmission System for Patran 400 kV S/S

Background

Patiala and Sangrur district of Punjab has a lot of agriculture load. A partial Grid Disturbance had taken place on 20th 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

<u>220 kV</u>

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.

(46) 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.

(47) 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 16th Jan'20 & the Commercial Operations Date declared on 17th 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 6th 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

(48) 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 Megahlaya connecting Silchar – Misa – Balipara – Bongaigaon – Azara/Byrnihat - Silchar substations. Another 400 kV ring in being established interconnecting Assma 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 Maraiani – 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 or 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 5th Standing Committee Meeting on Power System Planning of North Eastern Region held on 08-08-2015 at Imphal, 15th NERPC/TCC meeting held on 21-08-2015 at Guwahati and 35th 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 : 31st 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

(49) 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 Levellised 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.