



भारत सरकार  
विद्युत मंत्रालय  
पूर्वी क्षेत्रीय विद्युत समिति  
**GOVERNMENT OF INDIA**  
MINISTRY OF POWER  
**EASTERN REGIONAL POWER COMMITTEE**



No. ERPC/TCC&Committee/14/2017/ 2385-2454

Date: 28<sup>th</sup> March 2017

To:


1. Members of Eastern Regional Power Committee.
2. Members of TCC.

**Subject: Minutes of 35<sup>th</sup> ERPC & TCC Meetings.**

Sir,

The minutes of the 35<sup>th</sup> TCC & ERPC meetings held on 24<sup>th</sup> & 25<sup>th</sup> February 2017 respectively at Ranchi have been issued and uploaded on [www.erpcc.gov.in](http://www.erpcc.gov.in). As per the decision of ERPC distribution of hard copies of the Minutes of Meeting has been discontinued as a Go Green initiative.

Yours faithfully,

  
( A.K. Bandyopadhyay )  
Member Secretary

Encl. As above.

## Distribution : ERPC Members

1. Chairperson, ERPC & Chairman-cum- Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan , Bailey Road, Patna-800021.
2. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan , Bailey Road, Patna-800021.
3. Managing Director, South Bihar Power Distribution Company Limited, Vidyut Bhavan , Bailey Road, Patna-800021.
4. Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7<sup>th</sup> Floor, Block-DJ, Sector-II, Bidhannagar,Kolkata-700091.
5. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8<sup>th</sup> Floor, Block-DJ, Sector-II, Bidhannagar,Kolkata-700091.
6. Chairman & Managing Director, West Bengal Power Development Corporation Ltd., Bidyut Unnayan Bhavan, 3/C, Block LA . Sector-III, Bidhannagar, Kolkata-700098.
7. Managing Director, Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
8. Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
9. Chairman-cum-Managing Director, Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
10. Chairman-cum-Managing Director, GRIDCO Ltd., Janpath, Bhubaneswar-751022.
11. Chairman-cum-Managing Director, OHPC Ltd., Orissa State Police Housing & Welfare Corporation Bldg. Vanivihar, Janpath, Bhubaneswar- 751022.
12. Managing Director, OPGC Ltd., Zone-A, 7<sup>th</sup> Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
13. Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited , Engineering Building, HEC, Dhurwa, Ranchi-834004.
14. Managing Director, Jharkhand Urja Sancharan Nigam Limited , Engineering Building, HEC, Dhurwa, Ranchi-834004.
15. Managing Director, Jharkhand Bijli Vitaran Nigam Limited , Engineering Building, HEC, Dhurwa, Ranchi-834004.
16. Managing Director, Tenughat Vidyut Nigam Ltd., Hinoo, Doranda, Ranchi – 834002
17. Chairman, Damodar Valley Corporation, DVC Towers, VIP Road, Kolkata -700054.
18. Member (GO&D), Central Electricity Authority, Sewa Bhawan , R.K. Puram, New Delhi-110066.
19. Director (Commercial), NTPC Ltd., Core-7, SCOPE Complex, Lodhi Road, New Delhi -110003.
20. Director (Finance), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003.
21. Director (Operations), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon-122001.
22. General Manager, ERLDC, POSOCO, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
23. Chief Executive Officer, POSOCO, National Load Dispatch Center, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016.
24. Director (C&O), PTC India Ltd., 2<sup>nd</sup> floor, NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
25. Chief Executive Officer, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7<sup>th</sup> Floor, Lodhi Road, New Delhi-110003.
26. Managing Director, Tata Power Trading Company Limited, B12/13, 2<sup>nd</sup> Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
27. Managing Director, CESC Ltd., CESC House, 1 Chowringhee Square, Kolkata-700001.
28. Chief Executive Officer, Maithon Power Ltd., MA-5, Gogna Colony, P.O.-Maithon Dam, Dist.-Dhanbad, Jharkhand-828207.
29. Managing Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5th Floor, 2/1A Sarat Bose Road, Kolkata-700020.
30. Chief Operating Officer, 4x600 MW IPP, Vedanta Ltd., Bhurkahamunda, P.O.-Sripura, Jharsiguda, Odisha-768202.
31. Chief Operating Officer, GMR Kamalanga Energy Ltd., 29 Satyanagar, Bhubaneswar-751007.
32. President & Director (Projects), Gati Infrastructure Private Limited, 14/19/2 Old Delhi Gurgaon Road, Opposite Heera Public School, Samalkha, New Delhi-110037.
33. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
34. Chairman & Managing Director, Dans Energy Private Limited, 5<sup>th</sup> Floor, Building No.8, Tower-C, DLF Cyber City, Phase-II, Gurgaon-12202, Haryana.

## Distribution : TCC Members

1. Chairperson, TCC & Director (Project), Bihar State Power Transmission Company Limited, Vidyut Bhavan , Bailey Road, Patna-800021.
2. Chief Engineer (Commercial), Bihar State Power Holding Company Ltd., Vidyut Bhavan , Bailey Road, Patna-800021.
3. Director (Project), South Bihar Power Distribution Company Limited , Vidyut Bhavan , Bailey Road, Patna-800021.
4. Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8<sup>th</sup> Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
5. Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7<sup>th</sup> Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
6. Director (O&M), WBPDC, Bidyut Unnayan Bhavan, 3C, Block-LA, Sector-III, Bidhannagar, Kolkata-700098.
7. General Manager I/C (Corporate Technical), Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
8. Principal Chief Engineer (HQ), Energy & Power Dept., Govt. of Sikkim, Kazi Road, Gangtok-737101.
9. Chief General Manager (O&M), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
10. Director (Commercial), GRIDCO Ltd., Janpath, Bhubaneswar-751022.
11. Director (Operation), Orissa Power Generation Corporation Ltd, Zone-A, 7<sup>th</sup> floor, Fortune Towers, Chandrasekharapur, Bhubaneswar-751023.
12. Director (Operation), Orissa Hydro Power Corporation Ltd, Orissa State Police Housing & Welfare Corporation Building, Vanivihar Chowk, Janpath, Bhubaneswar-751022.
13. Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
14. Chief Engineer (Trans. O&M), Jharkhand Urja Sancharan Nigam Limited , Engineering Building, HEC, Dhurwa, Ranchi-834004.
15. Managing Director, Jharkhand Bijli Vitaran Nigam Limited , Engineering Building, HEC, Dhurwa, Ranchi-834004.
16. General Manager, Tenughat TPS, Lalpania, Dist- Bokaro, Jharkhand-829149.
17. Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
18. Chief Engineer (GM), CEA, Sewa Bhawan, R.K. Puram , New Delhi-110066.
19. Regional Executive Director (ER-I), NTPC Ltd., 2<sup>nd</sup> floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
20. Regional Executive Director (ER-II), NTPC Ltd., 3<sup>rd</sup> Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
21. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana.
22. Executive Director (ER-I), Power Grid Corporation of India Ltd, Alankar Place, Boring Road, Patna-800001.
23. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
24. General Manager, ERLDC, POSOCO, 14 Golf Club Road, Kolkata –700 033.
25. Chief Executive Officer, POSOCO, National Load Dispatch Center, B-9 Qutab Institutional Area, Katwaria Sarai, New Delhi-110016.
26. Executive Director (Marketing), PTC India Ltd., NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
27. General Manager (BD), NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7<sup>th</sup> Floor, Lodhi Road, New Delhi-110003.
28. The Head (Marketing), Tata Power Trading Company Limited, B-12/13, 2<sup>nd</sup> Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
29. Executive Director (CS & SO), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.
30. Station Head & General Manager (O&M), Maithon Power Ltd., MA-5, Gogna Colony, P.O.- Maithon Dam, Dist.- Dhanbad, Jharkhand-828207 .
31. Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5<sup>th</sup> Floor, 2/1A Sarat Bose Road, Kolkata-700020.
32. Sr. Vice President (Power), 4x600 MW IPP, Vedanta Ltd., Bhurkahamunda, P.O.-Sripura, Jharsiguda, Odisha-768202.
33. AVP & Head (O&M), GMR Kamalanga Energy Ltd., 29 Satyanagar, Bhubaneswar-751007.
34. Head (O&M), Chuzachen HEP, Gati Infrastructure Private Limited, Lower Bering Karabari, Pakyong, East Sikkim-737106.
35. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
36. Chairman & Managing Director, Dans Energy Private Limited, 5<sup>th</sup> Floor, Building No.8, Tower-C, DLF Cyber City, Phase-II, Gurgaon-12202, Haryana.



# MINUTES OF 35th ERPC MEETING

Date: 25<sup>th</sup> February, 2017

Venue: Ranchi

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# **EASTERN REGIONAL POWER COMMITTEE**

## **MINUTES OF THE 35<sup>TH</sup> MEETING OF EASTERN REGIONAL POWER COMMITTEE**

**Date: 25<sup>th</sup> February, 2017**

**Venue: Ranchi**

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List of participants is at **Annexure-I**.

**Shri Ashok Sethi, COO & Executive Director, Tata Power Company Limited**, welcomed Shri N.T. Bhutia, Secretary, Energy & Power Department-Govt. of Sikkim, Shri A.K. Bandyopadhyaya, Member Secretary-ERPC, other distinguished members on dais, guests from Bhutan and all other delegates to the 35<sup>th</sup> ERPC meeting. He said MPL, the generating company, is a joint venture company between Tata Power and DVC with Tata Power having 74% equity whereas TPTCL, the power trading company, is a wholly owned subsidiary company of Tata Power. He thanked ERPC for giving MPL and TPTCL an opportunity to host this important meeting. In his presentation based address he briefly highlighted the following features of Tata Power:

Tata Power is the largest integrated power company in India in private sector with international presence. The present installed capacity of the company is 10477 MW with presence in all segments of power sector. The portfolio of Tata Power includes thermal and hydro power, solar and wind power, coal mining and shipment, power trading, transmission, distribution, renewable etc. Tata Power strives to lead the reform process for sustainable power. By the year 2025 about 30 to 40% of the total generation of Tata Power will come from renewable source. Tata Power has undertaken various digitisation initiatives like mobile app based services for Mumbai Discom consumers, Use of GIS for engineering, tracking and maintenance, digitisation of O&M through RCM toolkit in SAP, mobile app for safety reporting, digitisation of coal/ash logistics, remote operation of hydro / transmission assets etc.

**Shri A.K. Bandyopadhyaya, Member Secretary, ERPC**, welcomed Shri N.T. Bhutia, Secretary, Energy & Power Department, Govt. of Sikkim, Shri Ashok Sethi, COO & Executive Director-Tata Power, Shri Sanjeev Mehra, Managing Director-TPTCL, Shri K. Chandrasekhar, CEO-MPL, Shri Sandip K.R. Pudukkatti, Managing Director-BSPTCL, other distinguished members on dais, TCC members, guests from Bhutan and other participants from various constituents to the 35<sup>th</sup> ERPC meeting. He thanked MPL and TPTCL for hosting the meeting out of turn and doing it in excellent manner. He informed that Shri Pratyaya Amrit, the present Chairperson-ERPC and CMD-BSPHCL, could not attend today's meeting due to his preoccupation. He requested Shri N.T. Bhutia, Secretary, Energy & Power Department, Govt. of Sikkim who was past Chairperson-ERPC to chair the meeting as per CBR of ERPC. He said there was overwhelming response from the constituents for attending the TCC and ERPC meetings. The number of participants had crossed hundred. He requested members to judiciously nominate the participants in future. In conclusion, he requested members for their valued opinions on the agenda placed for discussion and wished the meeting all success.

**Shri N.T. Bhutia, Secretary, Energy & Power Department, Govt. of Sikkim**, welcomed Shri A.K. Bandyopadhyaya, Member Secretary-ERPC, Shri Ashok Sethi, COO & Executive Director-Tata Power, Shri Sanjeev Mehra, Managing Director-TPTCL, Shri K. Chandrasekhar, CEO-MPL, Shri Sandip K.R. Pudukkattai, Managing Director-BSPTCL, other distinguished members on dais, TCC members, guests from Bhutan and all other participants to the 35<sup>th</sup> ERPC meeting. He drew attention of members on the following issues which were slated for discussion :

- Construction of dedicated transmission lines associated with IPPs vis-à-vis continuation of the LILO arrangements. Many IPPs are now connected to the grid through interim LILO arrangement. Hon'ble CERC vide its order dated 28<sup>th</sup> September 2016 has directed CTU to take up the existing cases with the RPC and disconnect all such LILO arrangements within a period of three months unless RPC grants extension for continuation of LILO arrangements.
- There was total failure of real time SCADA data to all control centres from 05:53 hrs. of 8<sup>th</sup> August 2016 to 03:19 hrs. of 10<sup>th</sup> August 2016. This was a major incident. The matter was extensively discussed in OCC and Special meetings. It emerged that old RTUs are required to be replaced and for redundancy of ICCP links between main and backup control in few paths the last mile redundant fibre connectivity is required to be implemented.
- Time Correction of Special Energy Meters is also an area for concern. About 210 meters are there where the time drift is more than 10 minutes. Time drifting is having commercial implications in calculations of deviation charges. ERLDC and Powergrid may suggest remedial reassures on the issue and members may decide the course of action.
- Persistent overdrawal by some constituent and not responding to the instruction and advise of ERLDC is required to be addressed. The concerned constituent should abide by instruction of ERLDC and look into the advice of ERLDC on drawing URS power and comply with grid discipline.
- PSDF is providing fund for upgradation of protection system. Some of the State Utilities have already this facility. States like Jharkhand and Sikkim may finalise the DPR for submitting it to the Nodal Agency for PSDF funding.

In conclusion he thanked MPL and TPTCL for hosting this 35<sup>th</sup> ERPC meeting in excellent manner and wished the meeting a grand success.

|                    |  |
|--------------------|--|
| <b>ITEM NO.A1:</b> | <b>CONFIRMATION OF THE MINUTES OF 34<sup>th</sup> ERPC MEETING</b> |
|--------------------|--|

The minutes of the 34<sup>th</sup> ERPC meeting held on 19<sup>th</sup> November 2016 in Kolkata were issued and uploaded on ERPC website vide ref. no.ERPC/TCC&Committee/14/2016/H3436-H3505 dated 23<sup>rd</sup> December 2016.

No comments have been received from constituent members on the minutes of the meeting.

Members may confirm the minutes of 34<sup>th</sup> ERPC meeting.



## **Deliberation in the ERPC meeting**

*Members confirmed the minutes of 34<sup>th</sup> ERPC meeting.*

### **PART B: ISSUES REFERRED BY TCC IN ITS 35<sup>th</sup> MEETING HELD YESTERDAY**

|                     |  |
|---------------------|--|
| <b>ITEM NO. B1:</b> | <b>Status of DPR for PSDF funding in respect of Sikkim &amp; JUSNL</b> |
|---------------------|--|

In 33<sup>rd</sup>TCC, JUSNL and Sikkim informed that they need funds for upgradation of protection system. TCC, therefore advised JUSNL and Sikkim to prepare DPR within a month for up gradation of protection system and send to NLDC for PSDF funding with intimation to ERPC Secretariat.

In 34<sup>th</sup> TCC Sikkim informed that they will submit the DPR by January, 2016

JUSNL informed that they are going to place the order to PRDC for preparation of DPR by the end of November, 2016 and they will submit the DPR to PSDF nodal agency by February, 2017.

Sikkim and JUSNL may update.

## **Deliberation in TCC meeting**

*Sikkim informed that they need some help from ERPC secretariat and assured that DPR will be submitted by 15<sup>th</sup> April 2017. Secretariat assured to extend their help.*

*JUSNL informed that M/s PRDC, consultant is preparing the DPR and they will submit the DPR to PSDF nodal agency by 15<sup>th</sup> April, 2017.*

*It was informed that CE, CEA will give a presentation on PSDF in tomorrow's ERPC meeting.*

CEA may give a presentation on PSDF.

## **Deliberation in the ERPC meeting**

*CE-NPC, CEA explained the eligibility criterion, procedures and latest status of the approved schemes of PSDF with a detailed presentation. The presentation is enclosed at **Annexure-III**.*

*CE-NPC, CEA informed that grant has been allotted to Powergrid for installation of STATCOM but no update on the progress have been received from Powergrid.*

*Powergrid informed that project has already been awarded and they will submit the details to PSDF Nodal Agency and NPC.*

*Members enquired about placing DPR for renovation and upgradation of transmission network of below 220kV voltage level and distribution system.*

CE-NPC, CEA clarified that in general renovation and upgradation of the transmission network is considered up to 220kV level. But depending upon the importance of the transmission line, 132kV level may also be considered on case to case basis. Renovation and upgradation of distribution system is also eligible for PSDF.

MD, JBVNL pointed that they are not able to draw power from DVC stations due to system constraints and advised DVC to place DPR to address the constraints.

GMR asked about the reason for not considering IPPs for granting of PSDF as IPPs are also contributing to the fund.

CE-NPC, CEA explained that present eligibility criterion and procedures had been framed and approved by MoP, GoI. Any deviation from the criterion/procedure needs approval from MoP, GoI.

ERPC advised all the states to avail the opportunity to get the PSDF grant for upgradation of their system wherever it is necessary.

ERPC also advised JUSNL and Sikkim to submit the DPRs to PSDF nodal agency at the earliest.

|                     |  |
|---------------------|--|
| <b>ITEM NO. B2:</b> | <b>Status of construction of 400 kV Sterlite-Jharsuguda D/C sections</b> |
|---------------------|--|

Several deliberations were held in this forum on the issue of construction of 400 kV Sterlite – Jharsuguda D/C dedicated line of Vedanta Ltd (formerly known as Sesa Sterlite Ltd).

The 34<sup>th</sup> ERPC board, noted the progress made by Vedanta and advised Vedanta to expedite the work and complete the work by February, 2017 as decided by TCC. In this regard Vedanta was further advised to submit a fresh affidavit by 30.11.2016

Further, on appeal of Vedanta, ERPC reiterated that the physical completion of the project should be done by end February 2017. The pending statutory clearances may be obtained post completion of the physical activities and the status may be reviewed in next TCC meeting/ March 2017.

Subsequently, Vedanta Ltd submitted a affidavit on 15<sup>th</sup> December, 2016 (Copy of the same is attached at **Annexure-B5**).

The latest status updated in 130<sup>th</sup> OCC is as given below:

| Activities                        | Nos     | Status as on 15-Nov-16 (as updated in 34 <sup>th</sup> TCC) | Status as on 17-Feb-17 (As updated in 130 <sup>th</sup> OCC) | Target completion as given in 34 <sup>th</sup> TCC Meeting | Remarks |
|-----------------------------------|---------|---|--|--|---------|
| Tower Foundation                  | 64      | 60  | 62   | 30-Dec-16  |         |
| Tower Erection                    | 64      | 42  | 55   | 10-Feb-17  |         |
| Stringing /OPGW Cabling & Testing | 20.5 Km | One stretch completed                                       | 5.5 km completed   | 28-Feb-17  |         |
| Sub station Bay                   | 2       | Equipment Erection, Cable Trench, Earthing Completed        | -  | 31-Dec-16  |         |

Vedanta may update.

## **Deliberation in TCC meeting**

*Vedanta updated the latest status as follows:*

| Activities                           | Nos        | Status as on 15-Nov-16<br>(as updated in 34 <sup>th</sup> TCC) | Status as on 24-Feb-17<br>(As updated in 35 <sup>th</sup> TCC) | Remarks  |
|--------------------------------------|------------|--|--|--|
| Tower Foundation                     | 64         | 60   | 64   | Completed  |
| Tower Erection                       | 64         | 42   | 58   |  |
| Stringing /OPGW<br>Cabling & Testing | 20.5<br>Km | One stretch<br>completed                                       | 8 km<br>completed  |  |
| Sub station Bay                      | 2          | Equipment Erection,<br>Cable Trench,<br>Earthing Completed     | Bay<br>construction<br>completed                               | Will be completed<br>by 2 <sup>nd</sup> March, 2017. |

*Vedanta informed that the construction work was delayed due to non-availability of shutdown of 11kV lines during Panchayat election.*

*Vedanta added that physical construction of the line will be completed by the end of March, 2017 and the line will be commissioned by end of April 2017 after getting the statutory clearances. Vedanta requested TCC to extend the dead line for removal of LILO up to April 2017.*

*CTU opined that in line with CERC order, they are ready to open the LILO as per the direction of TCC/ERPC.*

*Gridco, Odisha informed that they could not give the shutdown of 11kV feeders due to Panchayat elections and one month extension up to March 2017 may be granted to Vedanta for completion of line.*

*TCC opined that Vedanta is not serious about the construction of the line and still asking for 2 months extension. TCC viewed that the line can be commissioned by end of March 2017 if they could take up the activities related to statutory clearances simultaneously.*

*Accepting OPTCL request TCC decided to extend the dead line to 31.3.17 for commissioning of line including on-load charging of the same. Accordingly advised Vedanta to place item wise schedule for commissioning of line, in 35<sup>th</sup> ERPC meeting on 25.2.17.*

*Referred to ERPC for further guidance.*

*ERPC may decide.*

## **Deliberation in the ERPC meeting**

*Vedanta informed that they will submit the item wise schedule for commissioning of line within a week.*

*Vedanta added that physical construction of the line will be completed by the end of March, 2017 and the line will be commissioned by end of April 2017 after getting the statutory clearances. Vedanta requested ERPC to extend the dead line for removal of LILO up to 30<sup>th</sup> April 2017.*

*Further, GRIDCO, Odisha informed that the dead line for removal of LILO may be extended up to 15<sup>th</sup> April 2017.*

*In view of above, ERPC decided to extend the dead line for removal of LILO up to 15.04.2017 and advised Vedanta to strictly adhere to the schedule for commissioning of the dedicated line in all aspects.*

*Further, ERPC authorised CTU to open the LILO on 16.04.2017.*

*CTU agreed.*

|                     |  |
|---------------------|--|
| <b>ITEM NO. B3:</b> | <b>Redundancy of data at either of the control centres in case of failure of any one communication path/ICCP link/communication equipments</b> |
|---------------------|--|

There was a total failure of real time SCADA data to all control centres from 05:53 Hrs of 08-August-16. As an interim arrangement, real time SCADA data was restored on 10-August-16 at 03:19Hrs. The root cause was yet to be arrived and fixed.

In 126<sup>th</sup> OCC, it was raised that in case of failure of ICCP link/other communication equipment, the data availability needs to be assured at Back-up control centres.

OCC advised Powergrid to submit in 34<sup>th</sup> TCC their detail plan for data redundancy in case of failure of any one communication system at either of the control centres (Main & Back-up).

34<sup>th</sup> TCC felt that in case of failure of ICCP link/other communication equipment, the data availability needs to be assured at Main as well as Back-up control centres.

Powergrid informed that the alternate communication path was not available for SLDCs and ERLDC. Powergrid added that backup equipment is available and alternate communication path can be planned.

TCC advised to convene a special SCADA meeting to discuss the issue and report back.

In Special PRM meeting was held on 14.02.2017 to deliberate the issue. The minutes of the meeting is available at ERPC website (<http://www.erpc.gov.in/event-calendar/>). In the meeting the following two major issues emerged which need to be addressed:

**1) Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up control centres-**

In the meeting, POWERGRID informed that independent reporting of RTU/SAS to backup ERLDC control center may consume lots of bandwidth and independent reporting will be easier through VLAN in 104 protocols but the old RTU in Central sector is not having 104 protocols provision. POWERGRID further informed that provision of dual reporting of RTUs / SAS would be possible in 104 protocols only after replacement of old RTUs.

ERLDC informed that new SCADA system is designed for dual reporting considering VLAN in 104 protocols and unless until, the dual data reporting of each RTUs / SAS would be configured in 104 protocols, complete control centre backup will not be achieved. So, it is quite necessary to replace the old RTUs / SAS at the earliest.

GM, ERLDC informed that process of replacement of similar old RTUs has taken up at Western Region also after getting proper approval at RPC level. GM, ERLDC suggested that a committee may be constituted to begin with to assess the requirement of the replacement of the old RTUs.

All members agreed and referred to TCC for further guidance.

TCC may guide.

**Deliberation in TCC meeting**

*ERLDC informed that new SCADA system is designed for dual reporting. It is possible through LOOP PDH and SAS at main ERLDC control centre and extended directly to backup ERLDC control centre. But for Alcatel PDH it would not be possible. As these RTUs have already completed 15 years and need to be replaced by 2020, the replacement process may be initiated by the respective utilities.*

*Further ERLDC informed that as per the draft communication regulation the life of RTUs is fifteen years so the utilities should take care for their RTUs.*

*NTPC informed that the RTUs will be completing their life by 2020 and if any replacement is required before 2020 it may be considered after proper assessment.*

*After detailed discussion, TCC decided that a committee may be formed by ERLDC with Powergrid as nodal agency for assessment of old RTUs and further necessary action on replacement. Progress reports in this regard are to be placed before TCC on regular basis.*

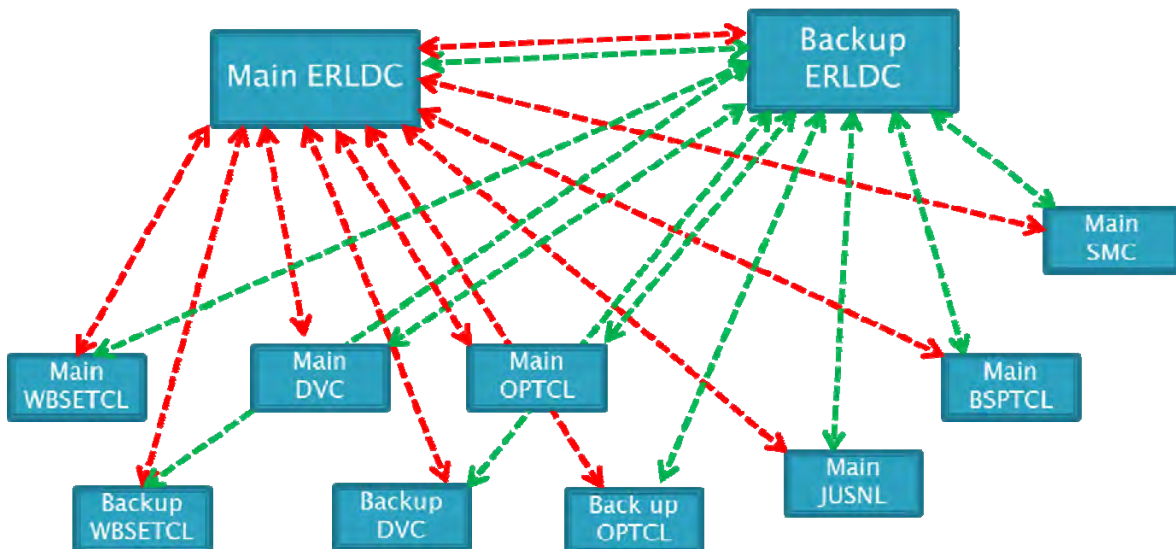
ERPC may guide.

**Deliberation in the ERPC meeting**

*ERPC advised ERLDC to convene a separate meeting and form a committee with CTU/Powergrid as nodal agency for assessment of old RTUs of central sector and further necessary action on replacement.*

**2) Redundancy of ICCP links between control centres:**

ERLDC informed that ICCP links from ERLDC / backup ERLDC to all control centres should be available as mentioned in the diagram below:



POWERGRID intimated that the ICCP connectivity of Backup ERLDC with all the control centers will be fully implemented after complete route redundancy of optical fiber. There are few paths (especially last mile) where there is no fiber redundancy. POWERGRID requested constituents to explore and implement the last mile redundant fiber connectivity. Such path having no redundancy has been identified for each sector and redundant route is shown in ICCP flow diagram in **Annexure – B12.2**. Following are the sections where fiber laying is to be done/under implementation:

**Central Sector:**

ERLDC to Kasba–POWERGRID informed that one UGFO link between ERLDC to Kasba is under implementation by them. POWERGRID further informed that alternate FO link connectivity may be implemented after getting the fiber connectivity from CESC (Kasba S/S – Jadavpur S/S – ERLDC) for route diversity for redundancy. POWERGRID requested ERLDC to take up the matter with CESC so that the same fiber can be used between ERLDC to Kasba for route diversity for redundancy.

Farakka to Jeerat – POWERGRID informed that presently, FO link connectivity is available between Farakka to Jeerat through Behrampur which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Farakka to Jeerat through Gokarna, Rajarhat & Subhashgram.

**WBSETCL Sector:**

Kasba to Arambag – POWERGRID informed that presently, FO link connectivity is available between Kasba to Arambag through Jeerat, Behrampur, Farakka & Durgapur which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Kasba to Arambag through Jeerat & Krishnanagar as mentioned in the ICCP flow diagram of WBSETCL. POWERGRID further informed that the same would be implemented by December 2017.

**DVC Sector:**

Howrah SLDC to ERLDC– POWERGRID informed that presently, FO link connectivity between Howrah SLDC to ERLDC is available through leased line. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Howrah SLDC to Maithon SLDC & Howrah SLDC to Waria as mentioned in the ICCP flow diagram of DVC. POWERGRID further informed that the same would be implemented by June 2017.

Kalyaneshwari to Mathon SLDC – POWERGRID informed that presently, FO link connectivity is available between Kalyaneshwari to Maithon SLDC through Maithon HPS which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Maithon SLDC to Howrah SLDC as mentioned in the ICCP flow diagram of DVC. POWERGRID further informed that the same would be implemented by June 2017.

**OPTCL Sector:**

Rourkela to Bhubaneswar SLDC – POWERGRID informed that presently, FO link connectivity between Rourkela to Bhubaneswar SLDC is available through TSTPS, Meeramundali & Mendhasal which doesn't have route diversity.

OPTCL informed that route diversity for redundancy would be available after commissioning of repeater station at Bhabanipatna between Jeypore – Bolangir line and FO link connectivity from Meeramundali to Bhubaneswar SLDC through Duburi New, Jagatsingpur & Cuttack as mentioned in the ICCP flow diagram of OPTCL. OPTCL further informed that the same would be implemented by March 2018.

**BSPTCL Sector:**

Biharsharif 400 kV (PG) to Patna SLDC –POWERGRID informed that presently, FO link connectivity between Biharsharif 400 kV (PG) to Patna SLDC is available through Biharsharif 220,Fatwa &Jakkanpur which doesn't have route diversity.

BSPTCL informed that FO link connectivity between Biharsharif 220to Jakkanpur would be available through Bodhgaya, Chandwa, Jahanabad& Sipara. The same would be implemented by July 2017.

POWERGRID informed that route diversity for redundancy between Biharshariff 400 (PG) to Jakkanpur could not be achieved until unless FO connectivity from Patna to Sipara or/and Biharshariff 400 (PG) to Biharshariff 220 would be implemented. POWERGRID requested BSPTCL to get this FO link implemented. BSPTCL requested POWERGRID to include the same in the existing FO link implementation contract.

POWERGRID requested BSPTCL to explore the possibility of FO connectivity from Jakkanpur to Patna SLDC from their DISCOM for route diversity and redundancy between Jakkanpur to Patna SLDC. BSPTCL agreed for the same.

**JUSNL Sector:**

Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) –POWERGRID informed that presently, FO link connectivity between Ranchi 400 kV (PG) to JUSNL SLDC is available through Hatia 220 kV which doesn't have route diversity.

POWERGRID further informed that route diversity for redundancy between Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) could not be achieved until unless OPGW connectivity from Chandil to JUSNL SLDC through Namkum (132 kV) i.e. 95 Km could be completed. POWERGRID further informed redundant fiber route is to be explored and implemented by JUSNL.

**Sikkim:**

Gangtok to Sikkim SLDC –POWERGRID informed that presently, FO link connectivity between Gangtok to Sikkim SLDC is available which doesn't have route diversity.

POWERGRID further informed redundant fiber route is to be explored and implemented by Sikkim.

TCC may deliberate.

**Deliberation in TCC meeting**

*TCC advised all the respective constituents to explore for the last mile connectivity of fibre.*

ERPC may guide.

**Deliberation in the ERPC meeting**

*ERPC endorsed.*

|                     |   |
|---------------------|---|
| <b>ITEM NO. B4:</b> | <b>Consideration of STU lines as Non-ISTS lines carrying ISTS power</b> |
|---------------------|---|

Subsequently, in line with 34<sup>th</sup> TCC decision, ERPC and ERLDC conducted the load flow study using WebNet software for first three quarters of validated data. Summary of the results for percentage utilization of the transmission line by STU to meet the own demand is given at **Annexure-B13**.

Balance (100 - utilization of the transmission line by the STU) is the ISTS power flowing through the line.

128<sup>th</sup> OCC decided that ISTS power flowing through STU lines greater than 50% of the total power as per the WebNet software of the validated data for each quarter will be considered as ISTS line.

In 129<sup>th</sup> OCC, OPTCL pointed that the PoC charges for STU lines should be calculated based on the actual ISTS power flow through STU lines as per the WebNet software of the validated data for each quarter.

However, after detailed deliberation all the STUs including OPTCL agreed that STU lines carrying ISTS power greater than 50% of the total power as per the WebNet software of the validated data for each quarter will be considered as non-ISTS line carrying ISTS power.

Further, GM-ERLDC informed that in Western Region the same principle is being followed for STU lines.

OCC requested concerned utilities to file petition before CERC in this regard with this recommendation.

TCC may guide.

#### **Deliberation in TCC meeting**

*TCC advised all the respective states to file petition before CERC for consideration of non-ISTS lines under respective control areas as ISTS lines with OCC recommendation.*

*TCC also advised ERPC/ERLDC to continue study in this regard on each quarter.*

ERPC may guide.

#### **Deliberation in the ERPC meeting**

*ERPC approved.*

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| <b>ITEM NO. B5:</b> | <b>Time correction of SEMs in Eastern Region</b> |
|---------------------|--|

The drifting of meter time was important in commercial terms since the reading for a block for a time drifted meter might not be true and lead to erroneous calculation of Deviation Charge for that constituent. Further, it was decided to keep this as a standing agenda in Commercial Sub Committee meetings for monitoring. List of Time drifted (more than 5-6 min) meters in ER as on 30.01.17 is enclosed in **Annexure-B15**.

It has been seen that constituents are not making any time correction in SEM. Further after AMR implementation due to non-use of the DCDs, many DCDs are not working in many places. Time correction from laptops is not possible. In Last CCM, It was decided that all the constituents would give a list of DCD with them and their status. Powergrid is requested to keep some spare DCD for the purpose of time correction of meters.

In the last CCM held on 06.02.2017, POWERGRID proposed purchase of about 10 to 15% new L & T meters and some DCDs so that time correction could be taken up urgently by replacing the



time drifted meters from highest drift first. Then the drifted meters could be sent to the works of M/s L&T for bulk time correction. It was further informed that the new Genus make meters are yet to be interfaced with AMR system so procurement of new L&T meters could help relieve the drift issue.

ERLDC observed that the integration of Genus meters with AMR system are already ongoing by TCS and may be successful in a few days. Therefore, it may be prudent to replace the L & T meters with Genus meters, which have bulk time correction facility on site. The replaced L & T meters may be sent to factory for bulk time correction.

Powergrid was requested to prepare a list of L& T meters which were faulty or have exhausted their specification so that the same may be taken up for replacement immediately by Genus meters (as and when interface with AMR was complete)

GRIDCO representative informed that smart meters may be considered in future so that online time simultaneous time correction could be incorporated. ERLDC informed that the revision of metering regulations was under process in CEA and smart features may be incorporated.

Powergrid may update regarding integration of new Genus make meter in ER AMR.

### **Deliberation in TCC meeting**

*Constituents felt that the performance of the new Genus make meter should be confirmed before replacing all the SEMs.*

*Powergrid informed that new Genus meters were procured after conforming the specifications as per the CEA meter regulations and the bulk time drift in these meters can be corrected in one attempt through Laptop. The interfacing issues of Genus meters with AMR will be resolved by April 2017.*

*It was felt that the meters with severe drift greater than 10 min need to be replaced first and replacement is done with Genus then readings are to be collected manually using Laptop till interfacing with AMR is completed.*

*TCC advised Powergrid to replace the 10% of the heavily drifted SEMs and monitor the performance of the new meters. Powergrid should present this performance before constituents and subsequently the decision on replacement of the other time drifted meters will be taken up.*

ERPC may advise.

### **Deliberation in the ERPC meeting**

*ERLDC informed that the integration of Genus meter with AMR is being taken up with Powergrid and TCS. ERLDC added that two Genus make meters have been installed at 400kV Arambag and PPSP S/s in December 2016 and their performance is satisfactory.*

*ERPC advised Powergrid to replace the 10% of the heavily drifted SEMs with new Genus make meters and monitor the performance of the Genus meters. Powergrid should present this performance before constituents and subsequently the decision on replacement of the other time drifted meters will be taken up.*

ERPC also advised Powergrid to place the list of 10% of the heavily drifted SEMs to be replaced with Genus make meters in next OCC meeting.

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| <b>ITEM NO. B6:</b> | <b>Proposal for stepwise completion of Rajarhat – Purnea 400 KV D/C line under ERSS-V Scheme</b> |
|---------------------|--|

Investment approval for the following transmission project associated with Eastern Region Strengthening Scheme-V (ERSS-V) was accorded by the competent authority in 292<sup>nd</sup> Board meeting on 23<sup>rd</sup> Oct’2013.

1. Rajarhat – Purna 400 KV D/C line (with triple snow bird conductor) with LILO of one circuit at Gokarna(WBSETCL) and other circuit at Farakka(NTPC).
2. LILO of Subhasgram – Jeerat 400 KV S/C line at Rajarhat.
3. Establishment of 400/220 KV, 2X500 MVA Gas Insulated Sub-station at Rajarhat in west Bengal.

Keeping in view of the facts and priorities, the project element “Rajarhat – Purnea 400 KV D/C line (with triple snow bird conductor) with LILO of one circuit at Gokarna (WBSETCL) and other circuit at Farakka (NTPC)” associated with ERSS-V was proposed to be rearranged and commissioned stepwise as detailed below:

| Sl. No. | Description of rearranged Element  |
|---------|--|
| 1       | Rajarhat - Farakka portion of Rajarhat - Purnea 400 KV D/C transmission line including LILO of one ckt. of Rajarhat - Purnea Line at Farakka |
| 2       | LILO of one Circuit of 400 KV D/c Rajarhat- Purnea Line at Gokarna Substation  |
| 3       | Farakka – Purnea portion of Rajarhat - Purnea 400 KV D/C transmission line   |

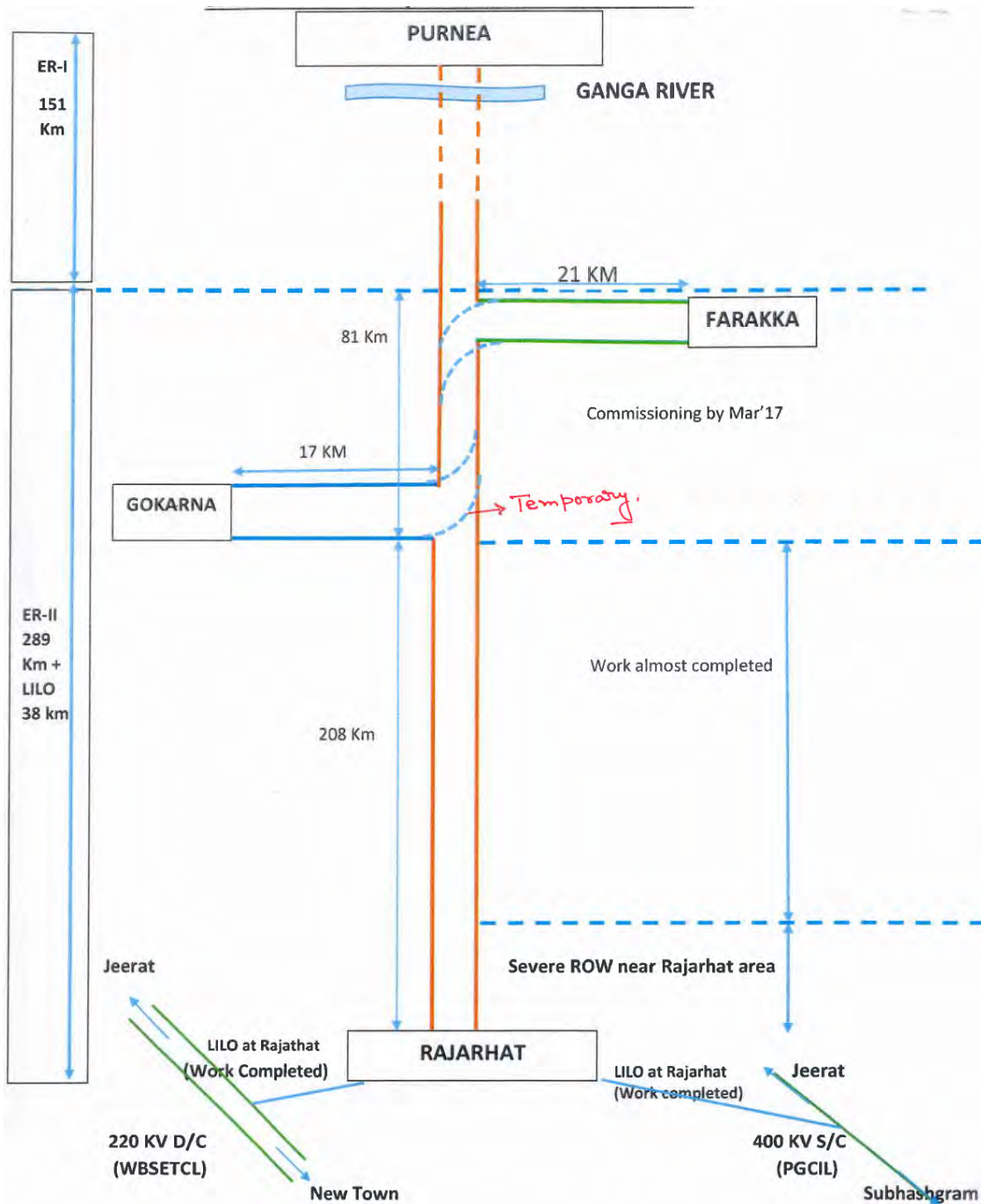
34<sup>th</sup> TCC agreed for the above rearrangement.

In 129<sup>th</sup> OCC, Powergrid informed that the construction work of 400 KV GIS Sub-station and tower package of 400 KV D/C Rajarhat –Purnea Transmission line at Rajarhat end has completely brought to a standstill condition since last one month due to agitation of local villagers.

However, Farakka-Gokarna portion of the said line along with associated bays at Farakka may be completed within the FY 2016-17. Further, Sub-station work including ICT at Gokarna (under jurisdiction of WBSETCL) is ready for charging and 400 KV line bays including 80 MVAR B/R (under scope of POWERGRID) is also ready for commissioning. Accordingly, 400 KV D/C Farakka-Gokarna portion of Rajarhat-Purnea 400 KV D/C transmission line including LILO of one circuit at Farakka and other circuit at Gokarna can be commissioned within March, 2017. This is also to be noted that commissioning of Farakka-Gokarna portion of the Rajahat-Purnea transmission line can connect Gokarna S/s at 400 KV level which will improve the power situation in and around Berhampur area.

Keeping in view of the above facts and priorities the project element “Rajarhat-Purnea 400 KV D/C transmission line (with triple snow bird conductor) with LILO of one circuit at Gokarna (WBSETCL) and other circuit at Farakka (NTPC)” associated with ERSS-V is proposed to be rearranged and commissioned stepwise as detailed below:

| SL NO | DESCRIPTION OF REARRANGED ELEMENT   |
|-------|---|
| 1.    | 400 KV Farakka-Gokarna portion of Rajarhat-Purnea 400 KV D/C Transmission line including LILO of one circuit at Farakka & other circuit at Gokarna. |
| 2.    | Rajarhat-Gokarna portion of the 400 KV D/C Rajarhat-Purnea Line.  |
| 3.    | Farakka – Purnea portion of Rajarhat - Purnea 400 KV D/C transmission line.   |



**Rajarhat Purnea re-arrangement diagram**

After commissioning of element at Sl. No. 1 the effective transmission line shall be 400 KV D/C Gokarna-Farakka TL with 1 No. 80 MVAR B/R at Gokarna end and 1 No. 80 MVAR line reactor at Farakka end.

OCC agreed and recommended for TCC approval.

TCC may deliberate.

### **Deliberation in TCC meeting**

*TCC approved the changes and referred to ERPC for further concurrence.*

*TCC decided that the scheme will be referred to Standing Committee after approval of ERPC.*

ERPC may approve.

### **Deliberation in the ERPC meeting**

*Powergrid informed that with the above arrangement the line will function as 400kV Farakka-Gokarna D/c line and support WBSETCL system.*

*ERPC approved the scheme and advised to place before Standing Committee.*

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| <b>ITEM NO. B7:</b> | <b>Nomination of the Bid Evaluation Committees (BECs) for the transmission projects being implemented through TCCB</b> |
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CEA vide letter dated 30.11.16 & 16.02.17 informed that Ministry of Power had notified the below scheme vide Gazette Notification dated 31.10.2016.

As per the Tariff based Competitive Bidding Guidelines for Transmission Service notified by Govt. of India nomination of officers at Director level are sought for constituting the scheme specific Bid Evaluation Committee (BEC) which is as follows:

| Sl. No. | Name of Transmission Scheme   | Bid Process Coordinator            | Nomination of officers (in no.) |
|---------|---|------------------------------------|---------------------------------|
| 1.      | Eastern Region Strengthening-XXI(ERSS-XXI)<br>(i) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Sitamarhi(New)<br>(ii) Establishment of 400/220/132 kV, 3x500 MVA+3x200 MVA S/s at Chandauti(New)<br>(iii) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Saharsa(New)<br>(iv) Substation extension at Darbhanga S/s<br>(v) Substation extension at Motihari S/s | REC Transmission Projects Co. Ltd. | 2                               |

It is requested that two no. of officers at Director level may be nominated for BEC for above ERSS-XXI projects.

TCC may nominate.

## **Deliberation in TCC meeting**

*TCC advised Bihar and Jharkhand to nominate for BEC at the earliest.*

ERPC may nominate.

## **Deliberation in the ERPC meeting**

*Bihar and Jharkhand nominated the following members for BECs:*

- 1) Director (Project), Bihar State Power Transmission Company Ltd.,*
- 2) Chief Engineer (Trans.), Jharkhand Urja Sancharan Nigam Ltd,*

### **PART C: ERPC MATTERS**

|                      |  |
|----------------------|--|
| <b>ITEM NO. C1 :</b> | <b>STATUS OF PROTECTION DATABASE PROJECT OF ERPC</b> |
|----------------------|--|

PRDC may present the status of Protection Database project of ERPC being funded by PSDF.

## **Deliberation in the ERPC meeting**

*PRDC has given a presentation on latest status of Implementation of Protection Database Project of ERPC. Presentation is enclosed at **Annexure-IV**. PRDC informed the following:*

- Operational load flow study is completed*
- Data collection, SLD preparation and relay data population in PDMS completed for pilot state Odisha*
- Server has been installed at ERPC on 15<sup>th</sup> December 2016*
- PDMS software has been installed on 20<sup>th</sup> December 2016*
- Software acceptance trails of pilot state Odisha has been completed on 21<sup>st</sup> January 2017*

*PRDC added that data collection, SLD preparation and relay data population in PDMS is in progress for other states. Training program for different states is also in progress.*

*Further, PRDC informed that they will complete the project by April 2017.*

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| <b>ITEM NO. C2 :</b> | <b>ERPC ESTABLISHMENT FUND FOR THE YEAR 2017-18</b> |
|----------------------|---|

For the year 2016-17 contribution of Rs.15 Lakh per member was approved by ERPC. It is proposed to keep the contribution unchanged for the year 2017-18 i.e. Rs 15 Lakh per member. The fund is utilised for reimbursement of ERPC Secretariat expenditures to the Govt. of India and any other expenditures as per the approval of ERPC.

Members may approve contribution of Rs. 15 Lakh per member for the year 2017-18.

### **Deliberation in the ERPC meeting**

*ERPC approved contribution of Rs. 15 Lakh per member for the year 2017-18.*

|                      |                                       |
|----------------------|---------------------------------------|
| <b>ITEM NO. C3 :</b> | <b>ERPC FUND FOR THE YEAR 2017-18</b> |
|----------------------|---------------------------------------|

For the year 2016-17 contribution of Rs.1 Lakh per member was approved by ERPC. It is proposed to keep the contribution unchanged for the year 2017-18 i.e. Rs. 1 Lakh per member. The fund is utilised for holding various meetings, workshops, seminars etc. at the Secretariat and any other expenditures as per the approval of ERPC.

Members may approve contribution of Rs. 1 Lakh per member for the year 2017-18.

### **Deliberation in the ERPC meeting**

*ERPC approved contribution of Rs. 1 Lakh per member for the year 2017-18.*

|                      |   |
|----------------------|---|
| <b>ITEM NO. C4 :</b> | <b>CONTRIBUTIONS OUTSTANDING FROM GATI INFRASTRUCTURE PRIVATE LIMITED</b> |
|----------------------|---|

The following payments are outstanding from Gati Infrastructure Private Limited (GIPL) as a member of ERPC:

ERPC Establishment Fund: Rs. 30 lakh for the year 2015-16 and 2016-17

ERPC Fund: Rs. 2 lakh for the year 2015-16 and 2016-17.

GIPL vide letters dated 28.10.2016 and 25.01.2017 proposed to relinquish the membership of ERPC w.e.f. FY 2016-17 citing financial constraints to contribute in ERPC Establishment Fund and ERPC Fund.

In response ERPC Secretariat vide letter dated 03.01.2017 and 15.02.2017 has conveyed to GIPL that as per the decision taken by ERPC in its 34<sup>th</sup> meeting held on 19.11.2016 the membership GIPL would continue upto 31<sup>st</sup> March 2017. GIPL is required pay its contributions upto 2016-17.

Members may discuss and decide on the matter.

### **Deliberation in the ERPC meeting**

*Gati Infrastructure Private Limited (GIPL) agreed to pay the contributions upto 2016-17 shortly.*

|                      |  |
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| <b>ITEM NO. C5 :</b> | <b>MEMBERSHIP OF TEESTA URJA LIMITED IN ERPC</b> |
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As per GoI Resolution on ERPC State Generating Companies are members of ERPC. Teesta Urja Limited (TUL) is a State owned generating company, Govt. of Sikkim having more than 51% equity holding. Teesta-III HEP will have 1200 MW installed capacity (6X200 MW). Five units Teesta-III have already been commissioned. As a member of ERPC Teesta Urja Limited will be required to contribute in ERPC Funds at par with other ERPC members.

ERPC may ratify the membership of Teesta Urja Limited.

### **Deliberation in the ERPC meeting**

*ERPC approved the membership of Teesta Urja Limited (TUL) and welcomed them as a new member of ERPC. Representatives of TUL acknowledged.*

|                      |  |
|----------------------|--|
| <b>ITEM NO. C6 :</b> | <b>MEMBERSHIP OF ERPC ON ANNUAL BASIS FOR THE YEAR 2017-18</b> |
|----------------------|--|

**C6.1 Membership of Private Distribution Company:** As per GoI Resolution on ERPC one distribution company by alphabetical rotation out of the private distribution companies functioning in the region is eligible to become new member on yearly basis. The private distribution companies functioning in the region are IPCL in West Bengal, NESCO, SOUTHCO & WESCO in Odisha and JUSCO in Jharkhand. The names of the private distribution companies in alphabetical order are IPCL (formerly DPSC), JUSCO, NESCO, SOUTHCO & WESCO. In the past none of the private distribution companies showed interest to become member of ERPC and agree to contribute in ERPC Funds at par with other members. The last such offer for ERPC membership was made to JUSCO but they did not respond. Now it is the turn of NESCO in Odisha to become member of ERPC for the year 2017-18.

Accordingly, it is proposed to empower the Secretariat to approve the membership of North Eastern Electricity Supply Company of Odisha Limited (NESCO) for the year 2017-18 subject to NESCO filing an application for membership together with its contribution in ERPC Funds. ERPC Secretariat will suggest NESCO to apply.

Members may approve the above proposal.

### **Deliberation in the ERPC meeting**

*Members noted in the past none of Discoms had shown any interest to become member of ERPC in this category. After brief deliberation on the matter it was decided the Secretariat would write to all Discoms in alphabetical order starting from NESCO. The Discom which accepts the offer in the same alphabetical order would be inducted as a member of ERPC for the year 2017-18 subject to their willingness to contribute in funds at par with other members.*

**C6.2 Membership of Private Generating Company (I.C.1000 MW & less):** As per GoI Resolution on ERPC one generating company having installed capacity 1000 MW & less out of the GENCOs functioning in the region (other than central & state generating companies and IPPs having installed capacity more than 1000 MW) is eligible by alphabetical rotation to become member on yearly basis.

In the above category the following IPPs are operating in the region:

- i) Dans Energy Private Limited ( Jorthang Loop HEP, 2X48 MW)
- ii) Gati Infrastructure Private Limited (Chuzachen HEP, 2X55MW)
- iii) Ind-Bharath Energy (Utkal) Limited (2X350MW)
- iv) Tata Power Haldia Limited (2X45 MW)
- v) Vedanta Limited (1X600 MW)

Dans Energy Private Limited is the member for the year 2016-17. Gati Infrastructure Private Limited has already expressed to relinquish ERPC membership due to financial constraints. Now it is the turn of Ind-Bharath Energy (Utkal) Limited to become member of ERPC for the year 2017-18.

**It is proposed to empower the Secretariat to approve the membership of Ind-Bharath Energy (Utkal) Limited (IBEUL) for the year 2017-18 subject to IBEUL filing an application for membership together with its contribution in ERPC Funds. ERPC Secretariat will suggest IBUEL to apply.**

Members may approve the above proposal.

### **Deliberation in the ERPC meeting**

*Members decided that the Secretariat would write to IBEUL and other IPPs in alphabetical order except Gati Infrastructure Private Limited (GIPL). The IPP which accepts the offer in the same alphabetical order would be inducted as a member of ERPC for the year 2017-18 subject to their willingness to contribute in funds at par with other members. GIPL would be excluded from the list since they wanted to relinquish membership of ERPC.*

**C6.3 Membership of Electricity Trader:** As per GoI Resolution on ERPC one electricity trader is eligible to become member of ERPC representing electricity traders in the region on yearly basis. As per existing practice, CEA recommends the name of the trader. Recommendation from CEA is awaited. On receipt of the recommendation from CEA the nominated trader will be asked to apply for membership together with its contributions in ERPC Funds.

Members may approve the above proposal.

### **Deliberation in the ERPC meeting**

*Members authorised Member Secretary, ERPC to communicate to the concerned trader on receipt of nomination from CEA.*

|                      |   |
|----------------------|---|
| <b>ITEM NO. C7 :</b> | <b>NOMINATION IN TECHNICAL COORDINATION SUB-COMMITTEE (TCC) MEMBERS</b> |
|----------------------|---|

Nomination of members in TCC is pending from the following organisations:

1. Jharkhand Urja Vikas Nigam Limited (JUVNL)
2. Jharkhand Bizli Vitaran Nigam Limited (JBVNL)
3. Jindal India Thermal Power Limited (JITPL)

Members of ERPC from the above organisations are requested to nominate TCC members from their organisations.

Members may kindly note the following provision of Conduct of Business Rules of ERPC while nominating representatives:

Technical Coordination Sub-Committee (TCC): The representation shall be at the level of Member/Director in State Utilities, and Executive Director/ General Manager in CPSUs, Technical Head of Distribution Company/ Traders/ IPPs, Heads of NLDC & ERLDC and Chief Engineer of CEA.



### **Deliberation in the ERPC meeting**

*Representatives from JUVNL and JBVNL agreed to nominate their TCC members and communicate to ERPC Secretariat. In absence of any representative from JITPL it was decided that the Secretariat would write to JITPL seeking nomination of TCC member.*

|                      |   |
|----------------------|---|
| <b>ITEM NO. C8 :</b> | <b>NOMINATION OF CHAIRPERSON, ERPC FOR THE YEAR 2017-18</b> |
|----------------------|---|

The incumbent Chairperson, ERPC i.e. Chairman-cum-Managing Director, BSPHCL, will complete his term on 31<sup>st</sup> March 2017.

*As per GoI Resolution “Chairperson of ERPC would represent the States of the region by rotation in alphabetical order. Members of ERPC from the particular State would nominate the Chairperson of ERPC from amongst themselves. Term of Chairperson would be for a period of one year.”*

The names of the States in alphabetical order are Bihar, Jharkhand, Odisha, Sikkim & West Bengal. Now it is the turn of Jharkhand. The following designated officers are the member of ERPC from Jharkhand :

1. Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited
2. Managing Director, Jharkhand Urja Sancharan Nigam Limited
3. Managing Director, Jharkhand Bizli Vitran Nigam Limited
4. Managing Director, Tenughat Vidyut Nigam Limited

Therefore, the members of ERPC from Jharkhand are requested to nominate the Chairperson, ERPC for the year 2017-18.

### **Deliberation in the ERPC meeting**

*Members from Jharkhand nominated Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited (CMD, JUVNL) as the Chairperson, ERPC for the year 2017-18.*

|                      |  |
|----------------------|--|
| <b>ITEM NO. C9 :</b> | <b>NOMINATION OF CHAIRPERSON, TCC FOR THE YEAR 2017-18</b> |
|----------------------|--|

The incumbent Chairperson, TCC i.e. Director (Project), BSPTCL, will complete his term on 31<sup>st</sup> March 2017.

As per TCC regulations, Chairperson, ERPC shall nominate the Chairperson, TCC from the TCC members from the same State for a period of one year.

Accordingly, the new Chairperson, ERPC, nominated for the year 2017-18 as above, may nominate the Chairperson, TCC for the year 2017-18.

### **Deliberation in the ERPC meeting**

*It was decided that CMD, JUVNL nominated as Chairperson, ERPC for the year 2017-18, would be requested to nominate Chairperson, TCC for the year 2017-18 amongst the TCC members from Jharkhand.*

|                       |   |
|-----------------------|---|
| <b>ITEM NO. C10 :</b> | <b>Finalisation of dates and venue for the next ERPC &amp; TCC meetings</b> |
|-----------------------|---|

The roster for hosting of ERPC meetings is given below :

| <b>Sl. No.</b> | <b>Host Organisation</b>   |
|----------------|--|
| 1.             | WEST BENGAL<br>- hosted 26 <sup>th</sup> ERPC Mtg. on 18.01.2014 |
| 2.             | DVC<br>- hosted 22 <sup>nd</sup> ERPC Mtg. on 25.08.2012         |
| 3.             | NHPC   |
| 4.             | POWERGRID  |
| 5.             | SIKKIM   |
| 6.             | PTC  |
| 7.             | ODISHA   |
| 8.             | JHARKHAND  |
| 9.             | BIHAR  |
| 10.            | NTPC   |
| 11.            | CESC   |
| 12.            | <b>APNRL</b>   |
| 13.            | MPL– hosting 35 <sup>th</sup> Meeting jointly                    |
| 14.            | GMRKEL   |
| 15.            | NVVN   |
| 16.            | TPTCL– hosting 35 <sup>th</sup> Meeting jointly                  |
| 17.            | JITPL  |

*Now, it is the turn of APNRL to host the next meeting. Members may decide about the dates and the venue for the next TCC & ERPC meetings.*

### **Deliberation in the ERPC meeting**

*Representatives from APNRL submitted that due to financial constraints and few other related issues they would prefer to host the meeting at a later date jointly with any other member organisation.*

*On the request of members, GMRKEL agreed to host the next ERPC and TCC meetings. It was decided that the next (36<sup>th</sup>) TCC and ERPC meetings would be held in the month of September 2017. GMRKEL would finalise the dates and venue in consultation with ERPC Secretariat.*

## PART D: ITEMS FOR INFORMATION

### ERPC members noted the following items:

|                      |  |
|----------------------|--|
| <b>ITEM NO. D1 :</b> | <b>Revision of DPR for establishment of Reliable Communication (Bihar-Portion)</b> |
|----------------------|--|

In 34<sup>th</sup> TCC, it was informed that MoP agreed to fund 30% of the OPGW project through PSDF and rest 70% from states. Chairperson advised that TCC members may explore possibilities of enhancement of the PSDF portion on funding for OPGW project.

Powergrid updated that DPR for installation of OPGW for transmission lines of 132kV and above voltage level for both central and state sectors has been prepared for submission to the PSDF appraisal committee but now as per the decision of MoP the central sector is to be implemented by Powergrid on tariff based scheme and States sectors have to implement their portion on their own or may apply for PSDF funding on grant & investment ratio @30:70 .

TCC advised all the States to place the DPR to PSDF appraisal committee for OPGW project with their proposed PSDF funding requirement.

BSPTCL vide letter dated 07.01.17 intimated that the that power sector in Bihar is growing many folds. Since the submission of transmission details and its connectivity diagram to PGCIL, many new transmission lines and sub-station has been commissioned and many of these elements are going to be commissioned shortly. Further, in view of achieving redundancy, some transmission lines have been taken into consideration for laying OPGW under ULDC revised scheme. This scheme is under implementation with PGCIL. So, the DPR need to be revised based on the update information of Sub-stations which is enclosed at **Annexure- B2**.

*In Special PRM held on 14.02.2017, Powergrid informed that the State portion has to be implemented by the respective States. Powergrid will only implement for the Central Sector portion.*

States may update respective status. TCC may guide.

### **Deliberation in TCC meeting**

*Chairman, TCC informed that states were not attending the higher level meetings being held at CEA and advised all the state representatives to attend.*

*He added that PSDF grant & investment ratio @30:70 was arrived based the marketing of the OPGW network by the states. However it is not possible for Eastern Region states.*

*He suggested that all the constituents should approach MoP, GoI for PSDF grant & investment ratio @90:10.*

*CE, NPC informed that such schemes will be considered for PSDF funding but for changing the grant & investment ratio to 90:10 the approval needs to be taken from Ministry of power, GOI.*

*TCC decided that all the states should prepare DPR and send it to PSDF appraisal committee by 5<sup>th</sup> March, 2017 with a request to CE, NPC to take up the matter with ministry for considering the PSDF grant & investment ratio @90:10 for the projects of state sectors.*

*JUSNL informed that their DPR is ready and will be submitted by next week. Further, JUSNL pointed that the ownership of ties of JUSNL and BSPTCL lines was not yet decided and a procedure should be formulated for installation of OPGW in those lines.*

*TCC viewed that ownership issues are bilateral and these issues should be resolved by mutual interaction.*

|                      |                                     |
|----------------------|-------------------------------------|
| <b>ITEM NO. D2 :</b> | <b>FSTPS Islanding Scheme, NTPC</b> |
|----------------------|-------------------------------------|

In 118th OCC, NTPC informed that their part is ready for implementation.

Powergrid informed that the battery charger has been delivered and expected to complete the work by March, 2016.

*In 128<sup>th</sup> OCC meeting it was informed that progress of the islanding scheme is being monitored at Ministry level and ERPC Secretariat has already communicated the completion schedule as December, 2016.*

*OCC took serious note of extending the completion schedule of the islanding scheme in the last moment.*

*OCC felt that NTPC is not serious about implementation of the islanding scheme advised NTPC to submit their complete action plan to ERPC and ERLDC.*

*Subsequently NTPC submitted that*

**QUOTE**

*Regarding Farakka Islanding scheme, Cabling work has been done up to unit control room but final hooking with C&I system is pending. After evaluating every aspect, NTPC Farakka is of the view that the connection to C&I system is to be done during unit overhaul only so that proper checking of control system response can be done by simulation. Due to this, there has been a revision of the plan at our end. Our overhauling plan as of now, has been informed through our earlier mail yesterday. We shall hook units one by one during these overhauls.*

**UNQUOTE**

*OCC advised NTPC to explore final hooking up with C& I system at an opportune S/D time of the unit.*

*In 129<sup>th</sup> OCC, NTPC explained that after final hooking up with C&I of units they have to conduct dry simulation for checking the successful operation of the scheme which can only be carried out during overhauling.*

*Further, they informed that the maintenance programme of U#1 is scheduled from 10<sup>th</sup> March, 2017. So the hooking up with unit-I will be completed by March,2017 and the Islanding scheme will be operational. Unit#2 and Unit #3 will be hooked in April, 2017 and June/July, 2017 respectively during their overhauling.*

OCC advised NTPC to strictly maintain the schedule so that the FSTPS islanding scheme can be put into service w.e.f. March, 2017.

In 130<sup>th</sup> OCC, NTPC assured to complete the islanding scheme with U#1 of FSTPS and they have requisitioned for shutdown of U#1 w.e.f. 10<sup>th</sup> March, 2017.

NTPC may update.

### **Deliberation in TCC meeting**

NTPC confirmed that the final hooking of U#1 will be completed during overhauling S/D of U-1 in the month of March-April, 2017. They assured FSTPP islanding scheme with U#1 of FSTPS will be operational positively by April 2017 without further delay. On specific queries NTPC informed that except hooking up with units all their assigned works for implementing FSTPS islanding are satisfactorily completed.

|                      |  |
|----------------------|--|
| <b>ITEM NO. D3 :</b> | <b>Status of Bus Splitting schemes in Eastern Region</b> |
|----------------------|--|

#### **A. Bus Splitting of Powergrid Sub-stations**

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at Maithon, Durgapur & Biharsariff S/Ss or ER. The latest status on the same are:

- 400 kV Maithon ---Completed
- 400 kV Durgapur--Completed
- 400 kV Biharshariff— In 129<sup>th</sup> OCC, Powergrid informed that bus splitting scheme will be completed by February, 2017.

In 130<sup>th</sup> OCC meeting, Powergrid informed that physical bus splitting at 400kV Biharshariff S/s has been completed. Protection part is yet to be completed.

Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.

Powergrid may update.

### **Deliberation in TCC meeting**

Powergrid informed that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.

#### **B. Bus Splitting of Kahalgaon STPS Stage I&II, NTPC**

In 130<sup>th</sup> OCC, NTPC has given the present status as follows:

- 400/132kV Switchyard package - bid opened on 14.03.16. Awarded on 04.05.2016.
- Site leveling – Site leveling work has been completed.
- Transformer package and Shunt reactor– have been awarded.

In 34<sup>th</sup> TCC, NTPC informed that the bus splitting will be completed by December, 2018.

NTPC may update.

**Deliberation in TCC meeting**

*NTPC informed that the work is in progress as per the schedule and the bus splitting will be completed by December, 2018.*

|                      |   |
|----------------------|---|
| <b>ITEM NO. D4 :</b> | <b>Status of construction of 400 kV Ind-Barath-Jharsuguda D/C line.</b> |
|----------------------|---|

CERC vide order dated 31.08.16 on petition No. 134/MP/2016 clarified the following:

**Quote:**

“.....The Commission allowed the petitioner to inject infirm power upto 31.7.2016 for the purpose of achieving COD of the unit. It is clarified that even infirm power shall not be allowed for injection after 31.7.2016, the petitioner is stated to have achieved COD on 19.7.2016. In our view, the petitioner should commission the dedicated transmission line at the earliest and inject commercial power through dedicated transmission line. From the point of view of grid security, we cannot allow the petitioner to inject firm power through LILO which was basically a temporary arrangement.”

**Unquote**

*In 130<sup>th</sup> OCC meeting, IBUEL informed that construction of the line has been completed and ready for commission. The line will be commissioned by 28<sup>th</sup> February, 2017.*

*OCC advised IBUEL to communicate the status to ERPC and ERLDC after commissioning of line for commencement of commercial transaction.*

IBEUL may update.

**Deliberation in TCC meeting**

*It was informed that IBUEL vide mail has submitted the status of their dedicated line to ERPC and ERLDC on 23-02-2017. TCC advised ERPC secretariat to assess the position and do needful in line with CERC order, regulation and decisions taken in several meetings held on this issue.*

|                      |   |
|----------------------|---|
| <b>ITEM NO. D5 :</b> | <b>Status of construction of Chuzachen bay at Rangpo S/s.</b> |
|----------------------|---|

Construction of bays at Rangpo S/s meant for evacuation of power from Chuzachen has been undertaken by Department of Power, Govt of Sikkim, under consultancy with Powergrid.

In 33<sup>rd</sup> ERPC, Sikkim placed the road map for construction of the bays as follows:

- Tender will be floated by July 2016
- Bid will be opened by August 2016
- Work will be awarded by September 2016
- Bay will be commissioned by December, 2017

In 34<sup>th</sup> TCC, Sikkim informed that they are going for retendering in November, 2016.

Sikkim assured that they will commission the bay within the target date i.e. December, 2017.

Sikkim may update. TCC may guide.

### **Deliberation in TCC meeting**

Sikkim informed that retendering work is in progress.

Sikkim assured that they will commission the bay within the target date i.e. December, 2017.

|                      |   |
|----------------------|---|
| <b>ITEM NO. D6 :</b> | <b>Status of construction of dedicated transmission lines of IPPs which are connected through interim arrangement</b> |
|----------------------|---|

The progress of dedicated transmission lines of IPPs in Eastern Region, which were connected through interim arrangement, was reviewed in 34<sup>th</sup> ERPC meeting held on 19<sup>th</sup> November 2016. Dikchu HEP of Sneha Kinetic Power Projects Pvt. Ltd. is expected to be shortly commissioned on interim arrangement. Therefore, it is proposed that status of dedicated transmission system of Dikchu HEP may also be monitored in ERPC forum. The status of the dedicated transmission lines as reported by IPPs in ER during the last ERPC meeting and Dikchu HEP is summarized below:

| <b>Generation Project in ER connected through temporary LILO arrangement</b> |   |                                   |  |  |  |
|--|---|-----------------------------------|--|--|--|
| <b>Sl. No.</b>   | <b>Generation Project</b>                       | <b>Installed Capacity (in MW)</b> | <b>Present Connectivity through LILO</b>   | <b>Final Connectivity Arrangement (not commissioned)</b> | <b>Anticipated Completion Schedule</b>   |
| 1  | Vedanta (Sterlite Energy Ltd.)                  | 4x600                             | LILO of one circuit of Rourkela - Raigarh 400kV D/c line ( <i>granted in Sept'09</i> )             | Sterlite - Jharsuguda 400kV 2xD/c                        | Feb'17                                   |
| 2  | Ind Barath Energy (Utkal) Ltd.                  | 2x350                             | LILO of one circuit of Jharsuguda - Raigarh 400kV D/c line ( <i>granted in Sept'09</i> )           | Ind Barath - Jharsuguda 400kV D/c                        | Completed but CEA clearance awaited      |
| 3  | Gati Infrastructure Ltd. (Chuzachen)            | 2X49.5                            | LILO of Rangpo - Melli 132kV S/c line ( <i>granted in Nov'07</i> )                                 | Chuzachen - Rangpo 132kV D/c (with Zebra conductor)      | Dec'17                                   |
| 4  | Sneha Kinetic Power Projects Pvt. Ltd. (Dikchu) | 2x48                              | (*) LILO of one circuit of Teesta-III - Rangpo 400kV D/c line ( <i>granted in Dec'14 by CERC</i> ) | Dikchu - Dikchu Pool 132kV D/c                           | (\$ To be informed by developer & Sikkim |

(\*) Under Implementation. Interim granted vide CERC order in Petition no. 157/MP/2014 dated 03<sup>rd</sup> Dec 2014.

(<sup>s</sup>) Dikchu Pool S/s is being implemented under Sikkim Comprehensive scheme of Govt. of Sikkim (being implemented by POWERGRID on consultancy). The expected commissioning schedule of Dikchu Pool and dedicated transmission line to be informed by Sikkim and SKPPPL, respectively.

As per CERC order dated 28.09.2016 on Petition no. 30/MP/2014, “CTU shall take up all the existing cases of connectivity on interim LILO with the RPC of respective regions within a period of one month from the date of issue of this order for review and decision on disconnection of the interim arrangements through LILO. All such interim arrangements through LILO shall be disconnected within a period of three months of the issue of this order unless the RPC grants extension for continuation of LILO keeping in view of all relevant factors.”

In view of the CERC order, further decision regarding the disconnection of the interim arrangements through LILO may be taken in the ERPC forum.

TCC may deliberate.

### **Deliberation in TCC meeting**

CTU opined that in line with CERC order, they are ready to open the LILOs as per the TCC/ERPC direction.

|                      |   |
|----------------------|---|
| <b>ITEM NO. D7 :</b> | <b>Outstanding issues towards charging of 220kV Biharsharif-Tenughat line at 400 kV level</b> |
|----------------------|---|

Powergrid vide letter dated 18.01.2017 informed that the scope of POWERGRID for charging the 220kV Biharsharif-Tenughat line at 400 KV level is construction of (a) 01 no. bay and 0.8Km 400 KV transmission line for termination at Biharsarif S/s and (b) 5 nos. bays including Erection, Testing & Commissioning of OSM Equipments (i.e. 2 x 250 MVA ICTs, 50 MVAR L/R) at Tenughat end of TVNL. The detail scope of work with present status is enclosed at **Annexure-B9**.

In this regard, the following points are being put forward for consideration owing to which the balance work could not be completed till date:

#### **A) Biharsharif S/s End (Deposit work of JUSNL):- Cost Plus Basis.**

- a. The balance work at Biharsharif S/s end could not be completed due to irregular and delayed payment in past form JUSNL despite repeated reminders for deposit of fund by POWERGRID. Forcing agencies to demobilized frequently for want of fund. *Still payment of Rs. 48.5 Lakh is pending from JUSNL.*
- b. The said T/L is charged at 220 KV level and BSPTCL is currently drawing power from the said line directly. After charging of the said T/L on 400 KV level, BSPTCL will be deprived of power from Tenughat directly. *This issue has been strongly raised by BSPTCL in ERPC forum.*
- c. Work related to 400 KV bays at Biharsarif is nearing completion and line diversion work will be completed by April-2017.



**B) Tenughat End (TVNL Consultancy project):- Cost Plus Basis.**

- a. The balance work at Tenughat end could not be completed due to non-receipt of payment of Rs. 4.07 Crores approx from TVNL despite repeated reminders by POWERGRID. Part payment issues is not resolving.
- b. It is to inform that the agency (M/s Sterling Wilson) at Tenughat end has demobilized from site due to non-receipt of payment. The re-mobilization of agency for completion of balance work shall take approx. 01 month after receipt of pending fund from TVNL. Subsequent to mobilization of agency at site, approx. 03 months shall be required for completion of the balance work at Tenughat end. Other pending issues are enclosed in **Annexure-B9**.
- c. Completion target for above job (B) is by June-17.

*34<sup>th</sup> ERPC advised JUSNL to settle the disputes in the bill and do the payment by end of November, 2016. JUSNL agreed.*

*In 34<sup>th</sup> TCC, Director (Projects), BSPTCL stated that the 4<sup>th</sup> ICT of 500 MVA at Biharshariff must be commissioned in close co-ordination with the up gradation of the subjected line.*

*Powergrid informed that this ICT may take at least two years as per the schedule.*

*ERPC requested Powergrid to explore the possibility of diversion of ICT from other projects/region. Director (O), Powergrid agreed to explore.*

JUSNL/TVNL/Powergrid may update.

**Deliberation in TCC meeting**

**A) Biharsharif S/s End (Deposit work of JUSNL):- Cost Plus Basis.**

*Powergrid informed that payment of Rs. 48.5 Lakh is still pending from JUSNL and they would complete the balance work at Biharsharif S/s end within 2 months from date of receipt of balance payment.*

*JUSNL has asked some clarifications on balanced payment.*

*TCC felt that the issue was pending from last two meetings and advised ERPC secretariat to convene a separate meeting at ERPC, Kolkata on 2<sup>nd</sup> March, 2017 at 12:00 hrs to resolve the issues.*

*TCC advised JUSNL and Powergrid to send their concerned officers at senior level for settlement of the problem.*

**B) Tenughat End (TVNL Consultancy project):- Cost Plus Basis.**

*TVNL informed that yesterday they have paid Rs 2 cr to Powergrid and they will pay the balance amount by March 2017.*

*Powergrid informed that they need 6 months from date of receipt to complete the work.*

TVNL requested Powergrid to complete the work as per the given schedule by June 2017. Further, TVNL pointed that linking at Tenughat switchyard needs some deliberation.

TCC advised TVNL also to attend the special meeting scheduled on 2<sup>nd</sup> March 2017 with higher level participation and with all the details for effective discussion.

|                      |   |
|----------------------|---|
| <b>ITEM NO. D8 :</b> | <b>High voltage problem in 400KV Meramundali Grid S/S</b> |
|----------------------|---|

GRIDCO vide letter dated 07.01.17 intimated that presently Odisha is going through very high voltages at 400kV bus of Meramundali, Duburi and Mendhashal grid S/S. The situation is further worsened due to high reactive power flow from Meramundali to Angul pooling sub-station, from Duburi to Meramundali sub-station and from Kuchei to Duburi sub-station. It may be noted that, PGCIL has installed two nos. of 330 MVAR Bus reactors at Angul 765kV substation and two nos. of 125 MVAR Bus reactors at Ancul 400kV substation, thus resulting high reactive power flow from Meramundali to Angul & Duburi to Meramundali grid S/S. In view of the above OPTCL suggests the following as short term and long term measures to mitigate the high voltage issue as well as to improve the high reactive power flow situation.

#### **Short term measure**

- OPTCL will install 80 MVAR reactor at Meramundali 400kV S/S.
- The Angul-Meramundali Double circuit tie to be opened at both ends.

#### **Long term measure**

- The Meramundali-Angul Double circuit will be terminated at Meramundali (B). A letter regarding the above change has already been forwarded to CEA and will be placed in the next Standing Committee meeting of CEA. Meremundali(B) will be a new 400kV substation of OPTCL, approved by CEA and the work order to be issued shortly.

In view of the above and as the high voltage situation is menacing, it is requested to grant permission for the short term measures, mentioned above, to get relief from the high voltage issue and high reactive power flow. The system in the above condition will remain stable.

*In 129<sup>th</sup> OCC, OPTCL informed that they are incurring substantial financial loss on account of reactive charges due to this overvoltage problem at 400 KV Meramundali substation and requested to explore the high voltage scenario by opening of 400 kV Angul-Meramundali D/C tie on trial basis.*

*ERLDC informed that the same may be granted as per real time grid conditions.*

*Further, OPTCL requested OCC to take up the issue of opening of LILOs of 400 kV Talcher-Meramundali & Bolangir –Meramundali lines at 765/400 kV Angul S/s which was already decided in 17<sup>th</sup> SCM meeting.*

*In 17<sup>th</sup> SCM it was pointed that the 400 kV LILO lines are feeding the load centres of Orissa at Meramundali and Mendasal. It is proposed that the above LILOs at Angul pooling station may not be disconnected. Instead, switching arrangements may be made at Angul substation such that above 400 kV LILOs may be operated either by-passing Angul substation or terminating at Angul*

substation as and when required, depending upon the power flow condition. Members agreed to the proposal as a part of Easter Region strengthening scheme-17 (ERSS-17)

The issue was also discussed in the special meeting on High voltage issues of ER, the minutes of the meeting is enclosed at **Annexure-B10**. In the meeting it was decided that OPTCL would ensure absorption of maximum possible reactive power (as per capability curve) by the units of JSPL, Vedanta and GMR(Odisha). Also, OPTCL should endeavor to restore the 50MVAR line reactor at Meramundali end of Vedanta-Meramundali-I at the earliest.

The issue was placed in 129<sup>th</sup> OCC and OCC viewed that as it is the matter related to Standing Committee of ER the same may be taken up with CEA/CTU.

Subsequently, MS took up the issue with CTU and it was agreed that ERLDC will carry out study for Reactive power flow in OPTCL system.

In 130<sup>th</sup> OCC, ERLDC has presented the study results and informed the following:

- The voltage at Meramundali is increasing during winter season due low demand at Meramundali, Dubri and Mendhasal and insufficient reactive power support.
- In the present scenario the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s.
- With opening 400kV Angul-Meramundali line the export of reactive power to the ISTS network is reduced drastically but the voltage at 400kV Meramundali S/s is increasing by 4 kV which may affect the sub-station equipment.
- Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.

OPTCL informed that 400 kV Meramundali- Mendhasal line will be restored within a week and 315 MVA, 400/220kV ICT will be restored by 15<sup>th</sup> March, 2017.

OCC advised OPTCL to plan for adequate reactive power compensation at 400kV Meramundali, New Dubri and Mendhasal S/s as a long term a measure.

ERLDC may elaborate. TCC may guide.

### **Deliberation in TCC meeting**

ERLDC informed that VAR is being generated at OPTCL system and the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s. The opening of 400kV Angul-Meramundali line will not the solution. Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.

OPTCL informed that 400 kV Meramundali- Mendhasal line will be charged on tomorrow and 315 MVA, 400/220kV ICT will be restored by 15<sup>th</sup> March, 2017.

Powergrid informed that the flexible LILO scheme as approved in 18<sup>th</sup> SCM was approved in their Board and it is in final stage and the scheme will be implemented by 2018.

TCC opined that the high voltage issue should be reviewed after restoration of 400 kV Meramundali- Mendhasal line and commissioning of 315 MVA, 400/220kV ICT at Meramundali in OCC meeting.

TCC advised all generators in around 400kV Meramundali S/s to absorb VAR up to maximum extend as per the capability curve. TCC also advised OPTCL to plan for proper reactive power compensation at 400kV Meramundali, New Dubri and Mendhasal S/s.

CE, CEA opined that reactive power compensation is part of grid security and it is eligible for PSDF grant. OPTCL may apply for PSDF.

|                      |  |
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| <b>ITEM NO. D9 :</b> | <b>Status of PLCC system installed in Eastern Region</b> |
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### **1) Restoration of PLCC system of important lines of JUSNL**

#### **I) 220 KV Chandil –Santaldih line**

In 130th OCC meeting, JUSNL intimated that PLCC for 220 kV Chandil-Santaldih line has been tested and commissioned successfully on 25.01.17.

WBPDCCL informed that the PLCC was activated but the auto-reclosure could not be put into service as the R-Ph pole of Circuit Breaker is not getting closed during auto-reclosure operation. The same is taken up with the OEM (i.e. ABB) and they will be rectifying the CB.

#### **II) 220 KV Ramchandrapur-Joda line**

In 130th OCC meeting, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned within a week. JUSNL informed that the Ramchandrapur end is ready in all respect for implementation of PLCC.

JUSNL/WBPDCCL/OPTCL may update.

### **Deliberation in TCC meeting**

*WBPDCCL informed that overhauling of the R-ph pole of CB will be done by 15<sup>th</sup> March 2017. Subsequently, auto-reclosure feature will be enabled.*

*OPTCL informed that PLCC panels at 220kV Joda end will be commissioned by March 2017.*

### **2) Restoration of PLCC system of important lines of OPTCL and BSPTCL**

In 34<sup>th</sup> TCC, OPTCL updated the latest status as follow:

1. Jeypore(PG)-Jayanagar (Commn. in OPGW exists): SDH tendering is in progress
2. Rourkela(PG)-Tarkera (Commn. in OPGW exists): SDH received commissioning by January, 2017
3. Rengali(PG)-Rengali S/Y (Proposal for Commn. in OPGW is pending): tendering is in progress
4. Indravati(PG)-Indravati(PH) (Proposal for Commn. in OPGW pending): tendering is in progress
5. Baripada(PG)-Baripada ( Tendering in Progress for OPGW): Contract awarded
6. Baripada(PG)-Rairangpur (Tendering in Progress for OPGW): Contract awarded

BSPTCL informed the latest status as follows:

1. 220kV Patna-Fatua S/C line---Will commission the PLCC system by 31<sup>st</sup> December, 2016
2. 220kV Patna-Khagul S/C line---Will commission the PLCC system by 31<sup>st</sup> December, 2016
3. 220kV Gaya-Dehri D/C line--- The line is under breakdown. After coming of line in service, the work will be completed within another one month.
4. 220kV Gaya-Bodhgaya D/C line--- There is T-connection in line after removal of T connection PLCC will be installed.

Further, in PCC meetings the need of PLCC system was felt for the following lines of BSPTCL:

- |  |   |                              |
|--|---|------------------------------|
| <ol style="list-style-type: none"> <li>1. 220kV Purnea (PG)-Madhepura line</li> <li>2. 220 kV Biharshariff- Begusarai line</li> <li>3. 220 kV Biharshariff- Bodhgaya line</li> </ol> | } | UNDER JURISDICTION OF BSPTCL |
|--|---|------------------------------|

OPTCL and BSPTCL may update.

**Deliberation in TCC meeting**

*OPTCL informed that PLCC system for Rourkela(PG)-Tarkera (Commn. in OPGW exists) line will be commissioned by March, 2017.*

*BSPTCL updated the following.*

- |   |   |  |
|---|---|--|
| <ol style="list-style-type: none"> <li>1. 220kV Patna-Fatua S/C line---<i>PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017</i></li> <li>2. 220kV Patna-Khagul S/C line--- <i>PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned after completion of re-conductoring work</i></li> <li>3. 220kV Gaya-Dehri D/C line--- <i>PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017</i></li> <li>4. 220kV Gaya-Bodhgaya D/C line--- <i>PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017</i></li> <li>5. 220kV Purnea (PG)-Madhepura line</li> <li>6. 220 kV Biharshariff- Begusarai line</li> <li>7. 220 kV Biharshariff- Bodhgaya line</li> </ol> | } | <i>Digital PLCC will be implemented.</i> |
|---|---|--|

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| <b>ITEM NO. D10 :</b> | <b>Opening of LC by ER constituents for Deviation Charges Payments</b> |
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Clause 10 (4) of CERC Deviation Settlement Mechanism and related matters Regulations, 2014 vide notification No. L-1/132/2013/CERC dated 6<sup>th</sup> January, 2014 to be implemented from 17.02.2014 is reproduced below:

Quote

*All regional entities which had at any time during the previous financial year failed to make payment of Charges for Deviation including Additional Deviation Charges for Deviation within the time specified in this regulations shall be required to open a Letter of Credit (LC) equal to 110% of its average payable weekly liability for Deviations in the previous financial year, in favour of the concerned RLDC within a fortnight from the date these Regulations come into force.....*

.....*Provided further that LC amount shall be increased to 110% of the payable weekly liability in any week during the year, if it exceeds the previous LC amount by more than 50%.*

Unquote

As intimated by ERLDC, the details of LC amount required to be opened in 2016-17 by ER constituents is given in **Annexure – B14**. Letters to this effect has already been issued by ERLDC to the defaulting entities viz, BSPHCL, JUVNL, GATI, SIKKIM and Ind Barath. Rest of the constituents which were required to open/recoup the LC, they have opened/recoup the LC.

*In the last CCM on 06.02.2017, BSHPCCL informed that they would get the LC opened by the end of February, 2017. JUVNL informed that the matter had been taken with their bank and LC would be opened shortly. Sikkim representative was not present.*

ERLDC may update.

### **Deliberation in TCC meeting**

*BSPHCL informed that they have renewed their LC.*

*GATI informed that LC will be opened shortly.*

*Sikkim informed that LC will be opened by March, 2017.*

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|-----------------------|---|
| <b>ITEM NO. D11 :</b> | <b>HIGH AMOUNT OF DEVIATION CHARGES PAYABLE BY BSEB ON ACCOUNT OF M/s. TALA HEP</b> |
|-----------------------|---|

SBPDCL vide letter dated 07.01.17 informed that the deviation charges incurred by M/s TALA HEP are to be borne by its beneficiaries, and BSEB being a major beneficiary, having a share of 25.5% has to bear a major portion of these deviation charges.

For the last 8 weeks, it has been observed, to their great concern that the deviation charges incurred by M/s TALA HEP have been continually high, amounting to as high as few crores per week. A summary report of the amount incurred by M/s TALA HEP as deviation charges, and consequently the amount to be borne by BSP(H)CL erstwhile BSEB was also submitted.

From the statistics in this table; & discussion with ERLDC, it was concluded that a major percentage of bill for UI & Deviation payable by BSP(H)CL erstwhile BSEB, is on account of huge deviation charges incurred by M/s TALA HEP.

As such, ERLDC should keep scheduled generation near to actual generation or devise a mechanism to make deviation zero or minimum. Beneficiaries should not be charged for the high declared capacity (DC) given by TALA or CHUKHA HEP, as they are not responsible for the high mismatch between scheduled generation and actual generation of Bhutan generating station.

So, it was requested that the future scheduling for power purchase on behalf of M/s TALA HEP and M/s CHUKHA HEP should be done keeping in mind the concerns of its beneficiaries.

*In 129<sup>th</sup> OCC, MS- ERPC assured that the matter is under consideration and will be resolved at the earliest.*

*In 130<sup>th</sup> OCC, ERPC/ERLDC explained the adjustment of Tala, and Chukha power in DSM and Regional Energy Accounting of ERPC. It was informed that there is no applicability of DSM for Tala/Chukha power. However, in DSM Account the deviation of Tala/Chukha is being adjusted at their respective rates not at frequency variable DSM rate.*

BSPTCL may note.

### **Deliberation in TCC meeting**

*SBPDCL pointed that they need some more clarification on the issue.*

*TCC advised SBPDCL to interact with ERPC Secretariat and resolve the issue.*

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| <b>ITEM NO. D12 :</b> | <b>Operationalization of LTA for BRBCL</b> |
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In the special meeting on the issue of Scheduling of BRBCL station which was held on 25<sup>th</sup> January, 2017 at Kolkata, it was decided that CTU will notify Operationalization of LTA after detailed studies before ensuing 35<sup>th</sup> TCC/ ERPC meetings. LTA will be operationalized upto the state periphery with total available transfer capability from the station.

CTU may update.

### **Deliberation in TCC meeting**

*It was informed that BRBCL has filed a petition before CERC and the issue is pending with CERC. Therefore the agenda was dropped and no discussions were held.*

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| <b>ITEM NO. D13 :</b> | <b>Very high loading of 220kV Muzaffarpur(PG)-Kanti D/C line</b> |
|-----------------------|--|

Due to heavy import by BSPHCL at Muzaffarpur, power flow through the said line generally remains above 150MW/ ckt and even crosses 195 MW/ckt in the peak. Though the situation is likely to ease after commencement of generation at KBUNL Stg-2, for facilitating planned shutdown of the line, it is desirable to have additional 220kV circuits in parallel to the existing line. In the 34<sup>th</sup> TCC meeting it was informed that circuits 3 and 4 between Muzaffarpur(PG) and Kanti (Extn) would be completed by November, 2016.

BSPTCL / PGCIL may kindly expedite commissioning of 220kV circuits 3 and 4 between Muzaffarpur(PG) and Kanti (Extn).

BSPTCL/Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that 2 nos line bays will be commissioned at Muzaffarpur by March 2017 but the line construction is not in the scope of Powergrid.*

*BSPTCL informed that there is uncertainty in commissioning of line. However, BSPTCL is taking measures to relieve the overloading of 220 kV Muzaffarpur-Kanti.*

|                       |  |
|-----------------------|--|
| <b>ITEM NO. D14 :</b> | <b>Augmentation of 400/220kV ICT capacity at Maithon, Patna, Sasaram, Biharshariff</b> |
|-----------------------|--|

ICTs of (1X315+1X500) MVA capacity exists at Maithon, Patna and Sasaram. In the peak period, the total power catered by each of the sub-stations is high enough to cause tripping of the parallel 315MVA ICT, if the 500MVA ICT trips. Similarly, if one out of the 3X315 MVA ICTs at Biharshariff trips, the other two ICTs are also likely to trip on overload.

The 315 MVA ICTs at Patna and Sasaram are already planned to be replaced by 500MVA ICTs while a 500MVA ICT is scheduled to be added each at Maithon and at Biharshariff.

As the peak demands of Bihar and DVC systems are likely to rise sharply in the coming summer season, PGCIL may kindly expedite augmentation of 400/220kV ICT capacities at the above mentioned sub-stations

Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that the augmentation 400/220kV ICTs at Maithon S/s will be completed by July,2017.*

*Powergrid added that type test of 400/220kV ICT of Sasaram and Patna S/s has been failed and the design of the ICT is being reviewed by OEM. The augmentation of 400/220kV ICTs at Sasaram and Patna will take time.*

*Powergrid also informed that augmentation of 400/220kV ICTs at Biharshariff will take one and half year.*

*Bihar requested Powergrid to divert ICTs from any other sub-stations for early argumentation at Biharsariff, Sasaram and Patna S/s. Bihar added that immediate argumentation of ICTs at Biharsariff S/s is essential to meet increasing demand in Bihar.*

*Powergrid informed that diversion of ICT to Biharshariff S/s is not possible at this juncture. However Powergrid assured to explore further possibilities to expedite.*

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| <b>ITEM NO. D15 :</b> | <b>Commissioning of 125 MVAR bus reactor at Jamshedpur</b> |
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Voltage of 400kV Jamshedpur remains above 420kV (IEGC upper limit) for nearly 100% of the time.

In the Standing Committee Meeting of ER held on 05-01-2013, it was inter-alia agreed to install 2X125 MVAR bus reactors in parallel with the existing 2X50 MVAR reactors at Jamshedpur. The same decision was reiterated in the next Standing Committee Meeting of ER held on 02-05-2014. While 125 MVAR reactors for voltage control have been installed by PGCIL at Rourkella, Patna, Sasaram, Maithon, Durgapur etc. the reactors at Jamshedpur are yet to be commissioned. PGCIL



may be requested to kindly accord topmost priority in mitigating high voltage at Jamshedpur and expedite installation of the 125 MVAR reactors there.

*In 130<sup>th</sup> OCC, ERLDC informed that severe high voltage is being observed at 400kV Jamshedpur S/s on continuous basis and advised Powergrid to commission 2X125 MVAR bus reactors at the earliest.*

*Powergrid informed that the reactor will be commissioned by April, 2017.*

Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that the reactor will be commissioned by May, 2017.*

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| <b>ITEM NO. D16 :</b> | <b>Priority-based commissioning of bus reactor for control of high voltage during lean periods</b> |
|-----------------------|--|

*In 34<sup>th</sup> TCC, Powergrid updated the latest status as follows:*

| <b>S.N.</b> | <b>Reactor</b>   | <b>Status</b>  |
|-------------|--|--|
| 1           | 125 MVAR reactor of Jeypore  | <i>Commissioned</i>  |
| 2           | 125 MVAR Bus reactor of Jamshedpur   | <i>Expected commissioning by Feb'17 (Jamshedpur) and Jan'17 (Biharshariff)</i> |
| 3           | 125 MVAR Bus reactor of Biharshariff   |  |
| 4           | Additional bus-reactor of 125 MVAR capacity at Beharampur on urgent basis.               | <i>Will be made available for commissioning by Oct, 2017.</i>                  |
| 5           | 50 MVAR at Behrampur on urgent basis by diverting from Rourkela which is kept as a spare | <i>Reactor has reached Behrampur. Commissioning by Nov'16 end.</i>             |

Powergrid may update the latest status.

### **Deliberation in TCC meeting**

*OPTCL informed that the high voltage problem persists even after the commissioning of 125MVAR reactor at Jeypore.*

*TCC referred the issue to OCC for further deliberation.*

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| <b>ITEM NO. D17 :</b> | <b>Status of Transmission projects approved in various meetings</b> |
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*The status as updated in 34<sup>th</sup> TCC/ERPC meeting on transmission projects approved to various meetings is given below:*

| Sl No. | Scheme  | ERPC/SCM Meeting              | Latest status   |
|--------|---|-------------------------------|---|
| 1      | Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double mainscheme. | 28 <sup>th</sup> ERPC Meeting | Powergrid informed that the work undr progress and expected commissioning by Aug'17.  |
| 2      | Change in proposed the Associated 765 kV System Strengthening Scheme inER   | 28 <sup>th</sup> ERPC Meeting | Under TBCB  |
| 3      | Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders   | 26 <sup>th</sup> ERPC Meeting | Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by Jan'17.                                   |
| 4      | Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations ofPowergrid         | 25 <sup>th</sup> ERPC Meeting | T/L is under TBCB, POWERGRID informed that Chandwa bay awarded and for Gaya tendering activity under progress.  |
| 5      | Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul&JharsugudaS/S).                | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that work has been awarded on March, 2015 and expected to be completed by Mar'17.  |
| 6      | Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) &Sasaram (PG)S/S   | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that for Sasaram-1 <sup>st</sup> ICT commissioned, 2 <sup>nd</sup> ICT in supply, expected commissioning by Mar'17. For Jamshedpur, commissioning expected to be completed by November,2016  |
| 7      | Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 <sup>rd</sup> & 4 <sup>th</sup> Circuits)                                       | 25 <sup>th</sup> ERPC Meeting | Bay construction at Muzaffarpurto be done by Powergrid under consultancy projected. Expected to be completed by Dec,2016.   |
| 8      | Modification of 132 kV Bus arrangementat 220/132 kV Siliguri S/S(PG)  | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the work has been awarded and expected to be complete by November,2016.   |
| 9      | Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram  | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar' 2017.   |
| 10     | Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid   | 25 <sup>th</sup> ERPC Meeting | Not pertaining to POWERGRID   |
| 11     | Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S ofPowergrid                                    | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that four numbersof 220 kV bays at 440 kV Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. Powergrid bays ready, 2 bays charged and another 2 no. bays expected in Dec'16. |

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|----|--|-------------------------------|--|
| 12 | Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid   | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the scheme will be implemented by Jan'17.  |
| 13 | Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to-Back station at Gazuwaka (one for each pole) | 25 <sup>th</sup> ERPC Meeting | NIT completed. OBD scheduled by end Nov'16   |
| 14 | GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada  | 24th ERPC Meeting             | Powergrid informed that the work has been awarded and expected to be completed by 3 <sup>rd</sup> qtr of 2017-18.                  |
| 15 | Eastern Region Strengthening Scheme-XV; Construction of Farakka—Baharampur 400kV D/C (HTLS) line and Subsequent modification of LILOs                                  | 17th SCM & 30th ERPC          | Linked with Bangladesh, Work awarded and construction of line under progress, expected completion by 2 <sup>nd</sup> Qtr. 2017-18. |
| 16 | Installation of 3rd 400/220 kV, 1 x 315 MVA ICT at Durgapur & New Siliguri Substation  | 17th SCM & 30th ERPC          | NIT done in Sept'16 and Award to be done by Dec'16   |
| 17 | Commissioning of 2x160 MVA, 220/132 kV Auto transformer at Daltonganj substation along with 4 number of 132 kV line bays   | 17th SCM & 30th ERPC          | Award placed, work under Progress, expected commissioning by Jun'17.   |
| 18 | Extension of under construction 400kV D/C Latehar-Essar lines up to 400kV Chandra Pooling station (PG), under the scope of JUSNL                                       | 17th SCM & 30th ERPC          | JUSNL to inform  |
| 19 | Establishment of 2x500 MVA 400/220kV sub-station at Dhanbad by LILO of both circuits of Ranchi-Maithon RB 400 kV D/C line at Dhanbad                                   | 17th SCM & 30th ERPC          | Under TBCB   |
| 20 | Construction of 6 no. 400 kV line bays and bus splitting (765 kV & 400kV) arrangement at Jharsuguda (Sundargarh) as GIS  | 17th SCM & 30th ERPC          | Award placed, work under progress and expected completion by 3 <sup>rd</sup> Qtr. Of 2017-18.                                      |
| 21 | Reconductoring of Maithon RB-Maithon 400 kV D/C line with HTLS conductor   | 17th SCM & 30th ERPC          | NIT to be done in Nov'16.  |
| 22 | Installation of 3rd 400/220 kV 500 MVA Transformer at Muzaffarpur  | 17th SCM & 30th ERPC          |  |
| 23 | Construction of North Karanpura—Gaya 400 kV D/c & North Karanpura -Chandwa (Jharkhand) Pooling Station 400 kV D/c  | 17th SCM & 30th ERPC          | T/L is under TBCB route, Bay extn. Scope under POWERGRID. Chandwa bay awarded and for Gaya tendering activity under progress.      |

Further, Powergrid may update the present status on transmission projects approved/revised in 18<sup>th</sup> SCM which are as given below:

| Sl No. | Scheme   | ERPC/SCM Meeting | Latest status |
|--------|--|------------------|---------------|
| 1      | LILO of both circuits of Bongaigaon-Siliguri 400 kV D/c (Quad) (under TBCB) line at Alipurduar on multi circuit tower for about 2 km | 18th SCM         |               |

|    |  |  |  |
|----|--|--|--|
| 2  | LILO of both circuits of Rourkela-Raigarh 400kV D/c (2nd line) at Jharsuguda on multi circuit towers for about 17 km                                     | 18th SCM                               |  |
| 3  | Installation of 400/220 kV, 1x500 MVA ICT at Gaya S/s (400kV bay in AIS and 220kV bay in GIS)  | Scheme revised in 18 <sup>th</sup> SCM |  |
| 4  | Replacement of 400/220kV, 2x315MVA ICTs at Malda S/s with 400/220kV, 2x500 MVA ICTs  | Scheme revised in 18th SCM             |  |
| 5  | Installation of 3rd 400/220kV, 1x315MVA ICT at New Siliguri S/s: to be sourced from pool of spare ICTs (400kV bay in GIS and 220kV bay in AIS)           | Scheme revised in 18th SCM             |  |
| 6  | Installation of 3rd 400/220kV, 1x315 MVA ICT at Durgapur S/s: to be sourced from pool of spare ICTs  | Scheme revised in 18th SCM             |  |
| 7  | Installation of 400/220kV, 2x315MVA ICTs at Jeypore S/s (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs.              | Scheme revised in 18th SCM             |  |
| 8  | Installation of 400/220kV, 2x315MVA ICTs at Rourkela S/s (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs              | Scheme revised in 18th SCM             |  |
| 9  | Bypassing arrangement of LILO of Meramundali – Bolangir/Jeypore 400kV S/c line and LILO of one circuit of Talcher – Meramundali 400 kV D/c line at Angul | 18th SCM                               |  |
| 10 | installation of 400/220kV, 500MVA ICT (4th) at Biharsharif S/s   | 18th SCM                               |  |
| 11 | Establishment of 2x500MVA+2x160 MVA+2x80 MVA 400/220/132 kV S/S at Naubatpur   | 18th SCM                               |  |
| 12 | Establishment of 2x500 MVA +2x160 MVA 400/220/132 kV GIS S/S at Bakhtiyarpur   | 18th SCM                               |  |
| 13 | Establishment of 2x500 MVA +3x160 MVA+3x80 MVA 400/220/132/33 kV GIS S/S at Jakkanpur  | 18th SCM                               |  |
| 14 | Establishment of 400/220/132kV, 2x500MVA + 2x200MVA new S/s at Sitamarhi   | 18th SCM                               |  |
| 15 | 2x125MVA <sub>r</sub> , 420kV bus reactors along with bays   | 18th SCM                               |  |
| 16 | Darbhangha – Sitamarhi (New) 400kV D/c (Triple Snowbird) line  | 18th SCM                               |  |
| 17 | Sitamarhi (New) – Motihari 400kV D/c (Triple Snowbird) line  | 18th SCM                               |  |
| 18 | Establishment of 400/220/132kV, 3x500MVA + 3x200MVA new S/s at Chandauti   | 18th SCM                               |  |
| 19 | 2x125MVA <sub>r</sub> , 420kV bus reactors along with bays   | 18th SCM                               |  |

|    |   |          |  |
|----|---|----------|--|
| 20 | LILO of both circuits of Nabinagar-II – Gaya 400kV D/c (Quad) line of POWERGRID at Chandauti (New)  | 18th SCM |  |
| 21 | Establishment of 400/220/132kV, 2x500MVA + 2x200MVA new S/s at Saharsa  | 18th SCM |  |
| 22 | 2x125MVAR, 420kV bus reactors along with bays   | 18th SCM |  |
| 23 | LILO of Kishanganj – Patna 400kV D/c (Quad) line of POWERGRID at Saharsa (New)  | 18th SCM |  |
| 24 | Installation of 400/132kV, 315MVA (3rd) ICT at Motihari substations of Essel Infra  | 18th SCM |  |
| 25 | Installation of 400/132kV, 315MVA (3rd) ICT at Banka and Lakhisarai substations of POWERGRID  | 18th SCM |  |
| 26 | Reconductoring of Rangpo – Siliguri 400kV D/c Twin Moose line with Twin HTLS conductor along with suitable modification in line bay equipment at both ends                              | 18th SCM |  |
| 27 | Installation of 4th 220/132kV, 100MVA ICT at Rangpo S/s   | 18th SCM |  |
| 28 | Conversion of fixed line reactor at Purnea end of Kishanganj – Purnea 400kV D/c line to switchable line reactor   | 18th SCM |  |
| 29 | a) Nabinagar-II – Gaya 400kV D/c line with Quad moose conductor<br>(b) Nabinagar-II – Patna 400kV D/c line with Quad moose conductor<br>(c) Additional 1x1500MVA, 765/400kV ICT at Gaya | 18th SCM |  |
| 30 | Derang - Angul 400 kV D/C line along with two 400kV line bays at Angul S/s  | 18th SCM |  |
| 31 | Installation of 400/220kV, 500MVA ICT (3rd) at Maithon  | 18th SCM |  |
| 32 | replacement of existing 50MVA, 220/132 kV ICT at Malda with new 160 MVA, 220/132 kV ICT   | 18th SCM |  |
| 33 | Installation of 420kV, 1x125MVAR bus reactor at Subhasgram S/s of POWERGRID   | 18th SCM |  |
| 34 | Provision of 765kV, 80MVAR single phase spare reactor at Ranchi (New) substation of POWERGRID   | 18th SCM |  |

Powergrid may update the latest status.

### **Deliberation in TCC meeting**

*Powergrid submitted the latest status. The same has been incorporated in TCC minutes.*

|                       |   |
|-----------------------|---|
| <b>ITEM NO. D18 :</b> | <b>Status of Spare Transformers &amp; Reactors approved in various meetings</b> |
|-----------------------|---|

The status updated as in 34<sup>th</sup> TCC/ERPC meeting on Spare transformers & reactors to be commissioned by Powergrid for use in ER.

| Sl No.                   | Sparetransformer/reactor   | Latest status   |
|--------------------------|--|---|
| 1                        | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff                          | Available at site.  |
| 2                        | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur                              | Utilized at 400 kV Farakka. Procurement of spare ICT is under process.                                      |
| 3                        | 1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation                     | Available at site.  |
| 4                        | 2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.               | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar'17.    |
| 5                        | 1 X 110 MVA, 765KV single phase bus reactor at Sasaram                         | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar, 2017. |
| FOR MEMBER STATES:       |  |   |
| 1                        | 2 X 315 MVA 400/220 kv ICTs  | Available   |
| 2                        | 2 X 160/150 MVA 220/132 kv ICTs  | One ICT utilised at Purnea S/s, 2 <sup>nd</sup> ICT available at Siliguri S/s.                              |
| 3                        | 1 X 50 MVA 132/66 kv ICT   | Available   |
| SURPLUS FROM OLD ASSPARE |  |   |
| 1                        | 3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss) | Replaced with 160 MVA transformer.  |
| 2                        | 2x 100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)   | Taken out and kept at Birpara and Siliguri  |
| 3                        | 2x 100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)              | Taken out and kept at Purnea  |

DVC vide mail dated 15.02.17 intimated that DVC is in urgent need of a 220KV/132KV ICT which is to be installed at 220KV Dhanbad S/Stn. Availability of spare 160MVA 220/132KV ICT as available at Siliguri S/Stn under the head of "FOR MEMBER STATES." may kindly be conveyed so that necessary formalities can be completed at the appropriate level. The said transformer under subject is a NEW or OLD along with the NAMEPLATE DETAILS may also be kindly conveyed.

Powergrid may update the latest status.

### **Deliberation in TCC meeting**

Powergrid submitted the latest status which is as given below:

|                           |  |  |
|---------------------------|--|--|
|                           | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER At Durgapur.                        | Under procurement stage. Awarded to M/S. TBEA.   |
| FOR MEMBER STATES         |  |  |
|                           | 2 X 160/150 MVA 220/132 KV ICTs  | There is no direct communication received from DVC.<br><br>Transformer kept at Siliguri is NEW. Name plate details attached. This is procured for handling the contingency requirement of O&M needs. Even though the urgent augmentation required at Malda S/S (PG), WBSETCL is providing their spare unit on loan instead of using this spare ICT identified for O&M needs. |
|                           | 2 X 315 MVA 400/220 KV ICTs  | Available.   |
|                           | 1 X 50 MVA 132/66 KV ICT   | Consumed at Gangtok, faulty unit send to factory for repair.( M/s Kanwar, Meerut)  |
| SURPLUS FROM OLD AS SPARE |  |  |
|                           | 3x 50 MVA, 220/132kV (to be released From Malda (2nos.) & Birpara (1no.) S/S | Already decided to sell as scrap. , With MSTC for tender   |
|                           | 2x100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)  | Already decided to sell as scrap, in process of scrapping  |

|                       |   |
|-----------------------|---|
| <b>ITEM NO. D19 :</b> | <b>Persistent over drawl by Jharkhand</b> |
|-----------------------|---|

It has been observed since last few month, Jharkhand is over drawing continuously to the tune of 1.5 to 2mu per day. Jharkhand overdraw for the month November, December and January 2017 were around 40 mu, 63 mu and 52 mu respectively. Several times Jharkhand also advised to take un-requisition surplus power of NTPC plant on real time basis. However the quantum requisitioned by Jharkhand for URS power of NTPC plants was very less compare to its overdraw quantum. Numbers of instructions were also issued from ERLDC Control Room during real time operation to Jharkhand regarding the same issue. However the response of Jharkhand was not commensurate with criticality of the situation. Details of above violations would be presented by ERLDC for discussions/suggestions.

In 130<sup>th</sup> OCC, ERLDC presented the schedule and drawal of JUSNL enclosed at Annexure-B26 and informed that JUSNL is overdrawing on continuous basis.

OCC advised JUSNL to explore for procurement of URS power to minimize the over drawal.

JUSNL informed that they have taken up the issue of URS power procurement with JBVNL but action is yet to be taken by JBVNL.

JBVNL may update.

## **Deliberation in TCC meeting**

*ERLDC informed that after last OCC meeting also Jharkhand is over drawing continuously even though URS power is available. Jharkhand also not paying DSM charges.*

*TCC took serious concern of this matter and advised JBVNL to avail the URS power available in different NTPC stations to meet their demand.*

*JBVNL assured that they will avail the URS power.*

|                       |  |
|-----------------------|--|
| <b>ITEM NO. D20 :</b> | <b>Commissioning of Tie bay and main bay of BUS-I of 400 kV Ranchi-New Ranch-I &amp; II circuit at Ranchi Substation</b> |
|-----------------------|--|

400kV Ranchi-Ranchi ckt-I & II has been commissioned on 30.03.2014 through main its main bay (Bay no. 427 and 430 respectively) and connected to BUS-II only at 400/220kV Ranchi Substation.

The commissioning of Tie bays ( Bay no. 426, 429) and main bays ( Bay nos. 425, 428) connected to BUS-I of Ranchi-New Ranchi ckt.-I & II were in the scope of M/s Corporate Power Ltd. The party M/s Corporate Power Ltd has commenced their work in the year of 2009 and after erection of switchyard equipment they left the site in the year of 2012 citing bankruptcy of the company. As information gathered from sources , M/s Corporate Power Ltd will not commission the bays for Chitarpur ckt-I & II i.e bay nos. 425,426, 428 & 429.

Due to connection of 400kV Ranchi-New Ranchi 1 & 2 with BUS-II only and the therefore lines are very much unreliable as because in case of S/D of main BUS-II, both the line will remain out of service. Further in case of any fault in their main bay, the line will be out of service.

Hence, it is requested that the above mentioned uncompleted bays may be commissioned by POWERGRID and cost of construction may be capitalized by POWERGRID. OR complete asset may be transferred to POWERGRID and POWERGRID will commission the bays and capitalized the same.

TCC may discuss.

## **Deliberation in TCC meeting**

*TCC technically agreed for commissioning of bays of Chitarpur ckt-I & II i.e bay nos. 425,426, 428 & 429.*

*TCC expressed that acquiring/modification of assets of Corporate Power Ltd. may create legal problems and advised Powergrid to discuss the issue with Corporate Power Limited to arrive at fruitful decision.*

*Further, Powergrid was also advised to take up the issue with CERC for amicable solution.*



|                       |  |
|-----------------------|--|
| <b>ITEM NO. D21 :</b> | <b>Issues related to associated / downstream systems—Powergrid</b> |
|-----------------------|--|

## **BIHAR**

- i. 4 nos. 220 kV GIS Bays at Kishenganj under ERSS XII :**  
2 nos. bays have been commissioned. Program for utilisation of balance 02 no. 220kV line bays to be confirmed by BSPTCL.

## **JHARKHAND**

- i. 4 nos. 220 kV & 4 nos. 132 kV bays at Daltonganj S/S (Anticipated Commissioning – June'17) :** Status of downstream is as under :  
4 nos. 220 kV bays to be connected to 220 kV D/CDaltonganj-Garhwa and 220kV D/CDaltaonganj-Latehar (presently charged at 132 kV). Presently only 220 kV Daltonganj-Latehar charged at 132 kV is available. Plan for completion of 220 kV Daltonganj-Garhwa line and Garhwa S/S to be confirmed by JUSNL.
- ii. 4 nos. 132kV bays to be connected to 132kVD/C Daltonganj-Chhatarpur and 132kV Daltonganj (PG) – Daltonganj (JUSNL) :**  
132kV bays at Daltonganj (PG) to be charged through LILO of 220kV Daltonganj-Latehar line (Presently charged at 132kV). Program for utilisation of above bays to be confirmed by JUSNL.

## **ODISHA**

- i. 4 nos. 220 kV bays at Bolangir S/S :** Out of total 4 nos. 220 kV line bays, 2 nos. are commissioned during Feb'16 and 2 nos. are pending due to unavailability of 220 kV lines of OPTCL. Program for utilisation of balance 2 no. bays to be confirmed by OPTCL.
- ii. 6 nos. 220 kV bays at Pandiabil GIS:** Pandiabil (PG) substation has been commissioned in July'16. Downstream network needs to be expedited by OPTCL. Readiness of 220kV feeders by OPTCL for downstream power flow from Pandiabil (PG) S/S needs to be ensured.
- iii. 4 nos. 220 kV bays at Keonjhar S/S:** Utilisation of total 4 nos. 220 kV line bays is pending due to unavailability of 220 kV lines of OPTCL. Program for readiness of lines for utilisation of above bays to be confirmed by OPTCL.

## **WEST BENGAL**

- i. 02 nos. 220 kV line bays at Subhashgram (PG) S/S:** Bays are ready and idle charged under ERSS-VIII due to non-readiness of 220kV D/C Subhashgram – Baruipur Tr. line and associated bays at Baruipur. Order recently placed by WBSETCL and expected completion by Dec'17. Program for readiness of lines for utilisation of above bays to be confirmed by WBSETCL.

Members may update.

## **Deliberation in TCC meeting**

Members noted.

|                       |   |
|-----------------------|---|
| <b>ITEM NO. D22 :</b> | <b>Commercial issues related to NHPC Stations</b> |
|-----------------------|---|

### **1) Payment default by beneficiaries.**

#### **i) NBPDCCL**

An amount of Rs. 14.76 Cr. is outstanding for more than 60 days which includes surcharge of Rs. 0.24 Cr.

#### **ii) SBPDCL**

An amount of Rs.18.99 Cr. is outstanding for more than 60 days which includes surcharge of Rs. 0.28 Cr.

#### **iii) WBSEDCL**

Beneficiary has not paid surcharge of Rs.29.93 Cr. (TLDP-III – Rs. 28.79 Cr.& Teesta-V / Rangit- Rs.1.14 Cr.)

*Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017. NBPDCCL, SBPDCL & WBSEDCL may be requested to release the outstanding dues as above at the earliest.*

## **Deliberation in TCC meeting**

*NHPC revised the outstanding amount to 12 Cr on NBPDCCL to which NBPDCCL assured to make the payment within next 15 days.*

*NHPC revised the outstanding amount to 5 Cr on SBPDCL to which SBPDCL assured to make the payment within next 15 days.*

*WBSEDCL informed the tariff hike matter is in APTEL so requested to waive the outstanding amount for the time till the APTEL decision.*

### **2) Signing of reconciliation statement.**

Reconciliation statement is pending for IIndquarter for the F.Y 2016-17 in r/o GRIDCO Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017 and GRIDCO intimated that the reconciliation statement will be signed within a week time. Reconciliation statements for 3<sup>rd</sup> quarter of 2016-17 have also been sent to all the beneficiaries and same have not been signed by JBVNL, DVC, GRIDCO & Sikkim till date.

### **3) Revalidation / Opening of LC of requisite value.**

All the beneficiaries are intimated that the calculation sheet of LC for F.Y 2017-18 have been sent which is based upon 105% of average billing w.e.f Jan'2016 to Dec'2016. All the concerned beneficiaries are requested to enhance the existing LC or open the new LC of requisite value before 31st March'2017 and same should be valid up to 31<sup>st</sup> March '2018. SBPDCL & NBPDCCL have opened the L.C's for short value. They are requested to enhance their L.C's to requisite value immediately.

### **4) Extension of PPA in r/o TLDP-III & IV Power Stations.**

WBSEDCL at present has valid PPAs for TLDP-III & IV power stations for 05 years period only .WBSEDCL had already given consent to extend the PPA of TLDP-III & TLDP-IV power stations for 35 years from the date of COD. Formal signing / execution of PPAs of TLDP-III & TLDP-IV are still pending from WBSEDCL side for 35 years period from the date of COD.

Matter was also discussed in 34th Commercial sub-Committee meeting of ERPC at Kolkata on 6th Feb'2017.

WBSEDCL may be again requested to give consent for extension of PPA at the earliest. 100% power from both the projects has been allocated in favour of West Bengal.

### **Deliberation in TCC meeting**

*JBVNL, DVC and GRIDCO informed that signing of reconciliation is in progress and will be completed shortly.*

*SBPDCL informed that no revision of LC value is required as per their calculation. NHPC requested to share the calculation procedure with them.*

*WBSEDCL informed that they did not give any consent or commitment for PPA of 35 years. In their view the present price per unit energy is higher compare to the price at the time of their initial agreement. So extension of PPA at current scenario is not possible. However they agreed to find out a solution by discussion with NHPC.*

*WBSEDCL informed that this matter can be better discussed and solved bilaterally. NHPC agreed with WBSETCL.*

### **5) Signing of PPA in respect of Tawang H.E. Project, Stage-I & II.**

Signing of Power Purchase Agreement is pending with GRIDCO, JUVNL & WBSEDCL. All the three beneficiaries are again requested to sign the long pending Power purchase agreement at the earliest.

### **6) Revision of REA in respect of SBPDCL and NBPDCCL**

SBPDCL & NBPDCCL are verifying different energy amount w.r.t their REA statements. Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017 . As such, they are requested either to verify the same energy amount as per their REA or get revised REA's issued from ERPC. The discrepancies may give rise to disputes at a future date.

NHPC may update.

### **Deliberation in TCC meeting**

*WBSETCL informed that the matter is in progress.*

*Regarding revision of REA in respect of NBPDC and SBPDCL, TCC requested them to solve it bilaterally.*

*Further TCC requested NHPC to try to solve these matter bilaterally as much as possible instead of taking it to TCC forum.*

|                       |  |
|-----------------------|--|
| <b>ITEM NO. D23 :</b> | <b>Reconciliation of Deviation Accounts.</b> |
|-----------------------|--|

At the end of 3<sup>rd</sup> quarter of 2016-17, the reconciliation statement (Period: 01.10.16 to 31.12.16) has been issued by ERLDC on 04.01.17 and statements had been sent to the respective constituents and also uploaded the same at ERLDC website ([www.erlhc.org](http://www.erlhc.org)). The constituents were requested to verify /check the same & comments if any on the same were to be reported to ERLDC by 21.01.2017. The status of reconciliation is enclosed in **Annexure- C11.1**.

JUVNL, WBSETCL, SIKKIM, VEDANTA, APNRL, GATI, IBEUL & JLHEP (Dans Energy) have not signed reconciliation statement for any quarter of 2016-17.

Further BSPHCL, DVC & GMR have not signed reconciliation statement for 3<sup>rd</sup> Quarter of 2016-17.

*In the CCM meeting held on 06.02.2017, ERLDC updated that BSPHCL & GMR have reconciled the statement for 3<sup>rd</sup> Quarter for 2016-17. WBSETCL & JUVNL informed that they would get the outstanding reconciliations completed within next week.*

*APNRL informed that they have sent reconciled statements for two quarters for 2016-17 through post. For 3<sup>rd</sup> quarter there is some discrepancy which would be intimated to ERLDC at the earliest.*

*ERLDC requested constituents to send scanned copies of reconciliation statement for early settlement.*

### **Deliberation in TCC meeting**

*ERLDC informed that SIKKIM, VEDANTA, GATI, IBEUL & BRBCL have not signed the reconciliation statement.*

*OPTCL informed that they will take care of the Reconciliation of Deviation Accounts related to Vedanta.*

*Gati informed that they will do the reconciliation within a week.*

\*\*\*\*\*



**MINUTES OF**  
**35th TCC MEETING**  
**OF**  
**EASTERN REGIONAL POWER COMMITTEE**

**Date: 24<sup>th</sup> February, 2017**

**Venue: Ranchi**

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# **EASTERN REGIONAL POWER COMMITTEE**

## **MINUTES OF 35<sup>TH</sup> TCC MEETING**

**Date: 24<sup>th</sup> February, 2017**

**Venue: Ranchi**

List of participants is at **Annexure-II**.

|                    |   |
|--------------------|---|
| <b>ITEM NO.A1:</b> | <b>CONFIRMATION OF THE MINUTES OF 34<sup>TH</sup> TCC MEETING</b> |
|--------------------|---|

The minutes of the 34<sup>th</sup> TCC meeting held on 18<sup>th</sup> November, 2016 at Kolkata were circulated vide letter no. ERPC/TCC & Committee/14/2016/1H3436\_H3505 dated 23<sup>rd</sup> December, 2016.

No comments have been received from constituent members on the minutes of the meeting.

Members may confirm the minutes of 34<sup>th</sup> TCC meeting.

### **Deliberation in the TCC meeting**

*Members confirmed the minutes of 34<sup>th</sup> TCC meeting.*

## **PART B: ITEMS FOR DISCUSSION**

|                     |  |
|---------------------|--|
| <b>ITEM NO. B1:</b> | <b>Status of DPR for PSDF funding in respect of Sikkim &amp; JUSNL</b> |
|---------------------|--|

In 33<sup>rd</sup>TCC, JUSNL and Sikkim informed that they need funds for upgradation of protection system. TCC, therefore advised JUSNL and Sikkim to prepare DPR within a month for up gradation of protection system and send to NLDC for PSDF funding with intimation to ERPC Secretariat.

In 34<sup>th</sup> TCC Sikkim informed that they will submit the DPR by January, 2016.

JUSNL informed that they are going to place the order to PRDC for preparation of DPR by the end of November, 2016 and they will submit the DPR to PSDF nodal agency by February, 2017.

Sikkim and JUSNL may update.

### **Deliberation in TCC meeting**

*Sikkim informed that they need some help from ERPC secretariat and assured that DPR will be submitted by 15<sup>th</sup> April 2017. Secretariat assured to extend their help.*

*JUSNL informed that M/s PRDC, consultant is preparing the DPR and they will submit the DPR to PSDF nodal agency by 15<sup>th</sup> April, 2017.*



*It was informed that CE, CEA will give a presentation on PSDF in tomorrow's ERPC meeting.*

## **CEA may give a presentation on PSDF.**

|                     |  |
|---------------------|--|
| <b>ITEM NO. B2:</b> | <b>Revision of DPR for establishment of Reliable Communication (Bihar-Portion)</b> |
|---------------------|--|

In 34<sup>th</sup> TCC, it was informed that MoP agreed to fund 30% of the OPGW project through PSDF and rest 70% from states. Chairperson advised that TCC members may explore possibilities of enhancement of the PSDF portion on funding for OPGW project.

Powergrid updated that DPR for installation of OPGW for transmission lines of 132kV and above voltage level for both central and state sectors has been prepared for submission to the PSDF appraisal committee but now as per the decision of MoP the central sector is to be implemented by Powergrid on tariff based scheme and States sectors have to implement their portion on their own or may apply for PSDF funding on grant & investment ratio @30:70 .

TCC advised all the States to place the DPR to PSDF appraisal committee for OPGW project with their proposed PSDF funding requirement.

BSPTCL vide letter dated 07.01.17 intimated that the that power sector in Bihar is growing many folds. Since the submission of transmission details and its connectivity diagram to PGCIL, many new transmission lines and sub-station has been commissioned and many of these elements are going to be commissioned shortly. Further, in view of achieving redundancy, some transmission lines have been taken into consideration for laying OPGW under ULDC revised scheme. This scheme is under implementation with PGCIL. So, the DPR need to be revised based on the update information of Sub-stations which is enclosed at **Annexure- B2**.

In Special PRM held on 14.02.2017, Powergrid informed that the State portion has to be implemented by the respective States. Powergrid will only implement for the Central Sector portion.

States may update respective status. TCC may guide.

### **Deliberation in TCC meeting**

*Chairman, TCC informed that states were not attending the higher level meetings being held at CEA and advised all the state representatives to attend.*

*He added that PSDF grant & investment ratio @30:70 was arrived based the marketing of the OPGW network by the states. However it is not possible for Eastern Region states.*

*He suggested that all the constituents should approach MoP, GoI for PSDF grant & investment ratio @90:10.*

*CE, NPC informed that such schemes will be considered for PSDF funding but for changing the grant & investment ratio to 90:10 the approval needs to be taken from Ministry of power, GOI.*

*TCC decided that all the states should prepare DPR and send it to PSDF appraisal committee by 5<sup>th</sup> March, 2017 with a request to CE, NPC to take up the matter with ministry for considering the PSDF grant & investment ratio @90:10 for the projects of state sectors.*

*JUSNL informed that their DPR is ready and will be submitted by next week. Further, JUSNL pointed that the ownership of ties of JUSNL and BSPTCL lines was not yet decided and a procedure should be formulated for installation of OPGW in those lines.*

*TCC viewed that ownership issues are bilateral and these issues should be resolved by mutual interaction.*

**ERPC may note.**

|                     |                                     |
|---------------------|-------------------------------------|
| <b>ITEM NO. B3:</b> | <b>FSTPS Islanding Scheme, NTPC</b> |
|---------------------|-------------------------------------|

In 118th OCC, NTPC informed that their part is ready for implementation.

Powergrid informed that the battery charger has been delivered and expected to complete the work by March, 2016.

In 128<sup>th</sup> OCC meeting it was informed that progress of the islanding scheme is being monitored at Ministry level and ERPC Secretariat has already communicated the completion schedule as December, 2016.

OCC took serious note of extending the completion schedule of the islanding scheme in the last moment.

OCC felt that NTPC is not serious about implementation of the islanding scheme advised NTPC to submit their complete action plan to ERPC and ERLDC.

Subsequently NTPC submitted that

QUOTE

Regarding Farakka Islanding scheme, Cabling work has been done up to unit control room but final hooking with C&I system is pending. After evaluating every aspect, NTPC Farakka is of the view that the connection to C&I system is to be done during unit overhaul only so that proper checking of control system response can be done by simulation. Due to this, there has been a revision of the plan at our end. Our overhauling plan as of now, has been informed through our earlier mail yesterday. We shall hook units one by one during these overhauls.

UNQUOTE

OCC advised NTPC to explore final hooking up with C& I system at an opportune S/D time of the unit.

In 129<sup>th</sup> OCC, NTPC explained that after final hooking up with C&I of units they have to conduct dry simulation for checking the successful operation of the scheme which can only be carried out during overhauling.

Further, they informed that the maintenance programme of U#1 is scheduled from 10<sup>th</sup> March, 2017. So the hooking up with unit-I will be completed by March,2017 and the Islanding scheme will be operational. Unit#2 and Unit #3 will be hooked in April, 2017 and June/July, 2017 respectively during their overhauling.

OCC advised NTPC to strictly maintain the schedule so that the FSTPS islanding scheme can be put into service w.e.f. March, 2017.

In 130<sup>th</sup> OCC, NTPC assured to complete the islanding scheme with U#1 of FSTPS and they have requisitioned for shutdown of U#1 w.e.f. 10<sup>th</sup> March, 2017.

NTPC may update.

### **Deliberation in TCC meeting**

*NTPC confirmed that the final hooking of U#1 will be completed during overhauling S/D of U-1 in the month of March-April, 2017. They assured FSTPP islanding scheme with U#1 of FSTPS will be operational positively by April 2017 without further delay. On specific queries NTPC informed that except hooking up with units all their assigned works for implementing FSTPS islanding are satisfactorily completed.*

**ERPC may note.**

|                     |  |
|---------------------|--|
| <b>ITEM NO. B4:</b> | <b>Status of Bus Splitting schemes in Eastern Region</b> |
|---------------------|--|

#### **A. Bus Splitting of Powergrid Sub-stations**

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at Maithon, Durgapur & Biharsariff S/Ss or ER. The latest status on the same are:

- 400 kV Maithon ---Completed
- 400 kV Durgapur--Completed
- 400 kV Biharshariff— *In 129<sup>th</sup> OCC, Powergrid informed that bus splitting scheme will be completed by February, 2017.*

*In 130<sup>th</sup> OCC meeting, Powergrid informed that physical bus splitting at 400kV Biharshariff S/s has been completed. Protection part is yet to be completed.*

*Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.*

Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.*

**ERPC may note.**

#### **B. Bus Splitting of Kahalgaon STPS Stage I&II, NTPC**

In 130<sup>th</sup> OCC, NTPC has given the present status as follows:

- 400/132kV Switchyard package - bid opened on 14.03.16. Awarded on 04.05.2016.
- Site leveling – *Site leveling work has been completed.*

- Transformer package and Shunt reactor– have been awarded.

In 34<sup>th</sup> TCC, NTPC informed that the bus splitting will be completed by December, 2018.

NTPC may update.

### **Deliberation in TCC meeting**

NTPC informed that the work is in progress as per the schedule and the bus splitting will be completed by December, 2018.

### **ERPC may note.**

|                     |  |
|---------------------|--|
| <b>ITEM NO. B5:</b> | <b>Status of construction of 400 kV Sterlite-Jharsuguda D/C sections</b> |
|---------------------|--|

Several deliberations were held in this forum on the issue of construction of 400 kV Sterlite – Jharsuguda D/C dedicated line of Vedanta Ltd (formerly known as Sesa Sterlite Ltd).

The 34<sup>th</sup> ERPC board, noted the progress made by Vedanta and advised Vedanta to expedite the work and complete the work by February, 2017 as decided by TCC. In this regard Vedanta was further advised to submit a fresh affidavit by 30.11.2016

Further, on appeal of Vedanta, ERPC reiterated that the physical completion of the project should be done by end February 2017. The pending statutory clearances may be obtained post completion of the physical activities and the status may be reviewed in next TCC meeting/ March 2017.

Subsequently, Vedanta Ltd submitted a affidavit on 15<sup>th</sup> December, 2016 (Copy of the same is attached at **Annexure-B5**).

The latest status updated in 130<sup>th</sup> OCC is as given below:

| Activities                        | Nos     | Status as on 15-Nov-16<br>(as updated in 34 <sup>th</sup> TCC) | Status as on 17-Feb-17<br>(As updated in 130 <sup>th</sup> OCC) | Target completion as given in 34 <sup>th</sup> TCC Meeting | Remarks |
|-----------------------------------|---------|--|---|--|---------|
| Tower Foundation                  | 64      | 60   | 62  | 30-Dec-16  |         |
| Tower Erection                    | 64      | 42   | 55  | 10-Feb-17  |         |
| Stringing /OPGW Cabling & Testing | 20.5 Km | One stretch completed  | 5.5 km completed  | 28-Feb-17  |         |
| Sub station Bay                   | 2       | Equipment Erection, Cable Trench, Earthing Completed           | -   | 31-Dec-16  |         |

Vedanta may update.

### **Deliberation in TCC meeting**

Vedanta updated the latest status as follows:

| Activities                        | Nos     | Status as on 15-Nov-16 (as updated in 34 <sup>th</sup> TCC) | Status as on 24-Feb-17 (As updated in 35 <sup>th</sup> TCC) | Remarks   |
|-----------------------------------|---------|---|---|---|
| Tower Foundation                  | 64      | 60  | 64  | Completed   |
| Tower Erection                    | 64      | 42  | 58  |   |
| Stringing /OPGW Cabling & Testing | 20.5 Km | One stretch completed                                       | 8 km completed  |   |
| Sub station Bay                   | 2       | Equipment Erection, Cable Trench, Earthing Completed        | Bay construction completed                                  | Will be completed by 2 <sup>nd</sup> March, 2017. |

*Vedanta informed that the construction work was delayed due to non-availability of shutdown of 11kV lines during Panchayat election.*

*Vedanta added that physical construction of the line will be completed by the end of March, 2017 and the line will be commissioned by end of April 2017 after getting the statutory clearances. Vedanta requested TCC to extend the dead line for removal of LILO up to April 2017.*

*CTU opined that in line with CERC order, they are ready to open the LILO as per the direction of TCC/ERPC.*

*Gridco, Odisha informed that they could not give the shutdown of 11kV feeders due to Panchayat elections and one month extension up to March 2017 may be granted to Vedanta for completion of line.*

*TCC opined that Vedanta is not serious about the construction of the line and still asking for 2 months extension. TCC viewed that the line can be commissioned by end of March 2017 if they could take up the activities related to statutory clearances simultaneously.*

*Accepting OPTCL request TCC decided to extend the dead line to 31.3.17 for commissioning of line including on-load charging of the same. Accordingly advised Vedanta to place item wise schedule for commissioning of line, in 35<sup>th</sup> ERPC meeting on 25.2.17.*

*Referred to ERPC for further guidance.*

### **ERPC may decide.**

|                     |   |
|---------------------|---|
| <b>ITEM NO. B6:</b> | <b>Status of construction of 400 kV Ind-Barath-Jharsuguda D/C line.</b> |
|---------------------|---|

CERC vide order dated 31.08.16 on petition No. 134/MP/2016 clarified the following:

#### **Quote:**

“.....The Commission allowed the petitioner to inject infirm power upto 31.7.2016 for the purpose of achieving COD of the unit. It is clarified that even infirm power shall not be allowed for injection after 31.7.2016, the petitioner is stated to have achieved COD on 19.7.2016. In our view, the petitioner should commission the dedicated transmission line at the earliest and inject commercial power through dedicated transmission line. From the point of view of grid security, we cannot allow the petitioner to inject firm power through LILO which was basically a temporary arrangement.”

**Unquote**

In 130<sup>th</sup> OCC meeting, IBEUL informed that construction of the line has been completed and ready for commission. The line will be commissioned by 28<sup>th</sup> February, 2017.

OCC advised IBUEL to communicate the status to ERPC and ERLDC after commissioning of line for commencement of commercial transaction.

IBEUL may update.

#### **Deliberation in TCC meeting**

*It was informed that IBUEL vide mail has submitted the status of their dedicated line to ERPC and ERLDC on 23-02-2017. TCC advised ERPC secretariat to assess the position and do needful in line with CERC order, regulation and decisions taken in several meetings held on this issue.*

**ERPC may note.**

|                     |   |
|---------------------|---|
| <b>ITEM NO. B7:</b> | <b>Status of construction of Chuzachen bay at Rangpo S/s.</b> |
|---------------------|---|

Construction of bays at Rangpo S/s meant for evacuation of power from Chuzachen has been undertaken by Department of Power, Govt of Sikkim, under consultancy with Powergrid.

In 33<sup>rd</sup> ERPC, Sikkim placed the road map for construction of the bays as follows:

- Tender will be floated by July 2016
- Bid will be opened by August 2016
- Work will be awarded by September 2016
- Bay will be commissioned by December, 2017

In 34<sup>th</sup> TCC, Sikkim informed that they are going for retendering in November, 2016.

Sikkim assured that they will commission the bay within the target date i.e. December, 2017.

Sikkim may update. TCC may guide.

#### **Deliberation in TCC meeting**

*Sikkim informed that retendering work is in progress.*

*Sikkim assured that they will commission the bay within the target date i.e. December, 2017.*

**ERPC may note.**

|                     |   |
|---------------------|---|
| <b>ITEM NO. B8:</b> | <b>Status of construction of dedicated transmission lines of IPPs which are connected through interim arrangement</b> |
|---------------------|---|

The progress of dedicated transmission lines of IPPs in Eastern Region, which were connected through interim arrangement, was reviewed in 34<sup>th</sup> ERPC meeting held on 19<sup>th</sup> November 2016. Dikchu HEP of Sneha Kinetic Power Projects Pvt. Ltd. is expected to be shortly commissioned on

interim arrangement. Therefore, it is proposed that status of dedicated transmission system of Dickhu HEP may also be monitored in ERPC forum. The status of the dedicated transmission lines as reported by IPPs in ER during the last ERPC meeting and Dikchu HEP is summarized below:

| <b>Generation Project in ER connected through temporary LILO arrangement</b> |   |                                   |   |  |  |
|--|---|-----------------------------------|---|--|--|
| <b>Sl. No.</b>   | <b>Generation Project</b>                       | <b>Installed Capacity (in MW)</b> | <b>Present Connectivity through LILO</b>  | <b>Final Connectivity Arrangement (not commissioned)</b> | <b>Anticipated Completion Schedule</b>   |
| 1  | Vedanta (Sterlite Energy Ltd.)                  | 4x600                             | LILO of one circuit of Rourkela - Raigarh 400kV D/c line ( <i>granted in Sept'09</i> )            | Sterlite - Jharsuguda 400kV 2xD/c                        | Feb'17                                   |
| 2  | Ind Barath Energy (Utkal) Ltd.                  | 2x350                             | LILO of one circuit of Jharsuguda - Raigarh 400kV D/c line ( <i>granted in Sept'09</i> )          | Ind Barath - Jharsuguda 400kV D/c                        | Completed but CEA clearance awaited      |
| 3  | Gati Infrastructure Ltd. (Chuzachen)            | 2X49.5                            | LILO of Rangpo - Melli 132kV S/c line ( <i>granted in Nov'07</i> )                                | Chuzachen - Rangpo 132kV D/c (with Zebra conductor)      | Dec'17                                   |
| 4  | Sneha Kinetic Power Projects Pvt. Ltd. (Dikchu) | 2x48                              | (* LILO of one circuit of Teesta-III – Rangpo 400kV D/c line ( <i>granted in Dec'14 by CERC</i> ) | Dikchu – Dikchu Pool 132kV D/c                           | (\$ To be informed by developer & Sikkim |

(\*) Under Implementation. Interim granted vide CERC order in Petition no. 157/MP/2014 dated 03<sup>rd</sup> Dec 2014.

(<sup>\$</sup>) Dikchu Pool S/s is being implemented under Sikkim Comprehensive scheme of Govt. of Sikkim (being implemented by POWERGRID on consultancy). The expected commissioning schedule of Dikchu Pool and dedicated transmission line to be informed by Sikkim and SKPPPL, respectively.

As per CERC order dated 28.09.2016 on Petition no. 30/MP/2014, “CTU shall take up all the existing cases of connectivity on interim LILO with the RPC of respective regions within a period of one month from the date of issue of this order for review and decision on disconnection of the interim arrangements through LILO. All such interim arrangements through LILO shall be disconnected within a period of three months of the issue of this order unless the RPC grants extension for continuation of LILO keeping in view of all relevant factors.”

In view of the CERC order, further decision regarding the disconnection of the interim arrangements through LILO may be taken in the ERPC forum.

TCC may deliberate.

### **Deliberation in TCC meeting**

CTU opined that in line with CERC order, they are ready to open the LILOs as per the TCC/ERPC direction.

**ERPC may note.**

|                     |   |
|---------------------|---|
| <b>ITEM NO. B9:</b> | <b>Outstanding issues towards charging of 220kV Biharsharif-Tenughat line at 400 kV level</b> |
|---------------------|---|

Powergrid vide letter dated 18.01.2017 informed that the scope of POWERGRID for charging the 220kV Biharsharif-Tenughat line at 400 KV level is construction of (a) 01 no. bay and 0.8Km 400 KV transmission line for termination at Biharsarif S/s and (b) 5 nos. bays including Erection, Testing & Commissioning of OSM Equipments (i.e. 2 x 250 MVA ICTs, 50 MVAR L/R) at Tenughat end of TVNL. The detail scope of work with present status is enclosed at **Annexure-B9**.

In this regard, the following points are being put forward for consideration owing to which the balance work could not be completed till date:

**A) Biharsharif S/s End (Deposit work of JUSNL):- Cost Plus Basis.**

- a. The balance work at Biharsharif S/s end could not be completed due to irregular and delayed payment in past from JUSNL despite repeated reminders for deposit of fund by POWERGRID. Forcing agencies to demobilized frequently for want of fund. *Still payment of Rs. 48.5 Lakh is pending from JUSNL.*
- b. The said T/L is charged at 220 KV level and BSPTCL is currently drawing power from the said line directly. After charging of the said T/L on 400 KV level, BSPTCL will be deprived of power from Tenughat directly. *This issue has been strongly raised by BSPTCL in ERPC forum.*
- c. Work related to 400 KV bays at Biharsarif is nearing completion and line diversion work will be completed by April-2017.

**B) Tenughat End (TVNL Consultancy project):- Cost Plus Basis.**

- a. The balance work at Tenughat end could not be completed due to non-receipt of payment of Rs. 4.07 Crores approx from TVNL despite repeated reminders by POWERGRID. Part payment issues is not resolving.
- b. It is to inform that the agency (M/s Sterling Wilson) at Tenughat end has demobilized from site due to non-receipt of payment. The re-mobilization of agency for completion of balance work shall take approx. 01 month after receipt of pending fund from TVNL. Subsequent to mobilization of agency at site, approx. 03 months shall be required for completion of the balance work at Tenughat end. Other pending issues are enclosed in **Annexure-B9**.
- c. Completion target for above job (B) is by June-17.

34<sup>th</sup> ERPC advised JUSNL to settle the disputes in the bill and do the payment by end of November, 2016. JUSNL agreed.

In 34<sup>th</sup> TCC, Director (Projects), BSPTCL stated that the 4<sup>th</sup> ICT of 500 MVA at Biharshariff must be commissioned in close co-ordination with the up gradation of the subjected line.

Powergrid informed that this ICT may take at least two years as per the schedule.

ERPC requested Powergrid to explore the possibility of diversion of ICT from other projects/region. Director (O), Powergrid agreed to explore.



## **Deliberation in TCC meeting**

### **A) Biharsharif S/s End (Deposit work of JUSNL):- Cost Plus Basis.**

*Powergrid informed that payment of Rs. 48.5 Lakh is still pending from JUSNL and they would complete the balance work at Biharsharif S/s end within 2 months from date of receipt of balance payment.*

*JUSNL has asked some clarifications on balanced payment.*

*TCC felt that the issue was pending from last two meetings and advised ERPC secretariat to convene a separate meeting at ERPC, Kolkata on 2<sup>nd</sup> March, 2017 at 12:00 hrs to resolve the issues.*

*TCC advised JUSNL and Powergrid to send their concerned officers at senior level for settlement of the problem.*

### **B) Tenughat End (TVNL Consultancy project):- Cost Plus Basis.**

*TVNL informed that yesterday they have paid Rs 2 cr to Powergrid and they will pay the balance amount by March 2017.*

*Powergrid informed that they need 6 months from date of receipt to complete the work.*

*TVNL requested Powergrid to complete the work as per the given schedule by June 2017. Further, TVNL pointed that linking at Tenughat switchyard needs some deliberation.*

*TCC advised TVNL also to attend the special meeting scheduled on 2<sup>nd</sup> March 2017 with higher level participation and with all the details for effective discussion.*

## **ERPC may note.**

|                      |   |
|----------------------|---|
| <b>ITEM NO. B10:</b> | <b>High voltage problem in 400KV Meramundali Grid S/S</b> |
|----------------------|---|

GRIDCO vide letter dated 07.01.17 intimated that presently Odisha is going through very high voltages at 400kV bus of Meramundali, Duburi and Mendhashal grid S/S. The situation is further worsened due to high reactive power flow from Meramundali to Angul pooling sub-station, from Duburi to Meramundali sub-station and from Kucheil to Duburi sub-station. It may be noted that, PGCIL has installed two nos. of 330 MVAR Bus reactors at Angul 765kV substation and two nos. of 125 MVAR Bus reactors at Ancul 400kV substation, thus resulting high reactive power flow from Meramundali to Angul & Duburi to Meramundali grid S/S. In view of the above OPTCL suggests the following as short term and long term measures to mitigate the high voltage issue as well as to improve the high reactive power flow situation.

### **Short term measure**

- OPTCL will install 80 MVAR reactor at Meramundali 400kV S/S.
- The Angul-Meramundali Double circuit tie to be opened at both ends.

## Long term measure

- The Meramundali-Angul Double circuit will be terminated at Meramundali (B). A letter regarding the above change has already been forwarded to CEA and will be placed in the next Standing Committee meeting of CEA. Meremundali(B) will be a new 400kV substation of OPTCL, approved by CEA and the work order to be issued shortly.

In view of the above and as the high voltage situation is menacing, it is requested to grant permission for the short term measures, mentioned above, to get relief from the high voltage issue and high reactive power flow. The system in the above condition will remain stable.

In 129<sup>th</sup> OCC, OPTCL informed that they are incurring substantial financial loss on account of reactive charges due to this overvoltage problem at 400 KV Meramundali substation and requested to explore the high voltage scenario by opening of 400 kV Angul-Meramundali D/C tie on trial basis.

ERLDC informed that the same may be granted as per real time grid conditions.

Further, OPTCL requested OCC to take up the issue of opening of LILOs of 400 kV Talcher-Meramundali & Bolangir –Meramundali lines at 765/400 kV Angul S/s which was already decided in 17<sup>th</sup> SCM meeting.

In 17<sup>th</sup> SCM it was pointed that the 400 kV LILO lines are feeding the load centres of Orissa at Meramundali and Mendasal. It is proposed that the above LILOs at Angul pooling station may not be disconnected. Instead, switching arrangements may be made at Angul substation such that above 400 kV LILOs may be operated either by-passing Angul substation or terminating at Angul substation as and when required, depending upon the power flow condition. Members agreed to the proposal as a part of Easter Region strengthening scheme-17 (ERSS-17)

The issue was also discussed in the special meeting on High voltage issues of ER, the minutes of the meeting is enclosed at **Annexure-B10**. In the meeting it was decided that OPTCL would ensure absorption of maximum possible reactive power (as per capability curve) by the units of JSPL, Vedanta and GMR(Odisha). Also, OPTCL should endeavor to restore the 50MVAR line reactor at Meramundali end of Vedanta-Meramundali-I at the earliest.

The issue was placed in 129<sup>th</sup> OCC and OCC viewed that as it is the matter related to Standing Committee of ER the same may be taken up with CEA/CTU.

Subsequently, MS took up the issue with CTU and it was agreed that ERLDC will carry out study for Reactive power flow in OPTCL system.

In 130<sup>th</sup> OCC, ERLDC has presented the study results and informed the following:

- The voltage at Meramundali is increasing during winter season due low demand at Meramundali, Dubri and Mendhasal and insufficient reactive power support.
- In the present scenario the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s.
- With opening 400kV Angul-Meramundali line the export of reactive power to the ISTS network is reduced drastically but the voltage at 400kV Meramundali S/s is increasing by 4 kV which may affect the sub-station equipment.
- Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.

OPTCL informed that 400 kV Meramundali- Mendhasal line will be restored within a week and 315 MVA, 400/220kV ICT will be restored by 15<sup>th</sup> March, 2017.

OCC advised OPTCL to plan for adequate reactive power compensation at 400kV Meramundali, New Dubri and Mendhasal S/s as a long term a measure.

ERLDC may elaborate. TCC may guide.

### **Deliberation in TCC meeting**

*ERLDC informed that VAR is being generated at OPTCL system and the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s. The opening of 400kV Angul-Meramundali line will not the solution. Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.*

*OPTCL informed that 400 kV Meramundali- Mendhasal line will be charged on tomorrow and 315 MVA, 400/220kV ICT will be restored by 15<sup>th</sup> March, 2017.*

*Powergrid informed that the flexible LILO scheme as approved in 18<sup>th</sup> SCM was approved in their Board and it is in final stage and the scheme will be implemented by 2018.*

*TCC opined that the high voltage issue should be reviewed after restoration of 400 kV Meramundali- Mendhasal line and commissioning of 315 MVA, 400/220kV ICT at Meramundali in OCC meeting.*

*TCC advised all generators in around 400kV Meramundali S/s to absorb VAR up to maximum extend as per the capability curve. TCC also advised OPTCL to plan for proper reactive power compensation at 400kV Meramundali, New Dubri and Mendhasal S/s.*

*CE, CEA opined that reactive power compensation is part of grid security and it is eligible for PSDF grant. OPTCL may apply for PSDF.*

### **ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B11:</b> | <b>Status of PLCC system installed in Eastern Region</b> |
|----------------------|--|

#### **1) Restoration of PLCC system of important lines of JUSNL**

##### **I) 220 KV Chandil –Santaldih line**

In 130th OCC meeting, JUSNL intimated that PLCC for 220 kV Chandil-Santaldih line has been tested and commissioned successfully on 25.01.17.

WBPDCI informed that the PLCC was activated but the auto-reclosure could not be put into service as the R-Ph pole of Circuit Breaker is not getting closed during auto-reclosure operation. The same is taken up with the OEM (i.e. ABB) and they will be rectifying the CB.

## II) 220 KV Ramchandrapur-Joda line

In 130th OCC meeting, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned within a week. JUSNL informed that the Ramchandrapur end is ready in all respect for implementation of PLCC.

JUSNL/WBPDCL/OPTCL may update.

### **Deliberation in TCC meeting**

*WBPDCL informed that overhauling of the R-ph pole of CB will be done by 15<sup>th</sup> March 2017. Subsequently, auto-reclosure feature will be enabled.*

*OPTCL informed that PLCC panels at 220kV Joda end will be commissioned by March 2017.*

### **ERPC may note.**

#### **2) Restoration of PLCC system of important lines of OPTCL and BSPTCL**

In 34<sup>th</sup> TCC, OPTCL updated the latest status as follow:

1. Jeypore(PG)-Jayanagar (Commn. in OPGW exists): SDH tendering is in progress
2. Rourkela(PG)-Tarkera (Commn. in OPGW exists): SDH received commissioning by January, 2017
3. Rengali(PG)-Rengali S/Y (Proposal for Commn. in OPGW is pending): tendering is in progress
4. Indravati(PG)-Indravati(PH) (Proposal for Commn. in OPGW pending): tendering is in progress
5. Baripada(PG)-Baripada ( Tendering in Progress for OPGW): Contract awarded
6. Baripada(PG)-Rairangpur (Tendering in Progress for OPGW): Contract awarded

BSPTCL informed the latest status as follows:

1. 220kV Patna-Fatua S/C line---Will commission the PLCC system by 31<sup>st</sup> December, 2016
2. 220kV Patna-Khagul S/C line---Will commission the PLCC system by 31<sup>st</sup> December, 2016
3. 220kV Gaya-Dehri D/C line--- The line is under breakdown. After coming of line in service, the work will be completed within another one month.
4. 220kV Gaya-Bodhgaya D/C line--- There is T-connection in line after removal of T connection PLCC will be installed.

Further, in PCC meetings the need of PLCC system was felt for the following lines of BSPTCL:

- |  |   |                              |
|--|---|------------------------------|
| <ol style="list-style-type: none"><li>1. 220kV Purnea (PG)-Madhepura line</li><li>2. 220 kV Biharshariff- Begusarai line</li><li>3. 220 kV Biharshariff- Bodhgaya line</li></ol> | } | UNDER JURISDICTION OF BSPTCL |
|--|---|------------------------------|

OPTCL and BSPTCL may update.

### **Deliberation in TCC meeting**

*OPTCL informed that PLCC system for Rourkela(PG)-Tarkera (Commn. in OPGW exists) line will be commissioned by March, 2017.*

BSPTCL updated the following.

1. 220kV Patna-Fatua S/C line---PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017
  2. 220kV Patna-Khagul S/C line--- PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned after completion of re-conductoring work
  3. 220kV Gaya-Dehri D/C line--- PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017
  4. 220kV Gaya-Bodhgaya D/C line--- PLCC system has been installed and relays were reconfigured. PLCC system will be commissioned by March, 2017
  5. 220kV Purnea (PG)-Madhepura line
  6. 220 kV Biharshariff- Begusarai line
  7. 220 kV Biharshariff- Bodhgaya line
- } Digital PLCC will be implemented.

### ERPC may note.

|                      |  |
|----------------------|--|
| <b>ITEM NO. B12:</b> | <b>Redundancy of data at either of the control centres in case of failure of any one communication path/ICCP link/communication equipments</b> |
|----------------------|--|

There was a total failure of real time SCADA data to all control centres from 05:53 Hrs of 08-August-16. As an interim arrangement, real time SCADA data was restored on 10-August-16 at 03:19Hrs. The root cause was yet to be arrived and fixed.

In 126<sup>th</sup> OCC, it was raised that in case of failure of ICCP link/other communication equipment, the data availability needs to be assured at Back-up control centres.

OCC advised Powergrid to submit in 34<sup>th</sup> TCC their detail plan for data redundancy in case of failure of any one communication system at either of the control centres (Main & Back-up).

34<sup>th</sup> TCC felt that in case of failure of ICCP link/other communication equipment, the data availability needs to be assured at Main as well as Back-up control centres.

Powergrid informed that the alternate communication path was not available for SLDCs and ERLDC. Powergrid added that backup equipment is available and alternate communication path can be planned.

TCC advised to convene a special SCADA meeting to discuss the issue and report back.

In Special PRM meeting was held on 14.02.2017 to deliberate the issue. The minutes of the meeting is available at ERPC website (<http://www.erpc.gov.in/event-calendar/>). In the meeting the following two major issues emerged which need to be addressed:

#### **1) Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up control centres-**

In the meeting, POWERGRID informed that independent reporting of RTU/SAS to backup ERLDC control center may consume lots of bandwidth and independent reporting will be easier through VLAN in 104 protocols but the old RTU in Central sector is not having 104 protocols provision. POWERGRID further informed that provision of dual reporting of RTUs / SAS would be possible in 104 protocols only after replacement of old RTUs.

ERLDC informed that new SCADA system is designed for dual reporting considering VLAN in 104 protocols and unless until, the dual data reporting of each RTUs / SAS would be configured in 104 protocols, complete control centre backup will not be achieved. So, it is quite necessary to replace the old RTUs / SAS at the earliest.

GM, ERLDC informed that process of replacement of similar old RTUs has taken up at Western Region also after getting proper approval at RPC level. GM, ERLDC suggested that a committee may be constituted to begin with to assess the requirement of the replacement of the old RTUs.

All members agreed and referred to TCC for further guidance.

TCC may guide.

**Deliberation in TCC meeting**

*ERLDC informed that new SCADA system is designed for dual reporting. It is possible through LOOP PDH and SAS at main ERLDC control centre and extended directly to backup ERLDC control centre. But for Alcatel PDH it would not be possible. As these RTUs have already completed 15 years and need to be replaced by 2020, the replacement process may be initiated by the respective utilities.*

*Further ERLDC informed that as per the draft communication regulation the life of RTUs is fifteen years so the utilities should take care for their RTUs.*

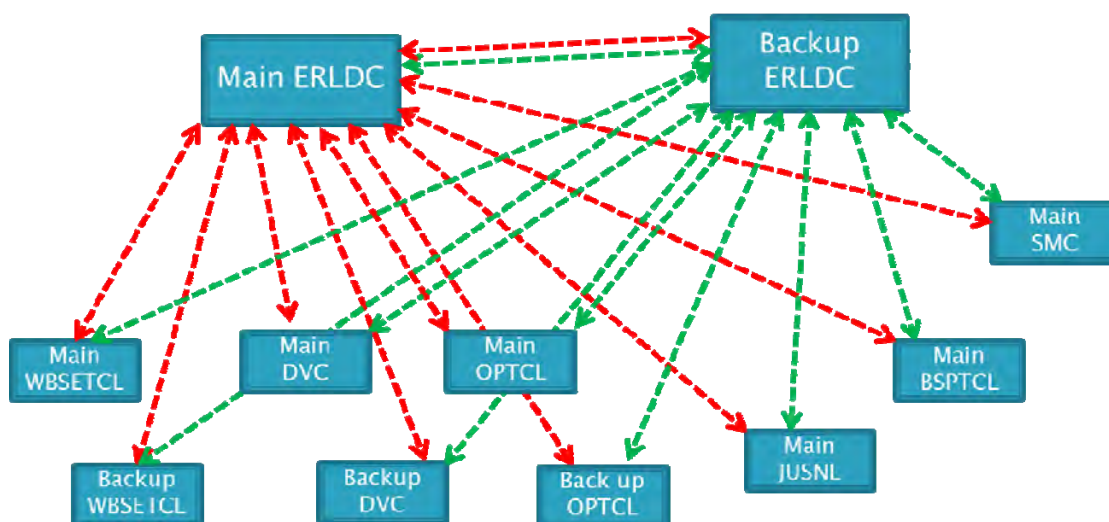
*NTPC informed that the RTUs will be completing their life by 2020 and if any replacement is required before 2020 it may be considered after proper assessment.*

*After detailed discussion, TCC decided that a committee may be formed by ERLDC with Powergrid as nodal agency for assessment of old RTUs and further necessary action on replacement. Progress reports in this regard are to be placed before TCC on regular basis.*

**ERPC may guide.**

**2) Redundancy of ICCP links between control centres:**

ERLDC informed that ICCP links from ERLDC / backup ERLDC to all control centres should be available as mentioned in the diagram below:



POWERGRID intimated that the ICCP connectivity of Backup ERLDC with all the control centers will be fully implemented after complete route redundancy of optical fiber. There are few paths (especially last mile) where there is no fiber redundancy. POWERGRID requested constituents to explore and implement the last mile redundant fiber connectivity. Such path having no redundancy has been identified for each sector and redundant route is shown in ICCP flow diagram in **Annexure – B12.2**. Following are the sections where fiber laying is to be done/under implementation:

**Central Sector:**

ERLDC to Kasba–POWERGRID informed that one UGFO link between ERLDC to Kasba is under implementation by them. POWERGRID further informed that alternate FO link connectivity may be implemented after getting the fiber connectivity from CESC (Kasba S/S – Jadavpur S/S – ERLDC) for route diversity for redundancy. POWERGRID requested ERLDC to take up the matter with CESC so that the same fiber can be used between ERLDC to Kasba for route diversity for redundancy.

Farakka to Jeerat – POWERGRID informed that presently, FO link connectivity is available between Farakka to Jeerat through Behrampur which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Farakka to Jeerat through Gokarna, Rajarhat & Subhashgram.

**WBSETCL Sector:**

Kasba to Arambag – POWERGRID informed that presently, FO link connectivity is available between Kasba to Arambag through Jeerat, Behrampur, Farakka & Durgapur which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Kasba to Arambag through Jeerat & Krishnanagar as mentioned in the ICCP flow diagram of WBSETCL. POWERGRID further informed that the same would be implemented by December 2017.

**DVC Sector:**

Howrah SLDC to ERLDC– POWERGRID informed that presently, FO link connectivity between Howrah SLDC to ERLDC is available through leased line. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Howrah SLDC to Maithon SLDC & Howrah SLDC to Waria as mentioned in the ICCP flow diagram of DVC. POWERGRID further informed that the same would be implemented by June 2017.

Kalyaneshwari to Mathon SLDC – POWERGRID informed that presently, FO link connectivity is available between Kalyaneshwari to Maithon SLDC through Maithon HPS which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Maithon SLDC to Howrah SLDC as mentioned in the ICCP flow diagram of DVC. POWERGRID further informed that the same would be implemented by June 2017.

**OPTCL Sector:**

Rourkela to Bhubaneswar SLDC – POWERGRID informed that presently, FO link connectivity between Rourkela to Bhubaneswar SLDC is available through TSTPS, Meeramundali & Mendhasal which doesn't have route diversity.

OPTCL informed that route diversity for redundancy would be available after commissioning of repeater station at Bhabanipatna between Jeypore – Bolangir line and FO link connectivity from Meeramundali to Bhubaneswar SLDC through Duburi New, Jagatsingpur & Cuttack as mentioned

in the ICCP flow diagram of OPTCL. OPTCL further informed that the same would be implemented by March 2018.

**BSPTCL Sector:**

Biharsharif 400 kV (PG) to Patna SLDC –POWERGRID informed that presently, FO link connectivity between Biharsharif 400 kV (PG) to Patna SLDC is available through Biharsharif 220,Fatwa &Jakkanpur which doesn't have route diversity.

BSPTCL informed that FO link connectivity between Biharsharif 220to Jakkanpur would be available through Bodhgaya, Chandwa, Jahanabad& Sipara. The same would be implemented by July 2017.

POWERGRID informed that route diversity for redundancy between Biharshariff 400 (PG) to Jakkanpur could not be achieved until unless FO connectivity from Patna to Sipara or/and Biharshariff 400 (PG) to Biharshariff 220 would be implemented. POWERGRID requested BSPTCL to get this FO link implemented. BSPTCL requested POWERGRID to include the same in the existing FO link implementation contract.

POWERGRID requested BSPTCL to explore the possibility of FO connectivity from Jakkanpur to Patna SLDC from their DISCOM for route diversity and redundancy between Jakkanpur to Patna SLDC. BSPTCL agreed for the same.

**JUSNL Sector:**

Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) –POWERGRID informed that presently, FO link connectivity between Ranchi 400 kV (PG) to JUSNL SLDC is available through Hatia 220 kV which doesn't have route diversity.

POWERGRID further informed that route diversity for redundancy between Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) could not be achieved until unless OPGW connectivity from Chandil to JUSNL SLDC through Namkum (132 kV) i.e. 95 Km could be completed. POWERGRID further informed redundant fiber route is to be explored and implemented by JUSNL.

**Sikkim:**

Gangtok to Sikkim SLDC –POWERGRID informed that presently, FO link connectivity between Gangtok to Sikkim SLDC is available which doesn't have route diversity.

POWERGRID further informed redundant fiber route is to be explored and implemented by Sikkim.

TCC may deliberate.

**Deliberation in TCC meeting**

*TCC advised all the respective constituents to explore for the last mile connectivity of fibre.*

**ERPC may guide.**

|                      |   |
|----------------------|---|
| <b>ITEM NO. B13:</b> | <b>Consideration of STU lines as Non-ISTS lines carrying ISTS power</b> |
|----------------------|---|

Subsequently, in line with 34<sup>th</sup> TCC decision, ERPC and ERLDC conducted the load flow study using WebNet software for first three quarters of validated data. Summary of the results for percentage utilization of the transmission line by STU to meet the own demand is given at **Annexure-B13**.



Balance (100 - utilization of the transmission line by the STU) is the ISTS power flowing through the line.

128<sup>th</sup> OCC decided that ISTS power flowing through STU lines greater than 50% of the total power as per the WebNet software of the validated data for each quarter will be considered as ISTS line.

In 129<sup>th</sup> OCC, OPTCL pointed that the PoC charges for STU lines should be calculated based on the actual ISTS power flow through STU lines as per the WebNet software of the validated data for each quarter.

However, after detailed deliberation all the STUs including OPTCL agreed that STU lines carrying ISTS power greater than 50% of the total power as per the WebNet software of the validated data for each quarter will be considered as non-ISTS line carrying ISTS power.

Further, GM-ERLDC informed that in Western Region the same principle is being followed for STU lines.

OCC requested concerned utilities to file petition before CERC in this regard with this recommendation.

TCC may guide.

#### **Deliberation in TCC meeting**

*TCC advised all the respective states to file petition before CERC for consideration of non-ISTS lines under respective control areas as ISTS lines with OCC recommendation.*

*TCC also advised ERPC/ERLDC to continue study in this regard on each quarter.*

**ERPC may guide.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B14:</b> | <b>Opening of LC by ER constituents for Deviation Charges Payments</b> |
|----------------------|--|

Clause 10 (4) of CERC Deviation Settlement Mechanism and related matters Regulations, 2014 vide notification No. L-1/132/2013/CERC dated 6<sup>th</sup> January, 2014 to be implemented from 17.02.2014 is reproduced below:

Quote

*All regional entities which had at any time during the previous financial year failed to make payment of Charges for Deviation including Additional Deviation Charges for Deviation within the time specified in this regulations shall be required to open a Letter of Credit (LC) equal to 110% of its average payable weekly liability for Deviations in the previous financial year, in favour of the concerned RLDC within a fortnight from the date these Regulations come into force.....*

*.....Provided further that LC amount shall be increased to 110% of the payable weekly liability in any week during the year, if it exceeds the previous LC amount by more than 50%.*

Unquote

As intimated by ERLDC, the details of LC amount required to be opened in 2016-17 by ER constituents is given in **Annexure – B14**. Letters to this effect has already been issued by ERLDC to the defaulting entities viz, BSPHCL, JUVNL, GATI, SIKKIM and Ind Barath. Rest of the constituents which were required to open/recoup the LC, they have opened/recoup the LC.

*In the last CCM on 06.02.2017, BSHPCCL informed that they would get the LC opened by the end of February, 2017. JUVNL informed that the matter had been taken with their bank and LC would be opened shortly. Sikkim representative was not present.*

ERLDC may update.

### **Deliberation in TCC meeting**

*BSPHCL informed that they have renewed their LC.*

*GATI informed that LC will be opened shortly.*

*Sikkim informed that LC will be opened by March, 2017.*

**ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B15:</b> | <b>Time correction of SEMs in Eastern Region</b> |
|----------------------|--|

The drifting of meter time was important in commercial terms since the reading for a block for a time drifted meter might not be true and lead to erroneous calculation of Deviation Charge for that constituent. Further, it was decided to keep this as a standing agenda in Commercial Sub Committee meetings for monitoring. List of Time drifted (more than 5-6 min) meters in ER as on 30.01.17 is enclosed in **Annexure-B15**.

It has been seen that constituents are not making any time correction in SEM. Further after AMR implementation due to non-use of the DCDs, many DCDs are not working in many places. Time correction from laptops is not possible. In Last CCM, It was decided that all the constituents would give a list of DCD with them and their status. Powergrid is requested to keep some spare DCD for the purpose of time correction of meters.

In the last CCM held on 06.02.2017, POWERGRID proposed purchase of about 10 to 15% new L & T meters and some DCDs so that time correction could be taken up urgently by replacing the time drifted meters from highest drift first. Then the drifted meters could be sent to the works of M/s L&T for bulk time correction. It was further informed that the new Genus make meters are yet to be interfaced with AMR system so procurement of new L&T meters could help relieve the drift issue.

ERLDC observed that the integration of Genus meters with AMR system are already ongoing by TCS and may be successful in a few days. Therefore, it may be prudent to replace the L & T meters with Genus meters, which have bulk time correction facility on site. The replaced L & T meters may be sent to factory for bulk time correction.

Powergrid was requested to prepare a list of L& T meters which were faulty or have exhausted their specification so that the same may be taken up for replacement immediately by Genus meters (as and when interface with AMR was complete)

GRIDCO representative informed that smart meters may be considered in future so that online time simultaneous time correction could be incorporated. ERLDC informed that the revision of metering regulations was under process in CEA and smart features may be incorporated.

Powergrid may update regarding integration of new Genus make meter in ER AMR.

### **Deliberation in TCC meeting**

*Constituents felt that the performance of the new Genus make meter should be confirmed before replacing all the SEMs.*

*Powergrid informed that new Genus meters were procured after conforming the specifications as per the CEA meter regulations and the bulk time drift in these meters can be corrected in one attempt through Laptop. The interfacing issues of Genus meters with AMR will be resolved by April 2017.*

*It was felt that the meters with severe drift greater than 10 min need to be replaced first and replacement is done with Genus then readings are to be collected manually using Laptop till interfacing with AMR is completed.*

*TCC advised Powergrid to replace the 10% of the heavily drifted SEMs and monitor the performance of the new meters. Powergrid should present this performance before constituents and subsequently the decision on replacement of the other time drifted meters will be taken up.*

### **ERPC may advise.**

|                      |   |
|----------------------|---|
| <b>ITEM NO. B16:</b> | <b>HIGH AMOUNT OF DEVIATION CHARGES PAYABLE BY BSEB ON ACCOUNT OF M/s. TALA HEP</b> |
|----------------------|---|

SBPDCL vide letter dated 07.01.17 informed that the deviation charges incurred by M/s TALA HEP are to be borne by its beneficiaries, and BSEB being a major beneficiary, having a share of 25.5% has to bear a major portion of these deviation charges.

For the last 8 weeks, it has been observed, to their great concern that the deviation charges incurred by M/s TALA HEP have been continually high, amounting to as high as few crores per week. A summary report of the amount incurred by M/s TALA HEP as deviation charges, and consequently the amount to be borne by BSP(H)CL erstwhile BSEB was also submitted.

From the statistics in this table; & discussion with ERLDC, it was concluded that a major percentage of bill for UI & Deviation payable by BSP(H)CL erstwhile BSEB, is on account of huge deviation charges incurred by M/s TALA HEP.

As such, ERLDC should keep scheduled generation near to actual generation or devise a mechanism to make deviation zero or minimum. Beneficiaries should not be charged for the high declared capacity (DC) given by TALA or CHUKHA HEP, as they are not responsible for the high mismatch between scheduled generation and actual generation of Bhutan generating station.

So, it was requested that the future scheduling for power purchase on behalf of M/s TALA HEP and M/s CHUKHA HEP should be done keeping in mind the concerns of its beneficiaries.

In 129<sup>th</sup> OCC, MS- ERPC assured that the matter is under consideration and will be resolved at the earliest.

In 130<sup>th</sup> OCC, ERPC/ERLDC explained the adjustment of Tala, and Chukha power in DSM and Regional Energy Accounting of ERPC. It was informed that there is no applicability of DSM for Tala/Chukha power. However, in DSM Account the deviation of Tala/Chukha is being adjusted at their respective rates not at frequency variable DSM rate.

BSPTCL may note.

### **Deliberation in TCC meeting**

SBPDCL pointed that they need some more clarification on the issue.

TCC advised SBPDCL to interact with ERPC Secretariat and resolve the issue.

**ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B17:</b> | <b>Proposal for stepwise completion of Rajarhat – Purnea 400 KV D/C line under ERSS-V Scheme</b> |
|----------------------|--|

Investment approval for the following transmission project associated with Eastern Region Strengthening Scheme-V (ERSS-V) was accorded by the competent authority in 292<sup>nd</sup> Board meeting on 23<sup>rd</sup> Oct'2013.

1. Rajarhat – Purnea 400 KV D/C line (with triple snow bird conductor) with LILO of one circuit at Gokarna(WBSETCL) and other circuit at Farakka(NTPC).
2. LILO of Subhasgram – Jeerat 400 KV S/C line at Rajarhat.
3. Establishment of 400/220 KV, 2X500 MVA Gas Insulated Sub-station at Rajarhat in west Bengal.

Keeping in view of the facts and priorities, the project element “Rajarhat – Purnea 400 KV D/C line (with triple snow bird conductor) with LILO of one circuit at Gokarna (WBSETCL) and other circuit at Farakka (NTPC)” associated with ERSS-V was proposed to be rearranged and commissioned stepwise as detailed below:

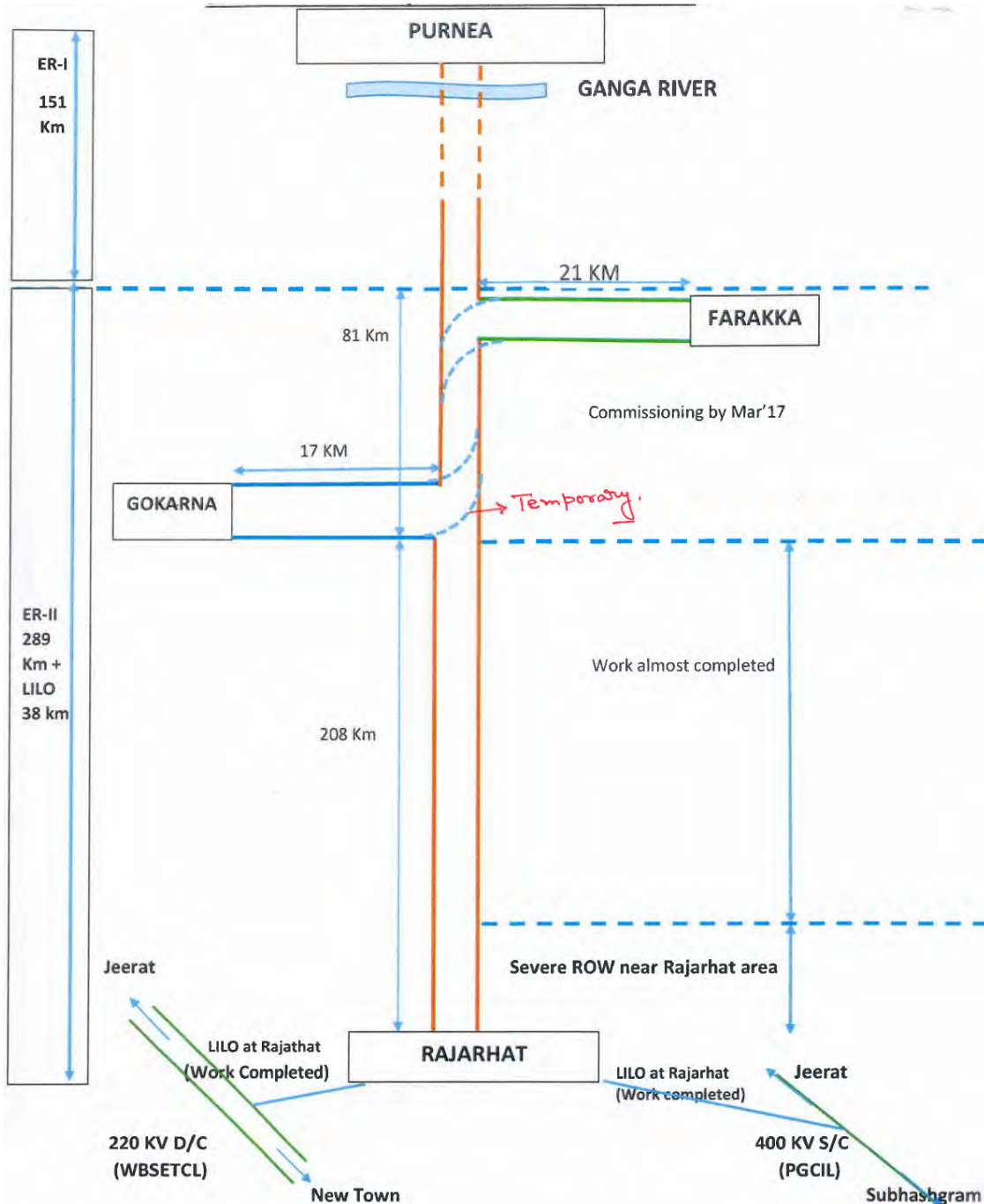
| Sl. No. | Description of rearranged Element  |
|---------|--|
| 1       | Rajarhat - Farakka portion of Rajarhat - Purnea 400 KV D/C transmission line including LILO of one ckt. of Rajarhat - Purnea Line at Farakka |
| 2       | LILO of one Circuit of 400 KV D/c Rajarhat- Purnea Line at Gokarna Substation  |
| 3       | Farakka – Purnea portion of Rajarhat - Purnea 400 KV D/C transmission line   |

34<sup>th</sup> TCC agreed for the above rearrangement.

In 129<sup>th</sup> OCC, Powergrid informed that the construction work of 400 KV GIS Sub-station and tower package of 400 KV D/C Rajarhat –Purnea Transmission line at Rajarhat end has completely brought to a standstill condition since last one month due to agitation of local villagers.

However, Farakka-Gokarna portion of the said line along with associated bays at Farakka may be completed within the FY 2016-17. Further, Sub-station work including ICT at Gokarna (under jurisdiction of WBSETCL) is ready for charging and 400 KV line bays including 80 MVAR B/R

(under scope of POWERGRID) is also ready for commissioning. Accordingly, 400 KV D/C Farakka-Gokarna portion of Rajarhat-Purnea 400 KV D/C transmission line including LILO of one circuit at Farakka and other circuit at Gokarna can be commissioned within March, 2017. This is also to be noted that commissioning of Farakka-Gokarna portion of the Rajarhat-Purnea transmission line can connect Gokarna S/s at 400 KV level which will improve the power situation in and around Berhampur area.



**Rajarhat Purnea re-arrangement diagram**

Keeping in view of the above facts and priorities the project element “Rajarhat-Purnea 400 KV D/C transmission line (with triple snow bird conductor) with LILO of one circuit at Gokarna (WBSETCL) and other circuit at Farakka (NTPC)” associated with ERSS-V is proposed to be rearranged and commissioned stepwise as detailed below:

| SL NO | DESCRIPTION OF REARRANGED ELEMENT   |
|-------|---|
| 1.    | 400 KV Farakka-Gokarna portion of Rajarhat-Purnea 400 KV D/C Transmission line including LILO of one circuit at Farakka & other circuit at Gokarna. |
| 2.    | Rajarhat-Gokarna portion of the 400 KV D/C Rajarhat-Purnea Line.  |
| 3.    | Farakka – Purnea portion of Rajarhat - Purnea 400 KV D/C transmission line.   |

After commissioning of element at Sl. No. 1 the effective transmission line shall be 400 KV D/C Gokarna-Farakka TL with 1 No. 80 MVAR B/R at Gokarna end and 1 No. 80 MVAR line reactor at Farakka end.

OCC agreed and recommended for TCC approval.

TCC may deliberate.

### **Deliberation in TCC meeting**

*TCC approved the changes and referred to ERPC for further concurrence.*

*TCC decided that the scheme will be referred to Standing Committee after approval of ERPC.*

**ERPC may approve.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B18:</b> | <b>Operationalization of LTA for BRBCL</b> |
|----------------------|--|

In the special meeting on the issue of Scheduling of BRBCL station which was held on 25<sup>th</sup> January, 2017 at Kolkata, it was decided that CTU will notify Operationalization of LTA after detailed studies before ensuing 35<sup>th</sup> TCC/ ERPC meetings. LTA will be operationalized upto the state periphery with total available transfer capability from the station.

CTU may update.

### **Deliberation in TCC meeting**

*It was informed that BRBCL has filed a petition before CERC and the issue is pending with CERC. Therefore the agenda was dropped and no discussions were held.*

**ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B19:</b> | <b>Nomination of the Bid Evaluation Committees (BECs) for the transmission projects being implemented through TBCB</b> |
|----------------------|--|

CEA vide letter dated 30.11.16 & 16.02.17 informed that Ministry of Power had notified the below scheme vide Gazette Notification dated 31.10.2016.

As per the Tariff based Competitive Bidding Guidelines for Transmission Service notified by Govt. of India nomination of officers at Director level are sought for constituting the scheme specific Bid Evaluation Committee (BEC) which is as follows:

| Sl. No. | Name of Transmission Scheme   | Bid Process Coordinator            | Nomination of officers (in no.) |
|---------|---|------------------------------------|---------------------------------|
| 1.      | Eastern Region Strengthening-XXI(ERSS-XXI)<br>(i) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Sitamarhi(New)<br>(ii) Establishment of 400/220/132 kV, 3x500 MVA+3x200 MVA S/s at Chandauti(New)<br>(iii) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Saharsa(New)<br>(iv) Substation extension at Darbhanga S/s<br>(v) Substation extension at Motihari S/s | REC Transmission Projects Co. Ltd. | 2                               |

It is requested that two no. of officers at Director level may be nominated for BEC for above ERSS-XXI projects.

TCC may nominate.

### **Deliberation in TCC meeting**

*TCC advised Bihar and Jharkhand to nominate for BEC at the earliest.*

**ERPC may nominate.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B20:</b> | <b>Very high loading of 220kV Muzaffarpur(PG)-Kanti D/C line</b> |
|----------------------|--|

Due to heavy import by BSPHCL at Muzaffarpur, power flow through the said line generally remains above 150MW/ ckt and even crosses 195 MW/ckt in the peak. Though the situation is likely to ease after commencement of generation at KBUNL Stg-2, for facilitating planned shutdown of the line, it is desirable to have additional 220kV circuits in parallel to the existing line. In the 34<sup>th</sup> TCC meeting it was informed that circuits 3 and 4 between Muzaffarpur(PG) and Kanti (Extn) would be completed by November, 2016.

BSPTCL / PGCIL may kindly expedite commissioning of 220kV circuits 3 and 4 between Muzaffarpur(PG) and Kanti (Extn).

BSPTCL/Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that 2 nos line bays will be commissioned at Muzaffarpur by March 2017 but the line construction is not in the scope of Powergrid.*

*BSPTCL informed that there is uncertainty in commissioning of line. However, BSPTCL is taking measures to relive the overloading of 220 kV Muzaffarpur-Kanti.*

**ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B21:</b> | <b>Augmentation of 400/220kV ICT capacity at Maithon, Patna, Sasaram, Biharshariff</b> |
|----------------------|--|

ICTs of (1X315+1X500) MVA capacity exists at Maithon, Patna and Sasaram. In the peak period, the total power catered by each of the sub-stations is high enough to cause tripping of the parallel 315MVA ICT, if the 500MVA ICT trips. Similarly, if one out of the 3X315 MVA ICTs at Biharshariff trips, the other two ICTs are also likely to trip on overload.

The 315 MVA ICTs at Patna and Sasaram are already planned to be replaced by 500MVA ICTs while a 500MVA ICT is scheduled to be added each at Maithon and at Biharshariff.

As the peak demands of Bihar and DVC systems are likely to rise sharply in the coming summer season, PGCIL may kindly expedite augmentation of 400/220kV ICT capacities at the above mentioned sub-stations

Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that the augmentation 400/220kV ICTs at Maithon S/s will be completed by July,2017.*

*Powergrid added that type test of 400/220kV ICT of Sasaram and Patna S/s has been failed and the design of the ICT is being reviewed by OEM. The augmentation of 400/220kV ICTs at Sasaram and Patna will take time.*

*Powergrid also informed that augmentation of 400/220kV ICTs at Biharshariff will take one and half year.*

*Bihar requested Powergrid to divert ICTs from any other sub-stations for early argumentation at Biharsariff, Sasaram and Patna S/s. Bihar added that immediate argumentation of ICTs at Biharsariff S/s is essential to meet increasing demand in Bihar.*

*Powergrid informed that diversion of ICT to Biharshariff S/s is not possible at this juncture. However Powergrid assured to explore further possibilities to expedite.*

### **ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B22:</b> | <b>Commissioning of 125 MVAR bus reactor at Jamshedpur</b> |
|----------------------|--|

Voltage of 400kV Jamshedpur remains above 420kV (IEGC upper limit) for nearly 100% of the time.

In the Standing Committee Meeting of ER held on 05-01-2013, it was inter-alia agreed to install 2X125 MVAR bus reactors in parallel with the existing 2X50 MVAR reactors at Jamshedpur. The same decision was reiterated in the next Standing Committee Meeting of ER held on 02-05-2014. While 125 MVAR reactors for voltage control have been installed by PGCIL at Rourkella, Patna, Sasaram, Maithon, Durgapur etc. the reactors at Jamshedpur are yet to be commissioned. PGCIL



may be requested to kindly accord topmost priority in mitigating high voltage at Jamshedpur and expedite installation of the 125 MVAR reactors there.

*In 130<sup>th</sup> OCC, ERLDC informed that severe high voltage is being observed at 400kV Jamshedpur S/s on continuous basis and advised Powergrid to commission 2X125 MVAR bus reactors at the earliest.*

*Powergrid informed that the reactor will be commissioned by April, 2017.*

Powergrid may update.

### **Deliberation in TCC meeting**

*Powergrid informed that the reactor will be commissioned by May, 2017.*

**ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B23:</b> | <b>Priority-based commissioning of bus reactor for control of high voltage during lean periods</b> |
|----------------------|--|

In 34<sup>th</sup> TCC, Powergrid updated the latest status as follows:

| <b>S.N.</b> | <b>Reactor</b>   | <b>Status</b>   |
|-------------|--|---|
| 1           | 125 MVAR reactor of Jeypore  | Commissioned  |
| 2           | 125 MVAR Bus reactor of Jamshedpur   | Expected commissioning by Feb'17 (Jamshedpur) and Jan'17 (Biharshariff) |
| 3           | 125 MVAR Bus reactor of Biharshariff   |   |
| 4           | Additional bus-reactor of 125 MVAR capacity at Beharampur on urgent basis.               | Will be made available for commissioning by Oct, 2017.                  |
| 5           | 50 MVAR at Behrampur on urgent basis by diverting from Rourkela which is kept as a spare | Reactor has reached Behrampur. Commissioning by Nov'16 end.             |

Powergrid may update the latest status.

### **Deliberation in the meeting**

*Powergrid updated the latest status as follows:*

| <b>S.N.</b> | <b>Reactor</b>   | <b>Status</b>  |
|-------------|--|--|
| 1           | 125 MVAR reactor of Jeypore  | Commissioned   |
| 2           | 125 MVAR Bus reactor of Jamshedpur   | <i>Expected commissioning at Jamshedpur and Biharshariff by April'17</i> |
| 3           | 125 MVAR Bus reactor of Biharshariff   |  |
| 4           | Additional bus-reactor of 125 MVAR capacity at Beharampur on urgent basis.               | <i>Commissioning expected by April'18.</i>                               |
| 5           | 50 MVAR at Behrampur on urgent basis by diverting from Rourkela which is kept as a spare | <i>Commissioned in Dec'16.</i>   |

OPTCL informed that the high voltage problem persists even after the commissioning of 125MVAR reactor at Jeypore.

TCC referred the issue to OCC for further deliberation.

### ERPC may note.

|                      |   |
|----------------------|---|
| <b>ITEM NO. B24:</b> | <b>Status of Transmission projects approved in various meetings</b> |
|----------------------|---|

The status as updated in 34<sup>th</sup> TCC/ERPC meeting on transmission projects approved to various meetings is given below:

| Sl No. | Scheme  | ERPC/SCM Meeting              | Latest status   |
|--------|---|-------------------------------|---|
| 1      | Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double mainscheme. | 28 <sup>th</sup> ERPC Meeting | Powergrid informed that the work undr progress and expected commissioning by Aug'17.  |
| 2      | Change in proposed the Associated 765 kV System Strengthening Scheme inER   | 28 <sup>th</sup> ERPC Meeting | Under TBCB  |
| 3      | Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders   | 26 <sup>th</sup> ERPC Meeting | Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by Jan'17. |
| 4      | Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations ofPowergrid         | 25 <sup>th</sup> ERPC Meeting | T/L is under TBCB, POWERGRID informed that Chandwa bay awarded and for Gaya tendering activity under progress.  |
| 5      | Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul&JharsugudaS/S).                | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that work has been awarded on March, 2015 and expected to be completed by Mar'17.  |
| 6      | Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) &Sasaram (PG)S/S   | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that for Sasaram-1 <sup>st</sup> ICT commissioned, 2 <sup>nd</sup> ICT in supply, expected commissioning by Mar'17. For Jamshedpur, commissioning expected to be completed by November,2016                    |
| 7      | Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 <sup>rd</sup> & 4 <sup>th</sup> Circuits)                                       | 25 <sup>th</sup> ERPC Meeting | Bay construction at Muzaffarpurto be done by Powergrid under consultancy projected. Expected to be completed by Dec,2016.   |
| 8      | Modification of 132 kV Bus arrangementat 220/132 kV Siliguri S/S(PG)  | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the work has been awarded and expected to be complete by November,2016.   |
| 9      | Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram  | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar' 2017.   |

|    |  |                               |  |
|----|--|-------------------------------|--|
| 10 | Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid  | 25 <sup>th</sup> ERPC Meeting | Not pertaining to POWERGRID  |
| 11 | Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S of Powergrid  | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that four numbers of 220 kV bays at 440 kV Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. Powergrid bays ready, 2 bays charged and another 2 no. bays expected in Dec'16. |
| 12 | Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid   | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that the scheme will be implemented by Jan'17.  |
| 13 | Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to-Back station at Gazuwaka (one for each pole) | 25 <sup>th</sup> ERPC Meeting | NIT completed. OBD scheduled by end Nov'16   |
| 14 | GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada  | 24th ERPC Meeting             | Powergrid informed that the work has been awarded and expected to be completed by 3 <sup>rd</sup> qtr of 2017-18.  |
| 15 | Eastern Region Strengthening Scheme-XV; Construction of Farakka—Baharampur 400kV D/C (HTLS) line and Subsequent modification of LILOs                                  | 17th SCM & 30th ERPC          | Linked with Bangladesh, Work awarded and construction of line under progress, expected completion by 2 <sup>nd</sup> Qtr. 2017-18.   |
| 16 | Installation of 3rd 400/220 kV, 1 x 315 MVA ICT at Durgapur & New Siliguri Substation  | 17th SCM & 30th ERPC          | NIT done in Sept'16 and Award to be done by Dec'16   |
| 17 | Commissioning of 2x160 MVA, 220/132 kV Auto transformer at Daltonganj substation along with 4 number of 132 kV line bays   | 17th SCM & 30th ERPC          | Award placed, work under Progress, expected commissioning by Jun'17.   |
| 18 | Extension of under construction 400kV D/C Latehar-Essar lines up to 400kV Chandra Pooling station (PG), under the scope of JUSNL                                       | 17th SCM & 30th ERPC          | JUSNL to inform  |
| 19 | Establishment of 2x500 MVA 400/220kV sub-station at Dhanbad by LILO of both circuits of Ranchi-Maithon RB 400 kV D/C line at Dhanbad                                   | 17th SCM & 30th ERPC          | Under TBCB   |
| 20 | Construction of 6 no. 400 kV line bays and bus splitting (765 kV & 400kV) arrangement at Jharsuguda (Sundargarh) as GIS  | 17th SCM & 30th ERPC          | Award placed, work under progress and expected completion by 3 <sup>rd</sup> Qtr. Of 2017-18.  |
| 21 | Reconductoring of Maithon RB-Maithon 400 kV D/C line with HTLS conductor   | 17th SCM & 30th ERPC          | NIT to be done in Nov'16.  |
| 22 | Installation of 3rd 400/220 kV 500 MVA Transformer at Muzaffarpur  | 17th SCM & 30th ERPC          |  |
| 23 | Construction of North Karanpura—Gaya 400 kV D/c & North Karanpura -Chandwa (Jharkhand) Pooling Station 400 kV D/c  | 17th SCM & 30th ERPC          | T/L is under TBCB route, Bay extn. Scope under POWERGRID. Chandwa bay awarded and for Gaya tendering activity under progress.  |

Further, Powergrid may update the present status on transmission projects approved/revised in 18<sup>th</sup> SCM which are as given below:

| <b>Sl No.</b> | <b>Scheme</b>  | <b>ERPC/SCM Meeting</b>                | <b>Latest status</b> |
|---------------|--|--|----------------------|
| 1             | LILO of both circuits of Bongaigaon-Silliguri 400 kV D/c (Quad) (under TBCB) line at Alipurduar on multi circuit tower for about 2 km                    | 18th SCM                               |                      |
| 2             | LILO of both circuits of Rourkela-Raigarh 400kV D/c (2nd line) at Jharsuguda on multi circuit towers for about 17 km                                     | 18th SCM                               |                      |
| 3             | Installation of 400/220 kV, 1x500 MVA ICT at Gaya S/s (400kV bay in AIS and 220kV bay in GIS)  | Scheme revised in 18 <sup>th</sup> SCM |                      |
| 4             | Replacement of 400/220kV, 2x315MVA ICTs at Malda S/s with 400/220kV, 2x500 MVA ICTs  | Scheme revised in 18th SCM             |                      |
| 5             | Installation of 3rd 400/220kV, 1x315MVA ICT at New Siliguri S/s: to be sourced from pool of spare ICTs (400kV bay in GIS and 220kV bay in AIS)           | Scheme revised in 18th SCM             |                      |
| 6             | Installation of 3rd 400/220kV, 1x315 MVA ICT at Durgapur S/s: to be sourced from pool of spare ICTs  | Scheme revised in 18th SCM             |                      |
| 7             | Installation of 400/220kV, 2x315MVA ICTs at Jeypore S/s (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs.              | Scheme revised in 18th SCM             |                      |
| 8             | Installation of 400/220kV, 2x315MVA ICTs at Rourkela S/s (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs              | Scheme revised in 18th SCM             |                      |
| 9             | Bypassing arrangement of LILO of Meramundali – Bolangir/Jeypore 400kV S/c line and LILO of one circuit of Talcher – Meramundali 400 kV D/c line at Angul | 18th SCM                               |                      |
| 10            | installation of 400/220kV, 500MVA ICT (4th) at Biharsharif S/s   | 18th SCM                               |                      |
| 11            | Establishment of 2x500MVA+2x160 MVA+2x80 MVA 400/220/132 kV S/S at Naubatpur   | 18th SCM                               |                      |
| 12            | Establishment of 2x500 MVA +2x160 MVA 400/220/132 kV GIS S/S at Bakhtiyarpur   | 18th SCM                               |                      |
| 13            | Establishment of 2x500 MVA +3x160 MVA+3x80 MVA 400/220/132/33 kV GIS S/S at Jakkanpur  | 18th SCM                               |                      |
| 14            | Establishment of 400/220/132kV, 2x500MVA + 2x200MVA new S/s at Sitamarhi   | 18th SCM                               |                      |
| 15            | 2x125MVA <sub>r</sub> , 420kV bus reactors along with bays   | 18th SCM                               |                      |

|    |   |          |  |
|----|---|----------|--|
| 16 | Darbhanga – Sitamarhi (New) 400kV D/c (Triple Snowbird) line  | 18th SCM |  |
| 17 | Sitamarhi (New) – Motihari 400kV D/c (Triple Snowbird) line   | 18th SCM |  |
| 18 | Establishment of 400/220/132kV, 3x500MVA + 3x200MVA new S/s at Chandauti  | 18th SCM |  |
| 19 | 2x125MVAR, 420kV bus reactors along with bays   | 18th SCM |  |
| 20 | LILO of both circuits of Nabinagar-II – Gaya 400kV D/c (Quad) line of POWERGRID at Chandauti (New)  | 18th SCM |  |
| 21 | Establishment of 400/220/132kV, 2x500MVA + 2x200MVA new S/s at Saharsa  | 18th SCM |  |
| 22 | 2x125MVAR, 420kV bus reactors along with bays   | 18th SCM |  |
| 23 | LILo of Kishanganj – Patna 400kV D/c (Quad) line of POWERGRID at Saharsa (New)  | 18th SCM |  |
| 24 | Installation of 400/132kV, 315MVA (3rd) ICT at Motihari substations of Essel Infra  | 18th SCM |  |
| 25 | Installation of 400/132kV, 315MVA (3rd) ICT at Banka and Lakhisarai substations of POWERGRID  | 18th SCM |  |
| 26 | Reconductoring of Rangpo – Siliguri 400kV D/c Twin Moose line with Twin HTLS conductor along with suitable modification in line bay equipment at both ends                              | 18th SCM |  |
| 27 | Installation of 4th 220/132kV, 100MVA ICT at Rangpo S/s   | 18th SCM |  |
| 28 | Conversion of fixed line reactor at Purnea end of Kishanganj – Purnea 400kV D/c line to switchable line reactor   | 18th SCM |  |
| 29 | a) Nabinagar-II – Gaya 400kV D/c line with Quad moose conductor<br>(b) Nabinagar-II – Patna 400kV D/c line with Quad moose conductor<br>(c) Additional 1x1500MVA, 765/400kV ICT at Gaya | 18th SCM |  |
| 30 | Derang - Angul 400 kV D/C line along with two 400kV line bays at Angul S/s  | 18th SCM |  |
| 31 | Installation of 400/220kV, 500MVA ICT (3rd) at Maithon  | 18th SCM |  |
| 32 | replacement of existing 50MVA, 220/132 kV ICT at Malda with new 160 MVA, 220/132 kV ICT   | 18th SCM |  |
| 33 | Installation of 420kV, 1x125MVAR bus reactor at Subhasgram S/s of POWERGRID   | 18th SCM |  |
| 34 | Provision of 765kV, 80MVAR single phase spare reactor at Ranchi (New) substation of POWERGRID   | 18th SCM |  |

Powergrid may update the latest status.

## Deliberation in TCC meeting

Powergrid submitted the latest status. The latest updated status is as given below:

| Sl No. | Scheme   | ERPC/SCM Meeting              | Latest status   |
|--------|--|-------------------------------|---|
| 1      | Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double main scheme. | 28 <sup>th</sup> ERPC Meeting | Powergrid informed that the work under progress and expected commissioning by Nov'18.   |
| 2      | Change in proposed the Associated 765 kV System Strengthening Scheme inER  | 28 <sup>th</sup> ERPC Meeting | Under TBCB  |
| 3      | Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders  | 26 <sup>th</sup> ERPC Meeting | <i>Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by Mar'17.</i>                            |
| 4      | Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations of Powergrid         | 25 <sup>th</sup> ERPC Meeting | <i>T/L is under TBCB, POWERGRID informed that Investment approval accorded in Feb'17 BOD. Commissioning of Chandwa is expected in Sep'17, commissioning of Gaya is expected in Sept'19.</i>   |
| 5      | Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul & Jharsuguda S/S).              | 25 <sup>th</sup> ERPC Meeting | <i>Powergrid informed that work has been awarded on March, 2015 and expected to be completed by June'17.</i>  |
| 6      | Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) & Sasaram (PG) S/S  | 25 <sup>th</sup> ERPC Meeting | <i>Powergrid informed that for Sasaram- 1<sup>st</sup> ICT commissioned, 2<sup>nd</sup> ICT supply expected by June'17. Design review under progress due to failure of ICT at Alstom factory. For Jamshedpur, commissioning expected to be completed by Mar'17.</i> |
| 7      | Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 <sup>rd</sup> & 4 <sup>th</sup> Circuits)  | 25 <sup>th</sup> ERPC Meeting | <i>Bay construction at Muzaffarpur completed in consultancy works. To be commissioned in March'17.</i>  |
| 8      | Modification of 132 kV Bus arrangement at 220/132 kV Siliguri S/S (PG)   | 25 <sup>th</sup> ERPC Meeting | <i>Completed in November, 2016.</i>   |
| 9      | Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram   | 25 <sup>th</sup> ERPC Meeting | <i>Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by May' 2017.</i>  |
| 10     | Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid  | 25 <sup>th</sup> ERPC Meeting | Not pertaining to POWERGRID   |

|    |   |                               |  |
|----|---|-------------------------------|--|
| 11 | Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S of Powergrid   | 25 <sup>th</sup> ERPC Meeting | Powergrid informed that four numbers of 220 kV bays at 400 kV Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)- Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. 4 nos. bays have been charged. |
| 12 | Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid  | 25 <sup>th</sup> ERPC Meeting | POWERGRID informed that the scheme will be implemented by Mar'17.  |
| 13 | Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to- Back station at Gazuwaka (one for each pole) | 25 <sup>th</sup> ERPC Meeting | NIT completed. Tender evaluation in process.   |
| 14 | GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada   | 24th ERPC Meeting             | Powergrid informed that the work has been awarded and expected to be completed by 3 <sup>rd</sup> qtr of 2017-18.  |
| 15 | Eastern Region Strengthening Scheme- XV; Construction of Farakka—Baharampur 400kV D/C (HTLS) line and Subsequent modification of LILOs                                  | 17th SCM & 30th ERPC          | Work awarded and construction of line under progress, expected completion by 2nd Qtr. 2017-18.   |
| 16 | Installation of 3rd 400/220 kV, 1 x 315 MVA ICT at Durgapur & New Siliguri Substation   | 17th SCM & 30th ERPC          | NIT done in Sept'16. Investment approval on Feb'17 BOD. Completion schedule-28 months.   |
| 17 | Commissioning of 2x160 MVA, 220/132 kV Auto transformer at Daltonganj substation along with 4 number of 132 kV line bays  | 17th SCM & 30th ERPC          | Award placed, work under Progress, expected commissioning by Nov'17.   |
| 18 | Extension of under construction 400kV D/C Latehar-Essar lines up to 400kV Chandra Pooling station (PG), under the scope of JUSNL  | 17th SCM & 30th ERPC          | JUSNL to inform  |
| 19 | Establishment of 2x500 MVA 400/220kV sub-station at Dhanbad by LILO of both circuits of Ranchi-Maithon RB 400 kV D/C line at Dhanbad                                    | 17th SCM & 30th ERPC          | Under TBCB   |
| 20 | Construction of 6 no. 400 kV line bays and bus splitting (765 kV & 400kV) arrangement at Jharsuguda (Sundargarh) as GIS   | 17th SCM & 30th ERPC          | Award placed. 2 no's 400kV bays by July'17 & balance by April'19.  |
| 21 | Reconductoring of Maithon RB-Maithon 400 kV D/C line with HTLS conductor  | 17th SCM & 30th ERPC          | NIT held on 20.12.16 . LOA expected by April'17.   |
| 22 | Installation of 3rd 400/220 kV 500 MVA Transformer at Muzaffarpur   | 17th SCM & 30th ERPC          | Commissioned   |
| 23 | Construction of North Karanpura— Gaya 400 kV D/c & North Karanpura -Chandwa (Jharkhand) Pooling Station 400 kV D/c  | 17th SCM & 30th ERPC          | T/L is under TBCB, POWERGRID informed that Investment approval accorded in Feb'17 BOD. Commissioning of Chandwa is expected in Sep'17, commissioning of Gaya is expected in Sept'19.                                 |

**Members noted.**

|                      |   |
|----------------------|---|
| <b>ITEM NO. B25:</b> | <b>Status of Spare Transformers &amp; Reactors approved in various meetings</b> |
|----------------------|---|

The status updated as in 34<sup>th</sup> TCC/ERPC meeting on Spare transformers & reactors to be commissioned by Powergrid for use in ER.

| Sl No.                          | Sparetransformer/reactor   | Latest status   |
|---------------------------------|--|---|
| 1                               | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff                          | Available at site.  |
| 2                               | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur                              | Utilized at 400 kV Farakka. Procurement of spare ICT is under process.                                      |
| 3                               | 1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation                     | Available at site.  |
| 4                               | 2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.               | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar'17.    |
| 5                               | 1 X 110 MVAR, 765KV single phase bus reactor at Sasaram                        | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by Mar, 2017. |
| <b>FOR MEMBER STATES:</b>       |  |   |
| 1                               | 2 X 315 MVA 400/220 kv ICTs  | Available   |
| 2                               | 2 X 160/150 MVA 220/132 kv ICTs  | One ICT utilised at Purnea S/s, 2 <sup>nd</sup> ICT available at Siliguri S/s.                              |
| 3                               | 1 X 50 MVA 132/66 kv ICT   | Available   |
| <b>SURPLUS FROM OLD ASSPARE</b> |  |   |
| 1                               | 3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss) | Replaced with 160 MVA transformer.  |
| 2                               | 2x 100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)   | Taken out and kept at Birpara and Siliguri  |
| 3                               | 2x 100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)              | Taken out and kept at Purnea  |

DVC vide mail dated 15.02.17 intimated that DVC is in urgent need of a 220KV/132KV ICT which is to be installed at 220KV Dhanbad S/Stn. Availability of spare 160MVA 220/132KV ICT as available at Siliguri S/Stn under the head of "FOR MEMBER STATES." may kindly be conveyed so that necessary formalities can be completed at the appropriate level. The said transformer under subject is a NEW or OLD along with the NAMEPLATE DETAILS may also be kindly conveyed.

Powergrid may update the latest status.

### **Deliberation in TCC meeting**

Powergrid submitted the latest status which is as given below:

| Sl No. | Sparetransformer/reactor                              | Latest status      |
|--------|---|--------------------|
| 1      | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff | Available at site. |



|                          |  |  |
|--------------------------|--|--|
| 2                        | 1 X 315 MVA, 400/220 KV AUTO TRANSFORMER at Durgapur                           | Utilized at 400 kV Farakka. Procurement of spare ICT is under process. Awarded to M/S. TBEA. Expected to be delivered at site in Dec, 17.          |
| 3                        | 1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation                     | Available at site.   |
| 4                        | 2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.               | Powergrid informed that the work has been awarded on March, 2015. Delivery at Angul expected in Mar'17. Delivery at Jharsuguda expected in Dec'17. |
| 5                        | 1 X 110MVA, 765KV single phase bus reactor at Sasaram                          | Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by June, 2017.                                       |
| FOR MEMBER STATES:       |  |  |
| 1                        | 2 X 315 MVA 400/220 kvICTs   | Available  |
| 2                        | 2 X 160/150 MVA 220/132 kvICTs   | One ICT available at Purnea S/s, 2 ICT available at Siliguri S/s.  |
| 3                        | 1 X 50 MVA 132/66 kvICT  | Consumed at Gangtok. Gangtok transformer under repair.   |
| SURPLUS FROM OLD ASSPARE |  |  |
| 1                        | 3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss) | Replaced with 160MVA transformer. 50 MVA ICT scrapped.   |
| 2                        | 2x100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)    | Taken out and kept at Birpara and Siliguri   |
| 3                        | 2x100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)               | Consumed. Installed at Muzaffarpur for Muzaffarpur-Dhalkebar line.   |

Powergrid informed that there is no direct communication received from DVC.

Transformer kept at Siliguri is NEW. This is procured for handling the contingency requirement of O&M needs. Even though the urgent augmentation required at Malda S/S (PG), WBSETCL is providing their spare unit on loan instead of using this spare ICT identified for O&M needs.

### ERPC may note.

|                      |   |
|----------------------|---|
| <b>ITEM NO. B26:</b> | <b>Persistent over drawl by Jharkhand</b> |
|----------------------|---|

It has been observed since last few month, Jharkhand is over drawing continuously to the tune of 1.5 to 2mu per day. Jharkhand overdraw for the month November, December and January 2017 were around 40 mu, 63 mu and 52 mu respectively. Several times Jharkhand also advised to take un-requisition surplus power of NTPC plant on real time basis. However the quantum requisitioned by Jharkhand for URS power of NTPC plants was very less compare to its overdraw quantum. Numbers of instructions were also issued from ERLDC Control Room during real time operation to Jharkhand regarding the same issue. However the response of Jharkhand was not commensurate

with criticality of the situation. Details of above violations would be presented by ERLDC for discussions/suggestions.

In 130<sup>th</sup> OCC, ERLDC presented the schedule and drawal of JUSNL enclosed at Annexure-B26 and informed that JUSNL is overdrawing on continuous basis.

OCC advised JUSNL to explore for procurement of URS power to minimize the over drawal.

JUSNL informed that they have taken up the issue of URS power procurement with JBVNL but action is yet to be taken by JBVNL.

JBVNL may update.

### **Deliberation in TCC meeting**

*ERLDC informed that after last OCC meeting also Jharkhand is over drawing continuously even though URS power is available. Jharkhand also not paying DSM charges.*

*TCC took serious concern of this matter and advised JBVNL to avail the URS power available in different NTPC stations to meet their demand.*

*JBVNL assured that they will avail the URS power.*

### **ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B27:</b> | <b>Commissioning of Tie bay and main bay of BUS-I of 400 kV Ranchi-New Ranch-I &amp; II circuit at Ranchi Substation</b> |
|----------------------|--|

400kV Ranchi-Ranchi ckt-I & II has been commissioned on 30.03.2014 through main its main bay (Bay no. 427 and 430 respectively) and connected to BUS-II only at 400/220kV Ranchi Substation.

The commissioning of Tie bays ( Bay no. 426, 429) and main bays ( Bay nos. 425, 428) connected to BUS-I of Ranchi-New Ranchi ckt.-I & II were in the scope of M/s Corporate Power Ltd. The party M/s Corporate Power Ltd has commenced their work in the year of 2009 and after erection of switchyard equipment they left the site in the year of 2012 citing bankruptcy of the company. As information gathered from sources , M/s Corporate Power Ltd will not commission the bays for Chitarpur ckt-I & II i.e bay nos. 425,426, 428 & 429.

Due to connection of 400kV Ranchi-New Ranchi 1 & 2 with BUS-II only and the therefore lines are very much unreliable as because in case of S/D of main BUS-II, both the line will remain out of service. Further in case of any fault in their main bay, the line will be out of service.

Hence, it is requested that the above mentioned uncompleted bays may be commissioned by POWERGRID and cost of construction may be capitalized by POWERGRID. OR complete asset may be transferred to POWERGRID and POWERGRID will commission the bays and capitalized the same.

TCC may discuss.

## **Deliberation in TCC meeting**

*TCC technically agreed for commissioning of bays of Chitarpur ckt-I & II i.e bay nos. 425,426, 428 & 429.*

*TCC expressed that acquiring/modification of assets of Corporate Power Ltd. may create legal problems and advised Powergrid to discuss the issue with Corporate Power Limited to arrive at fruitful decision.*

*Further, Powergrid was also advised to take up the issue with CERC for amicable solution.*

### **ERPC may note.**

|                      |  |
|----------------------|--|
| <b>ITEM NO. B28:</b> | <b>Issues related to associated / downstream systems—Powergrid</b> |
|----------------------|--|

### **BIHAR**

- i. 4 nos. 220 kV GIS Bays at Kishenganj under ERSS XII :**  
2 nos. bays have been commissioned. Program for utilisation of balance 02 no. 220kV line bays to be confirmed by BSPTCL.

### **JHARKHAND**

- i. 4 nos. 220 kV & 4 nos. 132 kV bays at Daltonganj S/S (Anticipated Commissioning – June'17) :** Status of downstream is as under :  
4 nos. 220 kV bays to be connected to 220 kV D/CDaltonganj-Garhwa and 220kV D/CDaltaonganj-Latehar (presently charged at 132 kV). Presently only 220 kV Daltonganj-Latehar charged at 132 kV is available. Plan for completion of 220 kV Daltonganj-Garhwa line and Garhwa S/S to be confirmed by JUSNL.
- ii. 4 nos. 132kV bays to be connected to 132kVD/C Daltonganj-Chhatarpur and 132kV Daltonganj (PG) – Daltonganj (JUSNL) :**  
132kV bays at Daltonganj (PG) to be charged through LILO of 220kV Daltonganj-Latehar line (Presently charged at 132kV). Program for utilisation of above bays to be confirmed by JUSNL.

### **ODISHA**

- i. 4 nos. 220 kV bays at Bolangir S/S :** Out of total 4 nos. 220 kV line bays, 2 nos. are commissioned during Feb'16 and 2 nos. are pending due to unavailability of 220 kV lines of OPTCL. Program for utilisation of balance 2 no. bays to be confirmed by OPTCL.
- ii. 6 nos. 220 kV bays at Pandiabil GIS:** Pandiabil (PG) substation has been commissioned in July'16. Downstream network needs to be expedited by OPTCL. Readiness of 220kV feeders by OPTCL for downstream power flow from Pandiabil (PG) S/S needs to be ensured.

- iii. **4 nos. 220 kV bays at Keonjhar S/S:** Utilisation of total 4 nos. 220 kV line bays is pending due to unavailability of 220 kV lines of OPTCL. Program for readiness of lines for utilisation of above bays to be confirmed by OPTCL.

## WEST BENGAL

- i. **02 nos. 220 kV line bays at Subhashgram (PG) S/S:** Bays are ready and idle charged under ERSS-VIII due to non-readiness of 220kV D/C Subhashgram – Baruipur Tr. line and associated bays at Baruipur. Order recently placed by WBSETCL and expected completion by Dec'17. Program for readiness of lines for utilisation of above bays to be confirmed by WBSETCL.

Members may update.

### Deliberation in TCC meeting

*Members noted.*

**ERPC may note.**

|                      |   |
|----------------------|---|
| <b>ITEM NO. B29:</b> | <b>Commercial issues related to NHPC Stations</b> |
|----------------------|---|

#### 1) **Payment default by beneficiaries.**

##### **i) NBPDCCL**

An amount of Rs. 14.76 Cr. is outstanding for more than 60 days which includes surcharge of Rs. 0.24 Cr.

##### **ii) SBPDCL**

An amount of Rs.18.99 Cr. is outstanding for more than 60 days which includes surcharge of Rs. 0.28 Cr.

##### **iii) WBSEDCL**

Beneficiary has not paid surcharge of Rs.29.93 Cr. (TLDP-III – Rs. 28.79 Cr.& Teesta-V / Rangit- Rs.1.14 Cr.)

*Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017. NBPDCCL, SBPDCL & WBSEDCL may be requested to release the outstanding dues as above at the earliest.*

### Deliberation in TCC meeting

*NHPC revised the outstanding amount to 12 Cr on NBPDCCL to which NBPDCCL assured to make the payment within next 15 days.*

*NHPC revised the outstanding amount to 5 Cr on SBPDCL to which SBPDCL assured to make the payment within next 15 days.*

*WBSEDCL informed the tariff hike matter is in APTEL so requested to waive the outstanding amount for the time till the APTEL decision.*

## **ERPC may note.**

### **2) Signing of reconciliation statement.**

Reconciliation statement is pending for IIndquarter for the F.Y 2016-17 in r/o GRIDCO Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017 and GRIDCO intimated that the reconciliation statement will be signed within a week time. Reconciliation statements for 3<sup>rd</sup> quarter of 2016-17 have also been sent to all the beneficiaries and same have not been signed by JBVNL, DVC, GRIDCO & Sikkim till date.

### **3) Revalidation / Opening of LC of requisite value.**

All the beneficiaries are intimated that the calculation sheet of LC for F.Y 2017-18 have been sent which is based upon 105% of average billing w.e.f Jan'2016 to Dec'2016. All the concerned beneficiaries are requested to enhance the existing LC or open the new LC of requisite value before 31<sup>st</sup> March'2017 and same should be valid up to 31<sup>st</sup> March '2018. SBPDCL & NBPDCCL have opened the L.C's for short value. They are requested to enhance their L.C's to requisite value immediately.

### **4) Extension of PPA in r/o TLDP-III & IV Power Stations.**

WBSEDCL at present has valid PPAs for TLDP-III & IV power stations for 05 years period only .WBSEDCL had already given consent to extend the PPA of TLDP-III & TLDP-IV power stations for 35 years from the date of COD. Formal signing / execution of PPAs of TLDP-III & TLDP-IV are still pending from WBSEDCL side for 35 years period from the date of COD.

Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017.

WBSEDCL may be again requested to give consent for extension of PPA at the earliest. 100% power from both the projects has been allocated in favour of West Bengal.

### **Deliberation in TCC meeting**

*JBVNL, DVC and GRIDCO informed that signing of reconciliation is in progress and will be completed shortly.*

*SBPDCL informed that no revision of LC value is required as per their calculation. NHPC requested to share the calculation procedure with them.*

*WBSEDCL informed that they did not give any consent or commitment for PPA of 35 years. In their view the present price per unit energy is higher compare to the price at the time of their initial agreement. So extension of PPA at current scenario is not possible. However they agreed to find out a solution by discussion with NHPC.*

*WBSEDCL informed that this matter can be better discussed and solved bilaterally. NHPC agreed with WBSETCL.*

**ERPC may note.**

**5) Signing of PPA in respect of Tawang H.E. Project, Stage-I & II.**

Signing of Power Purchase Agreement is pending with GRIDCO, JUVNL & WBSEDCL. All the three beneficiaries are again requested to sign the long pending Power purchase agreement at the earliest.

**6) Revision of REA in respect of SBPDCL and NBPDC**

SBPDCL & NBPDC are verifying different energy amount w.r.t their REA statements. Matter was also discussed in 34<sup>th</sup> Commercial sub-Committee meeting of ERPC at Kolkata on 6<sup>th</sup> Feb'2017. As such, they are requested either to verify the same energy amount as per their REA or get revised REA's issued from ERPC. The discrepancies may give rise to disputes at a future date.

NHPC may update.

**Deliberation in TCC meeting**

*WBSETCL informed that the matter is in progress.*

*Regarding revision of REA in respect of NBPDC and SBPDCL, TCC requested them to solve it bilaterally.*

*Further TCC requested NHPC to try to solve these matter bilaterally as much as possible instead of taking it to TCC forum.*

**ERPC may note.**

**PART C: ITEMS FOR INFORMATION**

**TCC noted the following items:**

|                      |  |
|----------------------|--|
| <b>ITEM NO. C1 :</b> | <b>Status of Projects approved/under consideration of PSDF appraisal committee</b> |
|----------------------|--|

The latest status of projects which are being funded by PSDF as updated in 129<sup>th</sup> OCC meeting is as given below:

| SN  | Name of Constituent | Name of Project   | Date of approval from PSDF | Target Date of Completion | PSDF grant approved (in Rs.) | Amount drawn till date (in Rs.) | Status as updated in 129 <sup>th</sup> OCC  |
|-----|---------------------|---|----------------------------|---------------------------|------------------------------|---------------------------------|---|
| 1   | WBSETCL             | Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal  | 31-12-14                   |                           | 120.67 Cr                    | 11.04 Cr.                       | 95 % Supply Completed   |
| 2   | WBSETCL             | Transmission System improvement of WBSETCL  |                            |                           |                              |                                 |   |
| 3   | OPTCL               | Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.   | 10.05.15                   | 10.05.17                  | 162.5 Cr.                    | <b>19.53 Cr</b>                 | <b>Total contract awarded for Rs. 67.73 Cr</b><br><br><i>Erection work for received equipment is in progress.</i>   |
| 4   | ERPC                | Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid   | 17.03.16                   |                           | 20 Cr.                       | <b>4.94 Cr. + 9.88 Cr.</b>      | <b>1) Hardware supplied and installed.</b><br><b>2) SAT completed for pilot state</b><br><b>3) Protection database management software (PDMS) delivered.</b><br><b>4) Training on PDMS organised at Odisha.</b> |
| 5   | BSPTCL              | Renovation and up-gradation of 220/132/33 KV GSS Biharsharif, Bodhgaya, Fatuha, Khagaul, Dehri -on -sone & 132/33 kV GSS Kataiya  | 11/5/2015                  | Feb'2017                  | 64.33 crore                  | <b>23.68 crore</b>              | <i>Project is on going.</i><br><b>Order for supply of equipment placed for Rs.13.51 Cr.</b>   |
| 6   |                     | Installation of capacitor bank at different 35 nos. of GSS under BSPTCL   | 5/9/2016                   |                           | 18.88 crore                  |                                 | Approved (triparty agreement among NLDC, Govt. of Bihar & BSPTCL is in under process)   |
| 7   |                     | Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.   |                            |                           |                              |                                 | Recommendation of appraisal committee is awaited.<br>Estimated cost 54.69 crore.  |
| 8   | DVC                 | Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation   |                            |                           | 25.96                        |                                 | Approved by Ministry of Power   |
| 9   |                     | Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC |                            |                           | 140                          |                                 | Appraisal committee has recommended. It will be placed in next monitoring Committee meeting.  |
| 10a | WBPDC               | Implementation of Islanding scheme at Bandel Thermal Power Station  |                            |                           |                              |                                 | Appraisal committee has recommended. It will be placed in next monitoring Committee   |

|     |      |  |  |  |       |  |   |
|-----|------|--|--|--|-------|--|---|
| 10b |      | Upgradation of Protection and SAS  |  |  | 26.09 |  | Approved by Ministry of Power   |
| 11  | OHPC | Renovation and up-gradation of protection and control system of 4 nos OHPC substations.                                  |  |  |       |  | <i>OHPC will submit the detailed proposal soon as per the requirement of Appraisal committee.</i>   |
| 12a | ERPC | Training for Power System Engineers  |  |  |       |  | <i>The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal with consideration of views of the group.</i>  |
| 12b |      | Training on Integration of Renewable Energy resources  |  |  |       |  | <i>The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal only for training at NORD POOL Academy with consideration of views of the group.</i> |
| 12c |      | <i>Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents</i> |  |  |       |  |   |

*In 129<sup>th</sup> & 130<sup>th</sup> OCC, all the respective constituents are advised to furnish the status to NLDC & NPC as per the desired format as attached at Annexure- C1*

### **Members noted for compliance**

|                      |  |
|----------------------|--|
| <b>ITEM NO. C2 :</b> | <b>Transfer capability declaration by the states of Eastern Region</b> |
|----------------------|--|

It was decided in the NPC meeting that power system study for assessment of operational limits / power transfer capability for each state will be done by the concerned RLDC in association with concerned SLDC. Monthly TTC /ATC will be uploaded by the SLDCs at their respective websites and also communicated to concerned RLDC & NLDC on regular basis, mentioning the assumptions, limiting constraints etc.

TCC members in the 33rd meeting held on 24-06-2016 felt that grid operator should have the information on how much power they can export and import and they should restrict to that figures in order to avoid major grid disturbances.

Accordingly, TCC advised all the constituents to place the details in monthly OCC meetings till they upload the information in their respective websites.

TCC also advised JUSNL to send their representatives to ERLDC so that they could get acquainted with the ATC/TTC calculation procedure.

Subsequently, OCC members in the 120th, 123rd and 124th meetings again advised all the SLDCs to mention the constraints along with ATC/TCC figures

SLDC JUSNL already acquainted themselves with the basic procedure of TTC calculation in the month of September, 2016, by deputing a team of 3 members to ERLDC.

The present status of various SLDCs in this regard is as follows:

- All the states are computing TTC/ATC except Sikkim.
- DVC is calculating their import/export TTC/ATC and not uploading in DVC website



- BSPTCL is calculating their import TTC/ATC but neither uploading the information in their website nor declaring the same in OCC meetings.
- WBSLDC is calculating their import TTC/ATC and uploading in their website without mentioning assumptions and constraints.
- OPTCL is calculating their import TTC / ATC and sending the detail calculations to ERLDC. They would start uploading the information in their website, after it is redesigned.
- JUSNL is calculating their import TTC / ATC and sending the detail calculations to ERPC/ERLDC.

In order to ensure, safe and secure operation of the regional grid, it is essential that the states regularly carry out power system study for their operational planning and declare their power transfer capability w.r.t. ISTS through their respective transmission links with the rest of the grid for both peak and off-peak conditions on monthly basis.

Since declaration of TTC/ATC by states together with their respective assumptions and limiting constraints on regular basis is getting delayed, TCC may kindly pursue the matter with the states with topmost priority and advise SLDCs to share their computations with ERLDC.

|                      |   |
|----------------------|---|
| <b>ITEM NO. C3 :</b> | <b>Anticipated network constraints in the forthcoming summer season, due to non-availability of 400kV Purnea-Biharshaiff D/C and 400kV Patna-Kishanganj D/C lines</b> |
|----------------------|---|

400kV Purnea-Biharshaiff D/C and 400kV Patna-Kishanganj D/C lines are under breakdown w.e.f. 23-08-2016 and 26.07.2016 respectively due to unprecedented floods in Ganga and Kankai rivers.

In the 129<sup>th</sup> OCC meeting ENICL informed that 400kV Purnea-Biharshariff line would be restored by June-2017 while PGCIL in the 127<sup>th</sup> OCC meeting had informed that 400kV Patna-Kishanganj D/C line would be restored by July, 2017.

As power requirement of N. Bengal, N. Bihar, NR, NER, Nepal and Bhutan would be high during the same period, constraints may arise in meeting the full demand of these areas. ERLDC is also experiencing severe difficulty in allowing planned shutdown of transmission elements that have become critical due to long absence of the said transmission lines

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| <b>ITEM NO. C4 :</b> | <b>Reporting of Energy generated from renewable resources on daily basis</b> |
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As per directions of MOP, energy injected from the renewable generating plants into the grid also needs to be monitored on daily basis and incorporated in the daily reports published by RLDCs and NLDC, to determine the correct percentage of energy mix for the whole country on any particular day.

The subject was deliberated in the 126<sup>th</sup> as well as earlier OCC meetings. Energy data from 10MW NTPC solar plant at Kaniha is already being received at ERLDC.

Regional entity RE generators and all SLDCs are once again requested furnish following data for their respective control areas on daily basis:

- a) Grid connected RES whose scheduling and metering is done as regional entity:  
Maximum generation (MW) with Time and energy injected(MWh) for the previous day (from the SEM meters on a daily basis through email, till the AMR is commissioned/working)

b) Grid connected RES which is under state purview:

Maximum generation (MW) with Time and energy injected(MWh) for the previous day. Concerned SLDCs to compile station wise / connection point wise energy injected into the state grid and email it RLDC on a daily basis.

Despite repeated persuasion from by OCC and ERLDC, only OPTCL and NTPC, Kaniha are providing the requisite information on daily basis.

BSPHCL, JUVNL, DVC and WBSSEDCL to kindly comply with the requirement on topmost priority.

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| <b>ITEM NO. C5 :</b> | <b>Restricted Governor /Free Governor Mode Operation of generators in Eastern Region</b> |
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Primary response (FGMO/RGMO) by generators (200MW and above thermal and 10MW and above hydro) is a fundamental requirement for maintaining the reliability of the bulk interconnected power system.

In the 123<sup>rd</sup> OCC meeting, it was emphasized that since the grid frequency is being maintained within the IEGC stipulated range (49.9 Hz – 50.05 Hz) for more than 70% of the time, concerned generators are not expected to face difficulty in providing primary response. Accordingly, it was decided to put the generators in FGMO/RGMO w.e.f. 15-08-2016.

*In 124th OCC, DVC informed that all their units are in RGMO.*

WBPDCCL informed that Santaldih U#5 is in RGMO from 16th Aug 2016 and U#6 will be kept in RGMO after overhauling. WBPDCCL added that other units are old and not capable to run in RGMO. In such cases, OCC advised the respective generators to approach CERC for exemption. *WBPDCCL also clarified that KTPS units cannot be put into FGMO/RGMO as these units are not having Electro Hydraulic Governor (EHG) system.*

*OCC requested WBPDCCL to put Santaldih (U#6 ) and Sagardighi units on FGMO/RGMO.*

In subsequent events of sudden frequency change / major load-generation imbalance, it was observed that *most of the ER generators were providing response less than 70% of the ideal governor response (assuming 5% droop setting). However, some of the generators (FSTPS, KhSTPS, BkTPP) are giving responses below 37 % which is inadequate to restore the frequency within the band within the shortest possible time. This aspect was illustrated in the 129<sup>th</sup> OCC meeting.*

Moreover, except DVC and CESC, in regular basis, none of the utilities are sharing their unit responses as captured by their respective DCS, through the webgroup, as agreed in earlier OCC meetings.

In view of the need of compliance of the statutory provisions of IEGC and maintenance of grid security at all times, TCC may kindly advise all concerned generating utilities to

- strictly provide adequate primary response, whenever required
- ensure availability of real time data from generator terminals (GT primary side) at ERLDC, at all times
- share their unit responses as recorded by DCS, through the webgroup created for this purpose

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| <b>ITEM NO. C6 :</b> | <b>Updated status on SCADA telemetry</b> |
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CERC order (7/SM/2014) dated 29.01.2016 regarding the telemetry CERC at sl. no. 18 of their order have mentioned that

*"NLDC and respective RLDC are directed to up-date the status of telemetry every month at their web-site and persistent non-availability of data from the generating stations/sub-stations be taken up in RPC meetings for appropriate direction and action".*

Accordingly, ERLDC is preparing the monthly telemetry status in the prescribed CERC format every month and it is being uploaded it in ERLDC website;<http://erlhc.org/telemetry.aspx>

*33<sup>rd</sup> TCC advised all the constituents to go through the ERLDC website on regular basis and take appropriate action to make the data available to ERLDC.*

The latest status of data/telemetry is enclosed at **Annexure-C6**.

|                      |  |
|----------------------|--|
| <b>ITEM NO. C7 :</b> | <b>Submission of detailed disturbance report for PCC Meeting</b> |
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Constituents of Eastern Region on many occasions in the recent past have failed to provide requisite data and detailed timely report with DR., EL etc. to ERPC/ERLDC for disturbances in respective control area. Thereby PCC faced immense difficulties in meaningful analysis and concluding the incidences with remedial actions/suggestions for system improvement.

33<sup>rd</sup> ERPC advised secretariat to give regular feedback to board members on non-compliance.

*33<sup>rd</sup> & 34<sup>th</sup> TCC took serious note of non-submission of reports and advised all constituents to submit within reasonable time from the day of tripping the reports along with the following details as required by secretariat & enumerated in the agenda.*

- *Single line diagram of the affected area/region*
- *Pre fault conditions (Real power, Reactive power and Bus voltage)*
- *Tripping incident details with proper relay indication*
- *Disturbance record (All relays which have triggered including Main I & II)*
- *Analysis of the tripping incident*
- *Remedial measures taken*
- *Conclusion*
- *Relay settings of the relay tripped*

*TCC also advised all to send proper representatives in PCC forum and present respective case before PCC for effective analysis of each tripping.*

**The status of data submission by ER constituents is as given below:**

| Sl No | Name of the incidence  | Status of the detailed disturbance report |
|-------|--|---|
|       | <b>49<sup>th</sup> PCC Meeting:</b>  |   |
| 1.    | Disturbance at 400/220 kV Meramundali (OPTCL) S/s on 05-10-16 at 18:10 hrs | Submitted                                 |

|     |   |  |
|-----|---|--|
| 2.  | Disturbance at 400 kV Meramundali (OPTCL) S/s on 10-10-16 at 16:35 Hrs                              | Submitted  |
| 3.  | Disturbance at JUSNL system on 09-10-16 at 18:25 Hrs  | Report not received from JUSNL and PTPS              |
| 4.  | Disturbance at 220 kV Ramchandrapur (JUSNL) S/s on 22-10-16 at 19:16 hrs                            | Submitted  |
| 5.  | Disturbance at 400kV Rourkela(PG) S/s on 28-10-16 at 16:39 hrs                                      | Submitted  |
| 6.  | Disturbance at 400 kV Rangpo(PG) S/s on 05-10-16 at 14:25hrs  | Submitted  |
| 7.  | Disturbance at 220 kV Begusarai (BSPTCL) S/s on 21-10-16 at 12:12hrs                                | Submitted  |
| 8.  | Multiple tripping at 132kV Purnea (PG) and 132kV Forbisgunj (BSPTCL) system on 08-10-16 at 03:33hrs | Detail report not received from BSPTCL and Powergrid |
|     | <b>50<sup>th</sup> PCC Meeting:</b>   |  |
| 9.  | Disturbance at 220kV Bokaro (DVC) S/s on 20-11-16 at 07:50 hrs                                      | Submitted  |
| 10. | Disturbance at 400 kV Meramundali (OPTCL) S/s on 12-11-16 at 23:11 hrs                              | Submitted  |
| 11. | Disturbance at 220 kV MTPS (BSPTCL) on 01-11-16 at 10:58 hrs  | MTPS, NTPC not submitted the report in time          |
|     | <b>51<sup>st</sup> PCC Meeting:</b>   |  |
| 12. | Disturbance at 400/220 kV Arambag (WBSETCL) S/s on 17-12-16 at 12:11hrs                             | Submitted  |
| 13. | Disturbance at Budge Budge, CESC on 16-12-16 at 09:18 Hrs   | Submitted  |
| 14. | Disturbance at 220 kV Theruvali (OPTCL) S/s on 15-12-16 at 07:22 hrs                                | <b>Disturbance record:</b> Not Submitted by OPTCL    |
| 15. | Disturbance at 400 kV Meramundali (OPTCL) S/s on 13-12-16 at 12:36 Hrs                              | Submitted  |

|                      |                                      |
|----------------------|--------------------------------------|
| <b>ITEM NO. C8 :</b> | <b>Status of PCC recommendations</b> |
|----------------------|--------------------------------------|

Based on the deliberation in the meetings, PCC advised several recommendations for overall improvement of the protection system. The recommendations given by the PCC forum post 34<sup>th</sup> TCC/ERPC meetings are given below:

| Name of the incidence  | PCC Recommendation   | Latest status   |
|--|--|---|
| <b>49<sup>th</sup> PCC Meeting:</b>  |  |   |
| Disturbance at 400/220 kV Meramundali (OPTCL) S/s on 05-10-16 at 18:10 hrs | OPTCL was advised to carry out the following: <ul style="list-style-type: none"> <li>PT selection scheme during bus change over should be checked and modified.</li> <li>Verify the PT fuse supervision settings in Micom relays of 220 kV lines and advised to enable if it was not enabled.</li> </ul> | <i>OPTCL informed that they have already installed the line CVT in 220kV Kaniha line and they are planning to install the line CVTs in all the other 220kV lines.</i> |

|  |   |   |
|--|---|---|
| <b>48<sup>th</sup> PCC Meeting:</b>  |   |   |
| Disturbance at 220/132 kV NJP System on 01.09.2016 at 09:40 hrs                                      | PCC advised WBSETCL to take the following measures <ul style="list-style-type: none"> <li>To review the bus bar protection scheme at 220kV NJP</li> <li>To submit the enquiry committee report on malfunction of 220 kV Isolator arm driving mechanism of 220/132 kV ATR I.</li> </ul>  |   |
| Disturbance at 220kV Tarkera S/s on 22-09-16 at 15:38 hrs  | OPTCL was advised to change non directional over current E/F relays in 132 KV lines at 220/132kV Tarkera S/s with directional relays<br>Review the Bus bar protection (SIEMENS 7SS52) scheme at 220kV Tarkera   | <i>In 50<sup>th</sup> PCC, OPTCL informed that old EM type distance relays have been replaced with new numerical relays at 220kV Tarkera S/s except 132kV Rourkela line-1</i>   |
| <b>45<sup>th</sup> PCC Meeting:</b>  |   |   |
| Disturbance at 400/220kV Indravati (PG) and 400/220kV Indravati (OPTCL) S/s on 11-06-16 at 19:59 hrs | <i>PCC advised the following:</i> <ul style="list-style-type: none"> <li><i>OHPC should check and restore the bus bar protection at 220 kV Indravati (OHPC) S/s.</i></li> <li><i>PCC felt that 400/220kV ICT-I&amp;II should clear the fault on backup overcurrent protection before tripping of 400kV lines from PG end and advised OHPC to install directional O/C relays at both HV &amp; LV side of 400/220kV ICT-I&amp;II. Proper time coordination should be done with the adjacent line relays.</i></li> </ul> | <i>OHPC informed that they will test the bus bar protection of 220 kV Indravati (OHPC) S/s on 25<sup>th</sup> Aug, 2016.</i>  |
| Special meeting convened on 18-04-2016 for blackout of Kanti TPS at ERPC, Kolkata                    |   |   |
| Total station power failure (Blackout) incident at Kanti TPS on 07.04.16.                            | In the special meeting the following decisions were taken: <ol style="list-style-type: none"> <li>Powergrid was advised to change the zone 3 time settings at Muzaffarpur (PG) end as per protection philosophy of ERPC.</li> <li>NTPC and Powergrid were advised to activate the PLCC scheme for 220kV Muzaffarpur-Kanti D/C by 26<sup>th</sup> April, 2016 and give feedback in 42<sup>nd</sup> PCC Meeting.</li> </ol>   | <i>Powergrid informed that they will revise the zone 3 time setting at Muzaffarpur (PG) end by 20<sup>th</sup> November 2016.</i><br><br><i>NTPC informed that PLCC has been installed in 220kV Kufen line.</i><br><br><i>PCC advised BSPTCL to install PLCC system for all the transmission lines connected to 220kV Gopalgunj, Darbhanga and Begusarai and enable the carrier tripping for reliable protection.</i> |

**Respective constituents were requested to comply.**

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| <b>ITEM NO. C9 :</b> | <b>Frequent uncoordinated tripping in 400kV Meramundali S/s of OPTCL system</b> |
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For the last few months, system disturbances as well as multiple elements tripping in 400kV Meramundali S/s of OPTCL system are occurring frequently. These disturbances are mostly either related to protection system mal-operation or non-operation of protection system at OPTCL system. Some of the instances of disturbance are:

- Disturbance at 400/220 kV Meramundali (OPTCL) S/s on 05-10-16 at 18:10 hrs
- Disturbance at 400 kV Meramundali (OPTCL) S/s on 10-10-16 at 16:35 Hrs
- Disturbance at 400 kV Meramundali (OPTCL) S/s on 12-11-16 at 23:11 hrs
- Disturbance at 400 kV Meramundali (OPTCL) S/s on 13-12-16 at 12:36 Hrs

*In 51<sup>st</sup> PCC, members felt that the protection system at 400kV Meramundali S/s is not foolproof and not operating perfectly in number of occasions. PCC decided to send a protection team of ERPC to visit 400kV Meramundali S/s to review the protection system.*

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| <b>ITEM NO. C10 :</b> | <b>Payment/Receipt Status from various pool accounts in ER</b> |
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### **1. Payment of Deviation Charge – Present Status.**

As informed by ERLDC, the status of Deviation Charge payment as on 24.01.2017 is enclosed at **Annexure – C10.1**. The current principal outstanding Deviation Charge of BSPHCL & JUVNL is **Rs. 12.43 Cr & Rs. 38.39 Cr** respectively considering bill up to 08.01.2017. Moreover, an interest amount of **Rs. 2.18 Cr** (as on 31.12.2016) is also payable by JUVNL due to delay payment of DSM charges. BSPHCL & JUVNL have not paid the deviation charge since 21.11.16 & 05.01.17 respectively. ERLDC has also given letter on 24.01.2017 to JUVNL requesting to liquidate the entire Deviation charges along with delayed payment interest and open the LC for required amount failing which **Regulation 25A of the Open Access Regulations will be invoked and STOA will be denied.**

*In the CCM meeting held on 06.02.2017, ERLDC updated that the principal outstanding against JUVNL & BSPHCL had increased to Rs. 41.61 Cr & Rs.14.07 Cr respectively.*

*JUVNL & BSPHCL intimated that payment would be released by the end of Feb'17.*

### **2. Reactive Energy Charges – present status.**

The updated position of Receipt/Payment of Reactive Energy Charges in the pool as on 24.01.2017 (considering bill up to 08.01.2017) is indicated in **Annexure – C10.2**. The total outstanding receivable on account of Reactive charges from WBSETCL/WBSEDCL is **Rs. 3.64 Cr**, **GRIDCO** is **0.48 Cr** & from **BSPHCL** is **Rs. 0.94 Lac**.

Outstanding reactive amount receivable from WBSEDCL prior to 04.01.2016 is **Rs. 1.82 Cr** ( prior to Suo-moto order dated 21.07.2016 of the Hon'ble WBERC in the matter of case no: SM-14/16-17)

*In the CCM meeting held on 06.02.2017, GRIDCO representative informed that they have released the payment on 04.02.2017.*

*It was further informed that Member Secretary, ERPC has communicated to Hon'ble WBERC regarding clarification to suo moto order dated 21.07.2016 for resolution of WBSETCL/WBSEDCL dues prior to 04.01.2016.*

### **Workshop & Expenditure details**

ERPC Secretariat and ERLDC in co-ordination with GRIDCO LIMITED had organized a Two day workshop on “Black Start & Restoration” and “Emerging Issues in Power System Operation” held at Hotel Sandy’s Tower, Bhubaneswar on 17.06.16 & 18.06.16. An expenditure of Rs. 5.51456 Lacs incurred for arranging the above workshop have been reimbursed to GRIDCO from Reactive account on 30.11.2016.

#### **3. RRAS Account ----Present Status.**

As furnished by ERLDC, The updated position of Payments to the RRAS Provider(s) from the DSM pool and Payments by the RRAS Provider(s) to the DSM pool as on 24.01.2017 (considering bill up to 08.01.2017) is indicated in **Annexure – C10.3**. So far Rs. 123.0 Cr have been settled under RRAS in ER.

#### **4. Congestion Account - Present Status**

The status of congestion charge payment after full settlement is enclosed at **Annexure – C10.4**.

#### **5. Status of PSDF**

As informed by ERLDC, an amount of **Rs. 10.0 Cr** from Reactive account have been transferred to PSDF after 33<sup>rd</sup> Commercial sub-committee meeting held on 03.11.16. With this the total amount of **Rs. 900.40 Cr** has been transferred to PSDF so far. No amount from Deviation pool has been transferred to PSDF A/c since 29.06.16 and surplus amount in deviation pool is being utilized for settlement of RRAS Bill. The break up details of fund transferred to PSDF (till 24.01.17) is enclosed in **Annexure- C10.5**.

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| <b>ITEM NO. C11 :</b> | <b>Reconciliation of Commercial Accounts</b> |
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#### **1. Reconciliation of Deviation Accounts.**

At the end of 3<sup>rd</sup> quarter of 2016-17, the reconciliation statement (Period: 01.10.16 to 31.12.16) has been issued by ERLDC on 04.01.17 and statements had been sent to the respective constituents and also uploaded the same at ERLDC website ([www.erldc.org](http://www.erldc.org)). The constituents were requested to verify /check the same & comments if any on the same were to be reported to ERLDC by 21.01.2017. The status of reconciliation is enclosed in **Annexure- C11.1**.

JUVNL, WBSETCL, SIKKIM, VEDANTA, APNRL, GATI, IBEUL & JLHEP (Dans Energy) have not signed reconciliation statement for any quarter of 2016-17.

Further BSPHCL, DVC & GMR have not signed reconciliation statement for 3<sup>rd</sup> Quarter of 2016-17.

*In the CCM meeting held on 06.02.2017, ERLDC updated that BSPHCL & GMR have reconciled the statement for 3<sup>rd</sup> Quarter for 2016-17. WBSETCL & JUVNL informed that they would get the outstanding reconciliations completed within next week.*

*APNRL informed that they have sent reconciled statements for two quarters for 2016-17 through post. For 3<sup>rd</sup> quarter there is some discrepancy which would be intimated to ERLDC at the earliest.*

*ERLDC requested constituents to send scanned copies of reconciliation statement for early settlement.*

### **Deliberation in TCC meeting**

*ERLDC informed that SIKKIM, VEDANTA, GATI, IBEUL & BRBCL have not signed the reconciliation statement.*

*OPTCL informed that they will take care of the Reconciliation of Deviation Accounts related to Vedanta.*

*Gati informed that they will do the reconciliation within a week.*

## **2. Disbursement of Interest due to delayed payment of deviation charges**

ERLDC had received an amount of **Rs. 30.53692 Lac** from Vedanta on 25.11.16 towards interest due to delayed payment of deviation charges in FY 2016-17. The above amount was paid towards Ancillary services for Week-30 (Period: 17.10.16 to 23.10.16).

## **3. Reconciliation for STOA payments made to SLDC / STU :**

ERLDC have informed that the reconciliation statements of STOA payments for the period Apr'16 to Dec'16 have been send to the DVC, OPTCL and WBSETCL for checking at their end and confirmation.

- ⇒ WBSETCL and OPTCL are yet to confirm for the month of June'16 to Dec'16.
- ⇒ DVC has confirmed for the entire period.

As per clause 15.1 of CERC approved STOA bilateral procedure since the confirmations have not been received within 2 weeks from the date of issuance of the letters the statement issued by ERLDC have been deemed to be reconciled. However, signing of reconciliation statement is desirable.

*In the CCM meeting held on 06.02.2017, ERLDC updated that WBSETCL had reconciled for the month of June'16 to Dec'16. OPTCL informed that they have sent reconciliation statement through post.*

*ERLDC once again requested to send scanned copies for early settlement.*

## **4. Reconciliation for payments received from STOA applicants:**

The reconciliation statements of STOA payments for the period of Apr'16-Dec'16 have been send to the CESC, DVC, GMRKEL, JITPL, JUVNL, SAIL-RSP, TATA Steel and WBSEDCL for checking at their end and confirmation.

- ⇒ DVC has confirmed for the entire period.
- ⇒ CESC, GMRKEL, JITPL are yet to confirm for the period of Oct-16 to Dec-16.



- ⇒ JUVNL has not confirmed for the entire period of Apr-16 to Dec-16.
- ⇒ SAIL-RSP is yet to confirm for the period of Jul-16 to Dec-16.
- ⇒ TATA Steel is yet to confirm for the period of Jul-16 to Sep-16.

As per clause 15.1 of CERC approved STOA bilateral procedure since the confirmations have not been received within 2 weeks from the date of issuance of the letters the statement issued by ERLDC have been deemed to be reconciled. However, signing of reconciliation statements is desirable.

The details is attached in the **Annexure- C11.4**.

*In the CCM meeting held on 06.02.2017, ERLDC updated that CESC, GMR & JITPL have confirmed the reconciliation statement for Oct-16 to Dec-16. JUVNL informed that reconciliation would be completed very shortly.*

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| <b>ITEM NO. C12 :</b> | <b>Detailed Procedure for Ancillary Services Operations w.e.f 21.11.16</b> |
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Hon'ble CERC vide notification no. 1/10/2012-Reg.Aff. (REC-Gen)/CERC issued Final Detailed Procedure for Ancillary Services Operations. It is effective from 21.11.16 onwards. The following important new clauses are added /amended with in the Detailed Procedure for Ancillary Services Operations:-

As per clause 12.4 of Detailed Procedure for Ancillary Services Operations, Deviation charges shall be worked out by RPCs strictly in accordance with the CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014. ***The deviation charges for each entity shall be accounted without any adjustment for Payable= Receivable.***

*In the last CCM on 06.02.2017, it was informed from Secretariat that the required modifications have been implemented from the week beginning 28.11.2016.*

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| <b>ITEM NO. C13 :</b> | <b>Payment of DSM charges by JUVNL to ER Pool due to incorrect meter reading for 132 KV Joda (Gridco) -Kendoposi (JSEB)</b> |
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Due to reverse polarity of Joda end meter for Inter-state tie of Joda –Kendoposi line deviation account needs to be revised. The reverse polarity of Joda end meter couldn't be identified due to by-passing of Kendiposi end meter of 132 KV Joda(Gridco)-Kendoposi(JSEB) line, and data validation of the meter data of Joda end couldn't be done during period 04.05.11 to 03.05.15.

Total UI/DSM charges paid by GRIDCO due to faulty recording of meter on 132 Joda-Kendiposi Line is Rs 6,01,62,446 i.e (6.01 Cr),but actually Gridco have to receive Rs 6,01,62,446 due to reversal of power flow from Joda to Kendiposi.

So, Net UI/DSM charges receivable by Gridco is Rs 12,03,24,892 (2 times above Figure).The same amount (i.e Rs 12,03,24,892) has to be paid by JUVNL as it is a tie line between Odisha and Jharkhand.

Data has been checked by ERLDC & ERPC. The adjustment would be done from week beginning 06.02.2017.

*In the last CCM on 06.02.2017, ERLDC explained in details. It was decided that the adjustment for GRIDCO and JUVNL would be done in 6 equal weekly installments in monetary terms instead of energy terms. The adjustment would begin w.e.f 06.02.2017 and the calculation sheet will be shared.*

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| <b>ITEM NO. C14 :</b> | <b>Accounting for Re-import of Kurichhu Energy by Bhutan w.e.f December, 2014-- Agenda items submitted by APDCL in 34<sup>th</sup> CCM</b> |
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Based on decision in a meeting convened at ERPC on 03.11.2014, APDCL filed a Petition before the CERC seeking rectification on the accounting anomalies in monthly REAs of ERPC from April'2003 to November'2014 on re-import of Bhutan power through Assam grid. After hearing of that Petition No. 150/MP/2015, CERC issued order dated 13.06.2016 and on that basis APDCL has submitted the Energy Bill of Rs. 2,13,84,866.00 on account of re-import of Kurichhu energy by Bhutan for the period from April'2003 to November'2014.

However, as the energy drawl / exchange of Bhutan is a continuous process, APDCL has been continuing supply of energy to Bhutan on the basis of existing arrangement considering the inter-country relation between India and Bhutan. The said CERC order is silent in the methodology of accounting and billing for subsequent period from December'2014 onwards. **Meanwhile, the DSM rate also comes down drastically with the improvement of average frequency within the range of 50 Hz resulting average DSM tariff in and around zero; as a result there is little chance of recovery of cost of energy supplied by APDCL on the average UI / DSM mechanism during present unbilled period. APDCL therefore is unable to raise bill on this mechanism.**

APDCL therefore requests the ERPC forum to deliberate on the issue and take decision:

- (a) Ensuring the cost of supply of power to Bhutan from December'2014 onwards either at the average cost of power purchase of APDCL at 33 KV level from the DSM pool account till the present arrangement continues.
- (b) Else, APDCL be reimbursed with the energy quantum with necessary Transmission losses and another 5% additional loss to compensate for default in reimbursement in line with the system followed at present in case of Banking arrangement of power.
- (c) Take any other decision ensuring the justice of both ends.

PTC vide their letter vide No-PTC/MTFG/ERLDC/11428 dated-17.10.2016 requested for a meeting to address the issue. Letter of PTC/APDCL at **Annexure- C14**.

In the last CCM held on 06.02.2017, APDCL explained in brief. ERPC & ERLDC were of the view that installation of SEM meters at 33 Kv & 11kV inter-connection with Bhutan would be the best solution to the problem. APDCL submitted that the concerned sub-stations were unmanned & remote and collection of weekly meter reading would be feasible.

*It was decided that a separate meeting would be held with APDCL, PTC, NERLDC, NERPC & ERLDC for seeking a solution to this issue.*

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| <b>ITEM NO. C15 :</b> | <b>Meter readings related issues</b> |
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## **A. Erroneous Data/meter reading**

### **i. Siliguri (PG)**

Siliguri(PG) end meter NP-5950-A installed for 132 KV Melli (Sikkim) line is recording 5-10 % as compared to Melli end meter data since shifting of Bays from AIS to GIS at Siliguri i.e on 29.10.16. The above problem was informed to Sliguri PGCIL telephonically as well as through email with request to check CT and PT connection to meter at Siliguri. Meter data validation of the aforesaid line is not possible until meter data at siliguri end is correct.

*In the last CCM held on 06.02.2017, PGCIL informed that the meter had been rectified and data has been sent of ERLDC for checking. ERLDC informed that they would check the data and accordingly intimate Powergrid.*

### **ii. Rangpo (PG)**

Meter NP-8713-A installed at Rangpo PG end of 400 KV Teesta-III is recording almost 66 % as compared to actual export from Teesta-III since 14.01.17. Initially the line was idle charged so it was not possible to verify the Rangpo end meter data of the said Line. The problem was identified after synchronization of Line from Teesta-III end for evacuation of power wef 14.01.17.

PGCIL Rangpo was requested by ERLDC to check CT and PT connection to meter and also to check the voltage and current of all 3-phase to meter terminal. Rangpo informed that the problem has been identified and rectified on 17-01-17 around 16:00 Hrs. However problem is still persisting.

*In the last CCM held on 06.02.2017, PGCIL informed that the correct CT ratio would 3000/1 instead of 2000/1 present in the data base.*

### **iii. Forbisganj at BSPTCL**

Kishanganj(BSPTCL) end meter of 132 KV Purnea(PG) Line is not recording any flow compared to Purnea PGCIL end since 14:00 hrs of 29th June 2015. It was gathered that line is feeding load to Farbisganj at BSPTCL regularly through Transfer Bus of Kishanganj bypassing the SEM at Kishanganj. Accordingly 02 nos of SEM were installed at Forbesganj on 03.02.16 and DCD for downloading the data was handed over to BSPHCL. BSPHCL informed that due to installation problem of meter software, data is not being sent to ERLDC. In 34<sup>th</sup> TCC/ERPC, BSPTCL informed that the line would be shifted from transfer bus to main bus and there would no longer be any metering issue. **However, the issue is still unresolved.**

*In the last CCM held on 06.02.2017, BSPHCL informed that the line had been transferred to main bus on 0501.2017. ERLDC was requested to check the data.*

**iv. Testing of Main Energy Meter for Tala-Siliguri 400kV Feeder No.1 at Siliguri end.**

Druk Green Power Corportion Limited (DGPC) has informed that during the months of November,2016 and December,2016, the energy recorded by main meter for 400kV Tala- New Siliguri feeder No.I was found insistent as difference in energy recorded between main meter and check meter was beyond the permissible limit of 0.3. Further on 28.12.2016 the energy recorded by main meter at Siliguri end was less by 195.32% compared to energy recorded by main at Tala end. In the absence of reliable energy recorded by the main energy meter, the energy bill for the month of November and December,2016 was rised on energy recorded by the check meter.

Accordingly, DGPC have requested to test the energy meters at Siliguri end for all Tala- Siliguri feeders, particularly No.I main energy meter for its functioning & arrange for the replacement if found out of order at the earliest.

*In the last CCM held on 06.02.2017, Powergrid informed that the meters at Binaguri were checked and found ok. PTC is requested to provide further details to Powergrid so that the issue could be identified.*

**B. Non Receipt of SEM data from Various Locations**

**i. PPSP and Arambagh**

400 KV PPSP-Ranchi New (PG) Line & 400 KV Arambagh-Ranchi New (PG) Line has already been charged and synchronized on 06.01.17. Interface meter has been installed at PPSP and Arambagh end of aforesaid Line. The aforesaid Line is a Tie Line and PPSP and Arambagh are 02 new Tie points in WBSETCL system wef 06.01.17. WBSETCL was requested to advise its vendor M/s Squarem Tech to collect the SEM data of above 02 locations also apart from the existing Tie Point locations and send the same to ERLDC by every Tuesday. ERLDC is not receiving the SEM data of PPSP and Arambagh regularly.

*In the last CCM held on 06.02.2017, WBSETCL informed that henceforth data would be sent regularly.*

**ii. Pandiabili at PG**

SEM data of Pandiabili end of 400 KV Baripada line is not being sent from Pandiabili since last week of Nov 2016. The same meter is also not integrated in AMR till now. The matter is already communicated to PGCIL.

*In the last CCM held on 06.02.2017, POWERGRID informed that the AMR port is defective and they have arranged manual downloading of data from Pandiabil.*

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| <b>ITEM NO. C16 :</b> | <b>Implementation of Automatic Meter Reading in Eastern Region</b> |
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AMRs have been installed at 97 locations in 1<sup>st</sup> phase and 25 locations in 2nd phase in Eastern region. Due to addition of new substations/generating stations/transmission lines in Eastern Region, another 32 new locations required to be added under AMR project as 3<sup>rd</sup> phase of implementation.

Inclusion of new locations and total cost involvement for AMR 3<sup>rd</sup> phase were last discussed in 34<sup>th</sup> TCC/ERPC meeting held on 18.11.16/19.11.16 wherein TCC/ERPC approved the cost of Rs.1.72 Cr including 4 years of AMC. ERLDC updated that priority list of substations to be progressively integrated in AMR has been enclosed in **Annexure- C16**.

*In the last CCM held on 06.02.2017, POWERGRID informed that in the 3<sup>rd</sup> Phase 37 new locations (173 meters) and 21 old locations ( 76 new meters) had been integrated. It has been planned that the 21 old locations would be completed on priority by March,2017. Thereafter remaining locations would be taken up for completion by end of May,2017.*

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| <b>ITEM NO. C17 :</b> | <b>Incorrect Date Format of Meters at Angul PG and Kishanganj BSPTCL</b> |
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Angul end L&T Meter NP-7995-A installed at ICT-3 and NP-8076-A at 765 KV Angul-Srikaulam Line-2 is having incorrect date since installation of meter. Further similar problem of incorrect date is also found at Kishanganj BSPTCL end Elster make meter for 220 KV Kishanganj-Kishangaj Line-3. These meters were installed by PGCIL and needs necessary correction of dates.

In the last CCM held on 06.02.2017, Powergrid informed that they have replaced the concerned meters.

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| <b>ITEM NO. C18 :</b> | <b>Location and meters with defective RS-485 port</b> |
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In 1<sup>st</sup> and 2<sup>nd</sup> phase, AMR have been installed at 122 locations in ER. Out of 122 locations there are 12 locations with 15 nos of meter having defective RS-485 port and for this reason meter's are not communicating with AMR system. The above problem was also reported by the implementing Vendor i.e M/s TCS with a request to change the defective RS-485 meter with healthy one so that the entire meter from the above locations may report in AMR system. Due to the above problem, non-reporting meter data is being sent by respective substations by downloading through Optical port by DCD/Laptop. The details of location and meters are enclosed in **Annexure- C18**. Powergrid was requested to replace the meter with healthy meter.

In the last CCM held on 06.02.2017, it was decided that the defective meters would be replaced with Genus make new meters as soon as the integration of AMR data formats was completed by TCS.

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| <b>ITEM NO. C19 :</b> | <b>Procurement of new SEM's and DCD/Laptops</b> |
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In 30<sup>th</sup> ERPC meeting procurement of 965 no of SEM's and 110 nos of Laptop/DCD (in 111<sup>th</sup> OCC meeting) was approved. Further 31<sup>st</sup> TCC/ERPC approved the cost sharing mechanism of expenditure on SEM's and DCD/Laptops along with POWERGRID overhead charges @ 15% to be shared by the beneficiaries constituents of Eastern Region in proportional to the share allocation for the month in which the proposal was approved in the ERPC meeting. In 32<sup>nd</sup> TCC/ERPC, Powergrid intimated that order had been placed on 15.03.2016. In 33<sup>rd</sup> TCC/ERPC, PGCIL

informed that delivery is expected in six phases starting August'16. In last CCM, Powergrid informed that the new meters were under inspection and scheduled to start delivery from 1st week of December'16.

*In the last CCM held on 06.02.2017, Powergrid informed that receipt of Genus make meters have already started and had been installed in some locations and their integration with AMR was under process by M/s TCS.*

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| <b>ITEM NO. C20 :</b> | <b>Training for new Genus Make meter handling and software</b> |
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*In the last CCM held on 06.02.2017, on request of constituents Powergrid proposed to organize a training on new Genus make meter handling and software at ERPC on 3<sup>rd</sup> March,2017 and a repeat training on 17<sup>th</sup> March, 2017 at Patna. ERPC, Secretariat requested Powergrid forward formal proposal.*

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| <b>ITEM NO. C21 :</b> | <b>List of Assets commissioned by POWERGRID</b> |
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*Powergrid has submitted a list of assets commissioned in the last CCM held on 06.02.2017. The same is at **Annexure- C21**.*

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| <b>ITEM NO. C22 :</b> | <b>11KV Auxiliary power supply of 400KV Berhampore Powergrid Substation</b> |
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*In 34<sup>th</sup> TCC, WBSEDCL informed that the construction of dedicated line has been delayed due to ROW issues. The same has been resolved now and the construction of dedicated line will be completed by December, 2016.*

*WBSEDCL added that cable needs to be laid out for highway crossing for which cost estimate will be given to Powergrid within a week.*

*Powergrid agreed to do the payment after receiving the estimate.*

*WBSEDCL assured that on receipt of deposit from Powergrid all efforts will be made to resolve the issue on reasonable time.*

*In 129<sup>th</sup> OCC, PGCIL informed that requisite amount will be deposited by tomorrow (i.e. 18.01.2017). WBSEDCL informed that work is in progress and expected to be completed by another 10 days.*

*In 130<sup>th</sup> OCC, WBSEDCL informed that the requisite amount has been received from Powergrid and the work will be completed by 15<sup>th</sup> March, 2017.*

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| <b>ITEM NO. C23 :</b> | <b>HIGHLIGHTS &amp; GRID PERFORMANCE FOR THE PERIOD FROM OCT' 2016 TO DEC' 2016</b> |
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### A) Real time operation:

During the period under review, power supply position in the region was as under:

|                                | Oct-15 | Nov-15 | Dec-15 | Jan-16 | Oct-16 | Nov-16 | Dec-16 | Jan17 |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|-------|
| <b>Avg Frq. ( Hz )</b>         | 49.98  | 49.99  | 49.98  | 49.98  | 50.0   | 49.99  | 49.99  | 50.0  |
| <b>PkDmd (MW)</b>              | 18268  | 17668  | 17120  | 17485  | 19634  | 18799  | 17502  | 18142 |
| <b>Energy Consum. (MU/day)</b> | 377    | 341    | 333    | 341    | 381    | 332    | 325    | 341   |
| <b>ISGS Gen (MU)</b>           | 3964   | 3653   | 3556   | 3445   | 4750   | 3967   | 3864   | 3795  |
| <b>Region Gen (MU)</b>         | 13751  | 12334  | 12459  | 12392  | 14961  | 12903  | 12920  | 13151 |
| <b>% increase in Reg Gen.</b>  |        |        |        |        | 8.80   | 4.61   | 3.70   | 6.12  |

### B) System Operational Discipline during the period from Oct-16 to Jan-17

i) The month-wise energy draws of ER constituents were as given hereunder:

|         | Oct-16 |        | Nov-16  |         | Dec-16 |         | Jan-17  |         |
|---------|--------|--------|---------|---------|--------|---------|---------|---------|
|         | SCH    | ACT    | SCH     | ACT     | SCH    | ACT     | SCH     | ACT     |
| BSPHCL  | 2110.2 | 2074.0 | 1822.2  | 1812.0  | 1781.6 | 1794.4  | 1842.0  | 1849.3  |
| JUVNL   | 488.3  | 512.1  | 435.5   | 476.4   | 449.9  | 512.9   | 477.3   | 531.0   |
| DVC     | -886.4 | -878.0 | -1022.8 | -1051.5 | -983.6 | -1012.3 | -1017.4 | -1034.9 |
| OPTCL   | 565.0  | 553.5  | 599.2   | 602.4   | 571.8  | 546.8   | 534.4   | 526.9   |
| WBSETCL | 1133.7 | 1145.4 | 744.5   | 765.2   | 641.4  | 662.6   | 737.8   | 782.0   |
| SIKKIM  | 40.7   | 32.0   | 38.9    | 36.0    | 45.2   | 40.9    | 48.8    | 42.4    |

### C) Frequency & Voltage

i) Frequency profile for the period during **Oct-16 to Jan-17** is given hereunder. The frequency mostly remained within the allowable range for the entire period

| Month  | % of time for which frequency |            |         |                      |
|--------|-------------------------------|------------|---------|----------------------|
|        | <49.9                         | 49.9-50.05 | > 50.05 | IEGC band 49.9-50.05 |
| Oct-16 | 5.72                          | 74.78      | 19.50   | 74.78                |
| Nov-16 | 9.28                          | 72.22      | 18.50   | 72.22                |
| Dec-16 | 11.04                         | 69.57      | 19.39   | 69.57                |
| Jan-17 | 6.20                          | 70.42      | 23.38   | 70.42                |

ii) Maximum and minimum voltages recorded at some important 400 kV sub-stations were as follows:

| SUB-STATION/<br>POWER STN. | Oct-16 |      | Nov-16 |      | Dec-16 |      | Jan17 |      |
|----------------------------|--------|------|--------|------|--------|------|-------|------|
|                            | MAX.   | MIN  | MAX.   | MIN  | MAX.   | MIN  | MAX.  | MIN  |
|                            | (KV)   | (KV) | (KV)   | (KV) | (KV)   | (KV) | (KV)  | (KV) |
| FARAKKA                    | 422    | 407  | 425    | 409  | 429    | 410  | 426   | 406  |
| SUBHASGRAM                 | 426    | 369  | 437    | 380  | 434    | 392  | 434   | 386  |
| DURGAPUR                   | 421    | 403  | 421    | 404  | 422    | 405  | 422   | 404  |
| JEERAT                     | 423    | 372  | 432    | 379  | 430    | 390  | 429   | 387  |
| PURNEA                     | 422    | 389  | 425    | 395  | 426    | 396  | 426   | 396  |
| MUZAFFARPUR                | 416    | 381  | 416    | 386  | 417    | 387  | 417   | 388  |
| JAMSHEDPUR                 | 430    | 414  | 431    | 415  | 434    | 418  | 433   | 418  |
| RENGALI                    | 410    | 371  | 411    | 397  | 411    | 398  | 414   | 386  |
| JEYPORE                    | 421    | 382  | 421    | 380  | 431    | 380  | 431   | 381  |

D) Constituent-wise demand met is given below:

|                  |                 | Oct-15 | Nov-15 | Dec-15 | Jan-16 | Oct-16 | Nov-16 | Dec-16 | Jan-17 |
|------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>BSPHCL</b>    | AVG MAX DMD(MW) | 3222   | 3211   | 3277   | 3280   | 3493   | 3466   | 3364   | 3535   |
|                  | MU/DAY          | 67     | 64     | 66     | 67     | 70     | 64     | 62     | 65     |
| <b>JUVNL</b>     | AVG MAX DMD(MW) | 1083   | 1108   | 1079   | 1084   | 1099   | 1101   | 1105   | 1138   |
|                  | MU/DAY          | 24     | 24     | 24     | 24     | 23     | 23     | 24     | 24     |
| <b>DVC</b>       | AVG MAX DMD(MW) | 2500   | 2483   | 2497   | 2592   | 2601   | 2426   | 2443   | 2543   |
|                  | MU/DAY          | 58     | 58     | 59     | 60     | 62     | 59     | 59     | 62     |
| <b>ODISHA</b>    | AVG MAX DMD(MW) | 3930   | 3813   | 3609   | 3731   | 3765   | 3558   | 3509   | 3575   |
|                  | MU/DAY          | 79     | 73     | 68     | 71     | 72     | 67     | 65     | 68     |
| <b>W. BENGAL</b> | AVG MAX DMD(MW) | 7255   | 6517   | 6087   | 6191   | 7806   | 6601   | 6336   | 6632   |
|                  | MU/DAY          | 149    | 123    | 116    | 120    | 153    | 119    | 114    | 123    |

E) Inter-regional energy exchange during the review period were as follows: (Figures in MU)

| Region | Oct-16 |      | Nov-16 |      | Dec-16 |      | Jan -17 |      |
|--------|--------|------|--------|------|--------|------|---------|------|
|        | SCH    | ACT  | SCH    | ACT  | SCH    | ACT  | SCH     | ACT  |
| NER    | -53    | 406  | 49     | 429  | 139    | 498  | 144     | -146 |
| SR     | 742    | 516  | 693    | 668  | 373    | 526  | 386     | 395  |
| WR     | -99    | -42  | 130    | -40  | 199    | -332 | -120    | 35   |
| NR     | 2253   | 1943 | 1775   | 1545 | 1859   | 1724 | 1846    | 1945 |
| TOTAL  | 2842   | 2823 | 2646   | 2602 | 2569   | 2519 | 2255    | 2229 |



F) Reservoir levels of important hydro stations in ER during Jun-16 to Oct-16 (as on last day of the month) is given below:

| STATION   | MDDL/ FRL | Oct-16  | Nov-16  | Dec-16  | Jan-17  |
|-----------|-----------|---------|---------|---------|---------|
| BURLA     | 630.06    | 629.25  | 628.25  | 630.06  | 625.62  |
| BALIMELA  | 1507.20   | 1506.80 | 1504.20 | 1507.20 | 1500.90 |
| RENGALI   | 123.00    | 122.91  | 122.54  | 123.00  | 122.16  |
| U. KOLAB  | 856.66    | 856.37  | 856.39  | 856.66  | 855.82  |
| INDRAVATI | 639.32    | 638.88  | 639.01  | 639.32  | 638.25  |
| MACHKUND  | 2747.50   | 2745.00 | 2740.60 | 2747.50 | 2735.05 |

**G) IMPORTANT EVENTS :**

- 1) 400/220 kV, 500MVA ICT-I at Kishanganj S/s first time loaded at 20:12HRS of 03/10/16.
- 2) 400/220 kV, 125MVAr B/R-II at Maithon charged for the first time at 15:15HRS of 04/10/16.
- 3) LILO of 132kV Baripada (PG) – Rairangapur (OPTCL) at Bangiriposi (OPTCL) was charged for the first time at 15:55HRS of 04/10/16.
- 4) 220kV Kishanganj(PG)-Kishanganj\_New (BSPTCL) ckt- III & IV were charged for the first time at 13:15HRS and 13:29HRS of 05/10/16 respectively.
- 5) 220/132kV, 160 MVA ICT-I & II at Kishanganj\_New(BSPTCL) were charged for the first time at 17:55HRS and 18:07HRS of 05/10/16 respectively.
- 6) 50 MVAr L/R I & II (taken as B/R) of 400kV New Ranchi-PPSP-I & II at New Ranchi were charged for the first time at 15:24HRS and 14:14HRS respectively of 15/10/16.
- 7) 132 kV Kishanganj (New)-Forbisganj D/C first time loaded at 11:38HRS of 20/10/16.
- 8) 125MVAr B/R-II at Durgapur was charged for the first time in parallel with the existing 50MVAr B/R-I at 17:06HRS of 21/10/16.
- 9) 63MVAr L/R of 400kV Chaibasa-Kolaghat at Chaibasa was charged for the first time (along with the line) at 17:14HRS of 25/10/16.
- 10) 400kV Kharagpur-Chaibasa-II was charged for the first time at 23:30 HRS of 10/11/16.
- 11) 132 kV GIS Main Bus I & II of Bajkula 132/33 kV GIS (WBSETCL) S/s were charged(from Contai S/s) at 16.19 Hrs & 16.20 Hrs of 27.10.16 respectively.
- 12) 132/33 kV 50 MVA ICT I at Bajkul 132/33 kV GIS (WBSETCL) S/s was charged at 16.50 Hr(HV side) & 16.55 Hrs(LV side) of 27.10.16.

- 13) Test synchronization of 500 MW, Unit#4 of Sagardighi TPP was done at 13.32 Hrs of 15.10.16.
- 14) 500MVA, single phase ( $765/\sqrt{3}$  /  $(400/\sqrt{3})$  kV Spare ICT at Angul (in place of ICT-III, B-ph) was charged for the first time at 11:38 Hrs of 16.11.16.
- 15) 400kV Jamshedpur-Rourkela-II was LILOed successfully at Chaibasa and 400kV Jamshedpur-Chaibasa-II and 400kV Chaibasa-Rourkela-II were charged for the first time at 23:28 HRS of 19/11/16 and 00:16 HRS of 20.11.16 respectively.
- 16) 765kV Angul-Srikakulam -II along with Switchable Line Reactor (3X80MVAR) at both end were charged for the first time at 11:20 Hrs of 27.11.16.
- 17) 220kV Bidanasi-Cuttak line charged on 29th November 2016
- 18) 400/132kV ICT-I at Nabinagar first time charged on no load at 19:27hrs of 02/12/16.
- 19) Unit 3 of KBUNL(Muzaffarpur) along with GT-III( 250 MVA, 220/15.75kVA) synchronised for first time as regional entity on 03/01/17 at 10:10hrs.
- 20) 220kV Gaya- Sonenagar-I charged on 04/12/16 at 17:18hrs.
- 21) Bokaro-A Unit-I along with GT(400/21KV) was synchronised for the first time 04/12/16 at 22:44hrs
- 22) 400KV, 125MVA B/R-II at Kishanganj was charged for the first time on 07/12/16 at 18:44hrs.
- 23) 220/132kV, 100 MVA ICT-II at Muzaffarpur was idle charged for the first time in parallel with existing 100 MVA ICT-I at Muzaffarpur (for feeding power to Nepal) on 16/12/16 at 05:02hrs. Subsequently the same was loaded at 06:40hrs of 16/12/16.
- 24) 132kV Purnea-Purnea-III charged first time after re-conductoring to HTLS ACCC( Casablanca) on 20/12/16 at 18:01hrs.
- 25) LILO of 400kV Binaguri-Bongaigaon line -III and IV at Alipurduar (Powergrid) Sub-station were charged for first time on 22/12/16. Binaguri - Alipurduar I & II were charged at 17:57 hrs and 19:04 hrs respectively of 22/12/16. Alipurduar - Bongaigaon I & II were charged at 20:49 hrs and 21:43 hrs respectively of 22/12/16.
- 26) 125MVA BR-III at Durgapur was charged for the first time on 28/12/16 at 16:10 hrs.
- 27) 220kV Kishanganj(PG)-Kishanganj\_New(BSPTCL) I & II were anti-theft charged for the first time from Kishanganj\_New(BSPTCL) end by keeping isolator open at Kishanganj(PG) end on 28/12/16 at 17:55hrs.
- 28) 50MVAR B/R at Berhampur was charged for the first time on 29/12/16 at 16:18 hrs.
- 29) 132kV Purnea-Purnea-I TL charged first time after re-conductoring to HTLS ACCC( Casablanca) on 30/12/16 at 10:23hrs.

- 30) LILO of 132 KV Gopalganj-Siwan one Ckt; 18.9 km at 132/33 KV Hathua S/s along with 20 MVA, 132/33 kV transformer commissioned on 06.12.2016.
- 31) LILO on 132 KV Supoul-Phoolparas one Ckt; 18.8km at 132/33 KV Nirmali S/s along with 20 MVA, 132/33 kV transformer commissioned on 28.12.2016.
- 32) 132 kV Dalsingsarai- Bachhwara(TSS) S/c commissioned on 20.12.2016.
- 33) 50MVA LR of 400kV RTPS-Ranchi-II charged for the first time at 20:01Hrs 03/01/17.
- 34) 400kV Main bay of Nabinagar-Sasaram-II at Nabinagar charged for the first time at 18:44Hrs of 06/01/17.
- 35) 400kV New Ranchi – New PPSP-I (charged as 400kV New Ranchi - PPSP) charged for the first time at 17:38Hrs of 06/01/17 and 400kV New Ranchi - New PPSP-II (charged as 400kV New Ranchi - Arambagh) charged for the first time on 18:21Hrs of 06/01/17.
- 36) 132kV Purnea (PG)-Purnea (BSPTCL)-II was charged for the first time after re-conductoring with HTLS ACCC (Casablanca) conductor at 15:28Hrs of 07/01/17.
- 37) 400kV Teesta-III- Rangpo charged for the first time at 18:14Hrs of 13/01/17.
- 38) Teesta-III has charged its GTs along with units for the first time as follows:
  - i) GT 1 & Unit 1 : 22:00Hrs of 14/01/17
  - ii) GT 3 & Unit 3: 18:55Hrs of 15/01/17
  - iii) GT 5 & Unit 5: 22:26Hrs of 24/01/17
  - iv) GT 2 & Unit 2: 20:23Hrs of 27/01/17
  - v) GT 6 & Unit 6: 16:44Hrs of 28/01/17

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