As a Green Initiative, distribution of Agenda in hard copies has been discontinued.

Participants are requested to arrange their own copy.

AGENDA FOR 35th TCC MEETING of EASTERN REGIONAL POWER COMMITTEE

Date: 24th February, 2017

Venue: Hotel BNR Chanakya, Ranchi

Index

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 35TH TCC MEETING

Date: 24th February, 2017 (Friday) **Venue: Ranchi**

ITEM NO.A1:	CONFIRMATION OF THE MINUTES OF 34TH TCC MEETING

The minutes of the 34th TCC meeting held on 18th November, 2016 at Kolkata were circulated vide letter no. ERPC/TCC & Committee/14/2016/1H3436_H3505 dated 23rd December, 2016.

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

Members may confirm the minutes of 34th TCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B1:	Status of DPR for PSDF funding in respect of Sikkim & JUSNL

In 33rdTCC, 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 34th 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.

ITEM NO. B2:	Revision of DPR for establishment of Reliable Communication (Bihar-Portion)

In 34th 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.

ITEM NO. B3:	**FSTPS Islanding Scheme, NTPC**

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 128th 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 129th 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 10th 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 130th 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. 10th March, 2017.

NTPC may update.

ITEM NO. B4:	Status of Bus Splitting schemes in Eastern Region

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 129th OCC, Powergrid informed that bus splitting scheme will be completed by February, 2017.*

In 130th 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.

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

In 130th 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 34th TCC, NTPC informed that the bus splitting will be completed by December, 2018.

NTPC may update.

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

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 34th 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 15th December, 2016 (Copy of the same is attachéd at **Annexure-B5**).*

The latest status updated in 130th OCC is as given below:

Activities	Nos	Status as on 15-Nov-16 (as updated in 34th TCC)	Status as on 17-Feb-17 (As updated in 130th OCC)	Target completion as given in 34th 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.

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

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 130th OCC meeting, IBEUL informed that construction of the line has been completed and ready for commission. The line will be commissioned by 28th 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.

ITEM NO. B7:	Status of construction of Chuzachen bay at Rangpo S/s.

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 33rd 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 34th 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.

ITEM NO. B8:	Status of construction of dedicated transmission lines of IPPs which are connected through interim arrangement

The progress of dedicated transmission lines of IPPs in Eastern Region, which were connected through interim arrangement, was reviewed in 34th ERPC meeting held on 19th 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:

Generation Project in ER connected through temporary LILO arrangement					
Sl. No.	**Generation Project**	**Installed Capacity (in MW)**	**Present Connectivity through LILO**	**Final Connectivity Arrangement (not commissioned)**	**Anticipated Completion Schedule**
1	Vedanta (Sterlite Energy Ltd.)	4x600	LILO of one circuit of Rourkela - Raigarh 400kV D/c line *(granted in Sept'09)*	Sterlite - Jharsuguda 400kV 2xD/c	Feb'17

Generation Project in ER connected through temporary LILO arrangement					
Sl. No.	**Generation Project**	**Installed Capacity (in MW)**	**Present Connectivity through LILO**	**Final Connectivity Arrangement (not commissioned)**	**Anticipated Completion Schedule**
2	Ind Barath Energy (Utkal) Ltd.	2x350	LILO of one circuit of Jharsuguda - Raigarh 400kV D/c line *(granted in Sept'09)*	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 *(granted in Nov'07)*	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 *(granted in Dec'14 by CERC)*	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 03rd Dec 2014.
($) 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.

ITEM NO. B9:	**Outstanding issues towards charging of 220kV Biharsharif-Tenughat line at 400 kV level**

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.

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

In 34th TCC, Director (Projects), BSPTCL stated that the 4th 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.

ITEM NO. B10:	High voltage problem in 400KV Meramundali Grid S/S

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 129th 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 17th SCM meeting.

In 17th 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 129th 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 130th 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 15th 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.

ITEM NO. B11:	Status of PLCC system installed in Eastern Region

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.

WBPDCL 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 is taken up with the OEM (i.e. ABB) and they will be replacing 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.

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

In 34th 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 31st December, 2016
2. 220kV Patna-Khagul S/C line---Will commission the PLCC system by 31st 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:

1. 220kV Purnea (PG)-Madhepura line
2. 220 kV Biharshariff- Begusarai line
3. 220 kV Biharshariff- Bodhgaya line

} UNDER JURISDICTION OF BSPTCL

OPTCL and BSPTCL may update.

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

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 126th 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 34th 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).

34th 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.

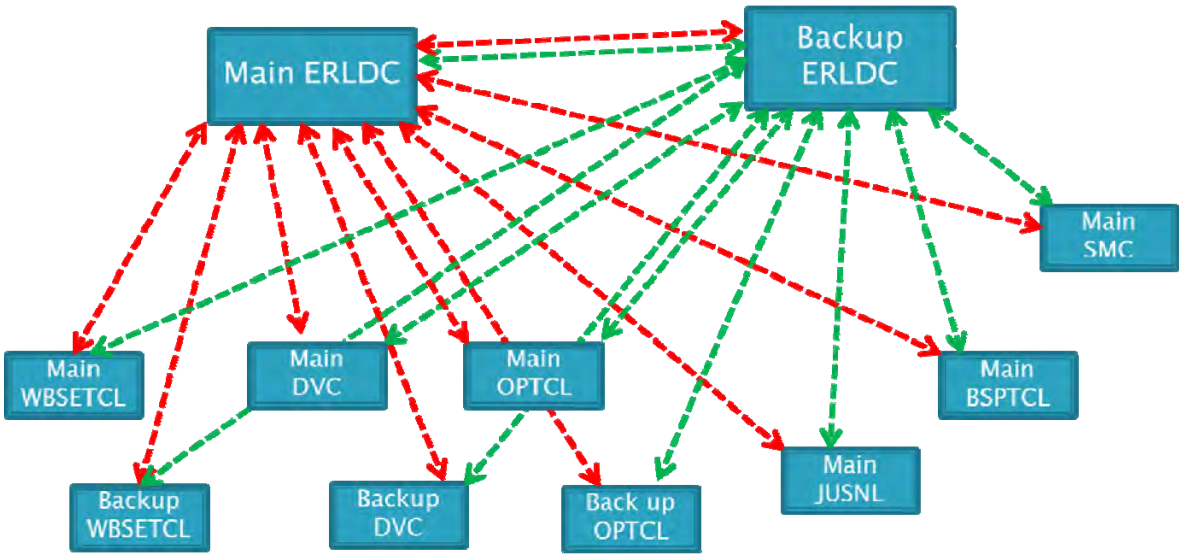
GM, ERLDC informed that process of replacement of similar old RTUs has taken up at Western Region also after getting proper approval at RPC level. GM, ERLDC suggested that a committee may be constituted to begin with to assess the requirement of the replacement of the old RTUs.

All members agreed and referred to TCC for further guidance.

TCC may guide.

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 SLDCis 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.

ITEM NO. B13:	Consideration of STU lines as Non-ISTS lines carrying ISTS power

Subsequently, in line with 34th 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.

128th 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 129th 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.

ITEM NO. B14:	Opening of LC by ER constituents for Deviation Charges Payments

Clause 10 (4) of CERC Deviation Settlement Mechanism and related matters Regulations, 2014 vide notification No. L-1/132/2013/CERC dated 6th 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, BSHPCL 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.

ITEM NO. B15:	Time correction of SEMs in Eastern Region

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.

ITEM NO. B16:	HIGH AMOUNT OF DEVIATION CHARGES PAYABLE BY BSPHCL ON ACCOUNT OF M/s. TALA HEP

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 BSPHCL 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 129th OCC, MS- ERPC assured that the matter is under consideration and will be resolved at the earliest.

In 130th OCC, ERPC/ERLDC explained the adjustment of Tala, and Chukha power in DSM and Regional Energy Accounting of ERPC. It was informed that the 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.

ITEM NO. B17:	Proposal for stepwise completion of Rajarhat – Purnea 400 KV D/C lineunder ERSS-V Scheme

Investment approval for the following transmission project associated with Eastern Region Strengthening Scheme-V (ERSS-V) was accorded by the competent authority in 292nd Board meeting on 23rd 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

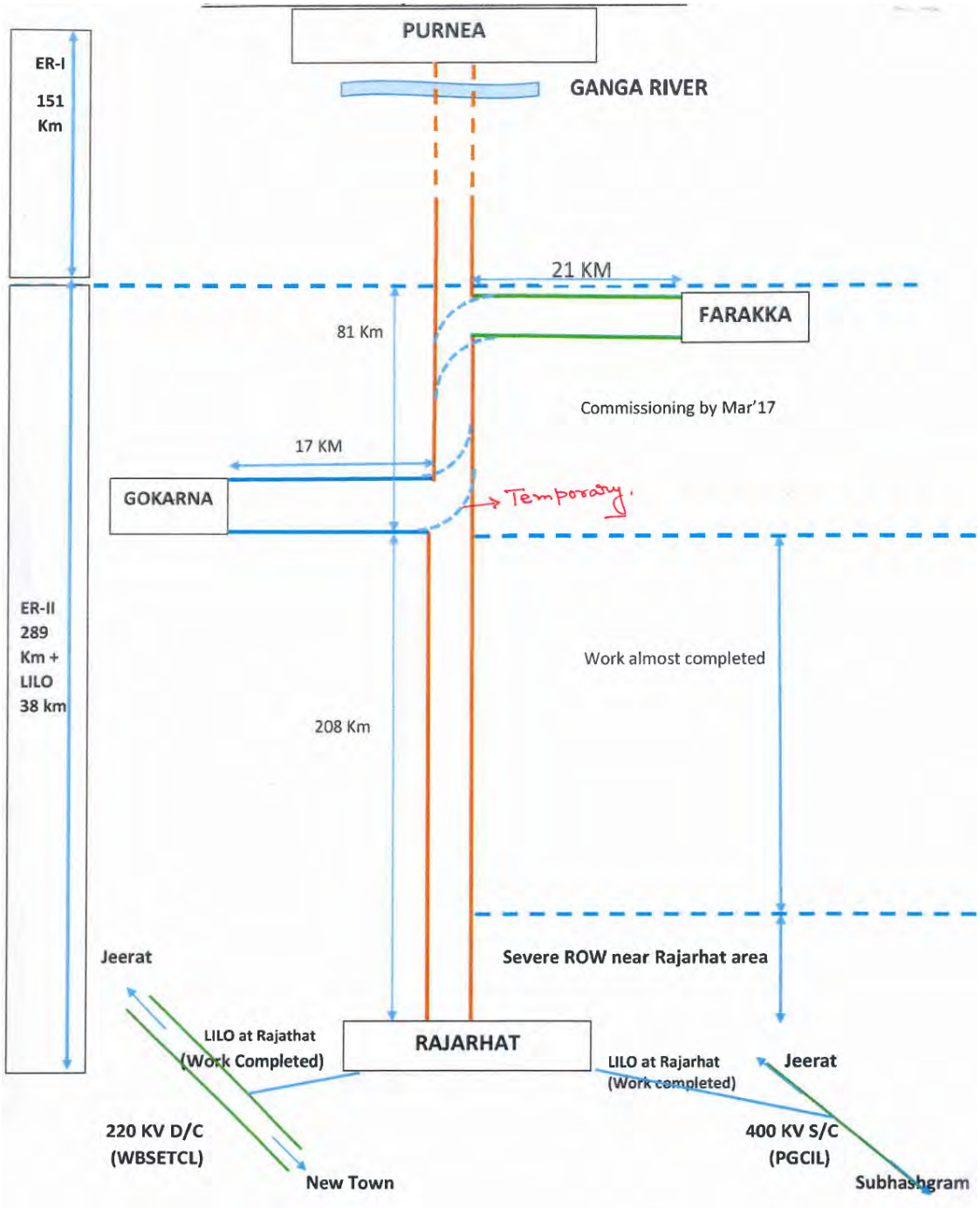
34th TCC agreed for the above rearrangement.

In 129th 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.

ITEM NO. B18:	Operationalization of LTA for BRBCL

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

CTU may update.

ITEM NO. B19:	Nomination of the Bid Evaluation Committees (BECs) for the tranmission projects being implemented through TBCB

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) (i) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Sitamarhi(New) (ii) Establishment of 400/220/132 kV, 3x500 MVA+3x200 MVA S/s at Chandauti(New) iii) Establishment of 400/220/132 kV, 2x500 MVA+2x200 MVA S/s at Saharsa(New) iv) Substation extension at Darbhanga S/s 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.

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

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 34th TCC meeting it was informed that circuits 3 and 4 between Muzaffarpur(PG) and 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.

ITEM NO. B21:	**Augmentation of 400/220kV ICT capacity at Maithon, Patna, Sasaram, Biharshariff**

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.

ITEM NO. B22:	**Commissioning of 125 MVAR bus reactor at Jamshedpur**

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 130th 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.

ITEM NO. B23:	Priority-based commissioning of bus reactor for control of high voltage during lean periods

In 34th TCC, Powergrid updated the latest status as follows:

S.N.	Reactor	Status
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.

ITEM NO. B24:	Status of Transmission projects approved in various meetings

The status as updated in 34th 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.	28thERPC 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	28thERPC Meeting	Under TBCB
3	Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders	26thERPC 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	25thERPC 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).	25thERPC 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	25thERPC Meeting	Powergrid informed that for Sasaram-1st ICT commissioned, 2nd 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 (3rd& 4thCircuits)	25thERPC 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)	25thERPC 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	25thERPC 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	25thERPC Meeting	Not pertaining to POWERGRID
11	Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S ofPowergrid	25thERPC 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.
12	Modification of 132 kV Bus arrangementat 220/132 kV Purnea S/S ofPowergrid	25thERPC 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 eachpole)	25thERPC Meeting	NIT completed. OBD scheduled by end Nov'16
14	GIS bays for 400 kV, 125 MVAR Bus Reactor atBaripada	24th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by 3rdqtr 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 2nd Qtr. 2017-18.
16	Installation of 3rd 400/220 kV ,1 x3l 5 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 2xl60 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 40OkV 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 ofboth circuits of Ranchi-Maithon RB 400 kV D/C line atDhanbad	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 3rd 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 18th SCM which are as given below:

Sl No.	Scheme	ERPC/SCM Meeting	Latest status
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 18th 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	2x125MVAr, 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 (b) Nabinagar-II – Patna 400kV D/c line with Quad moose conductor (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.

ITEM NO. B25:	**Status of Spare Transformers & Reactors approved in various meetings**

The status updated as in 34th 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 TRANSFORMERBiharshariff	Available at site.
2	1 X 315 MVA, 400/220 KV AUTO TRANSFORMERDurgapur	Utilized at 400 kV Farakka. Procurement of spare ICT is under process.
3	1 X 80 MVAR SHUNT REACTOR AS O&M SPARE RourkelaSubstation	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 110MVAr, 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 MEMBERSTATES:		
1	2 X 315 MVA 400/220 kvICTs	Available
2	2 X 160/150 MVA 220/132 kvICTs	One ICT utilised at Purnea S/s,2nd ICT available at SiliguriS/s.
3	1 X 50 MVA 132/66 kvICT	Available
SURPLUS FROM OLD ASSPARE		
1	3x 50 MVA, 220/132kV (to be released fromMalda (2nos.) &Birpara (1no.)S/Ss	Replaced with 160MVAtransformer.
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.)	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.

ITEM NO. B26:	**Persistent over drawl by Jharkhand**

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 130th 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.

ITEM NO. B27:	Commissioning of Tie bay and main bay of BUS-I of 400 kV Ranchi-New Ranch-I & II circuit at Ranchi Substation

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.

ITEM NO. B28:	Issues related to associated / downstream systems-- Powergrid

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 becharged 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 kVlines of OPTCL. Program for utilisation of balance 2 no. bays to be confirmed by OPTCL.

ii. **6 nos.220 kV bays at PandiabilGIS:** 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 linesfor 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.

ITEM NO. B29:	Commercial issues related to NHPC Stations

1) Payment default by beneficiaries.

i) NBPDCL

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 34th Commercial sub-Committee meeting of ERPC at Kolkata on 6th Feb'2017. NBPDCL, SBPDCL & WBSEDCL may be requested to release the outstanding dues as above at the earliest.

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 34th Commercial sub-Committee meeting of ERPC at Kolkata on 6th Feb'2017 and GRIDCO intimated that the reconciliation statement will be signed within a week time**.** Reconciliation statements for 3rd 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 before31st March'2017 and same should be valid up to 31st March '2018. SBPDCL & NBPDCL 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.

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

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

6) Revision of REA in respect of SBPDCL and NBPDCL

SBPDCL & NBPDCL are verifying different energy amount w.r.t their REA statements.Matter was also discussed in 34th Commercial sub-Committee meeting of ERPC at Kolkata on 6thFeb'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.

ITEM NO. B30:	**Any other issues**

With the permission of chair.

PART C: ITEMS FOR INFORMATION

TCC may note the following items:

ITEM NO. C1 :	Status of Projects approved/under consideration of PSDF appraisal committee

The latest status of projects which are being funded by PSDF as updated in 129th 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 129th 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.	***19.53 Cr***	***Total contract awarded for Rs. 67.73 Cr*** *Erection work for received equipment is in progress.*
4	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16		20 Cr.	***4.94 Cr. + 9.88 Cr.***	***1) Hardware supplied and installed.*** ***2) SAT completed for pilot state*** ***3) Protection database management software (PDMS) delivered.*** ***4) Training on PDMS organised at Odisha.***
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	***23.68 crore***	*Project is on going.* ***Order for supply of equipment placed for Rs.13.51 Cr.***
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. 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.
10	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station					Appraisal committee has recommended. It will be placed in next monitoring

							Committee
		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.					***OHPC will submit the detailed proposal soon as per the requirement of Appraisal committee.***
12a	ERPC	Training for Power System Engineers					***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.***
12b		Training on Integration of Renewable Energy resources					***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.***
12c		*Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents*					

In 129th & 130th 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 may note for compliance

ITEM NO. C2 :	**Transfer capability declaration by the states of Eastern Region**

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.

ITEM NO. C3 :	**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**

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 129th OCC meeting ENICL informed that 400kV Purnea-Biharshariff line would be restored by June-2017 while PGCIL in the 127th 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

ITEM NO. C4 :	**Reporting of Energy generated from renewable resources on daily basis**

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 126th 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 WBSEDCL to kindly comply with the requirement on topmost priority.

ITEM NO. C5 :	**Restricted Governor /Free Governor Mode Operation of generators in Eastern Region**

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 123rd 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.
WBPDCL informed that Santaldih U#5 is in RGMO from 16th Aug 2016 and U#6 will be kept in RGMO after overhauling. WBPDCL 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. *WBPDCL also clarified that KTPS units cannot be put into FGMO/RGMO as these units are not having Electro Hydraulic Governor (EHG) system.*
OCC requested WBPDCL 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 129th 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

ITEM NO. C6 :	Updated status on SCADA telemetry

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://erldc.org/telemetry.aspx

33rd 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.**

ITEM NO. C7 :	Submission of detailed disturbance report for PCC Meeting

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.

33rd ERPC advised secretariat to give regular feedback to board members on non-compliance.

33rd & 34th 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
	49th PCC Meeting:	
1.	Disturbance at 400/220 kV Meramundali	Submitted

	(OPTCL) S/s on 05-10-16 at 18:10 hrs	
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
	50th PCC Meeting:	
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
	51st PCC Meeting:	
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	**Disturbance record:** Not Submitted by OPTCL
15.	Disturbance at 400 kV Meramundali (OPTCL) S/s on 13-12-16 at 12:36 Hrs	Submitted

ITEM NO. C8 :	**Status of PCC recommendations**

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 34th TCC/ERPC meetings are given below:

Name of the incidence	**PCC Recommendation**	**Latest status**
49th PCC Meeting:		
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: • PT selection scheme during bus change over should be checked and modified. • Verify the PT fuse supervision settings in Micom relays of 220 kV lines and advised to	*OPTCL informed that they have already installed the line CVT in 220kV Kaniha line and they are planning to install the line*

	enable if it was not enabled.	*CVTs in all the other 220kV lines.*
48th PCC Meeting:		
Disturbance at 220/132 kV NJP System on 01.09.2016 at 09:40 hrs	PCC advised WBSETCL to take the following measures • To review the bus bar protection scheme at 220kV NJP • To submit the enquiry committee report on malfunction of 220 kV Isolator arm driving mechanism of 220/132 kV ATR I.	
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 Review the Bus bar protection (SIEMENS 7SS52) scheme at 220kV Tarkera	*In 50th 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*
45th PCC Meeting:		
Disturbance at 400/220kV Indravati (PG) and 400/220kV Indravati (OPTCL) S/s on 11-06-16 at 19:59 hrs	*PCC advised the following:* • *OHPC should check and restore the bus bar protection at 220 kV Indravati (OHPC) S/s.* • *PCC felt that 400/220kV ICT-I&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 & LV side of 400/220kV ICT-I&II. Proper time coordination should be done with the adjacent line relays.*	*OHPC informed that they will test the bus bar protection of 220 kV Indravati (OHPC) S/s on 25th Aug, 2016.*
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: a) Powergrid was advised to change the zone 3 time settings at Muzaffarpur (PG) end as per protection philosophy of ERPC. b) NTPC and Powergrid were advised to activate the PLCC scheme for 220kV Muzaffarpur-Kanti D/C by 26th April, 2016 and give feedback in 42nd PCC Meeting.	*Powergrid informed that they will revise the zone 3 time setting at Muzaffarpur (PG) end by 20th November 2016.* *NTPC informed that PLCC has been installed in 220kV Kufen line.* *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.

Respective constituents may comply.

ITEM NO. C9 :	Frequent uncoordinated tripping in 400kV Meramundali S/s of OPTCL system

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 51st 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.

ITEM NO. C10 :	Payment/Receipt Status from various pool accounts in ER

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 33rd 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.**

ITEM NO. C11 :	**Reconciliation of Commercial Accounts**

1. Reconciliation of Deviation Accounts.

At the end of 3rd 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). 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 3rd Quarter of 2016-17.

In the CCM meeting held on 06.02.2017, ERLDC updated that BSPHCL & GMR have reconciled the statement for 3rd 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 3rd 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.

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.

ITEM NO. C12 :	**Detailed Procedure for Ancillary Services Operations w.e.f 21.11.16**

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.

ITEM NO. C13 :	**Payment of DSM charges by JUVNL to ER Pool due to incorrect meter reading for 132 KV Joda (Gridco) -Kendoposi (JSEB)**

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.

ITEM NO. C14 :	Accounting for Re-import of Kurichhu Energy by Bhutan w.e.f December, 2014-- Agenda items submitted by APDCL in 34th CCM

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.

ITEM NO. C15 :	Meter readings related issues

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 34th 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.

ITEM NO. C16 :	**Implementation of Automatic Meter Reading in Eastern Region**

AMRs have been installed at 97 locations in 1st 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 3rd phase of implementation.

Inclusion of new locations and total cost involvement for AMR 3rd phase were last discussed in 34th 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 3rd 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.

ITEM NO. C17 :	Incorrect Date Format of Meters at Angul PG and Kishanganj BSPTCL

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.

ITEM NO. C18 :	Location and meters with defective RS-485 port

In 1st and 2nd 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, *i*t 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.

ITEM NO. C19 :	Procurement of new SEM's and DCD/Laptops

In 30th ERPC meeting procurement of 965 no of SEM's and 110 nos of Laptop/DCD (in 111th OCC meeting) was approved. Further 31st 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 32nd TCC/ERPC, Powergrid intimated that order had been placed on 15.03.2016. In 33rd 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.

ITEM NO. C20 :	Training for new Genus Make meter handling and software

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 3rd March,2017 and a repeat training on 17th March, 2017 at Patna. ERPC, Secretariat requested Powergrid forward formal proposal.

ITEM NO. C21 :	List of Assets commissioned by POWERGRID

Powergrid has submitted a list of assets commissioned in the last CCM held on 06.02.2017. The same is at ***Annexure*****- C21.**

ITEM NO. C22 :	11KV Auxiliary power supply of 400KV Berhampore Powergrid Substation

In 34th 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 129th 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 130th OCC, WBSEDCL informed that the requisite amount has been received from Powergrid and the work will be completed by 15th March, 2017.

ITEM NO. C23 :	HIGHLIGHTS & GRID PERFORMANCE FOR THE PERIOD FROM OCT' 2016 TO DEC' 2016

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
Avg Frq. (Hz)	49.98	49.99	49.98	49.98	50.0	49.99	49.99	50.0
PkDmd (MW)	18268	17668	17120	17485	19634	18799	17502	18142
Energy Consum. (MU/day)	377	341	333	341	381	332	325	341
ISGS Gen (MU)	3964	3653	3556	3445	4750	3967	3864	3795
Region Gen (MU)	13751	12334	12459	12392	14961	12903	12920	13151
% increase in Reg Gen.					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 drawls 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/ 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
BSPHCL	AVG MAX DMD(MW)	3222	3211	3277	3280	3493	3466	3364	3535
	MU/DAY	67	64	66	67	70	64	62	65
JUVNL	AVG MAX DMD(MW)	1083	1108	1079	1084	1099	1101	1105	1138
	MU/DAY	24	24	24	24	23	23	24	24
DVC	AVG MAX DMD(MW)	2500	2483	2497	2592	2601	2426	2443	2543
	MU/DAY	58	58	59	60	62	59	59	62
ODISHA	AVG MAX DMD(MW)	3930	3813	3609	3731	3765	3558	3509	3575
	MU/DAY	79	73	68	71	72	67	65	68
W. BENGAL	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/√3 / (400/√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 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, 125MVAr 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) 125MVAr 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) 50MVAr 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

****

ANNEXURES

Enclosure

Annexure- B2

Revised List of Sub-Stations to be connected with Fibre Optic in Bihar

Sr. No.	Name of Sub-station	kV Level	Link Name	Integration with existing equipment	Length from nearest WB node (in Kms)	Remarks	S4.1	L4.1	L4.2	upto 150kms	Base Equipment
1	Balmikinagar	132	Ramnagar-Balmikinagar	Ramnagar	78		0	0	1	0	
2	Ramnagar	132/33			OPGW layiny considered under BSPTCL Package		0	1	1	0	
3	Dhaka	132/33	Motihari-Dhaka	Motihari	25		2	2	1	0	1+1
4	Sitamarhi	132/33	Sitamarhi-Dhaka		52		0	2	1	0	
5	Ekma	132/33	Siwan-Ekma	Siwan	1	Upto LILO of Chhapra-Siwan	1	0	0	0	
6	Dalsinghsarai	132/33	Samastipur-Dalsingsarai	Samastipur	23		1	0	0	0	
7	Samastipur*	132/33			OPGW layiny considered under BSPTCL Package		1	1	0	0	
8	Khagaria	132/33	BTPS-Khagaria	BTPS	60		1	0	1	1	
9	BTPS*	220/132/33			OPGW layiny considered under BSPTCL Package		0	0	1	1	
			khagaria-purnia		150		0	0	0	1	
10	Ekansarai	132/33	Biharshariff-Ekansarai	Biharshariff	30		1	1	0	0	
11	Biharsharif*	220/132/33			OPGW layiny considered under BSPTCL Package		3	2	0	0	1+1
12	Hulasganj	132/33	Ekansarai-Hulasganj		15		1	0	0	0	
13	Sheikhpura	132/33	Biharshariff-Sheikhpura		20	station planned on new line under BGCL	1	1	1	0	
14	Jamui	132/33	Seikhpura-Jamui		55		0	2	1	0	
			Jamui-Lakhisarai	Lakhisarai	35						
15	Lakhisarai	132/33			OPGW layiny considered under BSPTCL Package		0	1	0	0	
16	Baripahadi	132/33	Biharshariff-Baripahadi		5		1	1	0	0	
17	Rajgir	132/33	Nalanda-Rajgir	Nalanda	14		1	0	0	0	
18	Nalanda	132/33			OPGW layiny considered under BSPTCL Package		1	0	0	0	
19	Belaganj	132/33	Chandauti-Belaganj	Chandauti	20		1	0	0	0	
20	Chandauti	132/33			OPGW layiny considered under BSPTCL Package		2	2	0	0	1+1
21	Rafiganj	132/33	Chandauti-Rafiganj		41		0	1	0	0	
22	Tekari	132/33	Chandauti-Tekari		29		1	1	0	0	
23	Goh	132/33	Tekari-Goh		22		1	0	0	0	
24	Vaishali	132/33/11	Muzaffarpur-Vaishali	Muzaffarpur	30		0	2	0	0	
25	Muzaffarpur	132/33			OPGW layiny considered under BSPTCL Package		1	1	0	0	
26	Supaul	132/33	Madhepura-Supaul	Madhepura	30		0	4	0	0	1+1
27	Madhepura	220 132/33			OPGW layiny considered under BSPTCL Package		0	1	0	0	
28	Phulparas	132/33	Supaul-Phulparas		32		1	2	1	0	1+1

29	Masrakh	132/ 33	Gopalganj-Masrakh	Gopalganj	40	Upto LILO of Gopalganj-Siwan	1	2	0	0	
30	Gopalgunj	220/132/ 33			Already considered under BSPTCL Package		2	1	1	0	1+1
31	Siwan	132/ 33			OPGW layiny considered under BSPTCL Package		1	2	1	0	1+1
			siwan-Chhapra		70						
32	Mohania	132/ 33	Pusauli(BSEB)-Mohania	Pusauli(BSEB)	10		2	0	0	0	
33	Pusauli(BSEB)	220/132			OPGW layiny considered under BSPTCL Package		2	2	1	0	1+1
34	Jainagar	132/ 33	Madhubani-Jainagar	Madhubani	40		0	2	2	0	
			Jainagar-Phulparas		55		0	0	0	0	
35	Madhubani	132/ 33			OPGW layiny considered under BSPTCL Package		0	2	0	0	
36	Dumraon	132/ 33	Ara(PG)-Dumraon	Ara(PG)	60		1	2	1	0	1+1
			Dumraon-Bikramganj		35		0	0	0	0	
37	Ara(PG)*	220/132	Ara(PG)-Khagaul		56		0	1	2	0	
38	Khagual	220/132/ 33			OPGW layiny considered under BSPTCL Package		2	0	1	0	
39	Buxar	132/ 33	Dumraon-Buxar		17		1	0	0	0	
40	Jagdishpur	132/ 11	Ara(PG)-Jagdishpur		27		0	1	0	0	
41	Digha	132/ 33	Khagaul-Digha	Khagaul	16		1	0	0	0	
42	Bikramganj	132/ 33	Dehri-Bikramganj	Dehri	45		0	2	1	0	
43	Dehri	220/132/33			OPGW layiny considered under BSPTCL Package		1	4	0	1	1+1
44	Banjari	132/ 33	Dehri-Banjari		38		0	1	0	0	
45	Sherghati	132/ 33	Bodhgaya-Sherghati	Bodhgaya	27		0	2	0	0	
46	Bodhgaya*	220/132/ 33			OPGW layiny considered under BSPTCL Package		0	2	0	1	
			Dehri-Gaya(PG)-Bodhgaya		95		0	0	0	0	
47	Wazirganj	132/ 33	Bodhgaya - Wazirganj		30		0	2	0	0	
48	Nawada	132/ 33	Wazirganj - Nawada		26		0	2	0	0	
			Nawada-Biharsharif		41		0	0	0	0	
49	Kishanganj	132/ 33	Forbisganj-Kishanganj	Forbisganj	70		1	1	2	0	1+1
			Katayia-Forbisganj		50		0	0	0	0	
50	Kataiya (Birpur)	132/ 33	Supaul- Kataiya		40		0	1	1	0	
51	Katihar	132/ 33	Purnea-Katihar	Purnea	29		1	1	0	0	
52	Purnea	132/ 33			OPGW layiny considered under BSPTCL Package		2	4	2	2	1+1+1
53	Forbishganj	132/ 33	Purnea-Forbishganj		85		1	1	3	0	1+1
54	Mithapur	132/ 33	Sipara-Mithapur	Sipara	16	station planned on new line under BGCL	2	0	0	0	
55	Sipara	220/132/ 33			OPGW layiny considered under BSPTCL Package		3	0	1	0	1+1
56	Jakkanpur		Jakkanpur-Sipara		10		1	0	0	0	
57	Bihta	132/ 33	Khagaul-Bihta		15	station planned on new line under BGCL	2	0	0	0	

58	Naugachia	132/ 33	Purnia-Naugachia		70		0	1	1	1	
			Naugachhia-BTPS	BTPS	136		0	0	0	0	
59	Karamnasa	132/ 33	Mohania-Karamnasa		11		1	0	1	0	
			Karamnasa-Pusauli(BH)	Pusauli(BH)	60	Trans.Line through Kudra TSS	0	0	0	0	
60	Harnaut	132/ 33	Baripahadi-Harnaut		26		0	1	0	0	
61	Karpi (Ataula)	132/ 33	Jehanabad - Ataula		28		0	1	0	0	
62	Jehanabad	132/ 33				considered under ULDC scheme	0	2	0	0	
63	Raxaul	132/ 33	Bettia - Raxaul		38		0	1	1	0	
64	Bettiah	132/ 33			OPGW layiny considered under BSPTCL Package		0	5	1	0	1+1
			Bettiah-Gopalganj		60		0	0	0	0	
65	Imamganj	132/ 33	Imamganj - Sherghati		30		0	1	0	0	
66	Tehta	132/ 33	132 KV Chandauti/ Jehanabad LILO-Tehta		6		2	0	0	0	
67	Udakishanganj	132/ 33	Saharsa - UdaKishanganj	Saharsa	51		0	0	1	0	
68	Saharasa	132/ 33			OPGW layiny considered under BSPTCL Package		0	1	2	0	
69	Karbigahiya	132/33	Karbigahia-Mithapur		3	Arial/UG fibre required as line is underground	1	0	0	0	
70	Kochas	132/ 33	Kudra - Kochas		35		1	2	0	0	
			Dumraon-Dehri LILO Kochas		29	Distance b/w LILO point to Kochas gss is 29km	0	0	0	0	
71	Kudra GSS	132/33	Kudra-Dehri		26		1	2	0	0	
			Kudra-Pusauli(PG)		10		0	0	0	0	
72	Pusauli(PG)*				OPGW layiny considered under BSPTCL Package		1	0	0	0	
73	Shekhpura	132/ 33	Hathidah - Shekhpura	Hathidah	28		0	1	0	0	
74	Hathidah	132/ 33			OPGW layiny considered under BSPTCL Package		0	1	0	0	
75	Jandaha	132/ 33	Samastipur/Hazipur LILO Jandaha		35		1	2	0	0	
76	Hajipur*	132/33			OPGW layiny considered under BSPTCL Package		0	1	0	0	
77	MTPS*	220/ 132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
78	Sitalpur	132/33	Sitalpur-Vaishali		31		0	2	0	0	
79	Chhapra	132/ 33	Chhapra-Sitalpur		40		0	1	2	0	
80	Begusarai	220/ 132/ 33			OPGW layiny considered under BSPTCL Package		2	3	0	0	1+1
81	Kahalgaon(NTPC)*				OPGW layiny considered under BSPTCL Package		0	0	0	0	
82	Kahalgaon	132/ 33			Already considered under BSPTCL Package		0	1	0	0	
83	Sabour	132/ 33			OPGW layiny considered under BSPTCL Package		1	1	0	0	
			Kahalgaon-sabour		25		0	0	0	0	
84	Fatua	220/132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	

85	Ara(Bihar)	132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
86	Sultangunj	132/ 33			OPGW layiny considered under BSPTCL Package		1	1	0	0	
87	Jamalpur	132/ 33			OPGW layiny considered under BSPTCL Package		0	1	0	0	
88	Lakhisarai(PG)*	132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
89	Sonenagar	132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
90	Sasaram(BSEB)	132/ 33	Sasaram-Dehri	Dehri	20		2	0	0	0	
			Sasaram-Pusauli(BH)	Pusauli(BH)	18		0	0	0	0	
91	SKMCH	132/33			Already considered under BSPTCL Package		1	1	0	0	
			SKMCH-Muzaffarpur		15		0	0	0	0	
92	Runisaidpur	132	Runisaidpur-SKMCH	SKMCH	35		0	1	0	0	
93	Darbhanga	220/132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
94	Gangwara	132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
95	Pandaul	132/ 33			OPGW layiny considered under BSPTCL Package		0	0	0	0	
96	Purnea(PG)*		Purnea(PG)-Purnea(BH)	Purnea(BH)	2		1	0	0	0	
97	Motihari	132/ 33			OPGW layiny considered under BSPTCL Package		1	0	0	0	
98	Barh	132/ 33	Barh-Biharsharif		25		1	0	0	0	
99	Barh(NTPC)*				OPGW layiny considered under BSPTCL Package		0	0	0	0	
100	Banka	132/ 33			OPGW layiny considered under BSPTCL Package		0	2	0	0	
101	Banka(PG)*				OPGW layiny considered under BSPTCL Package		0	0	0	0	
					2703		37	34	22	6	

List of Upcoming/underconstruction gss to be connected with Fibre

1	Motihari new	400/132	Motihari new- Motihari old		15		1	1	1	0	
			Motihari new- Bettiah		36		0	0	0	0	
			Motihari new- Raxaul		56		0	0	1	0	
2	Dhanaha	132/33	Dhananha- Bettiah		35		0	1	0	0	
3	Patna(PG)		Patna(PG)- Sipara		1		1	0	0	0	
4	Bihta new	220/132/33	Bihta new- Sipara		60		1	0	1	0	
			Bihta old-Bihta new		5		0	0	0	0	
5	Khagaria new	220/132/33	Khagaria old/purnia lilo khagaria new		10		1	0	0	1	
6	Sheohar	132/33	Sitamarhi/ dhaka lilo Sheohar		2		1	0	0	0	
7	RamGarh	132/33	Pusauli new/ Kochas lilo Ramgarh		20		1	0	0	0	
8	Waisali Ganj	132/33	Biharsharif/ nawada lilo waisali ganj		40		0	1	0	0	
9	Jamui new	132/33	jamiu old- jamui new		30		0	2	0	0	

			Jamui new- banka new		35		0	0	0	0	
10	Banka new	132/33	Bamka old Banka new		30		0	1	0	0	
11	Siwan new	132/33	Chhapra old/ chhapra new lilo siwan new		5		0	1	1	0	
12	Nathnagar	132/33	Sabour-Sultanganj LILO Nathnagar		10		1	1	0	0	
13	Korha	132/33	Purnea-Naugachhia LILO Korha		20		0	1	1	0	
14	Piro	132/33	Piro - Bikramganj		23		1	0	0	0	
15	bhabua	132/33	Bhabuba-Pusauli new		33		0	1	0	0	
16	Tarapur	132/33	Jamalpur/ Sultanganj lilo tarapur		16		1	1	0	0	
17	Manihari	132/33	Purnia/ Katihar lilo Manihari		12		1	1	0	0	
18	Barsoi	132/33	Barsoi- Kisanganj new		70		0	0	1	0	
19	Dhamdaha	132/33	Purnia/Saharsa lilo Dhamdaha		1		1	1	0	0	
20	Baisi	132/33	Kisanganj old-Baisi		1		1	0	0	0	
21	Nirmali	132/33	Phulpras/Supaul lilo- Nirmali		15		1	1	0	0	
22	Trivaniganj	132/33	Purnia/ Forbisganj lilo Trivaniganj		15		1	1	0	0	
23	Shahpurpatori	132/33	Shahpurpatori- Samastipur new		31		0	1	0	0	
24	Samastipur New	220/132/33					0	1	0	0	
25	Rosera	132/33	Begusarai/Kusheshwarasthan lilo Rosra		9		1	1	0	0	
26	Kusheshwarsthan	132/33					0	1	0	0	
27	Simri Bhatiyarpur	132/33	Simri Bhatiyarpur- Sonebarsa		16		1	0	0	0	
28	Sonebarsa	132/33					1	0	0	0	
29	Jhanjharpur	132/33	Jainagar/Phulparas lilo Jhanjharpur		35		0	2	0	0	
30	Benipatti	132/33	Madhubani/Jainagar LILO Benipatti		12		2	1	0	0	
31	Pupri	132/33	Pupri - Benipatti		32		0	1	0	0	
32	Belsand	132/33	Dhaka/Sitamarhi LILO Belsand		9		0	2	0	0	
33	Maharajganj	132/33	Maharajganj-Mashrakh		20		1	0	0	0	
34	Hathua	132/33	Gopalganj/Siwan LILO Hathua		8		1	1	0	0	
35	Pakridayal	132/33	Pakridayal-Dhaka		20		1	0	0	0	
36	Areraj	132/33	Gopalganj/Bettia LILO Areraj		15		1	1	0	0	
37	Chakia	132/33	Chakia-Motipur new		40		0	1	0	0	
38	Motipur New	220/132					0	1	0	0	
39	Narkatiyaganj	132/33	Bettia/Ramnagar LILO Narkatiyaganj		15		0	2	0	0	
40	Banmankhi	132/33	purnia/Saharsa LILO Banmankhi		2		1	0	1	0	
41	Mahanr	132/33	Mahnar-Jandaha		10		1	0	0	0	
42	Bakhari	132/33	Bakhari-Begusarai		20		1	1	0	0	
43	Balia	132/33	Begusarai/Bakhari LILO Balia		11		1	2	0	0	
44	Manjhaul	132/33	Begusarai/Bakhari LILO Manjhaul		2		2	0	0	0	
45	Teghra	132/33	Begusarai-Teghra		40		0	1	0	0	
46	Araria	132/33	Kishanganj old/Forbisganj LILO Araria		1		0	2	0	0	
	Total				**944**		**9**	**29**	**4**	**1**	
			Total		**2703+944=3647**						

List of sub-stations and Lines Deleted(already considered in Transmission/ULDC scheme of BSPTCL)

2	Masaudi	132/ 33	Jehanabad-Masaudi		30	considered under ULDC scheme	0	1	0	0
3	Sonebarsa		Madhepura-Sonebarsa		50	considered under ULDC scheme	0	0	1	0
4	Kusheshwarsthan	132/ 33	Sonebarsa - Kusheshwarsthan		75	considered under Tr. scheme	0	0	1	0
5	Hajipur 132kV	132/ 33	Hazipur (220KV)-Hazipur (132KV)		2	considered under ULDC scheme	1	0	0	0
			Sipara-Masaurhi		24	considered under ULDC scheme				
			Sipara-Khagaul		8	considered under ULDC scheme				
			Banka-Banka(PG)-sabour		25	considered under ULDC scheme				
			Dehri-Sonenagar		30	considered under ULDC scheme				
			Muzaffarpur-Vaishali		30	already considered at sr no. 18				
					274					

15 DEC 2016

Annexure- B5

ଓଡ଼ିଶା ओडिशा ODISHA

Jagyneswar Acharya
Notary Govt of India
Odisha, BBSR, Dist-Khurda
Regd No 7791/2009
Mob 9861006176

35AA 975014

BEFORE THE NOTARY, BHUBANESWAR, ODISHA

AFFIDAVIT

I, Sri Jayakrushna Mohanty aged about 55 years, son of Sri Dambarudhar Mohanty, resident of S 3 Vedanta Meadows, Jharsuguda-768202, working as Vice President-Power at Vedanta Limited (formerly known as Sesa Sterlite Limited) at Jharsuguda unit having registered office at Sesa Ghor 20 EDC Complex, Patto, Panjim, Goa - 403001 do hereby affirm as under:

1. That I am duly authorized to sign affidavits, agreements, letters, representations etc. vide power of attorney dated 16th July 2016 for and on behalf of the company.
2. That the ERPC board has discussed and reviewed the construction of dedicated 400KV D/C transmission line to the PGCIL pooling station in the meeting held on

NOTARY JAGYNESWAR ACHARYA GOVERNMENT

21886

25-11-16

Vedanta LTD

25-11-16

DISTRICT TREASURY
KHURDA, BHUBANESWAR
22 NOV 2016
DDL. TREASURY OFFICER

P.C. MOHANTY
STAMP VENDER
BHUBANESWAR COURT

19th November 2016 at Kolkata. Based on our prayer, ERPC board took the decision to allow for physical completion of the project by end of February 2017.The necessary statutory clearances for charging shall be obtained post completion of the physical activities. The status will be reviewed in March 2017 / next TCC meeting. Accordingly a fresh undertaking has to be submitted to CTU and ERPC in the form of affidavit.

3. That I being the authorized signatory of the company do hereby inform that the above work is under execution and is being continuously monitored at our end on day to day basis.
4. That we are putting our best efforts for completion of the transmission line as per the revised schedule furnished before the ERPC board and would be able to physically complete the said work by 28th February 2017.
5. Hence this affidavit.

DEPONENT

VERIFICATION:

I, Jayakrushna Mohanty, the deponent named above do hereby verify that the contents of the above affidavit are true to the best of my knowledge and belief and are based on records.

Verified at Bhubaneswar on this the 15th the day of December 2016.

DEPONENT

IDENTIFIED BY ME

ADVOCATE, BBSR

NOTARY JAGYNESWAR ACHARYA REGD NO.:7791/2009 DIST.-KHURDA BBSR, ODISHA MOB:9861000617 GOVERNMENT OF INDIA

Jagyneswar Acharya
Notary Govt. of India
Odisha, BBSR, Dist-Khurd
Regd No 7791/2009
Mob 9861000617

Annexure- B9

The detailed scope of work for conversion of 220 kV Tenughat-Biharsarif Line at 400 kV level

Site	Agreement Details	LOA details	Completion	Scope of Work	Reason for Delay
Tenughat S/s (TVNL)	Date of Agreement: 29.07.2010 Completion Time: 36 Months (i.e. 28.07.2013) Estimated Cost: 24.20 Crore (incl. Consultancy @ 15% + Service Tax)	M/s Sterling & Wilson, Kolkata LOA Date: 25.04.2012 LOA Value: 20.184 Crore.	Scheduled Completion: 30.06.2013 Anticipated Completion: 30.06.2017	**Original Scope:** 5 Nos. Bays, (TB, BC, ICT-1, ICt-2, Line & L/R). **Additional Scope:** Erection, Testing & Commissioning of OSM Equipments (i.e. 2 x 250 MVA ICTs, 50 MVAR L/R).	Very irregular and delayed payment from TVNL forcing agency to demobilized/mobilized frequently . Still 4.07 Crore is pending (Other issues as per annexure-B).
Biharsharif S/s (PG) & associated T/L	Date of Agreement: 24.08.2008 Completion Time: 24 Months (i.e. 24.08.2010) 7.13 Crore + Consultancy @ 15% + Service Tax.	M/s Sterling & Wilson, Kolkata LOA Value: 3.57 Crore.	Scheduled Completion: 24.08.2010 Anticipated Completion: 15.04.2017	**Original Scope:** 1 No. Bay & 0.81 km 400 kV T/L for Termination at Biharsharif S/s end.	Very irregular and delayed payment from JUSNL forcing agency to demobilized/mobilized frequently. The said job is on cost plus basis. The bay work is nearly under completion stage and line diversion work is likely to be completed by 15.04.2017 subject to release of balance payment of 48.5 lakh.

Tenughat end(TVNL)

TVNL Consultancy Project, TTPS

Contractor : M/s Sterling & Wilson, Kolkata

LOA Date : 25.04.2012 Sch Completion : 30.06.2013

Ant Completion : 31.06.2017

LOA Value : Rs. 20.184 Crores (Supply= Rs. 13.187 Crs; Services=7.006 Crs) as per last Amnd dtd 16/12/15 + Consultancy fee(@15%) + Service Tax(@ 15%).

SCOPE : 1) No of Bays : 05 (TB, BC, ICT-1, ICT-2, Line/LR) .

2) New scope : Erection, Testing, commissioning of OSM, i.e., 2x250 MVA ICTs and 50 MVAR Line Reactor (OSM : ICT-1 .. OLD, ICT-2 .. NEW, LINE REACTOR .. OLD).

MAJOR CONSTRAINTS :

1. FUND : Delay in release of balance fund by TVNL for Rs 5.85 Crs (approx) against our Invoice dated 24.12.15. TVNL released 1.78 Crores only in the last week of Dec'16.
2. ERECTION OF ICT-2 (NEW): M/s S&W deputed erection engineer to site on 14.01.17 and erection gang is due to reach site by next week. BHEL engineer yet to be deputed to site by TVNL for supervision of erection & commissioning.
3. ERECTION OF OLD OSMs (ICT-1 & LR): Test Report for Healthiness submitted to TVNL on 22/02/16. Clearance from TVNL still awaited. TVNL to take up the matter with BHEL and revert back.
4. BALANCE SUPPLIES : Balance supplies to site halted due to non-issuance of way bill & C-Form by TVNL despite repeated follow-up since last 2-years. M/s S&W again started supplies with their own road permit since 08/08/16. C-Forms for FY 2012 to 2016 not yet issued to M/s S&W.

PROGRESS OF WORK : As on 14/01/17

SL	DESCRIPTION	TOTAL QTY	FDN DONE	EQPT EREC DONE	BALANCE EQPT ERECTION	REMARKS
1	BAY-1 (BUS TRANSFER)	40	40	37	CB=3 poles only	CB steps competed.
	BAY-2 (BUS COUPLER)	28	28	28	--	
	BAY-3 (ICT-1 .. OLD)	44	44	44		
	BAY-5 (ICT-2 .. NEW)	50	50	47	220 LA=3	220KV LA to be erected
	BAY-13 (LINE BAY, LR)	61	61	60	--	after erection of ICT-2.
2	CABLE TRENCH (Sec: 2-2, 3-3, 4-4)	100%	100%			Cable laying in progress.
3	STRINGING (MOOSE)	100%		98%		
	BUS BAR	100%		98%		
4	EARTHMAT	100%		100%		
	FLAT EARTHING	100%		93%		
5	ICT-2 (NEW)	1	100%	-		Erection gang to reach site by next week; deputation of BHEL engr at site not yet confirmed by TVNL.
	ICT-1 & LR (OLD)	1+1	100%	-		As per TVNL: BHEL engr at site to give advice on Test Report for Healthiness of the old eqpts.

Eastern Regional Power Committee, Kolkata

Minutes of Special Meeting on "High voltage issues in Eastern Region" held on 22nd December, 2016 at ERPC, Kolkata

List of participants is at **Annexure-A.** Member Secretary, ERPC welcomed all the participants to the special meeting and informed that this meeting was called on short notice to address the high voltage issues in Eastern Region particularly in West Bengal and Odisha. He expressed concern on the high voltage conditions being experienced at some pockets of E. Region, during off-peak hours, since onset of winter season.

It was informed that Subhasgram 400kV, Jeerat 400kV, Arambag 400kV, Kharagpur 400kV and Meramundali 400kV sub-stations are facing acute high voltage problem. The voltage profile of these and some other S/S recorded by ERLDC SCADA system for the month of November 2016, were presented before the house. It was felt in general that drastic reduction of off-peak demand in W. Bengal and Odisha had aggravated the high voltage problem.

Representative of OPTCL informed that voltage of Meramundali 400kV S/Stn mostly remains well above 412kV during off-peak period. Flow of huge reactive power from Meramundali S/Stn to Angul(PG) 400kV S/S over Meramundali-Angul D/C line is making GRIDCO liable for payment of huge charges in ER Reactive Pool account, every week. ERLDC observed that during most of the day, reactive power flows from 400kV N. Duburi to Meramundali S/Stn of OPTCL. Further, efforts should be made to export VAR from 400kV to 220kV system of Odisha by changing the tap of Meramundali 400/220kV ICT. However, OPTCL informed that high voltage condition is existing in their 220kV system also.

After further deliberations, 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). In addition, one circuit of 400kV Meramundali-N. Duburi line is to be switched off (from both ends) in night lean hours on trial basis, and the effect on Meramundali voltage is to be monitored by ERLDC. 50MVAR line reactor at Meramundali end of Vedanta-Meramundali-I 400kV circuit is presently under outage. OPTCL should therefore endeavor to restore this reactor at the earliest.

CESC and HEL representatives informed that one unit of 2X600MW HEL TPS was scheduled to be taken under shutdown from 24-12-16, for planned maintenance. The voltage of Subhasgram 400kV exceeded 430kV on regular basis even after absorption of around 80 MVAR by each of

the units. On 15-12-16, around 112-113 MVAR was absorbed by one unit on experimental basis, keeping the other unit at unity p.f. Since it is not possible to absorb further reactive power, they had proposed raising the setting of Stg-I over-voltage protection of HEL-Subhasgram D/C line at Subhasgram end as follows, to prevent tripping of the line on high voltage:

400kV HEL-Subhasgram-I	112% with 7 sec delay
400kV HEL-Subhasgram-II	111% with 3 sec delay

ERLDC suggested that to control Subhasgram and Jeerat 400kV voltages, apart from HEL units, reactive power should also be absorbed by Sagardighi, Kolaghat and Bakreswar units, as per their respective capabilities. Possibility of opening one or two lightly loaded 220kV lines connected to Subhasgram(PG) may also be explored.

WBSETCL informed that one circuit each of 220kV Jeerat-N. Town and Jeerat-Kasba lines are being switched off during night off-peak hours on regular basis. As such, it is not advisable to open any 220kV line from Subhasgram(PG). CESC apprised that 220kV Subhasgram(PG)-EMSS D/C line feeds essential and critical loads of Kolkata. On reliability considerations it is not advisable to open one circuit of this line. One no. 125MVAR shunt reactor is already planned to be installed at Subhasgram, but as the same would take around 18 months to be ready, the present problem would not be addressed. WBSETCL requested to switch off one circuit each of Chaibasa-Kharagpur and Sagardighi-Durgapur(PG) 400kV D/C lines, during off-peak hours, in order to control high voltages at Kharagpur and Aramabag.

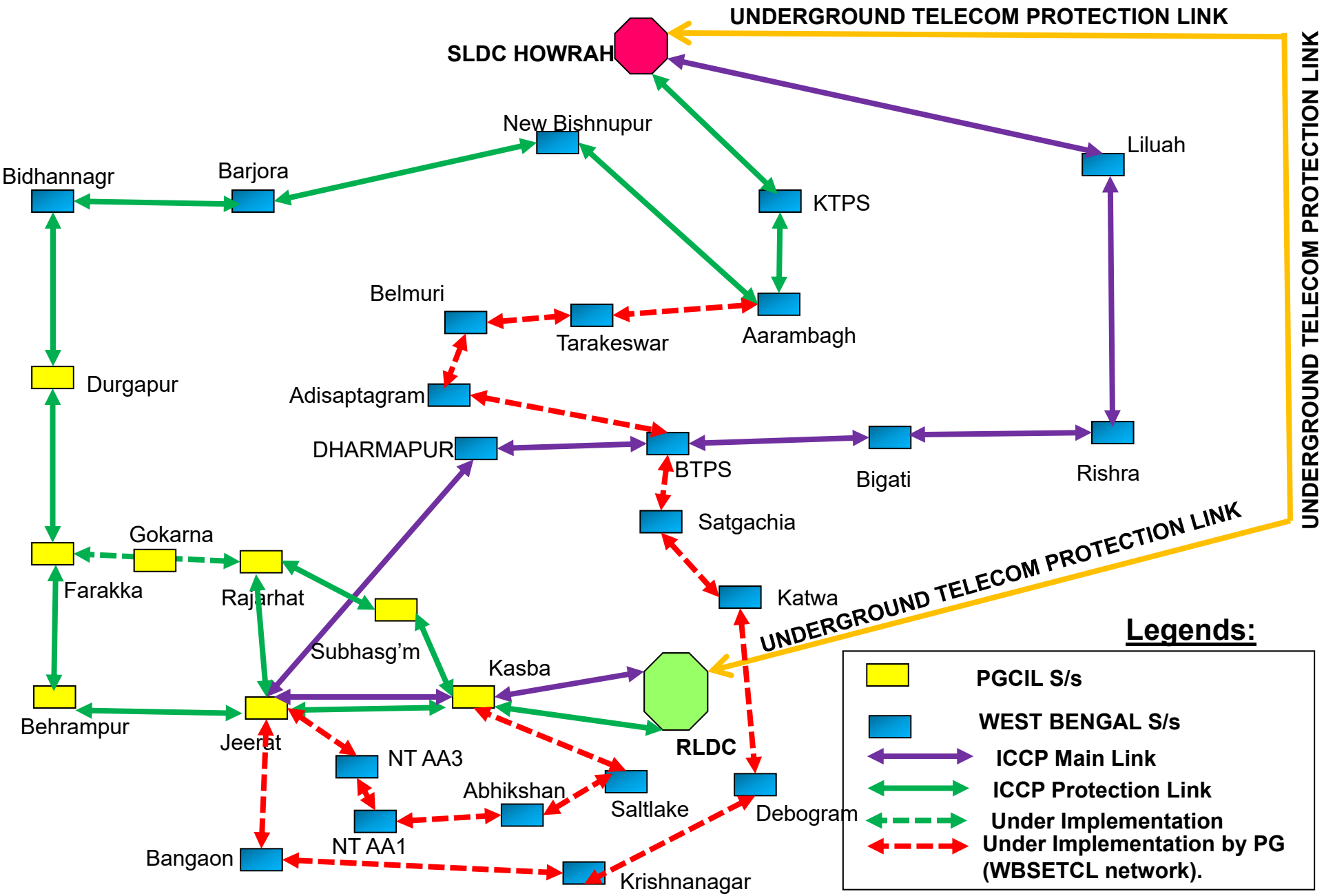
ERLDC pointed out that it has already been observed in real time that opening 400kV Chaibasa-Kharagpur line has very little effect in reducing Arambag voltage. However, it would help in reducing voltage of Kharagpur. After further discussions it was decided that one circuit each of 400kV Kharagpur-Chaibasa and Sagardighi-Durgapur(PG) would be opened during night hours on experimental basis. However, at the same time, units at Kolaghat, Bakreswar, Sagardighi and Farakka should absorb reactive power upto their respective capability limits.

The meeting concluded with a vote of thanks to the chair.

****

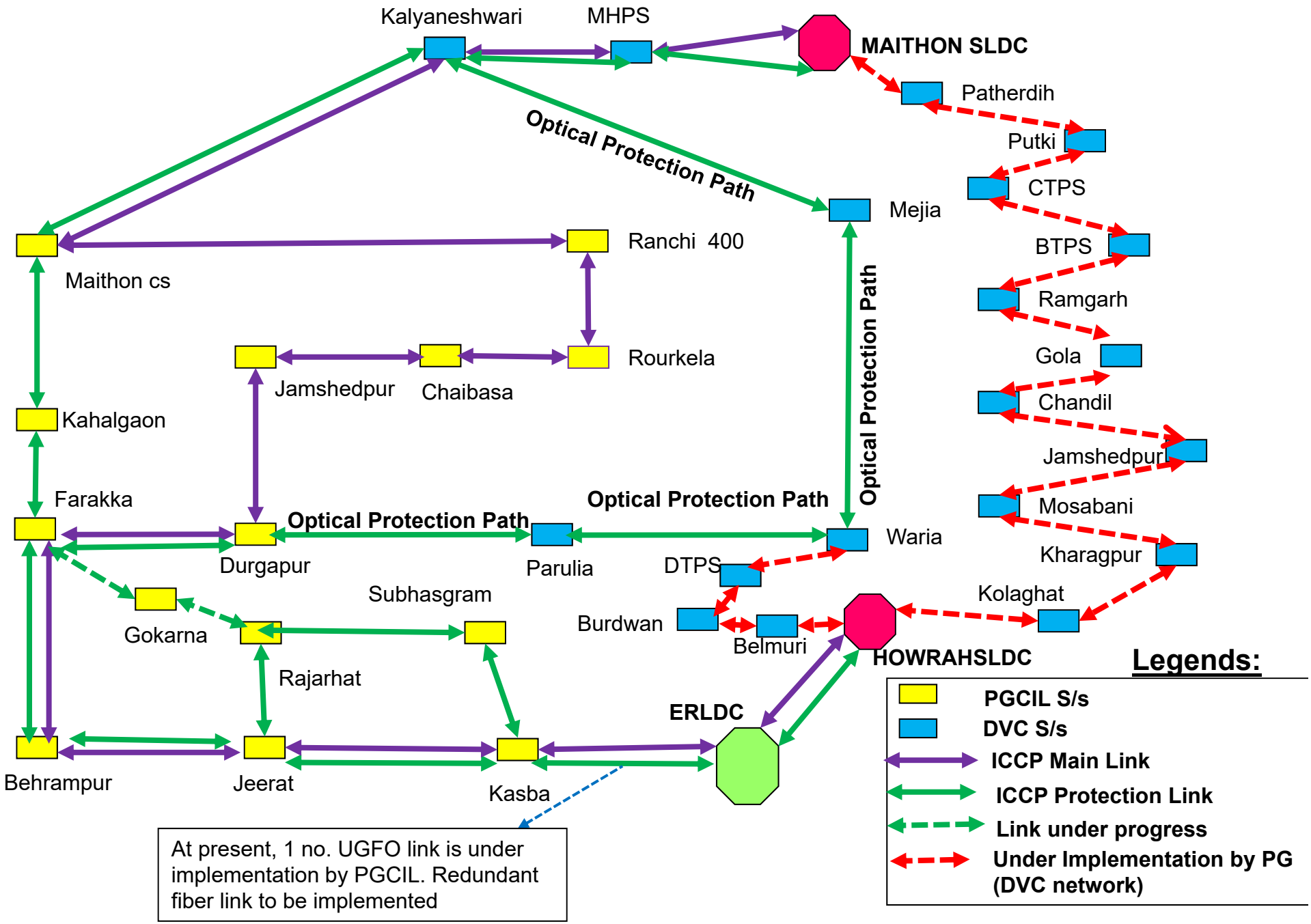
Annexure - B12.2

ICCP FLOW OF WEST BENGAL



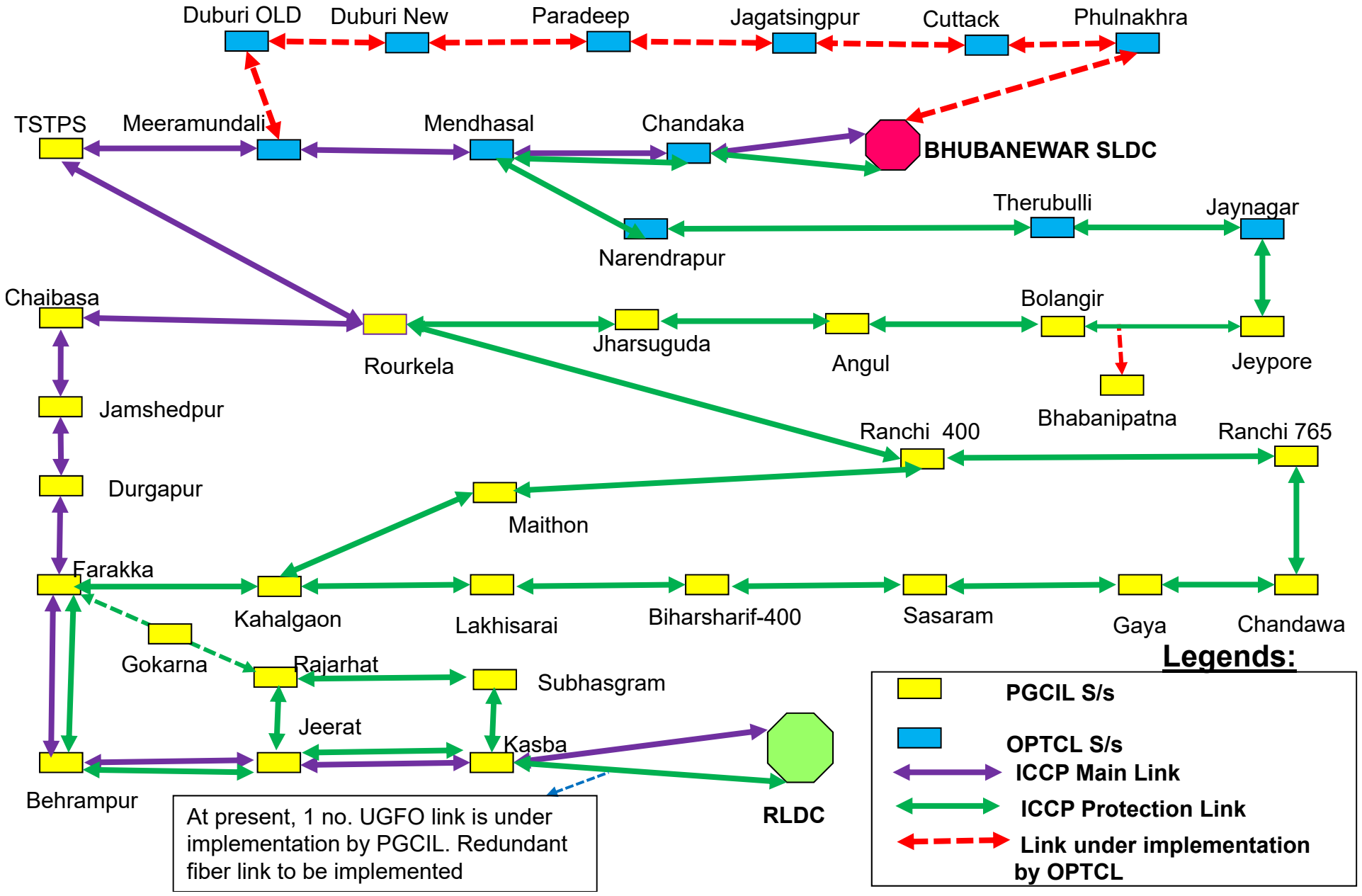
ICCP FLOW OF DVC

Annexure - B12.2



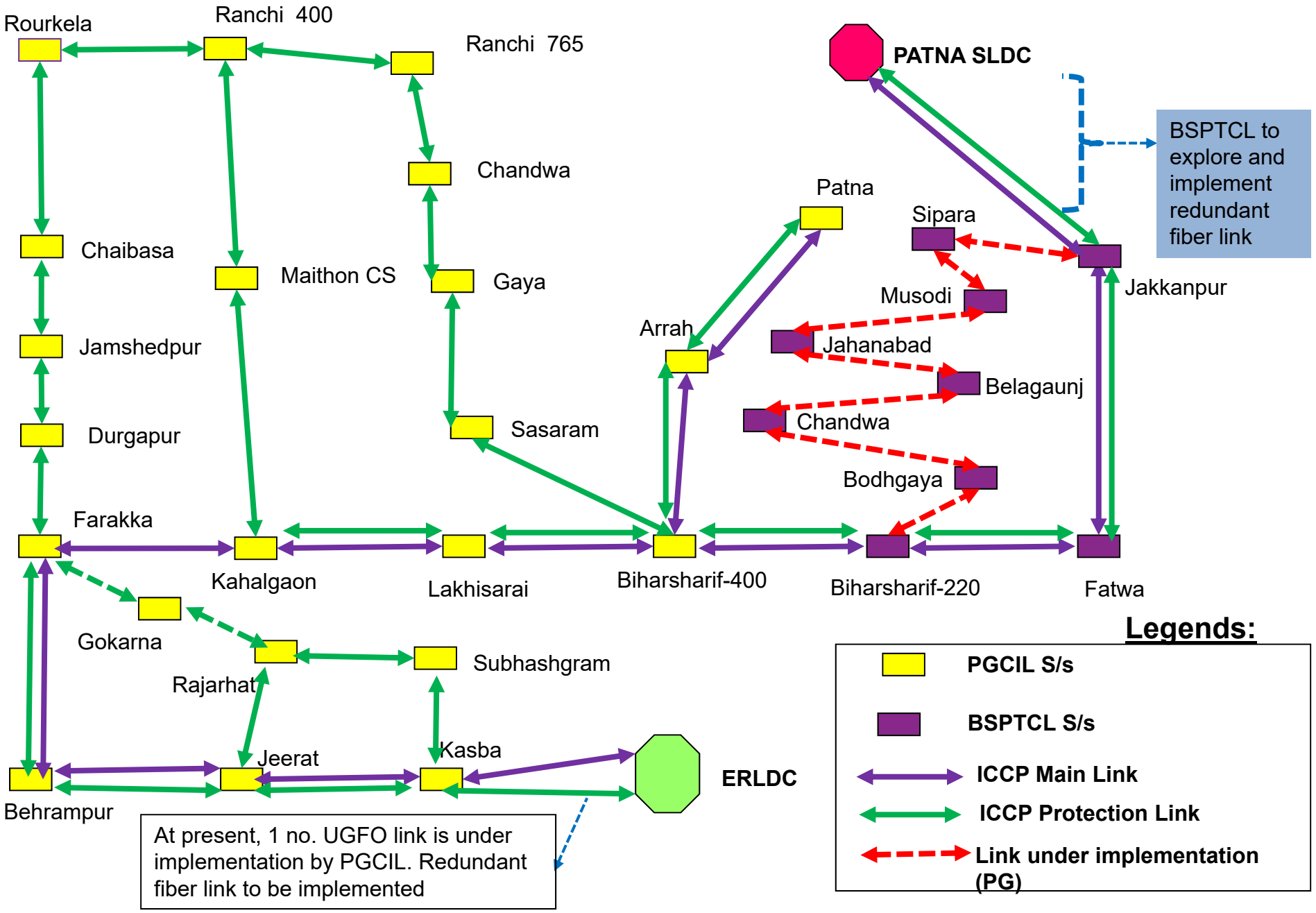
Annexure - B12.2

ICCP FLOW OF OPTCL



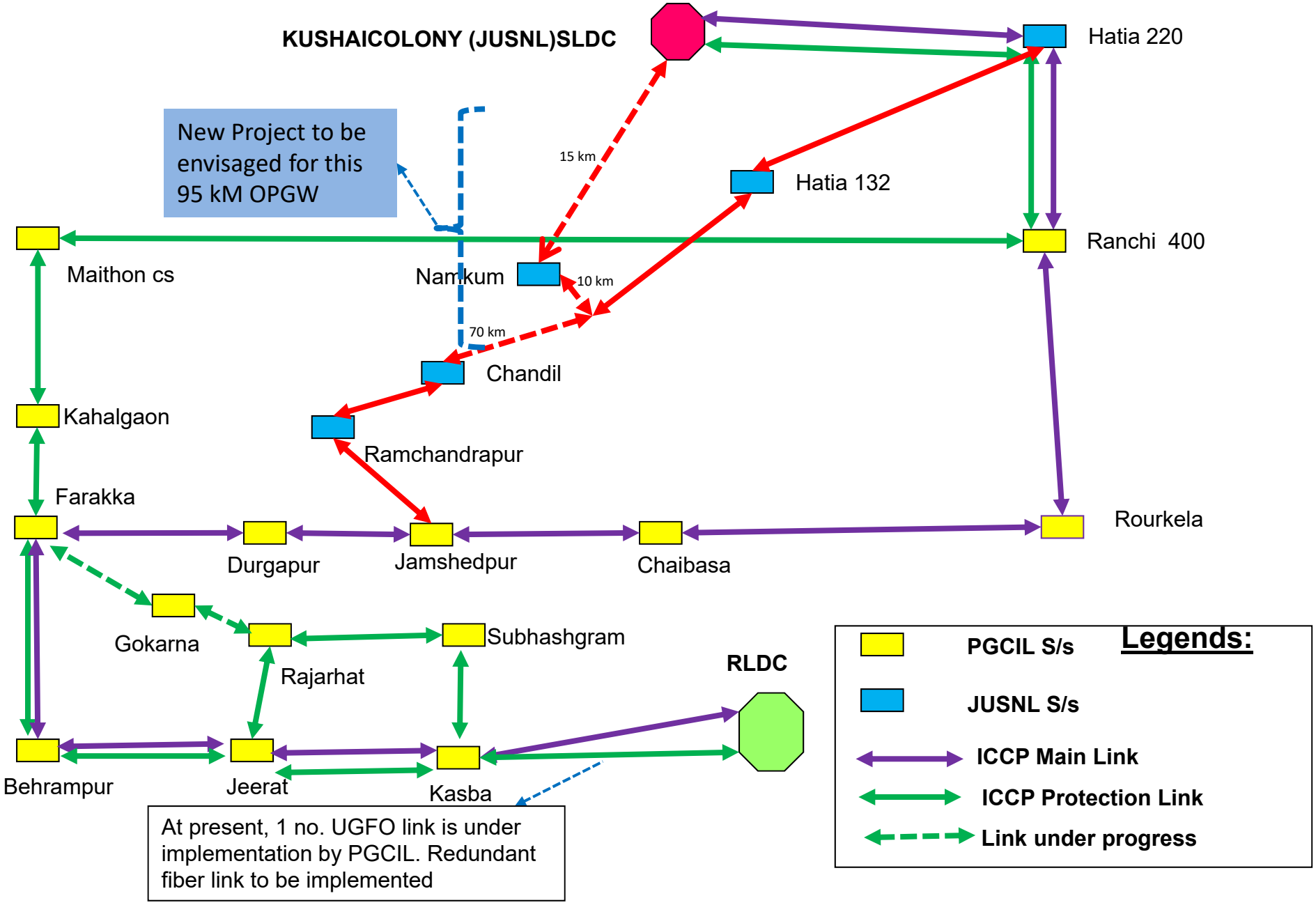
Annexure - B12.2

ICCP FLOW OF BSPTCL



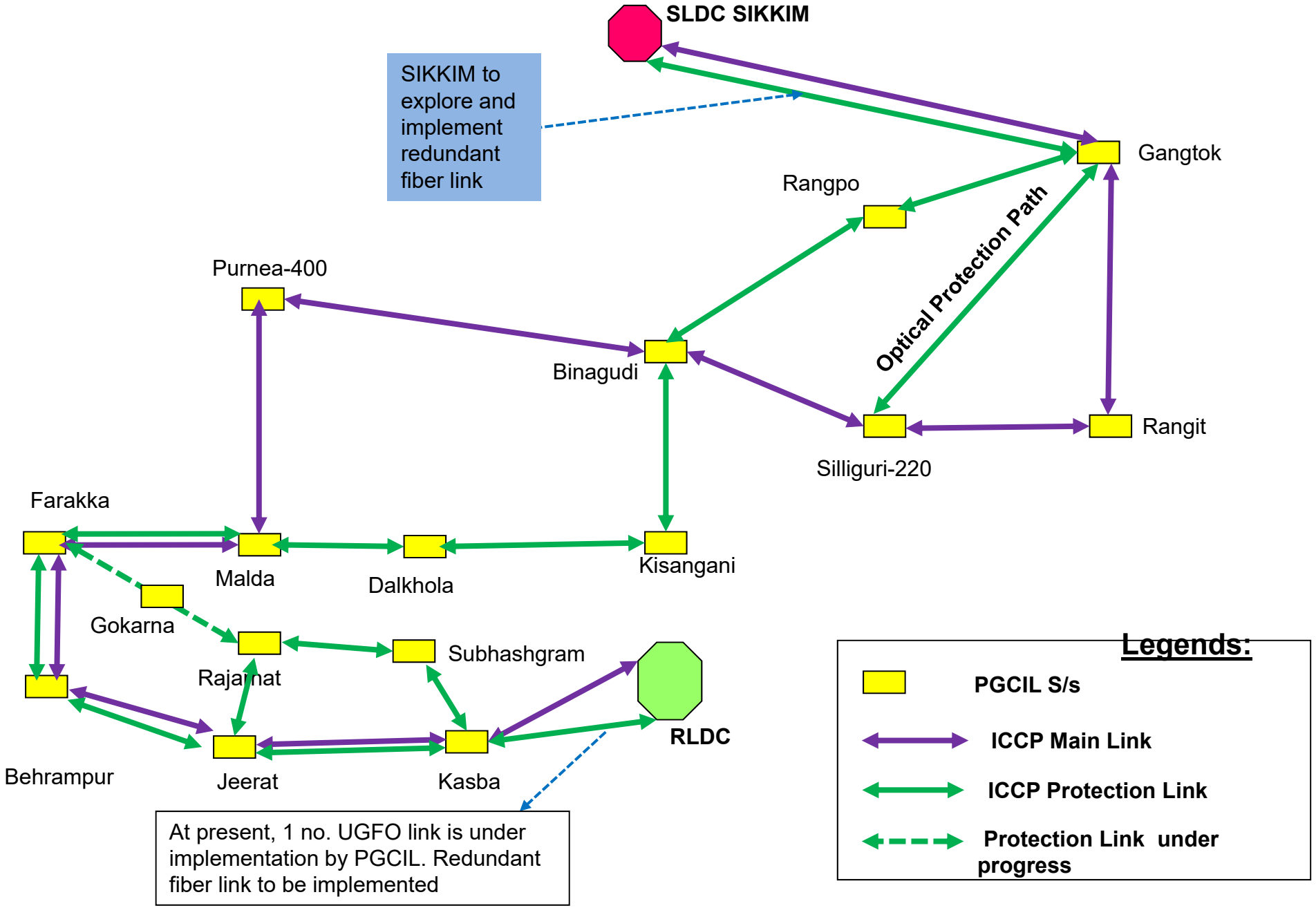
Annexure - B12.2

ICCP FLOW OF JUSNL



Annexure - B12.2

ICCP FLOW OF SIKKIM



Annexure-B13

Utilization of Transmission line

WBSETCL lines

Sl	Name of Line	Percentage utilization to meet West Bengal Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	132 kV Birpara(PG)-Birpara-I	99.2%	94.4%	99.3%
2	132 kV Birpara(PG)-Birpara-II	99.2%	94.4%	99.3%
3	132 kV NJP-NBU-I	98.6%	99.2%	98.1%
4	132 kV NJP-NBU-II	98.6%	99.2%	98.1%
5	132 kV Malda(PG)-Malda-I	99.9%	99.9%	99.9%
6	132 kV Malda(PG)-Malda-II	99.9%	99.9%	99.9%
7	400 kV Kharagpur-Baripada	Natural ISTS		
8	220 kV Santaldhi-Chandil	Natural ISTS		
9	220 kV Waria-Bidhannagar-I	Natural ISTS		
10	220 kV Waria-Bidhannagar-II	Natural ISTS		
11	132 kV Rangit-Rammam	75.0%	70.0%	72.7%
12	220 kV Subhasgram(PG)-Subhasgram-I	98.6%	98.0%	97.6%
13	220 kV Subhasgram(PG)-Subhasgram-II	98.6%	98.0%	97.6%
14	400 kV Parulia-Bidhannagar-I	74.2%	67.8%	59.2%
15	400 kV Parulia-Bidhannagar-II	74.2%	67.8%	59.2%
16	220 kV Dalkhola(PG)-Dalkhola-I	99.7%	99.8%	99.8%
17	220 kV Dalkhola(PG)-Dalkhola-II	99.7%	99.8%	99.8%
18	132 kV Kurseong-Rangit	Part of ISTS		
19	132 kV Kurseong-Silliguri	Part of ISTS		
20	220 kV Subhasgram(PG)-Bantala	98.5%	98.3%	98.0%
21	220 kV Subhasgram(PG)-New Town	96.8%	96.6%	96.0%

DVC lines

Sl	Name of Line	Percentage utilization to meet DVC Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	Raghunathpur-DSTPS D/C	14.4%	20.4%	15.2%
2	Raghunathpur-Ranchi (quad) D/C	14.2%	10.7%	20.5%
3	LILO of Maithon(PG)-Ranchi(PG) line at RTPS	Part of ISTS		
4	Termination segment at DSTPS of Jamsedpur PG line	Part of ISTS		

Annexure-B13

OPTCL lines

Sl	Name of Line	Percentage utilization to meet Odisha Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	400 kV Indravati-Indravati(PG)	34.4%	31.4%	35.7%
2	400 kV Regali-Keonjhar	15.2%	13.7%	18.2%
3	400 kV Keonjhar-Baripada	15.2%	13.7%	18.2%
4	400 kV Baripada-Khargpur	Natural ISTS		
5	220 kV Balimela-U.Sileru	Natural ISTS		
6	220 kV Jeypore-Jaynagar D/C	6.5%	5.3%	10.7%
7	220 kV Budhipadar-Korba D/C	Natural ISTS		
8	220 kV Tarkera-Bisra D/C	75.7%	71.1%	80.7%
9	220 kV Joda-Ramchandrapur	Natural ISTS		
10	220kV Joda-Jindal	0.2%	0.4%	0.5%
11	220 kV Jindal-Jamsedpur	Natural ISTS		
12	220 kV Rengali-Rengali(PG)	46.4%	38.8%	44.7%
13	220 kV Rengali PH- TSTPS	83.8%	79.9%	86.3%
14	220 kV TTPS-TSTPS	53.2%	44.5%	52.2%
15	220 kV TSTPS-Meramundali	42.2%	23.3%	33.1%
16	220 kV Baripada-Balasore	92.8%	91.3%	93.7%
17	132 kV Joda-Kendposi	Natural ISTS		
18	132 kV Baripada-Rairangpur	99.7%	99.8%	88.7%
19	132 kV Baripada-Baripada(PG)	99.4%	99.7%	99.5%

Annexure - B14

Current Status of Letter of Credit (LC) amount against UI charges for ER constituents

Figures in Lacs of Rupees

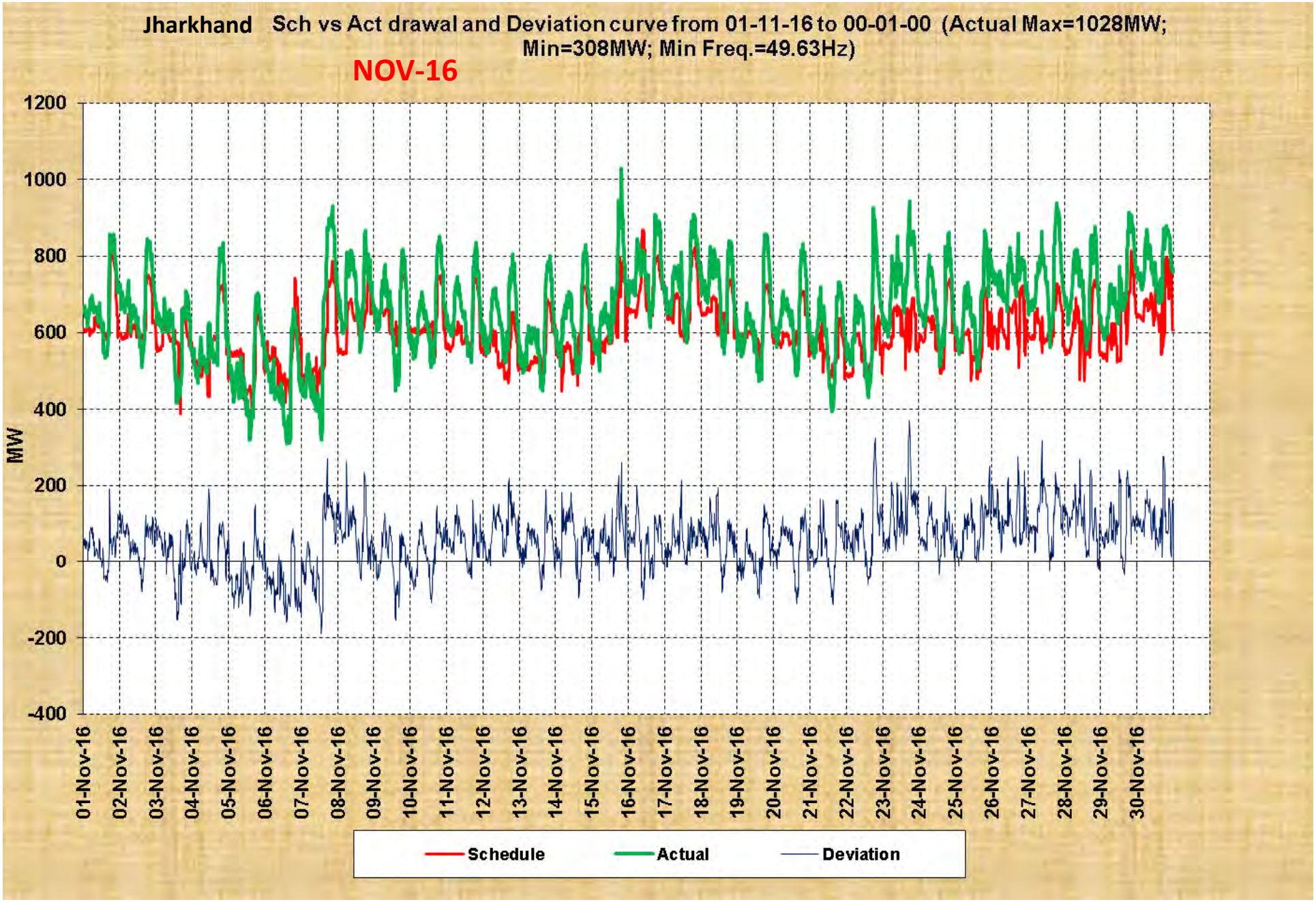
Sl No	ER Constituents	No. of weeks in which Deviation Charge payable	No of times payment was delayed during 2015-16	Total Deviation charges payable to pool during 2015-16	Average weekly Deviation Charge liability	LC Amount	Due date of expiry	Remarks
		(A)	(B)	(C)	(D)	(E)	(F)	(G)
1	**BSPHCL**	42	42	9230.45609	177.50877	195.25965	**Expired**	**Not Opened/Renewd (LC Expired of amount 529.52000 Lac on 03.01.17)**
2	**JUVNL**	36	36	4060.64239	78.08928	85.89820	**Not Opened**	**letter written**
3	**SIKKIM**	5	5	75.76714	1.45706	1.60277	**Expired**	**Not Opened/Renewd (LC Expired of amount 2.85136 Lac on 04.10.16)**
4	**MPL**	7	2	34.59999	0.66538	0.73192	31.08.2017	Opened for 0.73192 Lacs
6	**VEDANTA**	48	15	7892.76469	151.78394	166.96233	31.05.2017	Opened for 166.96233 Lacs
7	**APNRL**	24	24	741.51734	14.25995	15.68594	20.04.2017	Opened for 15.63594 Lacs
8	**CHUZACHEN**	8	6	261.0675	5.02053	5.52258	**Not Opened**	**Not Opened /Renewed**
9	**GMR**	19	7	929.588	17.87669	19.66436	15.07.2017	Opened for 19.66436 Lacs
10	**IND-BARATH**	46	16	248.75964	4.78384	5.26222	**Not Opened**	**Letter written**

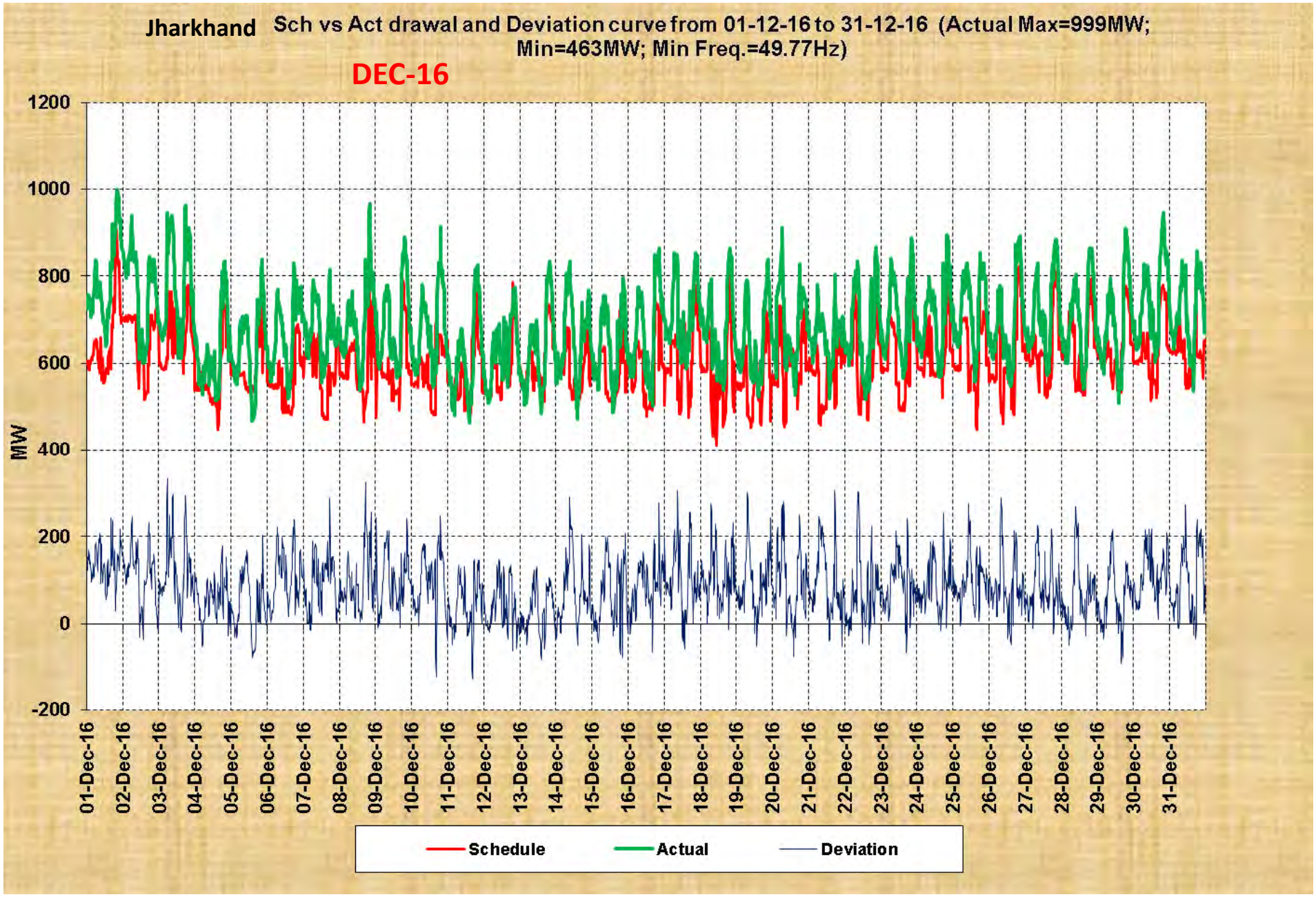
Annexure - B15

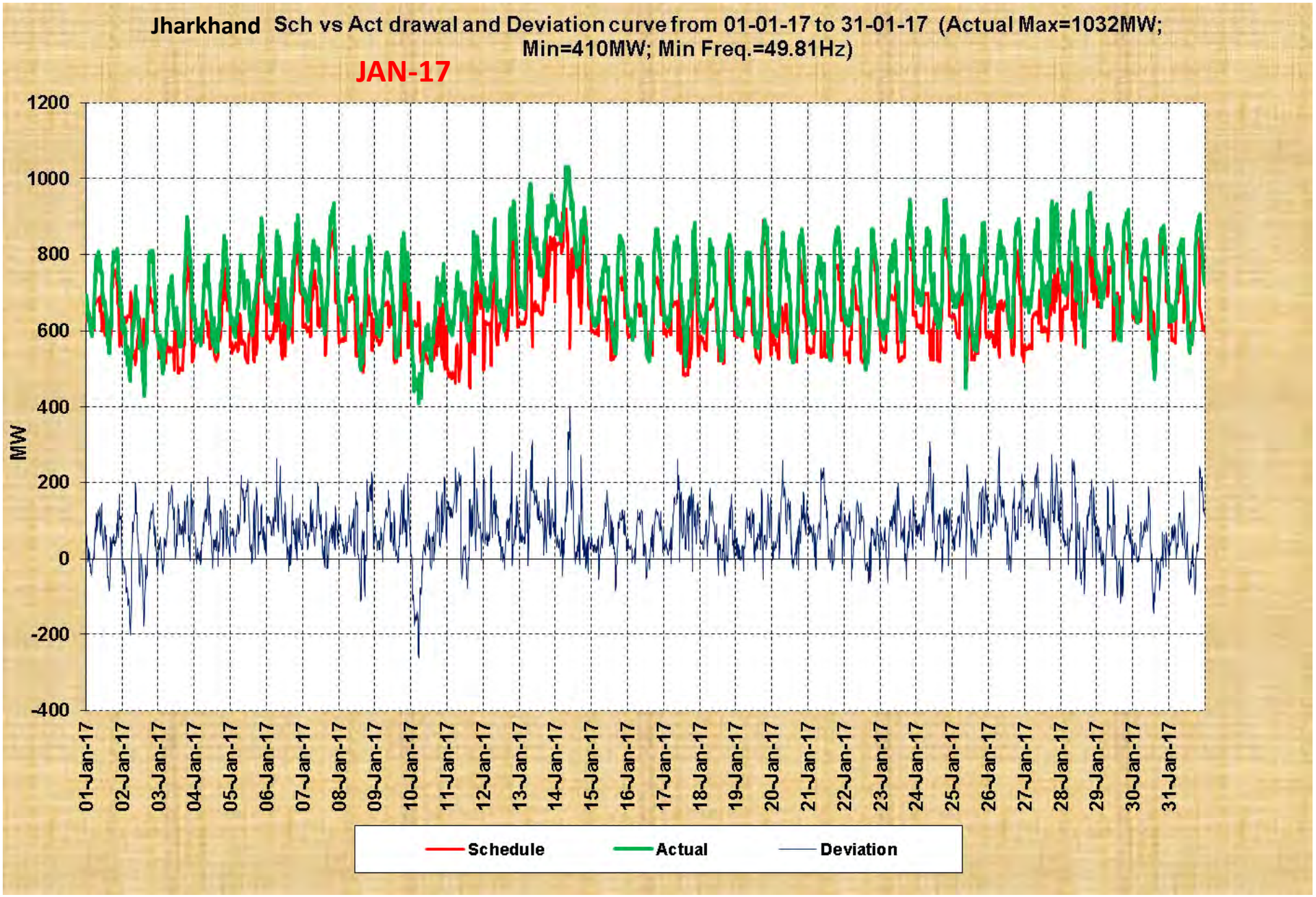
List of Time Drifted SEMs in ER

SNO	LOC ID	Sub Station	METER S NO	FEEDER NAME	DCU TIME	METER TIME	TIME DIF(min)
1	BI-11	ARA(BSPTCL)	NP-6052-A	ARA END OF ARAH (PG)	23:53:55	00:04:11	11
2	BI-58	BANKA(BSPTCL)	NP-7833-A	132 KV BANKA(PG)	22:38:06	22:51:58	13
3	BI-59	BANKA(BSPTCL)	NP-7874-A	132 KV BANKA LINE	18:41:05	18:52:12	11
4	BH-22	BARH(NTPC)	NP-7482-A	400 KV BARH 200 MVA ICT 3	22:55:11	23:12:14	17
5	EM-59	BARIPADA(PG)	NP-5911-A	HV SIDE OF 220/132 KV ICT-1	09:02:45	09:13:24	11
6	EM-58	BARIPADA(PG)	NP-5913-A	BARIPADA END OF BALASORE (GRIDCO) -2	09:01:52	09:15:33	14
7	EM-89	BARIPADA(PG)	NP-5971-A	BARIPADA END OF MENDHASAL(GRIDCO)-2	09:09:05	09:22:55	13
8	EM-87	BARIPADA(PG)	NP-5974-A	BARIPADA END OF JAMSHEDPUR	09:10:51	09:24:56	14
9	EM-88	BARIPADA(PG)	NP-5975-A	BARIPADA END OF MENDHASAL(GRIDCO)-1	09:08:13	09:21:11	13
10	ES-45	BARIPADA(PG)	NP-8074-A	400 KV SIDE OF 500 MVA ICT-3	09:11:44	09:23:48	12
11	EP-88	BERHAMPORE(PG)	NP-7989-A	400 KV FARAKKA(NTPC) LINE(CHECK)	09:00:48	09:18:34	18
12	EP-94	BERHAMPORE(PG)	NP-7993-A	400 KV BHERMARA(BANGLDESH) LINE-1(CHECK)	09:03:49	09:20:14	17
13	EP-95	BERHAMPORE(PG)	NP-7994-A	400 KV BHERMARA(BANGLDESH) LINE-2(MAIN)	09:04:39	09:18:45	14
14	EP-93	BHERAMARA(BANGADESH)	NP-7612-A	400 KV BHERMARA(BANGLDESH) LINE-1(MAIN)	09:03:04	09:22:02	19
15	EP-96	BHERAMARA(BANGADESH)	NP-7613-A	400 KV BHERMARA(BANGLDESH) LINE-2(CHECK)	09:05:26	09:18:20	13
16	EM-07	Binaguri(PG)	NP-5086-A	BINAGURI END OF TALA (THP)-1	19:47:02	19:57:56	10
17	EM-09	Binaguri(PG)	NP-5088-A	BINAGURI END OF MALBASE(PG)	19:50:43	20:02:13	12
18	EM-12	Binaguri(PG)	NP-5091-A	BINAGURI END OF PURNEA-2	19:56:15	20:08:26	12
19	EM-13	Binaguri(PG)	NP-5092-A	BINAGURI END OF PURNEA-3	19:53:33	20:03:11	10
20	ER-19	Binaguri(PG)	NP-5882-A	BINAGURI END OF NEW JALPAIGURI (WBIHAR)-I	20:00:39	20:14:24	14
21	ER-21	Binaguri(PG)	NP-5885-A	BINAGURI END OF BONGAIGAON (NER)-2	19:52:36	20:03:39	11
22	EM-68	Binaguri(PG)	NP-5887-A	BINAGURI END OF Rangpo-2	19:58:06	20:12:21	14
23	EM-10	Binaguri(PG)	NP-5888-A	BINAGURI END OF TALA (THP)-4	19:49:46	20:02:38	13
24	ER-87	Binaguri(PG)	NP-5890-A	LV SIDE OF BINAGURI 315 MVA ICT-2	20:03:27	20:13:02	10
25	EN-06	Binaguri(PG)	NP-7917-A	BINAGURI END ALIPURDUAR LINE - 1	19:59:51	20:16:21	17
26	EN-07	Binaguri(PG)	NP-7918-A	BINAGURI END BONGAIGAON LINE - 2	19:59:03	20:14:03	15
27	EP-49	BIRPARA(PG)	NP-5891-A	HV SIDE OF 220 ICT-2	23:28:02	23:55:00	27
28	ER-44	BIRPARA(PG)	NP-5892-A	BIRPARA END OF BIRPARA (WB)-1	23:13:57	23:48:42	35
29	ER-40	BIRPARA(PG)	NP-6464-A	BIRPARA END OF CHUKHA (CHPC) -2	23:19:06	23:08:00	-11
30	ER-41	BIRPARA(PG)	NP-6490-A	BIRPARA END OF MALBASE	23:22:43	23:12:46	-10
31	WB-02	BIRPARA(WBSETCL)	NP-5893-A	BIRPARA END OF BIRPARA (PG)-2	23:12:50	23:34:26	22
32	EP-33	BOLANGIR(PG)	NP-7536-A	400 KV SIDE BOLANGIR KV 315 MVA ICT-II	09:01:48	09:19:00	18
33	EP-31	BOLANGIR(PG)	NP-7537-A	BOLANGIR END OF JEYPORE-1	09:00:02	09:13:50	13
34	EP-32	BOLANGIR(PG)	NP-7538-A	BOLANGIR END OF JINDAL(JDL)	09:02:22	09:17:30	15
35	EP-99	BOLANGIR(PG)	NP-7560-A	400 KV BOLANGIR 315 MVA ICT 1	09:00:48	09:18:37	18
36	JS-05	CHANDIL(JUVNL)	NP-7434-A	CHANDIL END OF RANCHI (PG)	22:20:07	22:36:46	16
37	JS-08	CHANDIL(JUVNL)	NP-7435-A	CHANDIL END OF HATIA(JSEB)	22:17:43	22:32:35	15
38	JS-57	CHANDIL(JUVNL)	NP-7436-A	CHANDIL END OF SANTALDIH (WBIHAR)	22:19:19	22:35:21	16
39	JS-56	CHANDIL(JUVNL)	NP-7461-A	CHANDIL END OF MANIQUE (DVC)	22:18:31	22:29:53	11
40	ER-60	DALKHOLA(PG)	NP-6477-A	220 KV DALKHOLA FDR1	09:05:12	08:51:04	-14
41	ER-61	DALKHOLA(PG)	NP-6479-A	220 KV DALKHOLA FDR2	09:04:08	08:47:14	-17
42	EM-96	DALKHOLA(PG)	NP-7969-A	220 DALKHOLA(WBSETCL) LINE-1	09:00:02	09:16:10	16
43	EP-55	Dalkhola(WB)	NP-5068-A	220 KV DALKHOLA (WB) LINE-2	09:00:55	09:23:05	23
44	BI-62	DEHRI(BSPTCL)	NP-6097-A	220 KV DEHRI (BSPHCL) - PUSAULII (PG)	09:00:02	09:10:16	10
45	BI-18	DEHRI(BSPTCL)	NP-7397-A	220 KV DEHRI (BSPHCL)-GAYA(PG) LINE-II	09:01:47	09:16:18	15
46	BI-17	DEHRI(BSPTCL)	NP-7449-A	220 KV DEHRI (BSPHCL)-GAYA(PG) LINE-I	09:01:00	09:15:30	14
47	BI-12	DUMRAON(BSPTCL)	NP-6067-A	132 KV DUMRAON (BSPHCL) - ARAH (PG)	23:10:26	23:20:21	10
48	ER-68	DURGAPUR(PG)	NP-5831-A	400 KV B NAGAR-1 LINE MAIN	09:16:51	09:29:10	13
49		DURGAPUR(PG)	NP-6024-B	RF 1KT-2 LINE	09:31:11	09:47:28	16
50	EM-20	DURGAPUR(PG)	NP-7557-A	400 KV SDG LINE 2	09:11:20	09:29:02	18
51	EP-79	DURGAPUR(PG)	NP-7954-A	400 KV FARAKKA LINE 1	09:05:48	09:20:09	15
52	EP-80	DURGAPUR(PG)	NP-7975-A	400 KV FARAKKA 2	09:08:34	09:24:31	16
53	FK-05	FARAKKA(NTPC)	NP-7553-A	FARAKKA GT5	09:02:40	09:18:09	16
54	EP-87	FARAKKA(NTPC)	NP-7609-A	400 KV FARAKKA(NTPC) LINE(MAIN)	09:00:02	09:18:30	18
55	FK-03	FARAKKA(NTPC)	NP-7928-A	FARAKKA GT-3	09:13:42	09:28:38	15
56	FK-01	FARAKKA(NTPC)	NP-7960-A	FARAKKA (GT1)	09:14:29	09:29:23	15
57	FK-02	FARAKKA(NTPC)	NP-7986-A	FARAKKA GT-2	09:15:18	09:30:45	15
58	BI-23	FATUA(BSPTCL)	NP-7850-A	220 KV PATNA (PG)	23:52:11	00:03:30	11
59	EM-06	GANGTOK(PG)	NP-6025-A	66 KV SIDE OF GANGTOK 132/66 KV ICT-2	19:57:28	20:17:08	20
60	EM-02	GANGTOK(PG)	NP-6027-A	132 KV GANGTOK(PG) - RANGIT (NHPC)	19:53:46	20:04:40	11
61	EM-05	GANGTOK(PG)	NP-6028-A	132 KV SIDE OF GANGTOK 132/66 KV ICT-2	19:55:37	20:11:32	16
62	EM-03	GANGTOK(PG)	NP-6029-A	132 KV SIDE OF GANGTOK 132/66 KV ICT-1	19:54:43	20:04:05	10
63	EM-04	GANGTOK(PG)	NP-6030-A	66 KV SIDE OF GANGTOK 132/66 KV ICT-1	19:56:31	20:06:07	10
64	EP-16	GAYA(PG)	NP-6098-A	220 KV GAYA (PG)-DEHRI(BSPHCL) LINE-II	09:35:45	09:49:18	14
65	EP-28	GAYA(PG)	NP-7428-A	765 KV SIDE OF 765/400 KV GAYA ICT-1	21:43:26	21:53:21	10
66	EP-12	GAYA(PG)	NP-7453-A	400 KV SIDE GAYA 400/220 315 MVA ICT-2	09:21:49	09:32:36	11
67	EN-70	GAYA(PG)	NP-7473-A	GAYA- KODERMA LINE-1	09:13:36	09:23:32	10
68	ES-62	GAYA(PG)	NP-7827-A	220 KV GAYA (PG)-SONAGAR(BSPHCL) LINE-I	09:41:23	09:51:00	10
69	BI-52	HAJIPUR(BSPTCL)	NP-7851-A	220KV MUZAFFARPUR -1 (PG)	09:00:02	09:16:29	16
70	BI-53	HAJIPUR(BSPTCL)	NP-7852-A	220KV MUZAFARPUR -2(PG)	09:00:49	09:14:46	14
71	JS-06	HATIA(JUVNL)	NP-6121-A	HATIA END OF CHANDIL (JSEB)	09:00:54	09:22:27	22
72	JS-07	HATIA(JUVNL)	NP-6122-A	HATIA END OF RANCHI (PG)	09:00:02	09:13:37	13
73	DV-57	JAMSHEDPUR(DVC)	NP-6010-B	JAMSHEDPUR END OF JODA(GRIDCO)	23:54:36	00:25:47	31
74	EP-89	JEERAT(WBSETCL)	NP-7610-A	400 KV JEERAT(WBSETCL) LINE(MAIN)	09:01:34	09:22:31	21
75	EP-90	JEERAT(WBSETCL)	NP-7611-A	400 KV JEERAT(WBSETCL) LINE(CHECK)	09:02:19	09:17:48	15
76	ER-75	JEYPORE(PG)	NP-5955-A	HV SIDE OF JEYPORE 315 MVA ICT -1	21:24:58	22:13:48	49
77	ER-77	JEYPORE(PG)	NP-5956-A	HV SIDE OF JEYPORE 315 MVA ICT -2	21:25:58	22:18:59	53
78	ER-34	JEYPORE(PG)	NP-5957-A	JEYPORE END OF JEYNAGAR (GRIDCO) -1	21:26:51	22:18:39	52
79	ER-35	JEYPORE(PG)	NP-5958-A	JEYPORE END OF JEYNAGAR (GRIDCO) -2	21:27:44	22:22:53	55
80	ER-36	JEYPORE(PG)	NP-5959-A	JEYPORE END OF INDRAVATI (PG)	21:28:37	22:15:05	47
81	ER-38	JEYPORE(PG)	NP-5960-A	JEYPORE END OF M MUNDALI (GRIDCO)	21:29:33	22:19:08	50
82	ER-84	JEYPORE(PG)	NP-5961-A	JEYPORE END OF GAJUWAKA (PG) -1	06:21:08	07:07:11	46
83	ER-85	JEYPORE(PG)	NP-5962-A	JEYPORE END OF GAJUWAKA (PG) -2	21:30:48	22:19:44	49
84	JD-02	JITPL	NP-7947-A	400 KV SIDE OF JINDAL GT-2	23:53:47	00:09:32	16
85	JD-01	JITPL	NP-7948-A	400 KV SIDE OF JINDAL GT-1	23:53:02	00:09:00	16
86	BI-09	KAHALGAON(BSPTCL)	NP-6071-A	KAHALGAON END OF LALMATIA LINE-I	22:05:39	22:22:46	17
87	BI-10	KAHALGAON(BSPTCL)	NP-6076-A	KAHALGAON END OF KAHALGAON (NTPC)	22:06:39	22:19:52	13
88	WB-59	KALIMPONG(WBSETCL)	NP-5994-A	Melli Bazar 1	23:40:47	00:10:31	30
89	JS-52	KENDIPOSI(JUVNL)	NP-6117-A	KENDIPOSI END OF JODA (GRIDCO)	22:09:56	22:23:47	14
90	EP-64	KEONJHAR(PG)	NP-7546-A	HV SIDE OF 400/220 KV JEONJHAR ICT-1	09:05:33	09:20:24	15
91	EP-62	KEONJHAR(PG)	NP-7547-A	KEONJHAR END OF 400 KV BARIPADA(PG)	09:08:19	09:25:21	17
92	EP-63	KEONJHAR(PG)	NP-7548-A	KEONJHAR END OF 400 KV RENGALI(PG)	09:02:48	09:17:25	15
93	EP-65	KEONJHAR(PG)	NP-7549-A	HV SIDE OF 400/220 KV JEONJHAR ICT-2	09:00:02	09:12:42	12
94	BI-22	KHAGAUL(BSPTCL)	NP-5833-A	KHAGAUL END OF PATNA	22:25:18	22:38:27	13
95	WB-17	KHARAGPUR(WBSETCL)	NP-7563-A	400 KV BARIPADA(PG)	23:40:21	23:57:33	17
96	BI-21	Kishanganj(BSPTCL)	NP-6085-A	KISHANGANJ END OF DALKHOLA (WBIHAR)	23:41:05	23:52:10	11
97	DV-61	KOLAGHAT(DVC)	NP-6558-B	KOLAGHAT END OF KOLAGHAT (WBIHAR)	22:00:51	21:50:07	-10
98	WB-57	KURSEONG(WBSETCL)	NP-7541-A	132 KV RANGIT(NHPC)	23:42:17	23:55:27	13
99	JS-03	LALMATIA(JUVNL)	NP-6108-A	132 KV LALMATIA (JSEB) - KAHALGAON (NTPC)	09:01:00	09:14:46	13
100	JS-04	LALMATIA(JUVNL)	NP-6109-A	220 KV LALMATIA (JSEB) - FARAKKA (NTPC)	09:01:53	09:13:54	12
101	JS-63	LALMTIA(JUVNL)	NP-6107-A	32 KV LALMATIA (JSEB) - KAHALGAON (BSPHCL)	09:00:02	09:14:29	14
102	EM-97	MAITHON(PG)	NP-5206-A	MAITHON END OF MEJIA LINE-1	21:10:23	21:40:54	30
103	EM-98	MAITHON(PG)	NP-5225-A	MAITHON END OF MEJIA LINE-2	21:03:50	21:34:47	31
104	ER-12	MAITHON(PG)	NP-6451-A	MAITHON END OF KALYANESWARI (DVC) -2	21:00:02	20:49:16	-11
105	ER-69	MAITHON(PG)	NP-6453-A	HV SIDE OF MAITHON 315 MVA ICT -1	09:04:31	08:51:40	-13
106	EM-82	MAITHON(PG)	NP-6509-A	MAITHON END OF KALYANESHWARI LINE-3	21:01:59	20:51:28	-10
107	EM-84	MAITHON(PG)	NP-6519-A	MAITHON END OF MAITHON RB (MPL)-1	21:09:29	20:58:35	-11
108	EM-81	MAITHON(PG)	NP-6529-A	MAITHON END OF KALYANESWARI (DVC) -1	21:01:02	20:51:46	-10

109	EP-06	MAITHON(PG)	NP-7492-A	MAITHON END OF DURGAPUR(PG)-II	21:13:44	21:31:25	18
110	EP-05	MAITHON(PG)	NP-7534-A	MAITHON END OF DURGAPUR(PG)-I	21:12:56	21:28:42	16
111	EP-22	MAITHON(PG)	NP-7535-A	MAITHON END OF RTPS -2	21:15:20	21:32:44	17
112	EP-50	MAITHON(PG)	NP-7550-A	MAITHON END OF KODERMA LINE-I	21:16:08	21:32:29	16
113	EP-51	MAITHON(PG)	NP-7551-A	MAITHON END OF KODERMA LINE-II	21:16:56	21:32:26	16
114	EP-78	MAITHON(PG)	NP-7902-A	MAITHON END OF RANCHI LINE	21:14:32	21:29:03	15
115	EP-76	MAITHON(PG)	NP-7903-A	MAITHON END OF KAHALGAON LINE-1	21:12:08	21:27:42	15
116	EP-77	MAITHON(PG)	NP-7904-A	MAITHON END OF KAHALGAON LINE-2	21:11:20	21:26:49	15
117	ER-59	MALDA(PG)	NP-6478-A	132 KV MALDA WBSETCL2	09:00:02	08:44:37	-16
118	ER-58	MALDA(PG)	NP-7555-A	132 KV MALDA WBSETCL1	09:01:47	09:19:24	18
119	EP-91	MALDA(PG)	NP-7925-A	220 KV ICT3	09:06:04	09:21:52	15
120	EN-04	MALDA(PG)	NP-7926-A	220 KV ICT-5	09:03:21	09:19:12	16
121	ER-88	MALDA(PG)	NP-7927-A	400 KV PURNIA2	09:07:38	09:23:13	16
122	EP-92	MALDA(PG)	NP-7976-A	400 KV PURNIA1	09:06:51	09:21:47	15
123	EP-98	MALDA(PG)	NP-7977-A	132 KV ICT-1	09:01:01	09:14:28	13
124	EP-97	MALDA(PG)	NP-7978-A	132 KV ICT-2	09:02:34	09:17:40	15
125	DV-24	MEJIA(DVC)	NP-5226-A	MEJIA END OF MAITHON(PG)-1	09:01:42	09:23:30	22
126	DV-25	MEJIA(DVC)	NP-5227-A	MEJIA END OF MAITHON(PG)-2	09:03:28	09:20:51	17
127	DV-05	MEJIA(DVC)	NP-6508-A	MEJIA END OF JAMSHEDPUR (PG)	09:09:45	08:59:28	-10
128	DV-13	MEJIA(DVC)	NP-6532-A	HV SIDE OF MEJIA GT-2	09:04:21	08:53:42	-11
129	DV-12	MEJIA(DVC)	NP-6534-A	HV SIDE OF MEJIA GT-1	09:06:05	08:55:15	-11
130	DV-04	MEJIA(DVC)	NP-6557-A	MEJIA END OF DSTPS (DVC)	09:08:07	08:56:20	-12
131	DV-16	MEJIA(DVC)	NP-6776-A	MEJIA END OF DSTPP (DVC)	09:07:12	08:53:23	-14
132	DV-17	MEJIA(DVC)	NP-7493-A	MEJIA END OF JAMSHEDPUR (PG)	09:08:59	09:23:37	15
133	DV-26	MEJIA(DVC)	NP-7494-A	MEJIA END OF MAITHON(PG)-1	09:00:55	09:15:33	15
134	DV-27	MEJIA(DVC)	NP-7495-A	MEJIA END OF MAITHON(PG)-2	09:02:41	09:23:33	21
135	DV-14	MEJIA(DVC)	NP-7943-A	HV SIDE OF MEJIA STN TRANSF-1	09:00:02	09:16:13	16
136	SM-51	MELLI(SIKKIM)	NP-5849-A	66 KV Kalimpong	11:56:16	12:07:52	11
137	SM-04	MELLI(SIKKIM)	NP-5997-A	132 KV Rangit	09:00:02	09:12:34	12
138	MR-05	MPL	NP-7568-A	HV SIDE OF MAITHON RB GT-1	21:59:56	22:12:50	13
139	MR-08	MPL	NP-7897-A	HV SIDE OF MAITHON	22:31:43	22:41:40	10
140	MR-06	MPL	NP-7972-A	HV SIDE OF MAITHON RB GT-2	23:44:34	00:00:08	16
141	EP-56	MUZAFFARPUR(PG)	NP-5233-A	MUZAFFARPUR(PG)-HAJIPUR(BSPHCL) LINE-1	09:07:16	09:22:33	15
142	EP-57	MUZAFFARPUR(PG)	NP-5234-A	MUZAFFARPUR(PG)-HAJIPUR(BSPHCL) LINE-2	09:08:09	09:20:37	12
143	WB-04	NBU(WBSETCL)	NP-5953-A	NBU END OF SILIGURI(PG)-1	09:00:02	09:16:17	16
144	ES-34	PANDIABIL(PG)	NP-7554-A	400 KV PANDIABIL(PG)-MENDHASAL(GRIDCO)-2	07:02:35	07:19:05	17
145	EM-56	PATNA(PG)	NP-5271-A	220 KV SIDE OF PATNA ICT-1	23:38:17	23:49:19	11
146	EM-53	PATNA(PG)	NP-5273-A	400 KV PATNA (ER) - BALIA (NR)-2	09:31:35	09:42:34	11
147	EM-65	PATNA(PG)	NP-5832-A	220 KV PATNA(PG) - KHAGAUL(BSPHCL)	23:49:49	00:00:26	11
148	EM-62	PATNA(PG)	NP-5839-A	400 KV SIDE OF PATNA ICT-2	09:17:10	09:27:43	10
149	EM-64	PATNA(PG)	NP-5865-A	220 KV PATNA - FATUA	23:32:29	23:44:36	12
150	EP-47	PATNA(PG)	NP-7838-A	220 KV PATNA(PG)-SIPARA(BSPHCL) LINE-II	09:14:25	09:26:48	12
151	EP-46	PATNA(PG)	NP-7864-A	220 KV PATNA(PG)-SIPARA(BSPHCL) LINE-I	23:55:20	00:09:44	14
152	JS-55	PATRATU(JUVNL)	NP-6003-B	PATRATU END OF PATRATU (DVC) TRANSFER BUS	09:01:50	09:16:51	15
153	JS-54	PATRATU(JUVNL)	NP-6004-B	PATRATU END OF PATRATU (DVC) -1	09:00:55	09:22:02	22
154	JS-40	PATRATU(JUVNL)	NP-6005-B	PATRATU END OF PATRATU (DVC) -2	09:00:02	09:19:40	19
155	BI-20	Purnea(BSPTCL)	NP-5236-A	PURNEA END OF PURNEA (PG)-3	23:40:11	23:55:06	15
156	BI-03	Purnea(BSPTCL)	NP-6088-A	PURNEA END OF PURNEA (PG) -1	23:37:32	23:47:23	10
157	BI-51	Purnea(BSPTCL)	NP-6090-A	PURNEA END OF PURNEA (PG) -3	23:38:26	23:49:16	11
158	ER-62	Purnea(PG)	NP-6081-A	PURNEA END OF PURNEA (BIHAR) -1	09:00:02	09:12:33	12
159	ER-48	Purnea(PG)	NP-6083-A	PURNEA END OF PURNEA (BIHAR) -3	09:01:59	09:16:00	15
160	ER-65	Purnea(PG)	NP-7419-A	PURNEA END OF DALKHOLA (PG) -2	09:04:37	09:22:24	18
161	ER-64	Purnea(PG)	NP-7420-A	PURNEA END OF DALKHOLA (PG) -1	09:03:50	09:21:12	18
162	EM-51	Purnea(PG)	NP-7421-A	PURNEA END OF MUZAFFARPUR -1	09:05:50	09:21:38	16
163	EM-52	Purnea(PG)	NP-7422-A	PURNEA END OF MUZAFFARPUR LINE-2	09:05:03	09:22:52	17
164	ER-32	Purnea(PG)	NP-7423-A	PURNEA END OF BINAGURI (PG)-2	09:02:28	09:20:58	18
165	ER-33	Purnea(PG)	NP-7424-A	PURNEA END OF BINAGURI (PG)-1	09:01:41	09:18:13	17
166	EP-83	Purnea(PG)	NP-7828-A	PURNEA END OF MADHEPURA(BSPHCL) LINE-1	09:00:55	09:12:19	12
167	EP-84	Purnea(PG)	NP-7829-A	PURNEA END OF MADHEPURA(BSPHCL) LINE-2	09:00:02	09:16:03	16
168	EP-86	Purnea(PG)	NP-7835-A	PURNEA END OF BIHARSHARIFF LINE-2	09:07:35	09:21:09	14
169	EM-41	RANCHI(PG)	NP-5871-A	400 KV RANCHI(PG)-RTPS(DVC)	09:07:59	09:19:29	12
170	EM-42	RANCHI(PG)	NP-5873-A	400 KV SIDE OF RANCHI ICT-2	09:07:03	09:17:20	10
171	EM-46	RANCHI(PG)	NP-5877-A	400 KV RANCHI-MAITHON	09:06:07	09:17:20	11
172	EN-08	RANCHI(PG)	NP-7402-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-3	09:17:33	09:36:25	19
173	EN-05	RANCHI(PG)	NP-7837-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-1	09:16:00	09:30:43	14
174	EN-09	RANCHI(PG)	NP-7873-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-4	09:18:17	09:33:30	15
175	EM-49	RANCHI(PG)	NP-7880-A	220 KV HATIA LINE 2	09:03:34	09:16:14	13
176	EN-96	RANCHI(PG)	NP-7881-A	220 KV HATIA LINE 1	09:02:47	09:16:52	14
177	EP-81	RENGALI(PG)	NP-7952-A	RENGALI END OF 400 KV TSTPP LINE-1	22:13:44	22:23:29	10
178	ER-72	ROURKELA(PG)	NP-5930-A	HV SIDE OF ROURKELA 315 MVA ICT -2	22:22:38	22:39:29	17
179	ER-26	ROURKELA(PG)	NP-5931-A	ROURKELA END OF JAMSHEDPUR (PG)-2	22:29:05	22:50:05	21
180	ER-24	ROURKELA(PG)	NP-5933-A	ROURKELA END OF TARKERA (GRIDCO)-2	22:24:36	22:38:38	14
181	ER-80	ROURKELA(PG)	NP-5943-A	ROURKELA END OF RAIGARH - I	22:21:39	22:31:07	10
182	EM-92	ROURKELA(PG)	NP-7965-A	ROURKELA END OF RAIGARH (WR)-2	22:25:34	22:38:30	13
183	WB-53	SANTALDIH(WBSETCL)	NP-7942-A	SANTALDIH END OF CHANDIL (JSEB)	23:53:41	00:10:15	17
184	EP-23	SASARAM(PG)	NP-7412-A	400 KV SASARAM(PG)-NABI NAGAR(BSPHCL)-II	09:07:55	09:23:52	16
185	EP-01	SASARAM(PG)	NP-7414-A	400 KV SASARAM (PG) EAST BUS-III	09:10:27	09:20:14	10
186	EP-02	SASARAM(PG)	NP-7468-A	400 KV SASARAM (PG) NORTH BUS-3 BALIA	08:57:39	09:14:08	17
187	BI-25	SIPARA(BSPTCL)	NP-7870-A	220 KV PATNA (PG) LINE-2	23:33:17	23:45:17	12
188	BI-24	SIPARA(BSPTCL)	NP-7872-A	220 KV PATNA (PG) LINE-1	23:31:15	23:46:27	15
189	BI-66	SONNAGAR(BSPTCL)	NP-6013-B	SONNAGAR END OF RIHAND(UPSEB)	22:17:13	22:37:00	20
190	BI-60	SONNAGAR(BSPTCL)	NP-6015-B	132 KV SONENAGAR (BSPHCL)- JAPLA (JSEB)	22:16:13	22:36:50	20
191	EM-19	SUBHASHGRAM(PG)	NP-5847-A	SUBHASGRAM END OF SUBHASGRAM-2 (WB)	09:03:41	09:14:18	11
192	EN-18	SUBHASHGRAM(PG)	NP-7566-A	315 MVA ICT 4 - 220 KV	09:10:10	09:26:31	16
193	EP-72	SUBHASHGRAM(PG)	NP-7935-A	SUBHASGRAM END OF EMBYPASS(WB) LINE-1	09:06:16	09:16:50	10
194	EN-16	SUBHASHGRAM(PG)	NP-7938-A	400 KV HALDIA LINE 1	09:08:36	09:20:14	12
195	EP-58	SUBHASHGRAM(PG)	NP-7939-A	HV SIDE OF SUBHASGRAM ICT-4	09:07:50	09:17:37	10
196	EN-28	SUBHASHGRAM(PG)	NP-7996-A	315 MVA ICT 3 - 220 KV	09:10:57	09:23:04	13
197	EP-68	SUNDERGARH(PG)	NP-7896-A	400 KV RAIGARH(WR) LINE-1	23:38:00	23:50:25	12
198	EP-69	SUNDERGARH(PG)	NP-7898-A	400 KV ROURKELA(PG) LINE-1	23:38:48	23:55:05	17
199	EP-67	SUNDERGARH(PG)	NP-7912-A	400 KV ROURKELA(PG) LINE-2	23:37:12	23:51:05	14
200	EP-66	SUNDERGARH(PG)	NP-7913-A	400 KV RAIGARH(WR) LINE-2	23:36:24	23:49:18	13
201	JS-62	TENUGHAT(JUVNL)	NP-6115-A	TENUGHAT END OF BIHARSARIFF(BIHAR)	22:37:18	22:50:40	13
202	DV-35	TISCO(DVC)	NP-7406-A	400 KV BARIPADA (PG)	21:07:27	21:23:25	16
203	DV-34	TISCO(DVC)	NP-7408-A	400 KV JAMSHEDPUR (PG)	21:08:15	21:23:17	15
204	ST-06	VEDANTA(GRDICO)	NP-6527-A	ST-2	23:36:37	23:58:38	22
205	ST-02	VEDANTA(GRDICO)	NP-6528-A	GT-2	23:34:50	23:59:50	25
206	ST-01	VEDANTA(GRDICO)	NP-6540-A	GT-1	00:34:32	00:59:21	25
207	ST-05	VEDANTA(GRDICO)	NP-6543-A	ST-1	23:35:43	23:57:58	22
208	EM-93	VEDANTA(GRDICO)	NP-6545-A	STERLITE END OF RAIGARH (WR)-2	22:26:23	22:15:13	-11
209	ST-03	VEDANTA(GRDICO)	NP-6555-A	GT-3	23:37:30	00:02:54	25
210	ST-04	VEDANTA(GRDICO)	NP-6556-A	GT-4	23:38:23	23:58:40	20


Jharkhand Sch vs Act drawal and Deviation curve from 01-11-16 to 00-01-00 (Actual Max=1028MW; Min=308MW; Min Freq.=49.63Hz)
NOV-16
MW
1200
1000
800
600
400
200
0
-200
-400
01-Nov-16
02-Nov-16
03-Nov-16
04-Nov-16
05-Nov-16
06-Nov-16
07-Nov-16
08-Nov-16
09-Nov-16
10-Nov-16
11-Nov-16
12-Nov-16
13-Nov-16
14-Nov-16
15-Nov-16
16-Nov-16
17-Nov-16
18-Nov-16
19-Nov-16
20-Nov-16
21-Nov-16
22-Nov-16
23-Nov-16
24-Nov-16
25-Nov-16
26-Nov-16
27-Nov-16
28-Nov-16
29-Nov-16
30-Nov-16
Schedule
Actual
Deviation


Jharkhand Sch vs Act drawal and Deviation curve from 01-12-16 to 31-12-16 (Actual Max=999MW; Min=463MW; Min Freq.=49.77Hz)
DEC-16
1200
1000
800
600
400
200
0
-200
MW
01-Dec-16
02-Dec-16
03-Dec-16
04-Dec-16
05-Dec-16
06-Dec-16
07-Dec-16
08-Dec-16
09-Dec-16
10-Dec-16
11-Dec-16
12-Dec-16
13-Dec-16
14-Dec-16
15-Dec-16
16-Dec-16
17-Dec-16
18-Dec-16
19-Dec-16
20-Dec-16
21-Dec-16
22-Dec-16
23-Dec-16
24-Dec-16
25-Dec-16
26-Dec-16
27-Dec-16
28-Dec-16
29-Dec-16
30-Dec-16
31-Dec-16
Schedule
Actual
Deviation


Jharkhand Sch vs Act drawal and Deviation curve from 01-01-17 to 31-01-17 (Actual Max=1032MW; Min=410MW; Min Freq.=49.81Hz)
JAN-17
1200
1000
800
600
400
200
0
-200
-400
MW
01-Jan-17
02-Jan-17
03-Jan-17
04-Jan-17
05-Jan-17
06-Jan-17
07-Jan-17
08-Jan-17
09-Jan-17
10-Jan-17
11-Jan-17
12-Jan-17
13-Jan-17
14-Jan-17
15-Jan-17
16-Jan-17
17-Jan-17
18-Jan-17
19-Jan-17
20-Jan-17
21-Jan-17
22-Jan-17
23-Jan-17
24-Jan-17
25-Jan-17
26-Jan-17
27-Jan-17
28-Jan-17
29-Jan-17
30-Jan-17
31-Jan-17
Schedule
Actual
Deviation

Annexure-C1

Annexure-II

Reporting Format to the PSDF Project Monitoring Group

1. Name of the Scheme	
1.1 Name of the substation and its Location	
1.2 Executing Agency	
1.3 State/Region	
2. Date of Sanction order	
2.1 Date of Agreement of Entity with State Govt./NLDC	
2.2 Total Approved Cost of the Scheme	
2.3 Approved Grant by Monitoring Committee (Rs. In Lakhs)	
2.4 Date of Requisition by the Entity	
2.4.a) date and Reference of LOA	
2.4.b) Amount of LOA	
2.5 Date of Disbursement and amount	
2.5.1 : Ist Installment	
2.5.2: IInd installment	
2.5.3: IIIrd installment	
2.6 Date of Scheduled completion of Work	
2.7 Date of handing over of Site to entity (in case of turnkey projects)	

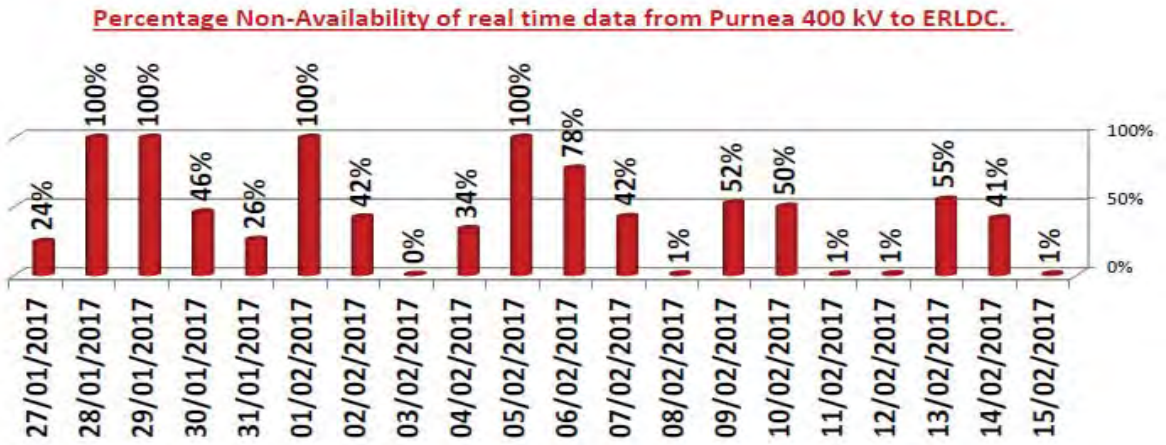
Report for the Month of MM / YY

No.	Supply Description	Qty. AS PER LOA	Quantity Received during Month	CUMMULATIVE PROGRESS Till date		BALANCE	Remarks
				Sch.	Act.		
1	item Details						
1.1							
1.2							
....							
	Erection Description	works as per LOA	Progress During Month	CUMMULATIVE PROGRESS Till date		Balance	
2	work details						
2.1							
2.2							
....							
3	Others						

Signature with seal of the Nodal Officer

Chronic issue with real time data availability in eastern region:-

- Frequent Failure of Purnea New real time data.



- Another 31 days gone but JITPL and Lalmatia data yet be restored by JITPL and NTPC respectively.
- No redundant Communication channel in eastern region for real time telemetry over IEC 101, IEC 104 as well as over ICCP protocol

No VOICE over VOIP

- IPP : JITPL, GMR, IBEUL, TEESTA #3.
- POWERGRID : Bolangir , Indravati , Jeypore , Keonjhar, Purnea 400 kV, Purnea 220 , Baharampur 400kV , Rourkella , Lakhisarai, Rengali, Keonjhor, Jeypore, Dalkhola (PG), Birpara, Kishanganj,Indravati (PG), Bolangir ,Pandiabili.
- NTPC : Nabinagar.

Building more confidence of Grid operator on SCADA data.

- **Meeramundali MVAr data:**

	Duburi New 1	Duburi New 2	Mendhasal	Angul 1	Angul 2	GMR	Talcher STPS	ICT 2	JSPL 1	JSPL 2	Sterlite 1	Sterlite 2	Residue
Site	-96	-98	19	100	126	14	18	85	-23	-25	-52	-52	16
OPTCL	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255
ERLDC	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255

- Data validation is required to be done on periodic basi.

Non availability of Unit side data

- IBEUL (Unit 1 , Unit 2)
- Farakka Unit #6, Unit #5 (erroneous data).
- Sagardighi Unit #3.
- Teesta V HPS unit data.
- Rangit HPS Unit Data.

OLTC

1. NEW SASARAM @ 1500 MVA 765/400 kV ICT 1
2. ANGUL @ 1500 MVA 765/400 kV ICT 1
3. ANGUL @ 1500 MVA 765/400 kV ICT 3
4. ANGUL @ 1500 MVA 765/400 kV ICT 4
5. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 1
6. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 2
7. BOLANGIR @ 315 MVA 400/220 kV ICT 1
8. BIHARSHARIF @ 315 MVA 400/220 kV ICT 1
9. BIHARSHARIF @ 315 MVA 400/220 kV ICT 3
10. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 1
11. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 2
12. KEONJHAR @ 315 MVA 400/220 kV ICT 1
13. KEONJHAR @ 315 MVA 400/220 kV ICT 2
14. MALDA @ 315 MVA 400/220 kV ICT 1
15. MUZAFFARPUR @ 315 MVA 400/220 kV ICT 3
16. RANCHI @ 315 MVA 400/220 kV ICT 1

OLTC

19. RANCHI @ 315 MVA 400/220 kV ICT 2
20. RENGALI @ 315 MVA 400/220 kV ICT 2
21. ROURKELA @ 315 MVA 400/220 kV ICT 3
22. CHAIBASA @ 315 MVA 400/220 kV ICT 1
23. CHAIBASA @ 315 MVA 400/220 kV ICT 2
24. CHAIBASA @ 315 MVA 400/220 kV ICT 3
25. SUBHASGRAM (ICT I, II & V) @ 315 MVA 400/220 kV ICT3
26. KISHANGUNJ @ 500 MVA 400/220 kV ICT 2
27. KISHANGUNJ @ 500 MVA 400/220 kV ICT 3
28. BARH @ 200 MVA 400/132 kV ICT 1
29. BARH @ 200 MVA 400/132 kV ICT 2
30. LAKHISARAI @ 200 MVA 400/132 kV ICT 3
31. ARRAH @ 100 MVA 220/132 kV ICT 1
32. ARRAH @ 100 MVA 220/132 kV ICT 2
33. PURNEA @ 160 MVA 220/132 kV ICT 1
34. PURNEA @ 160 MVA 220/132 kV ICT 2

NTPC

- Lalmatia: (No data since Jan 2016).
- Farakka NTPC:
  - Unit #5 MW and MVAr data not matching with site data (As per inputs from NTPC, This will be done during overhauling of Unit#5)
  - Unit # 6 LV side not available.
- Nabinagar NTPC :
  - Alternet Data channel not provided.
  - Unit HV side data.
  - **No VOIP.**

POWERGRID

- **Data Intermittent /not available:**
  - Purnea 400kV (Frequent Failure of RTU)
  - Ranchi 400kV, Baripada, Gaya, Angul, Chaibasa
- **VOIP for following station not yet provided:**
  - Bolangir , Indravati , Jeypore , Keonjhar

WBSETCL

- Following station data not available:
  - TLDP 4.
  - Gokarna 400kV (400/220 kV ICT was first charged on 15th Sept'16),
  - Dharampur 220,
  - Krishnanagar 220,
  - Hura 220,
  - Foundry Park 220.
  - Dalkhola
  - Bantala
  - Lakshmikantapur
  - New Town
- Sagardighi :
  - Unit 3 LV side (Unit) data not available.
- **Kolaghat TPS** : Kharagpur #1 MW/MVAR flow not available.

BSPHCL

- Data Intermittent /not available:
  - Dumraon, Sonenagar,Khagaul ,Darbhanga, Dehri , sultangaunj , Lakhisarai, Karmanasa, Kahalgaon, Jamaui , Banka, Gopalganj, Kisanganj, Arrah ,Rajgir,Sipara ,Hajipur(New), Pusauli, Valmikinagar, Koshi

JSUNL

- **Data Intermittent /not available:**
  - Hatia New 220,
  - Dumka 220.
  - Patratu(Intermittent)
  - DEOGHAR
  - DUMKA
  - GARHW
  - GOELKERA
  - JAMTARA
  - JAPLA
  - KENDOPOSI

DVC

- Data Not provided:
  - Giridhi 220,
- Durgapur TPS (DSTPS): Highly intermittent.

Annexure - C10.1

SUMMARY OF DEVIATION CHARGE RECEIPT AND PAYMENT STATUS

BILL from 28.03.16 to 15.01.17 (upto Week - 42 of 2016 - 17)
Last Payment Disbursement Date -06.02.17

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
WR	18945.83570	15811.18729	19599.07787	18811.73327	2347.30381
SR	1945.76835	2007.72646	23225.74713	21150.55211	-2137.15314
NER	63096.40148	65502.27270	8914.27578	4893.70576	-6426.44124
NR	5857.93007	1034.56935	55033.92138	53647.63389	3437.07323
BSPHCL	7561.70870	5169.10465	985.21941	0.00000	1407.38464
JSEB	8010.47974	3396.15457	452.33933	0.00000	4161.98584
DVC	1154.07523	1178.91245	2024.12651	2025.94398	-23.01975
GRIDCO	1875.01522	1879.33318	1756.60024	1707.72168	-53.19652
WBSETCL	7637.54908	7509.02958	293.29540	562.41588	397.63998
SIKKIM	43.59053	0.00000	1181.43602	1127.85538	-9.99011
NTPC	9187.65294	9131.16590	0.00000	3.67096	60.15800
NHPC	0.00000	0.00000	1744.87050	1731.78504	-13.08546
MPL	44.45104	44.45104	776.45449	761.95433	-14.50016
STERLITE	5050.74588	5050.74578	0.16892	0.16882	0.00000
APNRL	417.02909	219.63563	239.15938	0.00000	-41.76592
CHUZACHEN (GATI)	24.03633	24.03633	496.40362	495.88149	-0.52213
NVVN (IND-BNG)	360.13993	357.99741	94.81568	95.81574	3.14258
JITPL	1089.74945	1090.24160	1068.93820	1038.44005	-30.99030
GMR	333.01621	321.59716	1202.70596	1202.70596	11.41905
IND BARATH	89.32950	76.47458	443.91325	432.14046	1.08213
TPTCL(DAGACHU)	1217.59576	1203.83791	69.71771	78.03065	22.07079
JLHEP (DANS ENERGY)	331.01994	306.08875	151.80440	133.30605	6.43284
BRBCL(NABINAGAR)	194.44901	218.24747	1000.92121	610.76237	-413.95730
NVVN (IND-NEPAL)	404.60514	410.16777	59.23818	79.55593	14.75512
HVDC SASARAM	1.60348	1.60348	20.72042	19.65339	-1.06703
KBUNL	29.18928	25.15868	0.00000	0.00000	4.03060
TEESTA-III(TUL)	0.00000	0.00000	0.00000	0.00000	0.00000
Pool Balance	0.00000	0.00000	-190.83260	0.00000	190.83260
Addl Deviation charge	9261.11594	14611.28008	0.00000	0.00000	-5350.16414
IRE	0.00000	0.00000	441.60109	0.00000	-441.60109
VAE	0.00000	0.00000	4554.93355	0.00000	-4554.93355
TOTAL	**134902.96708**	**121969.73972**	**125641.57303**	**110611.43319**	

% Realization **90.41** **As on** **07.02.17**

Receivable: Receivable by ER POOL Payable Payable by ER POOL

Received Received by ER POOL Paid Paid by ER POOL

"- ve" Payable by ER pool "+ ve" Receivable by ER pool

Annexure - C10.2

STATUS OF REACTIVE CHARGES

RECEIVABLE IN ER POOL AS PER PUBLISHED A/C UPTO 15.01.17 (2016 -17)
AS ON 07.02.2017

CONSTITUENT	AMOUNT RECEIVABLE IN THE POOL (Rs.)	AMOUNT RECEIVED IN THE POOL (Rs.)	OUTSTANDING (Rs.)
BSPHCL	93587	0	93587
JSEB	0	0	0
DVC	0	0	0
GRIDCO	39469035	35786551	3682484
WBSETCL	195794216	163498985	32295231
SIKKIM	0	0	0
TOTAL	235356838	199285536	36071302

Note: (+ve) means payable by utility & (-ve) means receivable by utility

Annexure - C10.3

SUMMARY OF RRAS CHARGE RECEIPT AND PAYMENT STATUS

BILL from 18.04.16 to 15.01.17 (upto Week - 42 of 2016 - 17)
Last Payment Disbursement Date -07.02.17

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
FSTPP STG-I	220.51369	220.51369	3446.68584	3446.09651	**-0.58933**
FSTPP STG-II	45.46118	44.71118	599.64887	599.64887	**0.75000**
KhSTPP STG-I	173.72258	171.01295	1604.50088	1604.41716	**2.62591**
KhSTPP STG-II	77.11902	77.11902	5204.16558	5203.76097	**-0.40460**
TSTPP STG-I	121.13318	121.13318	377.24070	375.87592	**-1.36478**
BARH STG-I	0.00000	0.00000	0.00000	0.00000	**0.00000**
BARH STG-II	270.57348	270.39444	3263.68011	3263.23386	**0.73279**
NTPC TOTAL	**908.52312**	**905.63444**	**14495.92197**	**14493.03325**	**-0.00004**
RANGIT	0.00000	0.00000	0.00000	0.00000	**0.00000**
TEESTA-V	0.00000	0.00000	0.00000	0.00000	**0.00000**
NHPC TOTAL	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**
TOTAL	**908.52312**	**905.63444**	**14495.92197**	**14493.03325**	**-0.00004**

Annexure - C10.4

SUMMARY OF CONGESTION CHARGE RECEIPT AND PAYMENT STATUS

Bill upto 07.01.2013
Last Payment Disbursement Date - 13.05.2013

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
BSPHCL	0.67823	0.67823	0.39118	0.39118	0.00000
JUVNL	16.37889	16.37889	2.61323	2.61323	0.00000
DVC	0.00000	0.00000	6.24040	6.24040	0.00000
GRIDCO	5.34488	5.34488	0.00000	0.00000	0.00000
WBSETCL	0.00000	7.42249	4.32834	11.75083	0.00000
SIKKIM	0.65609	6.20909	0.00000	5.55300	0.00000
NTPC	6.93152	6.93152	7.42249	7.42249	0.00000
NHPC	0.70445	0.70445	0.05875	0.05875	0.00000
MPL	4.81694	4.81694	0.85169	0.85169	0.00000
STERLITE	7.70504	7.70504	0.00000	0.00000	0.00000
Pool Balance	0.00000	0.00000	21.30996	21.30996	0.00000
TOTAL	**43.21604**	**56.19153**	**43.21604**	**56.19153**	0.00000

% Realization **As on 31.05.2015**

Receivable:	Receivable by ER POOL	Payable	Payable by ER POOL
Received	Received by ER POOL	Paid	Paid by ER POOL

"- ve" Payable by ER pool "+ ve" Receivable by ER pool

ANNEXURE-C10.5

DETAILS OF DISBURSEMENT TO POWER SYSTEM DEVELOPMENT FUND

Sl No	Nature of Amount	Amount transferred to PSDF (Rs in Lac)	Date of Disbursement	Cheque No	Remarks
1	**Opening Balance (upto 31.12.15)**	**83873.87922**			
2	Addl. Dev	18.40442	01.01.16		Addl Dev Charge 15-16
3	Addl. Dev	16.46976	05.01.16		Addl Dev Charge 15-16
4	Addl. Dev	33.27577	07.01.16		Addl Dev Charge 15-16
5	Addl. Dev	19.11532	11.01.16		Addl Dev Charge 15-16
6	Addl. Dev	90.94357	14.01.16		Addl Dev Charge 15-16
7	Addl. Dev	19.04467	18.01.16		Addl Dev Charge 15-16
8	Addl. Dev	50.72543	20.01.16		Addl Dev Charge 15-16
9	Addl. Dev	11.10228	22.01.16		Addl Dev Charge 15-16
10	Addl. Dev	45.43206	27.01.16		Addl Dev Charge 15-16
11	Addl. Dev	96.62204	29.01.16		Addl Dev Charge 15-16
12	Reactive Charge	450.00000	02.02.16		Reactive Energy Charge_15-16
13	Addl. Dev	69.01901	04.02.16		Addl Dev Charge 15-16
14	Addl. Dev	45.99429	11.02.16		Addl Dev Charge 15-16
15	Addl. Dev	50.44878	15.02.16		Addl Dev Charge 15-16
16	Addl. Dev	371.30972	17.02.16		Addl Dev Charge 15-16
17	Addl. Dev	91.04585	22.02.16		Addl Dev Charge 15-16
18	Addl. Dev	121.28575	24.02.16		Addl Dev Charge 15-16
19	Addl. Dev	40.83267	29.02.16		Addl Dev Charge 15-16
20	Addl. Dev	61.45400	02.03.16		Addl Dev Charge 15-16
21	Addl. Dev	16.51444	04.03.16		Addl Dev Charge 15-16
22	Addl. Dev	142.93695	09.03.16		Addl Dev Charge 15-16
23	Addl. Dev	55.54777	15.03.16		Addl Dev Charge 15-16
24	Addl. Dev	85.71223	17.03.16		Addl Dev Charge 15-16
25	Addl. Dev	58.13810	21.03.16		Addl Dev Charge 15-16
26	Addl. Dev	253.40681	23.03.16		Addl Dev Charge 15-16
27	Addl. Dev	25.92020	28.03.16		Addl Dev Charge 15-16
28	Reactive Charges	250.00000	28.03.16		Reactive Charges_15-16
29	Addl. Dev	83.33978	01.04.16		Addl Dev Charge 15-16
30	Addl. Dev	43.77416	05.04.16		Addl Dev Charge 15-16
31	Addl. Dev	31.83984	07.04.16		Addl Dev Charge 15-16
32	Addl. Dev	52.08622	11.04.16		Addl Dev Charge 15-16
33	Addl. Dev	107.23773	13.04.16		Addl Dev Charge 15-16
34	Addl. Dev	220.15330	19.04.16		Addl Dev Charge 15-16
35	Addl. Dev	76.84824	21.04.16		Addl Dev Charge 15-16
36	Addl. Dev	20.84026	26.04.16		DSM Interest 2014-15(Paid by APNRL)
37	Addl. Dev	10.01920	26.04.16		Addl Dev Charge 16-17
43	Addl. Dev	432.25696	28.04.16		Addl Dev Charge 16-17
44	Addl. Dev	117.08707	02.05.16		Addl Dev Charge 16-17
45	Addl. Dev	41.65418	04.05.16		Addl Dev Charge 16-17
46	Addl. Dev	114.33049	06.05.16		Addl Dev Charge 15-16 & 16-17
47	Deviation Interest	38.50018	06.05.16		Deviation Interest
48	Addl. Dev	35.54178	10.05.16		Addl Dev Charge 16-17
49	Addl. Dev	448.87953	31.05.16		Addl Dev Charge 16-17
50	Addl. Dev	170.51274	29.06.16		Addl Dev Charge 16-17
51	Reactive Charges	530.57497	28.09.16		Reactive Charges_15-16
274	Reactive Charges	1000.00000	26.12.16		Reactive Charges_16-17
	Total	**90040.05774**			

Annexure-C11.1

Status of Reconciliation of Deviation Pool Account

	2015-16				2016-17		
Name of The Utility	**Q1 (01.07.15)**	**Q2(05.10.15)**	**Q3(05.01.16)**	**Q4(05.04.16)**	**Q1 (04.07.16)**	**Q2 (03.10.16)**	**Q3 (04.01.17)**
Inter Regional							
WR	YES	NO	YES	YES	YES	YES	YES
SR	YES	YES	YES	YES	YES	YES	NO
NER	NO	NO	YES	YES	YES	YES	YES
NR	NO	NO	NO	NO	NO	NO	NO
Intra Regional							
BSPHCL	YES	YES	YES	YES	YES	YES	YES
JUVNL	NO	NO	NO	NO	NO	NO	NO
DVC	YES	YES	YES	YES	YES	YES	NO
GRIDCO	YES	YES	YES	YES	YES	YES	YES
WBSETCL	YES	YES	YES	YES	YES	YES	YES
SIKKIM	YES	YES	YES	YES	NO	NO	NO
NTPC	YES	YES	YES	YES	YES	YES	YES
NHPC	YES	YES	YES	YES	YES	YES	YES
MPL	YES	YES	YES	YES	YES	YES	YES
VEDANTA	YES	YES	YES	YES	NO	NO	NO
APNRL	YES	YES	YES	YES	YES	YES	NO
CHUZACHEN(GATI)	YES	YES	YES	YES	NO	NO	NO
NVVN(Ind-Bng)	YES	YES	YES	YES	YES	YES	YES
NVVN(Ind-Nep)	N/A	N/A	N/A	N/A	YES	YES	YES
GMR	YES	YES	YES	YES	YES	YES	NO
JITPL	YES	YES	YES	YES	YES	YES	YES
INBEUL	NO	NO	NO	NO	NO	NO	NO
TPTCL (DAGACHU)	YES	YES	YES	YES	YES	YES	YES
JLHEP(DANS ENERGY)	N/A	N/A	YES	YES	NO	NO	NO
POWERGRID	N/A	N/A	N/A	N/A	N/A	N/A	YES

Note:

(1)The dates in the bracket indicates the date of sending the Reconciliation statements by ERLDC to utilities.

(2) YES Indicates that signed reconciliation statement received by ERLDC

(3) NO Indicates that signed reconciliation statement is not received by ERLDC

Annexure- C11.4

Reconciliation Between Open Access department of ERLDC and SLDCs, STUs										
Sl. No.	**STUs / SLDCs Name**	**Apr-16**	**May-16**	**Jun-16**	**Jul-16**	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**
	Date of Issuance	**13-May-16**	**14-Jun-16**	**13-Jul-16**	**17-Aug-16**	**16-Sep-16**	**14-Oct-16**	**16-Nov-16**	**15-Dec-16**	**12-Jan-17**
1	West Bengal - SLDC and STU	YES	YES	YES	YES	YES	YES	YES	YES	NO
2	DVC - SLDC	Not Applicable	YES	YES	YES	YES	YES	YES	YES	Not Applicable
3	OPTCL-SLDC and STU	YES	YES	YES	YES	YES	YES	YES	YES	NO

Reconciliation Between Open Access department of ERLDC and Applicants				
Sl. No.	**Applicants Name**	**Quarter-I (Apr-16-June-16)**	**Quarter-II (Jul-16-Sep-16)**	**Quarter-III (Oct-16-Dec-16)**
	Date of Issuance	14-07-2016	18-10-2016	13.01.17
1	Calcutta Electric Supply Company	YES	YES	NO
2	Damodar Valley Corporation	YES	NA	NA
3	GMR Kamalanga Energy Limited	YES	YES	NO
4	Jindal India Thermal Power Limited	YES	YES	NO
5	Jharkhand State Electricity Board	NO	NO	NO
6	SAIL Rourkela Steel Plant	YES	NO	NO
7	TATA Steel - Discom	NA	NO	YES
8	TATA Steel Ferro Alloy Plant Bamnipal	YES	YES	YES
9	TATA Steel Ferro Alloy Plant Joda	NA	NA	YES
10	Tata Steel Limited Kalinganagar	NA	YES	YES
11	West Bengal State Distribution Company Ltd.	YES	NA	NA

Reconciliation Between Open Access department of ERLDC and CTU										
Sl. No.	**STUs / SLDCs Name**	**Apr-16**	**May-16**	**Jun-16**	**Jul-16**	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**
	Date of Issuance	**13-May-16**	**14-Jun-16**	**13-Jul-16**	**17-Aug-16**	**16-Sep-16**	**14-Oct-16**	**16-Nov-16**	**15-Dec-16**	**12-Jan-17**
1	CTU(POWERGRID)	YES	YES	YES	YES	YES	YES	YES	YES	YES

Annexure- C14

Assam Power Distribution Company Limited
Bijulee Bhawan ::: Paltanbazar ::: Guwahati-781001

Fax no. 0361 – 2739581
E-mail-
acecomLaseba rediffmail.com

BY SPEED POST

No. APDCL/ CGM (COM)/ ACC-0/ PT-9/ 2007/ 9 Dated 07.10.2016.

To,

The Chief Engineer (Commercial),
Bihar State Electricity Board, (Holding Company)
Vidyut Bhawan, Baily Road, Patna-800021.

Sub : Outstanding Dues Payable by BSEB on account of drawl of NER Power during July' 1993 to April' 1994.

Ref : This Office Earlier Letter No. ACE (COM)/ACC-0/PT-8/2003/133 dated 09.08.2012.

Sir,

I am to intimate you that under the period of bilateral transaction of power, between erstwhile ASEB (now APDCL) and erstwhile EREB (now ERPC) for above mentioned period, BSEB drew power from ASEB from time to time. Billing was accordingly done by then ASEB on the basis of monthly Regional Energy Accounting prepared by then EREB. Accordingly payments were being made by BSEB at initial period. But during later stage BSEB had failed in timely payment and thus there remains an outstanding arrear unpaid. The details thereof with accumulated surcharge are shown below:

Principal outstanding	₹ 1,08,00,603.00
Surcharge as on 31.08.2016	₹ 5,66,93,230.00
TOTAL	**₹ 6,74,93,833.00**

Details of calculations are furnished as **Annexure A.** It may kindly be noted that the above outstanding is of pre-reforms period and long pending. We are sending our reminders from time to time but there is no response from your side. The power which BSEB had consumed, was from the ASEB's share out of its allocations from central sector generating agencies of NER and as such it created liabilities for ASEB. You would also appreciate that being APDCL a successor agency, the burden has come to APDCL as a pass through items.

Under the circumstances you are once again requested kindly to liquidate the bill amount within the due date of payment without any further delay.

Your early response is awaited.

Yours faithfully,

Chief General Manager (Commercial)
APDCL, Bijulee Bhawan, Guwahati-1.

Memo No. APDCL/ CGM (COM)/ACC-0/PT-9/ 2007/ 9 (A) Dated 07.10.2016.

Copy for information and necessary action to:

1. The Chairman, Bihar State Electricity Board, Vidyut Bhavan, Baily Road, Patna-800021.- He is requested kindly to look into the matter and take necessary steps to liquidate the outstanding amount.

2. The Member Secretary, Eastern Regional Power Committee, 14, Golf Club Road, Tollygunge, Kolkata-700033.

3. The Chief General Manager (F&A), APDCL.

Chief General Manager (Commercial)
APDCL, Bijulee Bhawan, Guwahati-1.

Annexure - A

Assam Power Distribution Company Limited
Bijulee Bhawan ::: Paltanbazar ::: Guwahati-781001

Fax no. 0361 – 2739501
E-mail-
acecomcaseb@rediffmail.com

INVOICE

To

The Chief Engineer (Commercial)
Bihar State Electricity Board,
Vidyut Bhawan, Baily Road,
Patna-800021.

Bill No. ACE (COM)/ACC-0/BSEB/BILL-21 Dated 07.10.2016.

1.Amount of Principal Outstanding	**= Rs.1,08,00,603.00.**
2. Rate of Late Payment Surcharge	= 2 % per month.
3. Surcharge already claimed **up to March' 2012**	= Rs. 4,52,38,081.00.
4. Period of Surcharge from **April'2012 to August' 2016**	= 1613 Days.
5. Surcharge for 1613 days **up to August' 2016**	=Rs.1,14,55,149.00.
6. Total Surcharge up to 31ST August' 2016	**= Rs. 5,66,93,230.00.**
7. Total Outstanding with Principal up to March'10	**= Rs. 6,74,93,833.00.**

(Rupees Six Crore seventy four Lakh Ninety three Thousand Eight Hundred and Thirty Three only)

Due Date of Payment : 06.11.2016.

Chief General Manager (Commercial),
APDCL, Bijulee Bhawan, Paltanbazar,
Guwahati-1.

PTC India

PTC/MTFG/ERLDC/ 11428

17th October 2016

To,
Member Secretary,
ERPC, 14 Golf Club, Road,
Kolkata – 700 033
(Fax No. 033 – 24221802).
E-mail: mserpc-power@nic.in

Subject: Billing on account of Re-import of Kurichhu Energy by Royal Govt. of Bhutan through Assam Grid for the period from December 2014 onwards - APDCL letter regarding.

Dear Sir,

PTC is in receipt of letter from Assam Power Distribution Company Limited (APDCL) vide letter no. APDCL/CGM (Com)/ CERC-RGoB/2015 /13 dated 23rd September 2016 regarding the said subject wherein APDCL has requested to arrange a joint meeting of all the concerned stakeholders to find out an amicable billing methodology so that APDCL does not suffer any financial loss for supply of power to Bhutan from December 2014 onwards. The copy of the same has been marked to you also.

We request you to kindly arrange for a joint meeting as requested by APDCL.

Thanking you,

Yours faithfully,

Harish Saran
Executive Director (Marketing)

CC:

Chief General Manager (Commercial)
Assam Power Distribution Company Limited,
5th Floor, Bijulee Bhawan, Paltan Bazar,
Guwahati, Assam – 781 001
Fax: 0361 – 2739543

Assam Power Distribution Company Limited
Bijulee Bhawan ::: Paltanbazar ::: Guwahati-781001

Fax no. 0361 – 2739501
E-mail-
account.aseb@rediffmail.com

No. APDCL/ CGM (COM)/ CERC-RGOB/ 2015/ 13 dated 23.09.2016.

To,

1. The Member Secretary,
   Eastern Regional Power Committee,
   14, Golf Club Road, Tollygunge, Kolkata-700033.

2. Executive Director (Marketing),
   PTC India Limited, 2ND Floor, NBCC Tower,
   Bhikaji Cama Place, New Delhi – 110066.

Sub : Billing on account of Re-import of Kurichhu Energy by Royal Govt. Bhutan through Assam Grid for the period from December' 2014 onwards.

Ref: Letter No. APDCL/ CGM (COM)/ CERC-RGOB/ 2015/ 11 Dated 01.07.2016.

Sir,

On the basis of the CERC order dated 13.06.2016 in APDCL Petition No. 15(MP/ 2015, APDCL has submitted the Energy Bill of ₹ 2,13,84,866.00 on account of r import of Kurichhu energy by Bhutan for the period from April' 2003 November'2014 for favour of necessary payment from your end. However, though tl bill enclosed in our Petition was up to November' 2014, but APDCL has bee continuing supply of energy to Bhutan on the basis of existing PPA signed with PTC the interest of all concerned. But the CERC order is silent in the methodology of billi for subsequent period from December' 2014 onwards. Meanwhile, the DSM rate al comes down drastically with the improvement of average frequency within the range 50 Hz; as a result there is little chance of recovery of cost of energy.

Being ERPC is the accounting authority and nodal agency, this issue for tl earlier period from April' 2003 to November' 2014 is settled under your guidance ar with the active participation of all stakeholders like NERPC, NERLDC, ERLDC, PT etc.

Likewise, you are again requested kindly to arrange another joint meeting of concerned stakeholders in this case to find out an amicable billing methodology that APDCL does not suffer any financial loss in this regard.

Yours faithfu

Chief General Manager (Commercia

Annexure- C16

3rd Phase : 33 Locations

1	BALIMELA(BLM)	GRIDCO
2	BANGRIPOSHI(BGR)	GRIDCO
3	BANKA(BNK)	PG
4	CHAIBASA(CHB)	PG
5	CHAIBASA(CHA)	JUVNL
6	DUMKA(DUM)	JUVNL
7	DARBHANGA(DBG)	DMTCL
8	GYALSHING(GSH)	SIKKIM
9	HALDIA(HAL)	WBSETCL
10	IND-BARATH (IBR)	IPPR
11	JAMUI(JMU)	BIHAR
12	JLHEP(DANS ENERGY)	IPPR
13	KISANGANJ (KSN)	PG
14	KATAPALLI(KTP)	GRIDCO
15	KUDRA(KUD)	BIHAR
16	KISANGANJ (KIS)	BSPTCL
17	LAKHISARAI(LKS)	PG
18	LAKHISARAI(LKK)	BIHAR
19	NABINAGAR(NBN)	NTPC
20	NEW DUBRI (DBR)	GRIDCO
21	NEW PUSAULI (NPS)	BIHAR
22	NALANDA(NLN)	BIHAR
23	NEW MELLI (NML)	PG
24	PANDIABILPNB)	PG
25	RANCHI NEW(RNC)	PG
26	SADIEPALI(SDP)	GRIDCO
27	RANGPO(RGP)	PG
28	SAGBARI(SGB)	SIKKIM
29	TEEST-III(TST)	TUL
30	TALCHER SOLAR (TLS)	NTPC
31	DIKCHU(DIC)	DICKCHU
32	SONNAGAR NEW(SONN)	BSPTCL
33	ALIPURDUAR	PG
34	MTPS KANTI(NTPC)	NTPC
35	KEONJHAR(KEO)	GRIDCO
36	ATRI(ATR)	GRIDCO
37	PURI(PUR)	GRIDCO

S.No	ERLDC_ID	OLD MTR	NEW MTR	LOCATION	S.No	ERLDC_ID	OLD MTR	NEW MTR	LOCATION
1	AP-03	NP-7438-A	NP-8642-A	APNRL	109	EN-51		NP-7887-A	LAKHISARAI(PG)
2	AP-02	NP-7462-A	NP-8643-A	APNRL	110	EN-52		NP-7430-A	LAKHISARAI(PG)
3	EN-93		NP-8742-A	ARA(PG)	111	EN-89		NP-7887-A	LAKHISARAI(PG)
4	EN-94		NP-8743-A	ARA(PG)	112	EN-90		NP-7430-A	LAKHISARAI(PG)
5	ES-02		NP-8860-A	ARA(PG)	113	EN-51		NP-7888-A	LAKHISARAI(PG)
6	ES-22		NP-8790-A	BOLANGIR(PG)	114	EN-52		NP-7431-A	LAKHISARAI(PG)
7	ES-23		NP-8789-A	BOLANGIR(PG)	115	OR-23		NP-7915-A	DUBURI(GRIDCO)
8	EP-99		NP-7560-A	BOLANGIR(PG)	116	JS-09		NP-8695-A	DUMKA(JUVNL)
9	ES-27		NP-8775-A	MALDA(PG)	117	JS-10		NP-8774-A	DUMKA(JUVNL)
10	ES-28		NP-8776-A	MALDA(PG)	118	SM-07		NP-8730-A	GYALSHING(SIKKIM)
11	EN-87		NP-8727-A	MAITHON(PG)	119	WB-60		LT-0307-A	HALDIA CESC(WB)
12	EN-88		NP-8739-A	MAITHON(PG)	120	WB-61		LT-0311-A	HALDIA CESC(WB)
13	ES-42		NP-7401-A	MAITHON(PG)	121	OR-15		NP-7991-A	BALIMELA(GRIDCO)
14	ES-01		NP-8874-A	MUZAFFARPUR(PG)	122	OR-16		NP-7992-A	BALIMELA(GRIDCO)
15	ES-07		NP-8871-A	MUZAFFARPUR(PG)	123	OR-62		NP-5907-A	BANGRIPOSHI(GRIDCO)
16	ES-08		NP-8873-A	MUZAFFARPUR(PG)	124	NB-01		NP-8700-A	NABINAGAR
17	ES-09		NP-8872-A	MUZAFFARPUR(PG)	125	NB-02		NP-8701-A	NABINAGAR
18	ES-43		NP-6077-A	MUZAFFARPUR(PG)	126	NB-05		NP-8662-A	NABINAGAR
19	ES-44		NP-6078-A	MUZAFFARPUR(PG)	127	NB-07		NP-8892-A	NABINAGAR
20	OR-20	NP-5983-A	NP-7498-A	MENDHASAL(GRIDCO)	128	NB-11		NP-8891-A	NABINAGAR
21	BI-72		NP-8748-A	BANKA(BSPTCL)	129	BI-56		NP-7690-A	NALANDA(BSPTCL)
22	ES-40		NP-8692-A	PUSAULI(PG)	130	OR-22		NP-7916-A	NEW DUBURI(GRIDCO)
23	ES-41		NP-8693-A	PUSAULI(PG)	131	EN-85		NP-8647-A	NEW MELLI(PG)
24	EN-83		NP-8673-A	BANKA(PG)	132	EN-86		NP-8640-A	NEW MELLI(PG)
25	EN-84		NP-8675-A	BANKA(PG)	133	ES-51		NR-4621-A	NEW MELLI(PG)
26	ES-03		NP-8694-A	BANKA(PG)	134	ES-52		NR-4620-A	NEW MELLI(PG)
27	ES-04		NP-8696-A	BANKA(PG)	135	BI-27		NP-8698-A	JAMUI(BSPHCL)
28	BH-22		NP-7482-A	BARH(NTPC)	136	BI-26		NP-8669-A	JAMUI(BSPHCL)
29	ES-45		NP-8074-A	BARIPADA(PG)	137	BI-27		NP-8668-A	JAMUI(BSPHCL)
30	EN-68		NP-8721-A	BERHAMPORE(PG)	138	JL-01		NP-8737-A	JORETHANG(JLHEP)
31	EN-69		NP-8726-A	BERHAMPORE(PG)	139	JL-02		NP-8766-A	JORETHANG(JLHEP)
32	ES-10		NP-8655-A	PATNA(PG)	140	JL-03		NP-8762-A	JORETHANG(JLHEP)
33	RG-12		NP-8734-A	RANGIT(NHPC)	141	JL-04		NP-8763-A	JORETHANG(JLHEP)
34	RG-13		NP-8733-A	RANGIT(NHPC)	142	JL-05		NP-8764-A	JORETHANG(JLHEP)
35	RG-14		NP-8732-A	RANGIT(NHPC)	143	JL-06		NP-8765-A	JORETHANG(JLHEP)
36	RG-15		NP-8736-A	RANGIT(NHPC)	144	OR-17		NP-7561-A	KATAPALI(GRIDCO)
37	RG-16		NP-8735-A	RANGIT(NHPC)	145	BI-32		NP-8664-A	PUSAULI NEW(BSPHCL)
38	OR-55	NP-0624-B	NP-5938-A	JODA(GRIDCO)	146	BI-33		NP-8665-A	PUSAULI NEW(BSPHCL)
39	EN-29		NP-7950-A	ANGUL(PG)	147	EN-10		NP-7847-A	RANCHI NEW(PG)
40	EN-30		NP-7558-A	ANGUL(PG)	148	EN-11		NP-7876-A	RANCHI NEW(PG)
41	EN-31		NP-7987-A	ANGUL(PG)	149	EN-12		NP-7849-A	RANCHI NEW(PG)
42	EN-32		NP-7988-A	ANGUL(PG)	150	EN-13		NP-7866-A	RANCHI NEW(PG)
43	EN-43		NP-7629-A	ANGUL(PG)	151	EN-14		NP-7865-A	RANCHI NEW(PG)
44	EN-44		NP-7949-A	ANGUL(PG)	152	EN-19		NP-7875-A	RANCHI NEW(PG)
45	EN-32	NP-7988-A	NP-7908-A	ANGUL(PG)	153	EN-91		NP-8755-A	RANCHI NEW(PG)
46	EN-63		NP-8780-A	ANGUL(PG)	154	EN-92		NP-8754-A	RANCHI NEW(PG)
47	EN-64		NP-8781-A	ANGUL(PG)	155	EN-99		NP-8753-A	RANCHI NEW(PG)
48	EN-65		NP-8785-A	ANGUL(PG)	156	ES-46		NP-7013-A	KISHANAGNJ(PG)
49	EN-66		NP-8786-A	ANGUL(PG)	157	ES-47		NR-4614-A	KISHANAGNJ(PG)
50	EN-77		NP-8778-A	ANGUL(PG)	158	ES-48		NR-4444-A	KISHANAGNJ(PG)
51	EN-78		NP-8779-A	ANGUL(PG)	159	ES-49		NR-4436-A	KISHANAGNJ(PG)
52	EN-82		NP-8777-A	ANGUL(PG)	160	ES-50		NR-4440-A	KISHANAGNJ(PG)
53	ES-06		NP-8788-A	ANGUL(PG)	161	ES-11		NP-8887-A	KISHANGANJ(PG)
54	ES-05	NP-8787-A	NP-7995-A	ANGUL(PG)	162	ES-12		NP-8885-A	KISHANGANJ(PG)
55	ES-58		NP-8077-A	ANGUL(PG)	163	ES-13		NP-8856-A	KISHANGANJ(PG)
56	ES-59		NP-8076-A	ANGUL(PG)	164	ES-14		NP-8886-A	KISHANGANJ(PG)
57	EM-49		NP-7880-A	CHANDIL(JUVNL)	165	ES-15		NP-8858-A	KISHANGANJ(PG)
58	EP-18	NP-7471-A	NP-8660-A	GAYA(PG)	166	ES-16		NP-8889-A	KISHANGANJ(PG)
59	ES-26		NP-8659-A	GAYA(PG)	167	ES-17		NP-8859-A	KISHANGANJ(PG)
60	EP-19	NP-7470-A	NP-8658-A	GAYA(PG)	168	ES-18		NP-8855-A	KISHANGANJ(PG)

61	WB-30		NP-7403-A	KHARAGPUR(WB)
62	BS-38		NR-4442-A	KISHANAGNJ(BSPTCL)
63	BS-39		NR-4445-A	KISHANAGNJ(BSPTCL)
64	BI-28		NP-8653-A	SULTANGANJ(BSPHCL)
65	BI-29		NP-8672-A	SULTANGANJ(BSPHCL)
66	BI-61	NP-6019-B	NP-7400-A	SULTANGANJ(BSPHCL)
67	EN-40		NP-7906-A	SUNDERGARH(PG)
68	EN-41		NP-7634-A	SUNDERGARH(PG)
69	EN-42		NP-7638-A	SUNDERGARH(PG)
70	EN-57		NP-7907-A	SUNDERGARH(PG)
71	EN-79		NP-7636-A	SUNDERGARH(PG)
72	EN-95		NP-7635-A	SUNDERGARH(PG)
73	WB-23		LT-0194-A	SAGARDIGHI(WBSETCL)
74	WB-24		LT-0191-A	SAGARDIGHI(WBSETCL)
75	WB-25		NP-8724-A	SAGARDIGHI(WBSETCL)
76	WB-26		NP-8725-A	SAGARDIGHI(WBSETCL)
77	WB-27		NP-8723-A	SAGARDIGHI(WBSETCL)
78	WB-28		NP-8722-A	SAGARDIGHI(WBSETCL)
79	BI-07	NP-6074-A	NP-7825-A	SABOUR(BSPHCL)
80	BI-73		NP-8749-A	SABOUR(BSPHCL)
81	ES-31		NP-7442-A	PANDIABILI(PG)
82	ES-32		NP-7427-A	PANDIABILI(PG)
83	ES-33		NP-7454-A	PANDIABILI(PG)
84	ES-34		NP-7554-A	PANDIABILI(PG)
85	ES-35		NP-7438-A	PANDIABILI(PG)
86	ES-36		NP-7407-A	PANDIABILI(PG)
87	ES-37		NP-7462-A	PANDIABILI(PG)
88	JS-50		NP-8644-A	KENDIPOSI(JUVNL)
89	WB-29		NP-7381-A	KHARAGPUR(WB)
90	BI-50		NP-7869-A	KUDRA(BSPHCL)
91	BI-26		NP-8697-A	LAKHISARAI(BSPHCL)
92	BI-30		NP-8670-A	LAKHISARAI(BSPTCL)
93	BI-31		NP-8671-A	LAKHISARAI(BSPTCL)
94	EN-46		NP-7432-A	LAKHISARAI(PG)
95	EN-27		NP-7433-A	LAKHISARAI(PG)
96	EN-37		NP-7889-A	LAKHISARAI(PG)
97	EN-26		NP-7885-A	LAKHISARAI(PG)
98	EN-47		NP-7886-A	LAKHISARAI(PG)
99	EN-50		NP-7429-A	LAKHISARAI(PG)
100	EN-51		NP-7888-A	LAKHISARAI(PG)
101	EN-58		NP-8678-A	CHAIBASA(PG)
102	EN-67		NP-8637-A	CHAIBASA(PG)
103	EN-97		NP-8868-A	CHAIBASA(PG)
104	EN-98		NP-8869-A	CHAIBASA(PG)
105	ES-29		NP-7471-A	CHAIBASA(PG)
106	ES-30		NP-7467-A	CHAIBASA(PG)
107	DM-01		NP-8656-A	DARBHANGA(DMTCL)
108	DM-02		NP-8719-A	DARBHANGA(DMTCL)

169	ES-19		NP-8880-A	KISHANGANJ(PG)
170	ES-20		NP-8888-A	KISHANGANJ(PG)
171	ES-21		NP-8857-A	KISHANGANJ(PG)
172	EN-22		NP-7933-A	RANGPO(PG)
173	EN-23		NP-7955-A	RANGPO(PG)
174	EN-24		NP-7956-A	RANGPO(PG)
175	EN-25		NP-7957-A	RANGPO(PG)
176	EN-33		NP-7922-A	RANGPO(PG)
177	EN-34		NP-7923-A	RANGPO(PG)
178	EN-35		NP-7924-A	RANGPO(PG)
179	EN-36		NP-7623-A	RANGPO(PG)
180	EN-39		NP-7622-A	RANGPO(PG)
181	EN-38		NP-7621-A	RANGPO(PG)
182	EN-54		NP-7619-A	RANGPO(PG)
183	EN-55		NP-7620-A	RANGPO(PG)
184	EN-59		NP-8710-A	RANGPO(PG)
185	EN-60		NP-8711-A	RANGPO(PG)
186	EN-80		NP-8714-A	RANGPO(PG)
187	EN-81		NP-8715-A	RANGPO(PG)
188			NP-7940-A	RANGPO(PG)
189			NP-7941-A	RANGPO(PG)
190	ES-24		NP-8712-A	RANGPO(PG)
191	ES-25		NP-8713-A	RANGPO(PG)
192	OR-18		NP-7944-A	SADEIPALI(GRIDCO)
193	JS-11		NP-8865-A	CHAIBASA(JUVNL)
194	JS-12		NP-8866-A	CHAIBASA(JUVNL)
195	JS-13		NP-8867-A	CHAIBASA(JUVNL)
196	SM-05		NP-8797-A	SAGBARI(SIKKIM)
197	SM-06		NP-8798-A	SAGBARI(SIKKIM)
198	BI-42		NP-7380-A	SONNAGAR NEW(BSPTCL)
199	BI-43		NP-7450-A	SONNAGAR NEW(BSPTCL)
200	IB-01		NP-8792-A	IBEUL
201	IB-02		NP-8793-A	IBEUL
202	IB-03		NP-8795-A	IBEUL
203	IB-04		NP-8794-A	IBEUL
204	IB-05		NP-8783-A	IBEUL
205	IB-06		NP-8782-A	IBEUL
206	IB-07		NP-8784-A	IBEUL
207	IB-08		NP-8796-A	IBEUL
208	TL-32		NP-7961-A	TALCHER SOLAR(NTPC)
209	TL-33		NP-7626-A	TALCHER SOLAR(NTPC)
210	TL-34		NP-7962-A	TALCHER SOLAR(NTPC)
211	TL-35		NP-7628-A	TALCHER SOLAR(NTPC)
212	TL-37		NP-7627-A	TALCHER SOLAR(NTPC)
213	TL-38		NP-5968-A	TALCHER SOLAR(NTPC)
214	TL-31		NP-7909-A	TALCHER SOLAR(NTPC)
215	TL-30		NP-5979-A	TALCHER SOLAR(NTPC)
216	TL-37	NP-7627-A	NP-7946-A	TALCHER SOLAR(NTPC)
217	TL-40	NP-7618-A	NP-7945-A	TALCHER SOLAR(NTPC)
218	TL-39	NP-7614-A	NP-7631-A	TALCHER SOLAR(NTPC)
219	TL-41	NP-7615-A	NP-7633-A	TALCHER SOLAR(NTPC)
220	TL-36	NP-7632-A	NP-7630-A	TALCHER SOLAR(NTPC)
221			LT-0135-A	MTPS KANTI(NTPC)
222			LT-0192-A	MTPS KANTI(NTPC)
223			LT-0129-A	MTPS KANTI(NTPC)
224			LT-0133-A	MTPS KANTI(NTPC)
225			LT-0093-A	MTPS KANTI(NTPC)
226			LT-0127-A	MTPS KANTI(NTPC)
227			LT-0126-A	MTPS KANTI(NTPC)
228			TP-0006-A	MTPS KANTI(NTPC)
229			LT-0132-A	MTPS KANTI(NTPC)
230			LT-0130-A	MTPS KANTI(NTPC)
231			LT-0092-A	MTPS KANTI(NTPC)
232			LT-0128-A	MTPS KANTI(NTPC)
233			LT-0125-A	MTPS KANTI(NTPC)
234			LT-0140-A	MTPS KANTI(NTPC)
235			LT-0131-A	MTPS KANTI(NTPC)
236			TP-0008-A	MTPS KANTI(NTPC)

237			LT-0246-A	MTPS KANTI(NTPC)
238			LT-0219-A	MTPS KANTI(NTPC)
239			LT-0214-A	MTPS KANTI(NTPC)
240			LT-0242-A	MTPS KANTI(NTPC)
241			LT-0187-A	MTPS KANTI(NTPC)
242			LT-0215-A	MTPS KANTI(NTPC)
243	ES-54		NR-4451-A	ALIPURDUAR(PG)
244	ES-55		NR-4452-A	ALIPURDUAR(PG)
245	ES-56		NR-4457-A	ALIPURDUAR(PG)
246	ES-57		NR-4458-A	ALIPURDUAR(PG)

Annexure- C18

TATA

TATA CONSULTANCY SERVICES

List of all Energy Meters installed at various Sub Stations which has defective RS-485 communication port

Date : 19-Jan-2017

SL No	Utility	Sub Station	Meter SL No.
1.	BSEB	Biharsharif	NP-5842-A
2.	JSEB	Ramchandrapur	NP-5119-A
3.	NTPC	Kahalgaon	NP-5855-A
4.	NTPC	Talcher	NP-5081-A
5.	PG	Rourkela	NP-5932-A
6.	IPPR	MPL	NP-6549-A
7.	GRIDCO	Mendhasal	NP-5980-A
8.	WBSEB	Sagardihi	NP-5072-A NP-6119-A
9.	PG	Jeypore	NP-5961-A
10.	PG	Gaya	NP-7469-A NP-7428-A
11.	WBSEB	Kharagpur	NP-7381-A NP-7403-A
12.	DVC	DSTPP	NP-6525-A

Annexure- C21

Date of Commercial Operation(DOCO) of the Assets

						Annexure-XII
A	**Eastern Region Strengthening Scheme-XII.**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	4 nos of 220kV GIS line bays at Kishanganj (GIS) Sub-station	20/10/16	Rs.522.29 Cr.(including IDC of Rs.33.24 Cr.).	2nd 2013 SCM meeting of ER on 27.08.13.	25th ERPC Meeting on 21.09.13	As per New Sharing methodology of PoC
02	Modification of 132kV Bus arrangement at 220/132kV Siliguri Substation with GIS bays	30/11/16				
B	**Eastern Region Strengthening Scheme-IX**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	1 no of 1x125 MVAR Bus Reactor(1st) and associated bay equipment at 400kV Durgapur S/S	23/10/16	Rs.196.58 Cr.(including IDC of Rs.10.65 Cr.).	SCM meeting of ER on 05.01.13.	22nd ERPC Meeting on 25.08.12 & 24th ERPC meeting on 27.04.13	As per New Sharing methodology of PoC
02	1 no of 1x125 MVAR Bus Reactor(2nd) and associated bay equipment at 400kV Durgapur S/S	30/12/16				
C	**Transmisison system for transfer of Power from generation projects in Sikkim to NR/WR(Part A)**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	400kV 125 MVAR Bus Reactor - II with associated bays at Kishanganj (GIS) substation	09/12/16	Rs.250.03 Cr.(including IDC of Rs.19.03 Cr.).	27th SCM meeting of NR on 30.05.09 , 29th SCM of WR on 10.09.09 & SCM of ER on 20.09.10.	15th & 16th ERPC Meeting on 28.09.10 & 18.12.10 respectively	As per New Sharing methodology of PoC
D	**Eastern Region Strengthening Scheme-VII**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	2nos of 400kV line bays along-with 2x50 MVAR (Fixed) line reactors at 765/400kV Ranchi Substation under substation extension	17/10/16	Rs.71.35 Cr.(including IDC of Rs.3.96 Cr.).	SCM meeting of ER on 08.02.12	21st ERPC Meeting at Kolkata on 21.04.14	As per New Sharing methodology of PoC
02	1x63 MVAR (Fixed) line reactor at Chaibasa under substation extension	27/10/16				
03	2 nos 400kV line bays at Kharagpur of West Bengal	14/11/16				
E	**Transmisison system for transfer of Power from generation projects in Sikkim to NR/WR(Part B)**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	LILO of one ckt of 400kV D/C Teesta III-Kishanganj line(LILO-I) at Rangpo and associated bays at Rangpo	26/11/16	Rs.1585.12 Cr.(including IDC of Rs.101.83 Cr.).	27th SCM meeting of NR on 30.05.09 & 29th SCM of WR on 16.09.09.	16th ERPC Meeting on 18.12.10	As per New Sharing methodology of PoC
F	**Eastern Region Strengthening Scheme-V**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	2 nos of 400kV line bays for termination of LILO of 2nd circuit of Jamshedpur-Rourkela 400kV line at Chaibasa Substation	22/11/16	Rs.71.35 Cr.(including IDC of Rs.3.96 Cr.).	SCM meeting of ER on 08.02.12	21st ERPC Meeting at Kolkata on 21.04.14	As per New Sharing methodology of PoC
G	**Eastern Region Strengthening Scheme-III**	**DOCO**	**Approved Cost**	**Standing Committee Reference**	**RPC Meeting Reference**	**Sharing of Charges**
01	LILO of 400kV D/C Baripada-Mendhasal line and associated bays at Pandiabili GIS	31/07/16	Rs. 1512.08 Cr. (including IDC of Rs. 96.92 Cr.).	08/11/2008 at Bhubaneswar	Special(9th) ERPC meeting on 30/12/2008 & 10th ERPC meeting on 11/04/2009 at Port Blair	As per New Sharing methodology of PoC
02	1 no 500 MVA, 3 phase 400/220kV , Transformer and assocaited bays at Pandiabili GIS	31/07/16				
03	1 no 80 MVAR , 400kV Bus Reactor and associated bays at Pandiabili GIS	31/07/16				
04	02 nos 63 MVAR , 400kV Switchable Line Reactor both shifted from Mendhasal(as Fixed Line Reactor) with associated bays at Pandiabili GIS	31/07/16				
05	6 nos 220kV line bays at Pandiabili GIS	31/07/16				