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GOVERNMENT OF INDIA
MINISTRY OF POWER
EASTERN REGIONAL POWER COMMITTEE
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No. ERPC/TCC&Committee/14/2016/ **H-3295-H3327** Date: 6th January 2016

To:

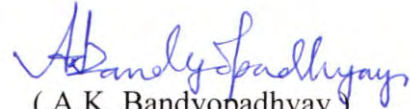
1. Members of Eastern Regional Power Committee.
2. Members of TCC.

Subject: Minutes of 31st ERPC & TCC Meetings.

Sir,

The minutes of 31st TCC & ERPC meetings held on 13th & 14th November 2015 at Bhubaneswar are enclosed for information.

Yours faithfully,


(A.K. Bandyopadhyay)
Member Secretary

Encl. As above.

Distribution : ERPC Members

1. Chairperson, ERPC & Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
2. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
3. Chairman & Managing Director, West Bengal Power Development Corporation Ltd., Bidyut Unnayan Bhavan, 3/C, Block LA, Sector-III, Bidhannagar, Kolkata-700098.
4. Managing Director, Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
5. Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
6. Chairman-cum-Managing Director, Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
7. Chairman-cum-Managing Director, GRIDCO Ltd., Janpath, Bhubaneswar-751022.
8. Chairman-cum-Managing Director, OHPC Ltd., Orissa State Police Housing & Welfare Corporation Bldg. Vanivihar, Janpath, Bhubaneswar- 751022.
9. Managing Director, OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
10. Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
11. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
12. Managing Director, Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
13. Managing Director, Tenughat Vidyut Nigam Ltd., Hinoo, Doranda, Ranchi – 834002
14. Chairman & Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800021.
15. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna-800021.
16. Managing Director, South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna-800021.
17. Chairman, Damodar Valley Corporation, DVC Towers, VIP Road, Kolkata -700054.
18. Member (GO&D), Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
19. Director (Commercial), NTPC Ltd., Core-7, SCOPE Complex, Lodhi Road, New Delhi -110003.
20. Director (Finance), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003.
21. Director (Operations), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon-122001.
22. General Manager, ERLDC, POSOCO, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
23. Chief Executive Officer, POSOCO, National Load Dispatch Center, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016.
24. Director (C&O), PTC India Ltd., 2nd floor, NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
25. Chief Executive Officer, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
26. Managing Director, Tata Power Trading Company Limited, C-43 Sector-62, 3rd Floor, Noida-201307, Uttar Pradesh.
27. Managing Director, CESC Ltd., CESC House, 1 Chowringhee Square, Kolkata-700001.
28. Chief Executive Officer, Maithon Power Ltd., MA-5, Gogna Colony, P.O.-Maithon Dam, Dist.-Dhanbad, Jharkhand-828207.
29. Managing Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5th Floor, 2/1A Sarat Bose Road, Kolkata-700020.
30. Chief Operating Officer, 4x600 MW IPP, Vedanta Ltd., Bhurkhamunda, P.O.-Sripura, Jharsuguda, Odisha-768202.
31. Director & COO, GMR Kamalanga Energy Ltd., 29 Satyanagar, Bhubaneswar-751007.
32. President & Director (Projects), Gati Infrastructure Private Limited, 268 Udyug Vihar, Pahse-IV, Gurgaon-122016, Haryana.
33. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.

Distribution : TCC Members

1. Chairperson, TCC & Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
2. Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
3. Director (O&M), WBPDC, Bidyut Unnayan Bhavan, 3C, Block-LA, Sector-III, Bidhannagar, Kolkata-700098.
4. Executive Director (Technical), Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
5. Chief Engineer (HQ), Energy & Power Dept., Govt. of Sikkim, Kazi Road, Gangtok-737101.
6. Director (Engineering), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
7. Director (Commercial), GRIDCO Ltd., Janpath, Bhubaneswar-751022.
8. Director (Operation), Orissa Power Generation Corporation Ltd, Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
9. Director (Operation), Orissa Hydro Power Corporation Ltd, Orissa State Police Housing & Welfare Corporation Building, Vanivihar Chowk, Janpath, Bhubaneswar-751022.
10. Chairman & Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
11. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
12. Managing Director, Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
13. General Manager, Tenughat TPS, Lalpania, Dist- Bokaro, Jharkhand-829149.
14. Chairman & Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800021.
15. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna-800021.
16. Director (Operation), South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna-800021.
17. Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
18. Chief Engineer (GM), CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066.
19. Regional Executive Director (ER-I), NTPC Ltd., 2nd floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
20. Regional Executive Director (ER-II), NTPC Ltd., 3rd Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
21. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana.
22. Executive Director (ER-I), Power Grid Corporation of India Ltd, Alankar Place, Boring Road, Patna-800001.
23. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
24. General Manager, ERLDC, 14, Golf Club Road, Kolkata -700 033.
25. Chief Executive Officer, POSOCO, National Load Dispatch Center, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016.
26. Executive Director (Marketing), PTC India Ltd., NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
27. General Manager (BD&IT), NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
28. The Head (Marketing), Tata Power Trading Company Limited, C-43 Sector-62, 3rd Floor, Noida-201307, Uttar Pradesh.
29. Executive Director (CS & SO), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.
30. Station Head & General Manager (O&M), Maithon Power Ltd., MA-5, Gogna Colony, P.O.- Maithon Dam, Dist.- Dhanbad, Jharkhand-828207
31. Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5th Floor, 2/1A Sarat Bose Road, Kolkata-700020.
32. Sr. Vice President (Power), 4x600 MW IPP, Vedanta Ltd., Bhurkahamunda, P.O.-Sripura, Jharsuguda, Odisha-768202.
33. Director & COO, GMR Kamalanga Energy Ltd., 29 Satyanagar, Bhubaneswar-751007.
34. Sr. General Manager (E), Chuzachen HEP, Gati Infrastructure Private Limited, Lower Bering Karabari, Pakyong, East Sikkim-737106.
35. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.

EASTERN REGIONAL POWER COMMITTEE

**MINUTES OF
31st ERPC MEETING**

Date: 14th November, 2015

Venue: Hotel Swosti Premium, Bhubaneswar

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF THE 31st MEETING OF EASTERN REGIONAL POWER COMMITTEE

Date: 14th November 2015

Place: Bhubaneswar

The list of participants is at **Annexure-I**.

Shri Hemant Sharma, Chairman-cum-Managing Director, GRIDCO & OPTCL, welcomed Shri N.S. Nigam, Chairperson, ERPC & CMD, WBSEDCL, all other members on dais, TCC members, guests from Bhutan and all other participants to the 31st ERPC meeting. In his address he highlighted the following :

- ❖ ERPC is an important part of power sector in Eastern Region and plays an important role in power system planning and implementation. Unlike the CERC and APTCL where arguments take place like in a court room, ERPC is family of power utilities in Eastern Region. It is more like Indian joint family where due to differences in opinions unanimous decisions may not be always possible, but solutions to many issues could be found through vibrant and innovative discussions which are acceptable. At the end of the day, it is the togetherness of the members that makes the forum unique.
- ❖ ERPC is a platform for knowledge sharing also. Every now and then new technical and regulatory issues are coming up. Discussions on those matters help in better understanding of the issues involved. This forum also gives an opportunity to know about the initiatives undertaken by other utilities for improvement in power sector and to exchange of knowledge.
- ❖ The entire city of Puri with more than 25000 consumers is brought under smart grid with eight nos. 33/11 kV sub-stations and state of art electrical infrastructure. The entire work was completed in record time of eleven months by OPTCL through one of the State Discoms CESU. Three new 220/132/33 kV grid sub-stations have been set up. In doing so OPTCL completed erection of 300 nos. 220 kV towers in 4½ months. Puri is now connected with Bhubaneswar with new four lane road. New bus stand and new railway station have also come up.
- ❖ Delegates may find some time to visit the temple city Bhubaneswar and Puri where new idols have been installed this year on the occasion of Nabakalebara.

In conclusion, he thanked ERPC for giving an opportunity to Odisha to host the ERPC meeting and wished the meeting a grand success.

Shri A.K. Bandyopadhyay, Member Secretary, ERPC, welcomed Shri N.S. Nigam, Chairperson, ERPC & CMD, WBSEDCL, Shri Hemant Sharma, CMD, OPTCL & GRIDCO, other members on dais, TCC members and all other participants to the 31st ERPC meeting. He said the previous day TCC had discussed number of technical and commercial issues, a few of them had been referred to ERPC for deliberation and decision. He informed that the proposal for funding of

the work on Creation of Protection Database in Eastern Region from PSDF has been reviewed by its Techno Commercial Evaluation Committee and the proposal has been put up to the Appraisal Committee for decision. The Appraisal Committee would meet on 17th November 2015 to decide on the matter. Regarding renovation of ERPC Office building, he informed that CPWD would start renovation work shortly and within a year's time the office building would get a new look. He further informed that as a social initiative an MoU would be signed shortly with Hope International, an NGO, following which financial contributions would be given to the hospital managed by them. He also brought it to the knowledge of members and other participants that ERPC is planning to collaborate with academia for creating knowledge base. In conclusion he thanked Odisha utilities in general and GRIDCO in particular for hosting the meeting in excellent manner and wished the meeting a grand success.

Shri Narayan Swaroop Nigam, Chairperson, ERPC & CMD, WBSEDCL, said he was immensely pleased to welcome Shri Hemant Sharma, CMD, OPTCL & GRIDCO, Shri A.W.K. Langstieh, Chairman, DVC, Shri Santanu Basu, CMD, WBPCL and all other members and delegates to the 31st ERPC meeting at Bhubaneswar. He said yesterday TCC had discussed number of technical and commercial issues and he took the opportunity to attend the meeting to have hands on experience of the meeting. He said ERPC is an active forum where lot of technical and commercial issues are discussed and settled. Therefore, senior level officers of member organisations should participate in the meeting. He requested representatives of member organisations to convey it back home whose senior level officers or members could not make it to attend the meeting. He said yesterday TCC had discussed number of issues at length, a few of which have been referred to ERPC for further deliberation and decision. In his address he further stated the following :

- The Secretariat has already organised two training program on power system protection, one in Kolkata and the other at Bhubaneswar. The 3rd such programme will be held from 23rd to 27th November 2015 at Talcher STPS of NTPC. The Secretariat deserves complements for the initiatives.
- The work on creation of web based protection database of Eastern Region has been proposed for funding from PSDF funding. The proposal is likely to be taken for consideration by the Appraisal Committee.
- Hon'ble CERC, from time to time, issues regulations, orders etc. having technical and financial implications on the constituents. Some of the issues can be appreciated but some of issues may need intervention of experts for better understanding. The Secretariat may invite experts and arrange seminars/meetings for better understanding of the issues and its impact on the constituents be it Discom, Transco or Genco.
- ERPC is a forum which facilitates cooperative federalism which in fact our constitution envisaged. Keeping interest of the State paramount, the national interest can also be served, like the national grid which has come up today. Today power can flow one part of the country to any part of the country. It is with this idea this forum can provide an important platform for development of power sector.

In conclusion, he thanked utilities of Odisha (GRIDCO, OPTCL, OHPC & OPGC) for hosting the meeting in excellent manner, specially thanked GRIDCO for taking the lead and wished the meeting a grand success.

Item No.A1: Confirmation of the Minutes of 30th ERPC meeting held on 20.06.2015 in Shimla

The minutes of the 30th ERPC meeting held on 20th June 2015 were circulated vide letter no.ERPC/ TCC& Committee/14/2015/H362-431dated 17th July2015.

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

Members may confirm the minutes of 30th ERPC meeting.

Deliberation in ERPC meeting

Members confirmed the minutes of 30th ERPC Meeting.

PART B: ISSUES REFERRED TO ERPC BY TCC IN ITS 31st MEETING HELD YESTERDAY

The issues referred to ERPC by the TCC are placed below:

ITEM NO. B1:	Poor- representation of constituent members in various sub-Committee meetings of ERPC
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ERPC (Conduct of Business Rules), 2011 provides for functions, composition, periodicity and other procedures of all sub-committee meetings of ERPC like OCC, PCC, CC and other special meetings. But unfortunately it is being observed that on many occasions sub-committee meetings of ERPC are not being represented by some of our constituent members.

The issue was discussed in 27th TCC/ERPC meeting wherein all the constituents were advised to give proper representation in lower forums of ERPC for fruitful deliberation.

TCC/ERPC also advised ERPC Secretariat to strictly monitor the pattern of representation of constituents in all the meetings of lower forum of ERPC and report back to next TCC meeting.

Non-representation in the recent past is placed below for ready reference:

Sl. No	Name of Meeting	Held on	Non-representation
1	110 th OCC	29.06.15	Adhunik
2	111 th OCC	24.07.15	Adhunik, JITPL
3	112 th OCC	21.08.15	Sikkim
4	113 th OCC	14.09.15	WBSEDCL, SLDC Bihar, Adhunik, JITPL
5	114 th OCC	16.10.15	Sikkim, Adhunik, JITPL
6	32 nd PCC	30.06.15	SLDC Bihar, SLDC Jarkhand, SLDC West Bengal, Sikkim, Adhunik, JITPL, MPL, GMR,
7	33 rd PCC	21.07.15	SLDC Bihar, SLDC Jarkhand,

			SLDC DVC, Adhunik, Sterlite, JITPL, MPL, GMR,
8	34 th PCC	14.08.15	SLDC Bihar, Sikkim, NHPC, Adhunik, JITPL, MPL, GMR,
9	35 th PCC	15.09.15	SLDC Bihar, Sikkim, Adhunik, JITPL, MPL, GMR,
10	36 th PCC	15.10.15	SLDC Bihar, Sikkim, Adhunik, JITPL, MPL, GMR,
11	Special PCC Meeting	20.07.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR
12	5 th PRM Meeting	24.09.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR
13	1 st Standing committee meeting for state sector	21.09.15	Sikkim
14	30 th CCM	16.09.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR, Sterlite,

TCC may deliberate and ensure proper representation in sub-committee meetings of ERPC.

Deliberation in the TCC meeting

Member Secretary, ERPC pointed that last few sub-committee meetings of ERPC, especially PCC meetings, have been poorly represented for the last few months. It was informed that representatives from SLDCs mainly from Bihar and Jharkhand are regularly not attending PCC meetings of ERPC inspite of specific instruction of ERPC. Due to these, it was reiterated, many of the sensitive issues left undecided, unresolved.

TCC advised all constituents to ensure proper representation in sub-committee meetings of ERPC.

Bihar and Jharkhand and others agreed to ensure proper representation in PCC meetings with SLDC personnel.

Sikkim agreed for proper representation in all the meetings of lower forum of ERPC.

ERPC may advise.

Deliberation in ERPC meeting

ERPC members viewed that sharing expertise of different constituents facilitates Sub committees of ERPC to take effective final decisions & remedial measure on various complex issues.

ERPC endorsed the feelings of TCC and advised all constituents to ensure proper representation in sub-committee meetings of ERPC so that all the issues pertaining to grid as well as state control areas are nicely deliberated upon.

ITEM NO. B2:	Reporting and Analysis of Disturbances in PCC Meeting— Submission of DR, EL and other relevant information.
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It was observed that in most cases reports are not received within the stipulated time and also lack of complete details and supporting documents like DR and EL outputs. This leads to incomplete and/or delayed analysis of the incidents.

It is also observed that representatives from respective SLDCs are frequently not attending PCC meetings with detailed analysis of the disturbances occurred in the respective control area. As a result PCC is facing problem in giving proper recommendations towards protection coordination problems.

The issue was discussed in 28th TCC Meeting, wherein all the constituents were advised the following:

- Concern SLDC to give the preliminary reports of disturbance in their respective systems to ERLDC in time in specific format as per CERC guidelines along with relay flags, DR printout, pre-fault condition etc.
- Concern protection engineers to submit the detail analysis of the disturbance in respective system to ERLDC/ERPC at least 3/4 days ahead of monthly PCC meeting.
- Concern officer from SLDC and Protection wing to attend PCC meetings and analytically present the case with all the details including SLD.

However on many occasions till date since 28th ERPC it has been observed that the decision of ERPC were not being complied. Few of such cases are placed below as ready reference:

Sl. No.	Disturbance	Information not furnished during/before the meeting	Utility
32nd PCC Meeting			
1.	Multiple trippings in South Odisha system on 21/05/15 09:24 hrs.	PCC advised Powergrid to submit the detail report with proper analysis on tripping of all 400 kV lines along with all DR, EL and other relevant information pertaining to this incidence.	Powergrid-Odisha
	Total power failure at 220kV Budhipadar and adjacent 220kV and 132kV Sub-stations of OPTCL system on 23/05/15 at 11:08hrs.	PCC advised OPTCL to enquire about the tripping incidences and report it after proper analysis.	OPTCL
33rd PCC Meeting			
	Total power failure at 220/132 kV Hatia S/s (JUSNL) on 14/06/15 at 07:30hrs.	On scrutiny of disturbance report submitted by SLDC, JUSNL with respect to reports of CRITIL, JUSNL, PCC observed wide variance and with that it was difficult to arrive at the conclusion. Therefore, PCC advised JUSNL to analyze the disturbance properly and place the detail report in the next PCC meeting.	JUSNL

34th PCC Meeting			
	Total power failure at 220kV Budhipadar S/s of OPTCL system on 03/07/15 at 22:27hrs.	PCC advised OPTCL to collect the tripping details at IBTPS, Katapalli & Vedanta ends and submit to ERPC/ERLDC within 10 days.	OPTCL
35th PCC Meeting			
	Total Power failure in part of North Bihar on 11/08/15 at 13:09hrs.	PCC advised to collect all the tripping details along with pre-fault data like power flow in the lines etc. from the respective sub-stations and carry out the detailed analysis.	BSPTCL
	Total Power failure in part of North Bihar on 17.08.15, 15:27 & 15:35 hrs.	PCC advised to collect all the tripping details along with pre-fault data like power flow in the lines etc. from the respective sub-stations and carry out the detailed analysis.	BSPTCL
	Total Power failure in part of North Bihar on 18.08.15, 11:35 and 11:42hrs.	PCC advised BSPTCL to collect the tripping details of 132 KV Purnea-Forbesganj line and submit to ERPC/ERLDC.	BSPTCL
	Total power failure at 220kV Chandil S/s of JUSNL system on 28/08/15 at 16:05hrs.	PCC advised JUSNL to send the DR output files to ERPC/ERLDC within 2 days for proper analysis of the incident	JUSNL
36th PCC Meeting			
	Disturbance at 132 kV Lalmatia (JUSNL) S/s on 02/09/15 at 12:29 hrs	ERLDC informed that details were not mentioned in the reports received from both JUSNL and NTPC end. PCC felt that constituents should send the report with proper details for detailed analysis of the tripping incidence.	NTPC and JUSNL

TCC may ensure proper co-ordination among SLDC and protection engineers towards compliance of direction of 28th ERPC.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that constituents are not sending proper tripping reports, DR and EL output files to ERPC/ERLDC. These lead to incomplete/delayed analyses of the incidents and PCC could not arrive any conclusion. It was further intimated that on many occasions analysis were not done at constituent level. Without DR/EL, lack of proper information and proper analysis disturbances are not being properly deliberated and PCC failed to advise remedial measures. These are resulting repetition of the same type of disturbances. Therefore, Member Secretary, ERPC expressed, the purpose of PCC meeting is getting defeated.

ERLDC added that representatives usually attend PCC meeting without preparation. Repeated trippings are being occurred in Bihar and Jharkhand system which needs special attention by the ERPC forum.

NLDC informed that they are also updating regarding lessons learned from the disturbances and it will be difficult to arrive at conclusion without DR and EL output files.

TCC advised all constituents to send the tripping reports in proper formats as well as DR, EL, SOE outputs etc. to ERPC/ERLDC within time frame. TCC also advised all constituents to attend the all the PCC meetings of ERPC with detailed analysis of the tripping incidences along with required information and with proper representation from respective SLDCs.

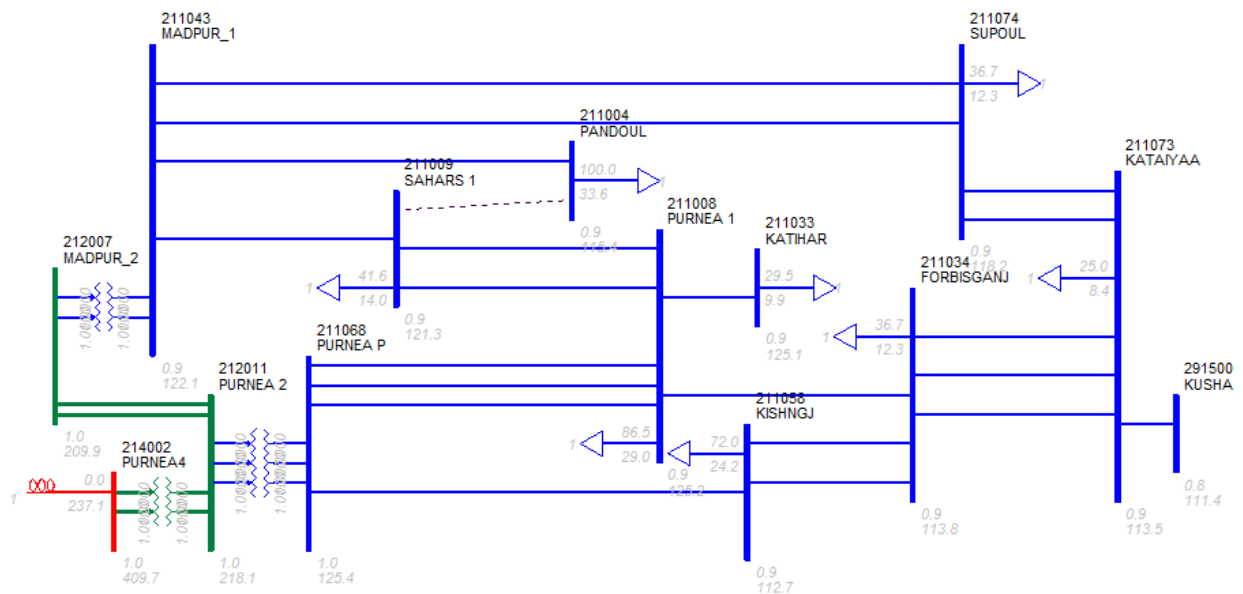
ERPC may advise.

Deliberation in ERPC meeting

ERPC advised all constituents to send the tripping reports along with DR, EL, SOE outputs etc. to ERPC/ERLDC within the stipulated time frame. ERPC also advised all constituents to send their concerned representative from protection wing including SLDC engineers to attend the PCC meetings of ERPC with the details of the tripping incidences in their respective control areas along with their analysis to facilitate PCC in finding solutions to prevent recurrence of un-coordinated trippings in system.

ITEM NO. B3:	Uncoordinated trippings around Purnea (and loss of supply to Nepal) & Biharshariff in BSPTCL system and frequent disturbances in JUSNL system
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A. Around N. Purnea/ Purnea



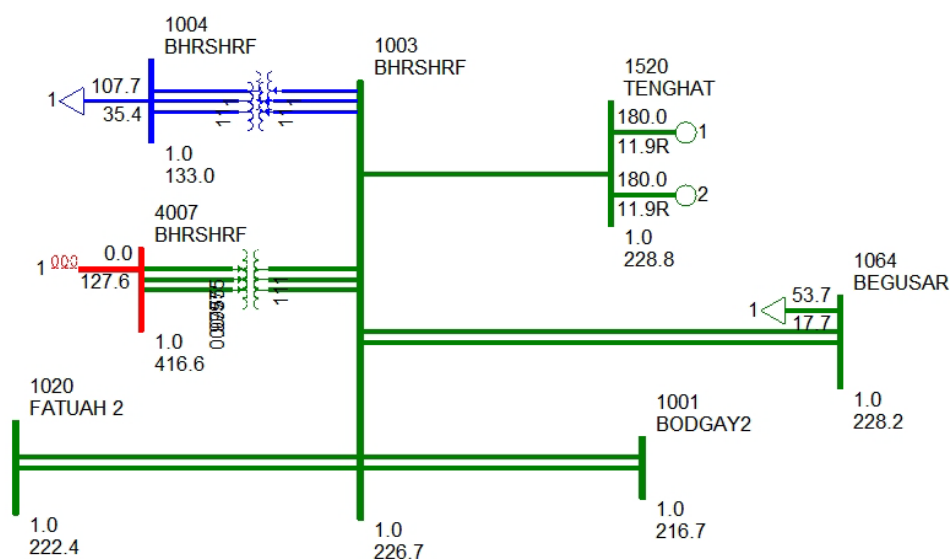
220kV N. Purnea – Madhepura line (single as well as both circuits) along with 132kV Purnea (PG) – Kisanganj and/or Purnea(BSPTCL) – Forbesganj lines tripped on a number of occasions during August to September, 2015. Some of the instances are listed below:

1. 11/08/15, 13:09hrs:- Load Loss of 300 MW as total power failure occurred in part of North Bihar (Madhepura, Supaul, Katiya) due to tripping of 220kV Purnea (PG)-Madhepura-II on B-Ø to ground fault. Power supply to Nepal also got interrupted.
2. 18/08/15, 11:35 and 11:42hrs:- Load loss of 222 MW as total power failure occurred in part of North Bihar (Madhepura, Supaul, Katiya) due to tripping of 220kV Purnea (PG)-Madhepura-II on B-Ø to ground fault. Power supply to Nepal also got interrupted.
3. 27/08/15, 22:18 hrs:- Load loss 350 MW as total power interrupted at 220 KV Madhepura S/S when 220kV Purnea- Madhepura- I tripped on R-Y fault . 220kV Purnea- Madhepura-II tripped on Y-N fault. At the same time 132 KV Purnea(Bihar) – Purnea(PG) –T/C ,132 KV Purnea-Kishenganj and 132 KV Purnea(Bihar) –Farbisganj S/C tripped on O/C
4. 07.09.15, 23:01 hrs:-Load loss 450 MW as power supply interrupted in some parts of North Bihar and in Nepal due to tripping of 220/132kV ICTs at Madhepura S/s.
5. 08.09.15, 12:35 hrs:- Load loss 90 MW as total power failure occurred at 220kV Madhepura S/s due to tripping of 220kV Purnea (PG)-Madhepura-D/C on B-Ø to ground fault.

Such tripping, besides causing widespread power failure in N. Bihar, also led to interruption of power supply to Nepal.

The incidents were deliberated in 35th and 36th PCC meetings of ERPC, but due to lack of detailed information, the shortcomings and requisite corrective measures could not be identified.

B. Biharshariff



Complete failure of power supply to Biharshariff and adjoining S/Stns occurred at 11:01 hrs of 10.09.15 and again at 08:30 hrs of 08.10.15, due to delayed fault clearance within BSPTCL system.

At 11:01 hrs of 10-09-15, all the 400/220kV, 315 MVA ICT-I,II & III at Biharshariff (PGCIL) tripped from HV side due to operation of back up over current protection resulting in 450 MW load loss at Biharshariff, Fatuah, Gaighat, Sheikhpura, Hatida, Hulasganj etc. The incident was deliberated in the 36th PCC meeting, but could not be analysed in detail.

Similar nature of disturbance occurred at 08:30 hrs of 8-10-15 due to SLG (i.e B-N) fault in 220kV Biharshariff- Begusarai-I and subsequent tripping of 220kV Biharshariff- Begusarai-II followed by tripping of all the three 400/220kV, 315MVA ICTs at Biharshariff(PG) on back-up overcurrent protection.

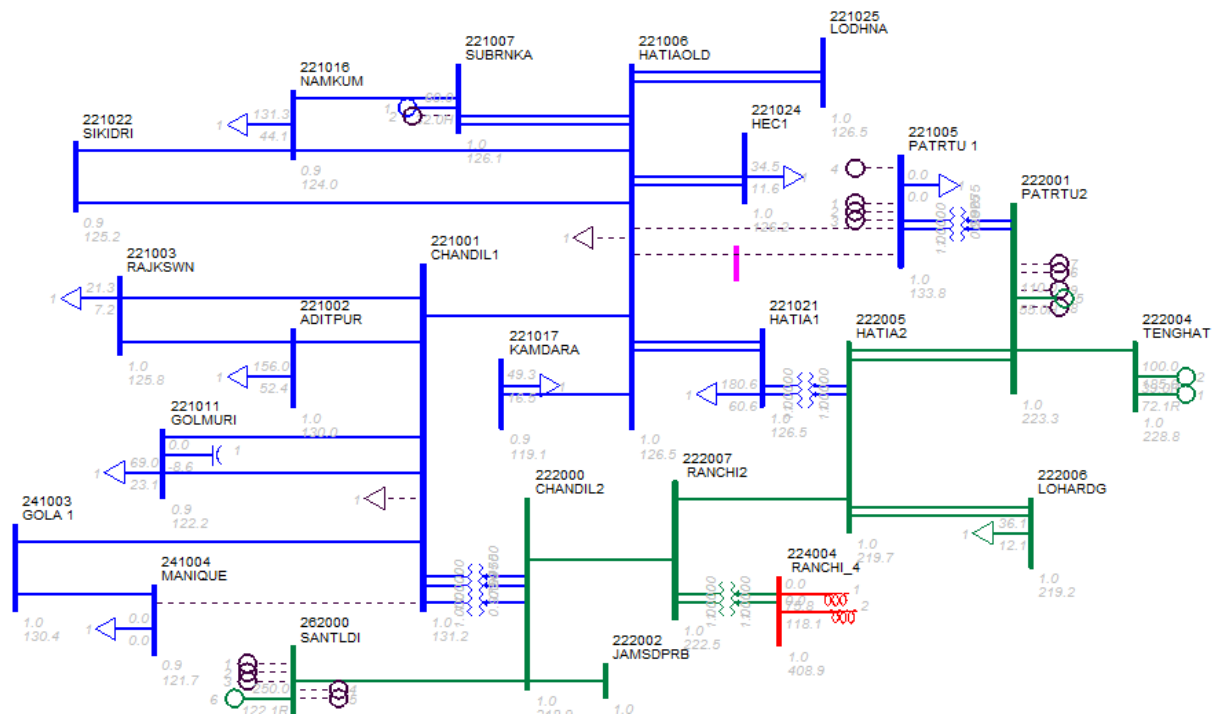
The above occurrences indicate that the primary protection of BSPTCL transmission elements connected at Biharshariff are repeatedly failing to clear faults within their respective protective zones.

C. Frequent disturbances in JUSNL system

Repeated disturbances are occurring at various locations within JUSNL, causing interruption of supply to the loads catered from Chandil and Lalmatia S/Stns in particular.

Some of the instances are listed below:

- Disturbance at 132 kV Lalmatia (JUSNL) S/s on 03/06/15 at 16:50hrs, 02/09/15 at 12:29 hrs, 17/09/15 at 13:10hrs and 27/09/15 at 17:43hrs
- Total power failure at 220/132 kV Hatia S/s (JUSNL) on 14/09/15 at 11:38hrs
- Total power failure at 220kV Chandil S/s of JUSNL system on 29/07/15 at 16:53 Hrs, on 14/08/15 at 10:10hrs and on 28/08/15 at 16:05hrs



Apart from domestic, industrial and commercial consumers, traction services are also being adversely affected.

The incidents could not be analysed satisfactorily during deliberations in 34th, 35th and 36th PCC meetings in the absence of adequate supporting information from JUSNL.

Under the circumstances, TCC may consider formation of a core group comprising experts from PGCIL, DVC, WBSETCL, ERLDC and ERPC Secretariat to look into the deficiencies around New Purnea/ Purnea & Biharshariff in BSPTCL system and in JUSNL system and identify suitable remedial measures to prevent recurrence of such incidents.

TCC may deliberate.

Deliberation in the TCC meeting

DIRECTOR (Projects) BSPTCL, informed that the trippings of 220kV Purnea/Madhepura as mentioned above were due to transient fault on 220kV Madhepura-Purnea D/C line because of infringement. Moreover huge quantum of power is being exported to Nepal and in case of tripping of any 132kV line in that area leads to overloading of the lines.

DIRECTOR, BSPTCL added that there were two trippings in Biharshariff as mentioned above. No fault was observed at Bihar end in one case whereas in other incidence 220kV Begusarai end failed to identify the fault. It was informed that the protection system at 220kV Begusarai is being made effective.

Member Secretary, ERPC informed that repeated trippings in around New Purnea, Madhepura and Biharshariff in Bihar adversely affects power supply in different state regions including cross border supply to Nepal.

Therefore, it was proposed to constitute a team of protection experts of Eastern Region which will suggest remedial measures after visiting the affected areas.

Bihar and other members appreciated the proposal.

After detailed deliberation, TCC decided to constitute a team with following members with Member Secretary as team leader for reviewing the protection system in around New Purnea, Madhepura and Biharshariff substations in Bihar and Chandil, Ramchandrapur and Adityapur in Jharkhand:

- *Shri Sabyasachi Roy, ACE, WBSETCL,*
- *Shri L. Nayak, GM, OPTCL*
- *Shri Jayanta Datta, SE, DVC*
- *Shri Surajit Banerjee, Asst GM, ERLDC,*
- *Shri Jiten Das, Asst GM, PGCIL*

ERPC may concur.

Deliberation in ERPC meeting

ERPC appreciated the proposal and felt that members from BSPTCL and JUSNL should also be included in the above-constituted Team. Accordingly, BSPTCL and JUSNL nominated following members:

- *Shri S. B. Prasad, ESE, BSPTCL*
- *Shri Vidya Sagar Singh, ESE, JUSNL*

ITEM NO. B4:	Implementation of Bandel Islanding Scheme, WBPDC
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In 23rd TCC technical feasibilities of new Islanding schemes on Bakreswar and Bandel TPS of WBPDC were placed and approved.

Thereafter, it was also decided that implementation of Bandel Islanding scheme will commence after Islanding Schemes for Bakreswar TPS will be in place.

Subsequently on completion of Bakreswar Islanding Scheme WBPDC in 30th TCC informed that four numbers of old units (each of 60 MW) at Bandel TPS required to be renovated for implementation of islanding scheme. Unit#5 of Bandel TPS is having capacity of HP, LP bypass of 30% and it is under renovation. However, further detail deliberation is required for implementation of the scheme.

30th ERPC advised to initiate the implementation process in line with decision of previous board but advised secretariat to have deliberations in lower forum for further reviewing the Technical bits of the Bandel Islanding Scheme.

In 112th OCC, WBPDC delivered a fresh presentation for the Islanding scheme in Bandel TPS.

After discussions, 112th OCC expressed doubt on survival of the islanding scheme with single unit (unit#5 of 250 MW). However, OCC referred the issue to PCC for further discussion.

In 35th PCC held on 15.09.2015, PCC felt that with 30% HP-LP bypass and through islanding scheme catering huge variation of load (from 225 MW to 105 MW) between peak & off-peak and summer & winter conditions, the success of survival of island will be very less. In addition since the load from 4/5 stations are considered it would be difficult to make island with only UFR operated relays. The communication system through fibre optic or any specific communication channel is therefore recommended.

After detailed deliberation, PCC advised WBSETCL and ERLDC to check whether the islanding scheme can be put into service specifically for peak periods or more load stations can be added in off-peak conditions.

In 114th OCC, WBSETCL informed that adding more load stations during off-peak conditions is a difficult task with such huge seasonal variation in load and it is not possible without manual intervention of grid operator.

Considering all the facts and figures, OCC decided that Bandel Islanding Scheme could be implemented for grid security meant for peak periods only and accordingly advised WBPDCCL to initiate implementation.

TCC may decide.

Deliberation in the TCC meeting

WBPDCCL informed that after R&M of unit #5 the effective capacity became 215 MW (from earlier capacity of 250 MW). It was also informed that with unit #5, the success rate of islanding scheme will be less than 50 % as unit may not available (during maintenance and other problems).

He also added as per decision of the WB SERC the old units of Bandel i.e. Unit # 1, 2, 3 & 4 units are going to be renovated and the islanding scheme for whole Bandel TPS can be implemented after renovation to improve the reliability of the islanding scheme.

It was informed that all those criteria have been considered during deliberation in OCC and PCC meetings and OCC agreed to implement the islanding scheme as proposed above only for peak periods.

TCC agreed and advised WBPDCCL to go ahead with the implementation of islanding scheme.

WBPDCCL and WBSETCL agreed.

ERPC may endorse.

Deliberation in ERPC meeting

ERPC agreed and advised WBPDCCL to go ahead with the implementation of Bandel Islanding Scheme.

ITEM NO. B5:	Ratification of decisions of 17th Standing Committee Meeting on Power System Planning For Eastern Region
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The 17th meeting of Standing Committee on Power System Planning for Eastern Region convened by CEA, was held on 25.05.2015 at New Delhi. Various proposals for system strengthening schemes of Eastern Regional Grid were discussed and finalized. The minutes of the Standing Committee Meeting on were issued vide CEA letter no.66/5/SP&PA-2013/1367-1379 dated 11.06.2015.

In 30th TCC/ERPC, during deliberation on various decisions taken in 17th SCM, constituents raised certain observations on the minutes of 17th SCM. ERPC/TCC clarified that decisions of Standing Committee was evolved out in presence of constituent members of Eastern Region. Therefore ERPC decided that all constituents would communicate their reservations on minutes of 17th SCM, if any, within a week to Chief Engineer, SP&PA Division, CEA with a copy to Member Secretary, ERPC. Otherwise, decision taken in 17th SCM will be considered as ratified by ERPC.

In response to the above, WBSETCL and Powergrid had given their observations for modification in minutes of 17th SCM. No other constituents had responded.

Subsequently, two nos of corrigendum were issued vide CEA letter dated 18.06.2015 and 18.09.2015 respectively.

Corrigendum-1

ERPC vide its letter No. ERPC/MS/2015/1367-1379 dated 11.06.2015 has requested for additions/modification in para 27.7 of the minutes.

1. Para 27.7 was amended as given below:

“After further discussion it was decided that the LILO portion and 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID and necessary commercial arrangement in this regard would be made between POWERGRID and WBPDCCL”

Corrigendum-2

WBSETCL vide its letter No. CE/CPD/CEA/371 dated 27.07.2015 and POWERGRID vide its letter no. C/CTU/E/00/PLG dated 03.08.2015 have requested for additions/modification in items nos. 4, 9, 11 & 22 of the minutes of 17th SCM.

1. Para 4.0: Eastern Region Strengthening Scheme-XV (ERSS-XV): System strengthening in Eastern Region for transfer of additional 500MW power to Bangladesh

The following text to be inserted after 4.7-

WBSETCL agreed with the proposal and also cited that work of approved 765 kV system in West Bengal is to be expedited simultaneously on PRIORITY basis to ensure stability of power system at Jeerat(WB), Subhasgram(PG) & Rajarhat(PG) 400 kV sub-stations.

2. Para 9.0: 765 kV System Strengthening Scheme in Eastern Region

The following text to be inserted after 9.5-

WBSETCL submitted that actual demand for last 4-5 years of Eastern Region particularly for West Bengal almost matches with the 18th EPS projections. WBSETCL requested to implement the phase-I project on TOP PRIORITY basis in order to ensure security & reliability of power supply in the eastern part of West Bengal as well as additional export of 500 MW power to Bangladesh. Balance portion of the previously approved scheme shall be considered in phase- II.

3. Para 9.6 as per the uploaded minutes:

"After, further deliberation, Members agreed to the implementation of middle portion of the 765 kV ring as Eastern Region Strengthening Scheme-XVIII (ERSS- XVIII): 765 kV System Strengthening in ER (Phase-I) with the scope of works as given below:"

Amended para 9.6:

"After, further deliberation, Members agreed to the implementation of middle portion of the 765 kV ring as Eastern Region Strengthening Scheme- XVIII (ERSS- XVIII) : 765 kV System Strengthening in ER (Phase-I) with the scope of works as given, below on Top Priority basis:"

4. Para 11.0: Transformer augmentation requirements in Eastern Region

The following text to be inserted after 11.4-

WBSETCL mentioned that the present loading of 400/220 ICTs of Durgapur 400 kV substations of POWERGRID is not as much as shown. However, installation of 3rd 315 MVA transformer may be justified if 1 no. 220 kV bay earlier earmarked for 220 kV Durgapur-Bidhannagar line is revived for future connectivity of WBSETCL. WBSETCL informed that they have contemplated up-gradation of existing Ukhra 132 kV sub-station to 220 kV substation inter connecting with 220 kV D/C line from Durgapur 400 kV sub-station of POWERGRID. It was decided that the approval of revival of one 220kV bay and a new 220kV line bay including one no. 315 MVA ICT bay at Durgapur would be taken up in the next SCM subject to confirmation from WBSETCL regarding proposed Durgapur – Ukhra 220kV D/c line.

5. Para 22.0:Reconductoring of Maithon RB - Maithon 400kV D/c line of POWERGRID

The following text to be inserted after 22.2-

POWERGRID informed that implementation of Re-conductoring of Maithon RB – Maithon (PG) 400kV D/c line shall also require modifications / additions in bay equipment at Maithon 400/220kV sub-station of POWERGRID and switchyard of Maithon RB(MPL) generation project. The same was also agreed.

6. Installation of 2 nos. 50 MVAR line reactors at Sasaram end of Biharsharif - Sasaram 400 kV D/c (Quad) line (Part of Transmission System associated with DVC & Maithon RB Generation Projects-Supplementary Scheme)

Para 30.0(New Para to be added after Para 29.0):

POWERGRID stated that the approved scope of the subject transmission system indicated 2 nos. 400 kV line bays (without reactor) at Sasaram for termination of Biharsharif - Sasaram 400 kV D/c (Quad) line. Keeping in view the line length and voltage profile in ER, 50 MVAR line reactor at Sasaram end of both circuits of Biharsharif - Sasaram 400 kV D/c (Quad) line (200km quad conductor) was incorporated in the DPR of the subject scheme. However, CERC (vide Order No. 187/TT/2011) disallowed the tariff for these line reactors citing non-approval in Standing Committee and ERPC as the reason. Accordingly, constituents' approval for these reactors is required. The matter was discussed and members agreed for post-facto approval of installation of 50 MVAR line reactors at Sasaram end of Biharsharif - Sasaram 400 kV D/c line.

TCC may ratify the additions/modifications of 17th SCM minutes.

Deliberation in the TCC meeting

TCC approved the minutes of 17th SCM along with subsequent corrigendum.

Referred to ERPC for Concurrence.

Deliberation in ERPC meeting

ERPC concurred the minutes of 17th SCM along with subsequent corrigendum.

ERPC felt that all constituents should plan their state network to match with the 20 years National level perspective plan prepared by the CTU.

Accordingly, ERPC advised Secretariat to discuss the 20 years plan of each state in turn in State Sector SCM meetings of Eastern Region.

ERPC requested CTU to share the SCM agenda before forwarding the same to CEA so that these agenda items can be deliberated upon in detail in State Sector SCM meeting and the constituent members would be better prepared for fruitful decision making at SCM meeting.

CTU assured to circulate the agenda items of Standing Committee Meeting to the concerned constituent members well before forwarding the same to CEA.

ITEM NO. B6:	Provision of additional OPGW-- PRM
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Provision of OPGW connectivity in 400 KV Bihashariff –Koderma T/L (111 Km) in lieu of 400 KV Gaya-Koderma T/L (124 Km) for providing redundancy for Koderma TPS of DVC under MWR package was proposed.

In 4th PRM, members agreed to the proposal in principle and recommended for ERPC approval.

POWERGRID requested for inclusion of additional OPGW installation in Barh –Gorakhpur (354 Km) and Rajarhat – Farakka (345 km).

In 5th PRM, members agreed to the proposal of additional OPGW in principle and recommended for ERPC approval.

TCC may approve.

Deliberation in the TCC meeting

On enquiry, Powergrid updated the latest schedule of OPGW work as follows:

- *BSPTCL- The priority links (212 Kms) packages – package awarded & 850 Kms package – bid opening on 16th Nov, 2015.*
- *DVC – Bid opened and will be awarded by Nov, 2015.*
- *WB - Bid opened and will be awarded by Nov, 2015.*

TCC approved the following:

- *OPGW connectivity in 400 KV Bihashariff –Koderma T/L (111 Km) in lieu of 400 KV Gaya-Koderma T/L (124 Km) for providing redundancy for Koderma TPS of DVC under MWR package*

- *Additional OPGW installation in Barh –Gorakhpur (354 Km) and Rajarhat – Farakka (345 km).*

TCC referred to ERPC for further approval.

Deliberation in ERPC meeting

ERPC approved.

ITEM NO. B7:	Identification of non-ISTS carrying inter-state power
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The CERC (Sharing of Transmission charges and Losses) (Third Amendment) Regulations, 2015 require the identification of STU lines carrying interstate power. The certification of such lines carrying interstate power are to be done by RPC in consultation with RLDC. List of lines proposed to be carrying interstate power had been sought from all the states, however, only WBSETCL and OPTCL have responded. The list of lines submitted by WBSETCL and OPTCL are given at **Annexure-B21**.

In a Suo-Motu Petition (Petition No-15/Suo-Motu/2012 dated 14.06.2012), CERC had observed thus:

6. As a first step towards inclusion of non-ISTS lines in the PoC transmission charges, the Commission proposes to include the transmission lines connecting two States, for computation of PoC transmission charges and losses. However, for the disbursement of transmission charges, tariff for such assets needs to be approved by the Commission in accordance with the provisions of Sharing Regulations. Accordingly, we direct the owners of these inter-State lines to file appropriate application before the Commission for determination of tariff for facilitating disbursement.

Many STU's have already filed their petitions (Petition No. 246/TT/2013 (Haryana), 232/TT/2013 (KSEB), 217/TT/2013 (MP), etc) before CERC for inclusion of STU lines connecting two states.

Constituents may confirm whether they have filed petitions before CERC for inclusion of transmission lines connecting two states.

Since some of the lines proposed by WBSETCL and OPTCL are in the nature of transmission lines connecting two states, ERPC may certify these as Inter State Lines for the purpose of inclusion for tariff recovery under PoC mechanism.

In case any intra state line is desired to be certified as carrying interstate power, the list of such lines may be sent to ERPC Secretariat and ERLDC for further necessary action.

TCC may advise.

Deliberation in the TCC meeting

It was informed that WBSETCL and OPTCL have filed petitions for inclusion of their lines as interstate lines. CERC vide their Order dated 08.06.15 (Pet No-259/TT/2013) has already considered the 400 kV Kharagpur-Baripada and 220 kV Santhaldih-Chandil lines of WBSETCL. However for OPTCL (petition No- 203/TT/2013) order may not have been issued by CERC as on

date. BSPHCL and JUSNL informed that they are on the job of identifying the lines in their system.

It was also informed that as per CERC order lines connecting two states may be considered as natural ISTS. For such lines the constituents may directly approach the commission for adoption of SERC tariff or for determination of tariff in case SERC tariff was not available.

For balance lines TCC members were informed that Certification of non-ISTS lines carrying inter-State power, which were not approved by the RPCs on the date of notification of the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010, shall be done on the basis of load flow studies. For this purpose, STU shall put up proposal to the respective RPC Secretariat for approval. RPC Secretariat, in consultation with RLDC, using WebNet Software would examine the proposal. The results of the load flow studies and participation factor indicating flow of Inter State power on these lines shall be used to compute the percentage of usage of these lines as inter State transmission.

List of Lines considered by CERC in their Suo Motu order in petition No-15/Suo-Motu/2012 dated 14.03.12

Voltage (KV)	LINES		
400	Kolaghat	Baripada	WBSETCL-PG
220	Waria	Bidhannagar 1	DVC-WBSETCL
220	Waria	Bidhannagar 2	DVC-WBSETCL
220	Chandil	Santaldih	JSEB-WBSETCL
220	Patratu	BodhGaya 1	JSEB-BSEB
220	Patratu	BodhGaya 2	JSEB-BSEB
220	Patratu	BodhGaya 3	JSEB-BSEB
220	Tenughat	Biharshariff	JSEB-BSEB
220	Joda	Ramchandrapur	OPTCL-JSEB
220	Jindal	Jamshedpur	OPTCL-JSEB (DVC)

Lines carrying Inter State Power as Submitted by WBSETCL

SL. NO.	Voltage (kV)	TIE LINE		REMARKS
1	132	BIRPARA (PG)	BIRPARA CKT 1	WBSETCL
2	132	BIRPARA (PG)	BIRPARA CKT 2	WBSETCL
3	132	NJP	NBU CKT 1	WBSETCL
4	132	NJP	NBU CKT 2	WBSETCL
5	132	MALDA (PG)	MALDA CKT 1	WBSETCL
6	132	MALDA (PG)	MALDA CKT 2	WBSETCL
7	400	JEERAT	BERHAMPORE CKT	PGCIL
8	400	JEERAT	SUBHASGRAM CKT	PGCIL
9	400	KHARAGPUR	BARIPADA CKT	WBSETCL
10	220	STPS	CHANDIL CKT	WBSETCL
11	220	BIDHANNAGAR	WARIA CKT 1	DVC
12	220	BIDHANNAGAR	WARIA CKT 2	DVC
13	132	RANGIT	RAMMAM CKT	WBSETCL
14	220	SUBHASGRAM(PG)	SUBHASGRAM CKT 1	WBSETCL
15	220	SUBHASGRAM(PG)	SUBHASGRAM CKT 2	WBSETCL
16	400	PARULIA	BIDHANNAGAR CKT 1	WBSETCL

17	400	PARULIA	BIDHANNAGAR CKT 2	WBSETCL
18	400	SGTPP	FARAKKA CKT	PDCL
19	400	SGTPP	SUBHASGRAM CKT	PDCL
20	400	SGTPP	PARULIA CKT 1	PDCL
21	400	SGTPP	PARULIA CKT 2	PDCL
22	220	DALKHOLA (PG)	DALKHOLA CKT 1	WBSETCL
23	400	SGTPP	PARULIA CKT 2	PDCL
24	132	KURSEONG	RANGIT CKT	PGCIL
25	132	KURSEONG	SILIGURI CKT	WBSETCL
26	220	SUBHASGRAM (PG)	EMSS (CESC) CKT 1	CESC
27	220	SUBHASGRAM (PG)	EMSS (CESC) CKT 2	CESC
28	220	SUBHASGRAM (PG)	BANTALA CKT	WBSETCL
29	220	SUBHASGRAM (PG)-	NEW TOWN CKT	WBSETCL
30	400	SUBHASGRAM (PG)	HEL CKT 1	HEL
31	400	SUBHASGRAM (PG)	HEL CKT 2	HEL
32	400	SGTPP	BERHAMPORE CKT 1	PGCIL
33	400	SGTPP	BERHAMPORE CKT 2	PGCIL

Sl.No 9, 10 have already been considered by CERC for inclusion in PoC vide Order dated 08.06.15 (Pet No-259/TT/2013)

Sl No 11,12,13 & 24 may be in the nature of natural ISTS lines as per CERC order dated 14.03.12 (petition No-15/Suo-Motu/2012)

Tie LINES MAINTAINED BY OPTCL & USED AS ISTS LINES as submitted by OPTCL				
SL.NO.	Voltage (KV)	LINES		CIRCUIT
1	400	INDRAVATI PH	INDRAVATI (PGCIL)	1
2	400	RENGALI PG	KOLAGHAT	1
3	220	BALIMELA PH	U SILERU	1
4	220	JAYANAGAR	JAYANAGAR (PGCIL)	2
5	220	BUDHIPADAR	KORBA DC	2
6	220	TARKERA	BISRA	2
7	220	JODA	RC PUR (JSEB)	1
8	220	JODA-JSPL	JAMSHEDPUR (DVC)	1
9	220	RENGALI (OPTCL)	RENGALI (PGCIL)	2
10	220	RENGALI PH	KANIHA	1
11	220	KANIHA	TTPS	1
12	220	KANIHA	MERAMUNDALI	2
13	220	KUCHEI	BALASORE	2
14	132	JODA	KENDUPOSI (JSEB)	1
15	132	KUCHEI	RAIRANGPUR	1
16	132	KUCHEI	BARIPADA	1

For Sl.No 5 CERC in order dated 29.05.15 (Pet No-185/TT/2013) has already directed that wheeling charges for the line are to be pooled in PoC w.e.f 01.07.2011.

Sl.No 2,3,7,8 &14 may be in the nature of natural ISTS lines as per CERC order dated 14.03.12 (petition No-15/Suo-Motu/2012)

All constituents were requested to provide the list of their lines with details of portion (in % and Km) under their ownership along with latest status of filing of petition/order of CERC to ERPC Secretariat for initiating action in this regard.

Referred to ERPC for advice.

Deliberation in ERPC meeting

ERPC went through the list of lines submitted by WBSETCL & OPTCL and the relevant CERC orders. ERPC advised all the constituents to submit the list of lines along with the requisite details to facilitate ERPC Secretariat and ERLDC to carry out load flow studies using WebNet software so that decision about the certification of those lines as ISTS lines may be taken.

ITEM NO. B8:	Workshop & expenditure details
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i. Workshop on emerging issues of Power System operation

In accordance with the decision of TCC and ERPC, ERPC & ERLDC in coordination with GRIDCO organized two day workshop on 27.08.2015 and 28.08.2015 at Bhubaneswar focusing the power system operation and market operation including recent developments and best practices.

GRIDCO is requested to submit the expenditure for arranging the above workshop.

Deliberation in the TCC meeting

GRIDCO informed that they would confirm the expenditure details at the earliest.

This is for information of ERPC

Deliberation in ERPC meeting

ERPC noted.

ii. Training cum Workshop on Power System Protection

As approved in 30th TCC/ERPC, a workshop/training on Generator Protection (Thermal & Hydel) and HVDC for protection engineers is scheduled to be held from 23rd November, 2015 to 27th November, 2015 at Talcher Super Thermal Power Station (TSTPS), NTPC. The details of the training module is given at **Annexure-B22.2 (ii)**.

All constituents may nominate their entry level protection engineers for the training.

TCC may advise.

Deliberation in the TCC meeting

Constituents appreciated the initiative taken NTPC for hosting the protection workshop and felt that this type of trainings being conducted under ERPC forum will help the protection engineers of Eastern Region immensely.

All agreed to send their nomination at the earliest, if not given already.

Referred to ERPC for guidance.

Deliberation in ERPC meeting

ERPC appreciated the efforts of ERPC Secretariat to organise such programs for the benefit of constituents of Eastern Region and advised all the constituent members to send their nominations at the earliest.

All the constituents agreed.

ITEM NO. B9:	Reconciliation of accounts
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B9.1. Reconciliation of Deviation Accounts

At the end of 2nd quarter of 2015-16, the reconciliation statement (Period: 01.07.15 to 30.09.15) has also been issued by ERLDC on 05.10.15 and statements had been sent to the respective constituents. The Reconciliation statement and Reconciliation status is also available at ERLDC website (www.erlhc.org). The status of reconciliation statement is enclosed in **Annexure-B23.1**.

APNRL and IndBarath have not signed reconciliation statement for 1stQtr of 2015-16. BSPHCL , JUVNL & SIKKIM have not signed reconciliation statement sincemore than last 3 quarters.

Constituents, who have not yet reconciled the account, are once again requested to submit the signed reconciliation statement at the earliest. If the confirmation is not received within 2 weeks from the date of issuance of the letters the statements issued by ERLDC have been deemed to be reconciled.

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents

ERPC may note.

Deliberation in ERPC meeting

ERPC noted.

B9.2. Reconciliation of Reactive Account

At the end of 2nd quarter of 2015-16, the reconciliation statement (Period: 01.07.15 to 30.09.15) has also been issued by ERLDC on 05.10.15 and statements had been sent to the respective constituents. WBSETCL & SIKKIM have not reconciled the Reactive account.

If the confirmation is not received within 2 weeks from the date of issuance of the letters the statements issued by ERLDC have been deemed to be reconciled.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

ERPC may note.

Deliberation in ERPC meeting

ERPC noted.

B9.3. Short Term Open Access payment/receipts reconciliation

a. For STOA payments made to SLDC / STU:

The reconciliation statements of STOA payments for financial year 2014-15 and Apr'15 to Sep'15 have been send to the DVC, OPTCL and WBSETCL for checking at their end and confirmation.

Confirmation has been received from DVC and OPTCL for the entire period except Sep'15. WBSETCL is yet to for the period of July'14 to Sep'15.

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.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

ERPC may note.

Deliberation in ERPC meeting

ERPC noted.

b. For payments received from STOA applicants:

The payment receipt statements of STOA for the period of Dec'12 to Mar'13, FY-2013-14 , FY-2014-15 and Apr'15-Sep'15 have been send to the BSEB, JSEB, JITPL, GRIDCO, WBSEDCL, Vedanta Limited (Sterlite) , TSL, GMRKEL, SAIL-RSP, SAIL-DSP for checking at their end and confirmation.

Signed reconciliation statements have been received from BSEB for the period of Dec'12 to Mar'13 only. SSL, JITPL, GMRKEL and TSL have sent the reconciled statements for the entire period. JSEB has not confirmed for the entire period of FY-2014-15 and Jul'15-Sep'15. GRIDCO

has confirmed and signed reconciliation statements for the entire period except Sep-14. WBSEDCL has confirmed and signed reconciliation statements for Nov'13, Dec'13, Jan'14, May-14 and Oct-14 only.

SAIL-RSP has not sent the reconciled statement for the months of NOV-14 and FEB-15 only. 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.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

TCC advised all constituents to send their concerned persons responsible for signing reconciliation statements in commercial meetings of ERPC without fail so that the issue could be settled.

Referred to ERPC for further guidance to TCC members in this regard.

Deliberation in ERPC meeting

ERPC advised all constituents to send their concerned persons responsible for signing reconciliation statements in commercial meetings of ERPC without fail.

ITEM NO. B10:	Future requirement of Special Energy Meters (SEMs) and DCDs
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In 30th ERPC meeting procurement of 965 no of SEM's and 110 nos of Laptop/DCD (in 111th OCC meeting) was approved.

The estimated cost of above procurement is Rs.4.0 Cr (approx.).

Powergrid had proposed in the last CCM that as has been done in earlier such procurement the expenditure on above items along-with POWERGRID overhead charges @ 15% may 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 the last CCM,

Members agreed with Powergrid proposal and recommended to TCC that expenditure on SEM's and DCD/Laptops along-with POWERGRID overhead charges @ 15% may 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.

TCC may recommend to ERPC for approval of cost sharing mechanism.

Deliberation in the TCC meeting

TCC approved and recommended to ERPC for approval.

Deliberation in ERPC meeting

ERPC approved.

ITEM NO. B11:	Implementation of Automatic meter reading in ER
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The work for implementation of Automatic Meter Reading for 97 locations in Eastern Region has been awarded to TCS by POWERGRID on 06.11.2012 for ` 226.03 Lakhs and the scheduled completion of the project were six (6) months from the date of award.

Further ERLDC requested POWERGRID, ER – II to incorporate 25 locations in the 2nd phase of AMR implementation at the end of 2014.

Meanwhile due to addition of new substations/generating stations/transmission lines in Eastern Region, 16 new locations have been added after 2nd phase of implementation of AMR project. These 16 new locations are required to be added under AMR project as 3rd phase of implementation.

112th OCC agreed to include 16 new locations in AMR project.

Powergrid informed that AMRs have been installed at 97 locations in 1st phase and in 2nd phase 25 locations have been included as deviation. But, further new 16 locations cannot be accommodated in the existing order as the scope of further deviation (i.e. addition of new location) is not possible. So, a fresh order needs to be placed for inclusion of new locations in AMR project.

OCC advised Powergrid to proceed for 3rd Phase of implementation of AMR project for addition of new locations.

In the last CCM PGCIL informed that for inclusion of the above 16 new locations and 136 SEMs, total cost implication will be approximately 1.0 Cr.

It was noted that the original AMR project was of 2.26 Cr for 98 substations and around 400 SEMs. Powergrid was requested negotiate with the vendor and place before TCC the list of locations and updated cost implication, if any for approval. Powergrid in the 114th OCC meeting informed that the actual cost would be 1.12 Cr for 16 locations 136 SEMs.

The list of new locations with SEMs to be incorporated are enclosed in **Annexure-B27**.

Subsequently, Powergrid vide mail dated 02.11.2015 informed that the total cost involvement for the same including Five(5) years AMC will be approximately Rs. 1.29 Cr.

POWERGRID may update the latest status.

Deliberation in the TCC meeting

PGCIL informed that the cost will be approximately Rs. 1.29 Cr \pm 10% which is inclusive of five year AMC.

TCC approved and recommended to ERPC for approval.

Deliberation in ERPC meeting

ERPC approved.

ITEM NO. B12:	ADDITIONAL AGENDA
B12.1:	Replacement of Pilot wire Protection relays for 220kV Durgapur-DVC line-I & II with state of the art Numerical type Line differential protection relays – PGCIL

Pilot wire protection type HORM-4 is provided in the 220kV Durgapur-DVC Line-I & II at both POWERGRID and DVC ends for protection of the line. For the said purpose, an underground cable is laid between the two stations. The line length of the said feeder is 800m. The protections were commissioned in 1987. Frequent problems are being observed in the pilot wire protection provided in the above line.

Therefore, it is proposed to replace the pilot wire protections at both POWERGRID and DVC end with state of art numerical type line differential protection. Already fiber optic cable is available in the said line required for the line differential protection.

For replacement of the pilot wire protection in 220KV Durgapur-DVC Ckt-I & II with numerical type line differential protections at both POWERGRID & DVC end, total cost involvement will be approximately Rs. 20.0 lacs.

In 113th OCC meeting held on 14.09.2015, OCC agreed to the proposal and referred to Commercial Committee for further approval.

Members may discuss.

Deliberation in the TCC meeting

TCC agreed to the proposal and advised Powergrid to implement.

Powergrid agreed to replace the pilot wire protection from O&M cost. However, TCC advised DVC to borne the cost as the line belongs to DVC.

TCC referred the issue to ERPC.

Deliberation in ERPC meeting

DVC agreed to bear the cost of 20 Lacs (approx) to be incurred for replacement of the pilot wire protection by Powergrid.

ITEM NO. B13:	Any Other Items.
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1. Restricted Governor Mode of Operation

In many previous events of sudden rise or dip in frequency on account of disturbances causing large load change or generation outage, it was observed that RGMO/FGMO response from most of the plant was inadequate. The same was discussed in several OCC meetings.

In the recent order of CERC in petition no 302/MP/2013 dated 23.10.2015 filed by SRLDC in matter of “Endangering the secured grid operation on Southern region (SR) through inadequate/non-performance of Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO) with Manual Intervention (MI) and Noncompliance of Regulation 5.2(f), (g), (h), (i).....”. Commission has seen non putting generating units under RGMO/FGMO as violation of grid code, salient point of order are as follows :-

- I. As per the above provisions, all thermal generating units of 200 MW and above and all hydro units of 10 MW and above which are synchronized with the Grid, irrespective of their ownership, are required to have their governors in operation at all time in accordance with the provisions of sub-clauses (i) to (iii) of Clause (f) of Regulation 5.2 the Grid Code.
- II. For units running near technical minimum oil support, if required, should be provided as the same is being passed as normative consumption in tariff. Taking out of RGMO/FGMO with MI during technical minimum condition or for any other reason is not desirable, as it would jeopardize the grid security.
- III. On the issue of keeping margins while scheduling of the units, CERC is of the view that the units should not be scheduled by RLDCs/SLDCs beyond ex-bus generation corresponding to 100% of the Installed Capacity. Further, units should not be allowed to operate with their valves wide open. This would ensure adequate primary response by opening of the valve to the fullest.
- IV. On the issue of poor primary response and non-sustainability of primary response after few minutes it is clarified that the limit of 5% increase in generation was stipulated by the commission after considering all these difficulties of the generators and based on the recommendation of CEA who had already considered these objections at length.
- V. With regard to hydro units of Kadamparai (4x100MW) Pump storage Hydro generating Station under SLDC, Tamil Nadu. Taking note of the importance of hydro units in providing sustainable primary response to the grid, we are not inclined to entertain exemption in case of Kadamparai (4x100MW) hydro generating station.
- VI. Having considered the submissions of the petitioner and the respondents, we direct that all generators in Southern region, unless otherwise exempted, shall strictly comply with the Regulation 5.2 (f), (g), (h) and (i) of the Grid Code and shall deliver RGMO/FGMO performance to the extent of mandated level.
- VII. Any wilful locking of the Governors, poor and reverse response, introduction of more than mandated dead band or any other activity to curtail the primary response, will be viewed seriously and action under Section 142 of Act shall be taken.
- VIII. Penalty for declaring COD without RGMO/FGMO service in place, already exists in 2014 Tariff Regulations. However, staff of the Commission is directed to review the procedure for declaration of COD.
- IX. It is noted that SLDCs are regularly conducting meetings with generators for sensitizing the issue of improving the primary response. However, SLDCs are not reporting the performance of the generators on regular basis. Accordingly, SLDCs/RLDCs are directed to keep watch on the response of generators during major frequency excursions and submit report on quarterly basis to SERCs and POSOCO. SLDCs, through their respective

SERCs, may also initiate action against defaulting State's generators in accordance with the provisions of the Grid Code.

Summary of present RGMO/FGMO status in Eastern Region is as follows:

SI No	Details	Capacity in MW
1	Total eligible unit capacity in MW	28397
2	Capacity of Units declared under RGMO/FGMO	17726
3	Capacity of Units applied for exemption at CERC	6728
4	Capacity of Units granted exemption from CERC	Nil
5	Net Effective capacity under RGMO/FGMO as CERC did't gave exemption	28397

For a recent event occurred on 12 Oct. 2015 where frequency rises by 0.11 Hz on account of 930 MW load and 150 MW generation loss in Northern Region, considering effective change in frequency (beyond 50.05 Hz) for RGMO as .09 Hz the ideal response from all in service power plant should be around 773 MW however actual response received is only 70 MW subsiding 4% load response. Summary of response is as follows:

SI No	RGMO Performance level	Categorization as	No of units in category
1	Performance of 70% and more than that of mandated value	Responded Unit	2
2	Performance of below 70% but above 30% of mandated value	Partially Responded unit	4
3	Performance of 30% and below of mandate value	In-sufficiently Responded Unit	24
4	No change in Generation level	Non-responsive unit	4
5	Change in Generation opposite to the desired direction	Reverse Responsive Unit	16
6	SCADA data not available		48

From the above table it is clear that most of the units in Eastern region are not participating in RGMO/FGMO.

TCC may note.

Deliberation in the TCC meeting

Representative of NLDC stated that in accordance with the provisions of sub-clauses (i) to (iii) of Clause (f) of Regulation 5.2 the Grid Code, all thermal generating units of 200 MW and above and all hydro units of 10 MW and above which are synchronized with the Grid, irrespective of their ownership, are required to have their governors in operation at all time. However, very few units in Eastern Region are meeting the above requirement.

He pointed out that for a recent event on 12 Oct. 2015 in which frequency rose by 0.11 Hz on account of 930MW load and 150 MW generation loss in Northern Region, the ideal response from all in-service units in ER considering effective change infrequency as .09 Hz (beyond 50.05 Hz) for RGMO should have been around 773 MW. However the actual response obtained was only 70 MW, subsiding 4%load response. This is far from satisfactory.

He added that recently, CERC in its order dated 23.10.2015 on Petition No.302/MP/2013 filed by SRLDC, inter-alia ruled that

Quote -

VI. having considered the submissions of the petitioner and the respondents, we direct that all generators in Southern region, unless otherwise exempted, shall strictly comply with the Regulation 5.2 (f), (g), (h) and (i) of the Grid Code and shall deliver RGMO/FGMO performance to the extent of mandated level.

VII. Any wilful locking of the Governors, poor and reverse response, introduction of more than mandated dead band or any other activity to curtail the primary response, will be viewed seriously and action under Section 142 of Act shall be taken.

VIII. Penalty for declaring COD without RGMO/FGMO service in place, already exists in 2014Tariff Regulations. However, staff of the Commission is directed to review the procedure for declaration of COD.

IX. It is noted that SLDCs are regularly conducting meetings with generators for sensitizing the issue of improving the primary response. However, SLDCs are not reporting the performance of the generators on regular basis. Accordingly, SLDCs/RLDCs are directed to keep watch on the response of generators during major frequency excursions and submit report on quarterly basis to SERCs and POSOCO. SLDCs, through their respective SERCs, may also initiate action against defaulting State's generators in accordance with the provisions of the Grid Code.

- Unquote

TCC members took serious note of the present status of adherence to the mandatory role of power stations of providing RGMO response, and requested all generating companies meeting the eligibility of providing primary response to comply with the provisions of IEGC.

Deliberation in the ERPC meeting

ERPC members noted with dissatisfaction the present status of adherence to the mandatory role of power stations of RGMO response and advised all the respective constituents to comply the provisions of CERC.

Further, ERPC felt that these issues should be deliberated in OCC meetings of ERPC and requested NLDC to attend few OCC meetings of ERPC for effective guidance in this regard.

PART C: ERPC Matters

ITEM NO.C1: ERPC-ESTABLISHMENT FUND FOR THE YEAR 2015-16

For the year 2015-16 contribution of Rs.15 Lakh per member was approved by ERPC. Many members have already sent their contributions. However, contributions are still due from

1. Adhunik Power & Natural Resources Limited (APNRL)
2. Bihar State Power Holding Company Limited (BSPHCL)
3. South Bihar Power Distribution Company Limited (SBPDCL)
4. Energy & Power Department, Sikkim (EPD, Sikkim)
5. Gati Infrastructure Private Limited (Gati Infra)
6. Jharkhand Urja Vikas Nigam Limited (JUVNL)
7. Jharkhand Urja Sancharan Nigam Limited (JUSNL)
8. Jharkhand Bizli Vitaran Nigam Limited (JBVNL)
9. Tenughat Vidyut Nigam Limited (TVNL)
10. Vedanta Limited (Formerly Sterlite Energy Limited)
11. West Bengal Power Development Corporation Limited (WBPDCCL)

The above members are requested to send their contributions to the ERPC Secretariat at an early date.

Deliberation in ERPC meeting

It was decided that the concerned members would send their contributions latest by 15th December 2015.

ITEM NO.C2: ERPC FUND FOR THE YEAR 2015-16

For the year 2015-16 contribution of Rs.1 Lakh per member was approved by ERPC. Many members have already sent their contributions. However, contributions are still due from

1. Adhunik Power & Natural Resources Limited (APNRL)
2. Bihar State Power Holding Company Limited (BSPHCL)
3. South Bihar Power Distribution Company Limited (SBPDCL)
4. Energy & Power Department, Sikkim (EPD, Sikkim)
5. Gati Infrastructure Private Limited (Gati Infra)
6. Jharkhand Urja Vikas Nigam Limited (JUVNL)
7. Jharkhand Urja Sancharan Nigam Limited (JUSNL)
8. Jharkhand Bizli Vitaran Nigam Limited (JBVNL)
9. Odisha Power Transmission Corporation Limited (OPTCL)
10. Tenughat Vidyut Nigam Limited (TVNL)
11. Vedanta Limited (Formerly Sterlite Energy Limited)
12. West Bengal Power Development Corporation Limited (WBPDCCL)

The above members are requested to send their contributions to the ERPC Secretariat at an early date.

Deliberation in ERPC meeting

It was decided that the concerned members would send their contributions latest by 15th December 2015.

ITEM NO.C3: ERPC-ESTABLISHMENT FUND FOR THE YEAR 2014-15

Contributions of Rs. 15 lakh each are still due from the following members:

1. Bihar State Power Holding Company Limited (BSPHCL)
2. Jharkhand Urja Sancharan Nigam Limited (JUSNL)
3. Jharkhand Bizli Vitaran Nigam Limited (JBVNL)

The above members are requested to send their contributions to the ERPC Secretariat at an early date.

Deliberation in ERPC meeting

It was decided that the concerned members would send their contributions latest by 15th December 2015.

ITEM NO.C4: ERPC FUND FOR THE YEAR 2014-15

Contributions of Rs. 1 lakh each are still due from the following members :

1. Bihar State Power Holding Company Limited (BSPHCL)
2. Jharkhand Urja Sancharan Nigam Limited (JUSNL)
3. Jharkhand Bizli Vitaran Nigam Limited (JBVNL)

The above members are requested to send their contributions to the ERPC Secretariat at an early date.

Deliberation in ERPC meeting

It was decided that the concerned members would send their contributions latest by 15th December 2015.

ITEM NO.C5: MEMBERSHIP OF NORTH BIHAR POWER DISTRIBUTION COMPANY LIMITED IN ERPC

North Bihar Power Distribution Company Limited (NBPDC) vide letter no.Com/SLP.PCC Meeting/188/14/747 dated 10.09.2015 has sought membership of ERPC. They have sent contributions of Rs. 15 lakh and Rs. 1 lakh towards ERPC Establishment Fund and ERPC Fund respectively for the year 2015-16.

As per Government of India, Ministry of Power Resolution on ERPC only one State owned Distribution Company can become of ERPC. As per the nomination of the State Government, South Bihar Power Distribution Company Limited (SBPDCL) is the existing member of ERPC.

Bihar State Power Holding Company Limited (BSPHCL) and Bihar State Power Transmission Company Limited (BSPTCL) are also member of ERPC.

ERPC may decide on the proposal of NBPDCCL.

Deliberation in ERPC meeting

Director (Projects), BSPTCL, stated since three organisations from the State of Bihar viz. BSPHCL, BSPTCL & SBPDCL are already member of ERPC, they would like to review the proposal of NBPDCCL for membership of ERPC and revert on the matter. He requested members not to proceed with the proposal NBPDCCL now.

ITEM NO. C6: IMPLEMENTATION OF “CREATION AND MAINTENANCE OF A WEB BASED PROTECTION DATABASE AND DESKTOP BASED PROTECTION SETTING CALCULATIONS TOOL”

29th ERPC decided to implement the above scheme and authorised Member Secretary to:

- i) Proceed for tendering etc. and to do the needful for final implementation of the scheme at the earliest. ;
- ii) Place application to PSDF funding.

First open tender was floated 08.05.2015. But due to poor response even with two extensions the tender was cancelled subsequently.

A fresh open tender with modified terms and conditions was again floated on 5.8.2015, two extensions were already given. Bid opening day is 16.11.15 and this time it will be opened with no further extension for further processing required for on time implementation of the scheme.

By the time Secretariat has already placed the Detailed Project Report (DPR) to PSDF committee for PSDF funding. The techno economic sub group of PSDF appraisal committee of PSDF has already considered the project positively in its meeting on 4.11.15 and ERPC proposal is likely to be taken up for discussion in the meeting of Appraisal Committee is scheduled to be held on 17.11.15.

Secretariat needs the presence of Sri Sabyasachi Roy, CE, WBSETCL, Sri Jayanta Datta, SE, DVC and Sri Surojit Banaerjee, Asst GM, ERLDC in the meeting scheduled on 17.11.15 at New Delhi for presenting the case on behalf of ERPC.

ERPC may approve and allow expert protection engineers of eastern region as proposed to be present in the meeting of 17.11.15.

Deliberation in ERPC meeting

ERPC approved and permitted expert protection engineers of Eastern Region in the PSDF Appraisal Committee meeting scheduled to be held on 17.11.15 at New Delhi.

ITEM NO. C7: LOGO FOR ERPC

ERPC logo is required in many places including hosting of various programs, seminars, Hindi parliamentary committee meetings, etc. It is felt that a separate logo would go a long way in highlighting the uniqueness of the ERPC platform and also increase its recognisability among stakeholders. NRPC has also adopted a logo recently.

ERPC Sectt has designed a logo for ERPC which is as given below:



ERPC may approve the logo.

Deliberation in ERPC meeting

With suggestions for minor modification, members approved the LOGO of ERPC.

ITEM NO. C8: ERPC ACADEMIC INITIATIVE - APPROACH PAPER

General

Eastern Regional Power Committee formed by Government of India Notification is responsible for overall efficient and reliable operation of ER grid. Members of ERPC include State and Central Transmission Companies, Distribution Companies, Generation Companies, Load Dispatch Centres, CEA, etc. ERPC as a whole is an immense technically skilled resource pool.

In the workshop on Industry-Academia Partnership hosted by MHRD, Govt of India on 05.03.2013 it was emphasised that Academia and industry need to recognize each other's strengths and strive towards greater trust and communication.

Given the huge combined technical resource pool available with Eastern Regional Power Utilities, it is felt that an attempt may be made to engage with the Academia so that the knowledge may be gainfully shared towards creation of sustainable human resource capital.

Framework for Cooperation:

1. For a start the following is proposed:
 - a. Identification of expert speakers from various utilities under different expertise heads and creating a database of experts.
 - b. ERPC at present conducts workshops/seminars on many emerging issues in power sector and also training for young protection engineers. Eminent persons from technical side deliver lectures and discussions take place on these issues. It is felt that these workshops could give good exposure to students of engineering colleges.
 - c. Secondly, professors and senior academics could also be invited to share their ideas on the latest concerns and research through the same platform.

2. Two to Five students may participate in the workshops/seminars/training programs. There may be token fees. The participation fees may be waived if the institute is willing to provide one senior faculty for taking a session in the workshop on pre defined topics or present a paper. Boarding and Lodging may be provided free of cost to the faculty including pick up/ drop from/to the airport/rly stn.
3. We may offer this opportunity to Government Engineering Colleges/Technical Institutes in Eastern Region.
4. Along with this we may also publish the proceedings of the seminar/workshop /training in a journal format annually.
5. The funding will be through Reactive pool account as is being done for organising workshops/training programmes. The token fees from participants, if required, are to be collected through ERPC fund.

ERPC may authorise Member Secretary to:

- i) Create a database of Expert Human Resource Pool of ER utilities.
- ii) Identify/select the partner Institutes;
- iii) Design collaborative measures;
- iv) Sign the MOU with partners.
- v) Form a technical committee with 5/6 members from Constituents in this regard.

ERPC may approve

Deliberation in ERPC meeting

ERPC appreciated the proposal and authorised Member Secretary to do the needful in this regard.

ITEM NO.C9: Internal renovation of ERLDC Building through CPWD

ERLDC vide their letter dated 20.10.2015 have intimated that a comprehensive renovation of ERLDC building inside portion is very much required. ERLDC desire CPWD to take up the required renovation work with ERLDC funding. However, ERLDC not being a Government department require to sign MoU with CPWD. The preparation and signing of MoU may require substantial time.

Therefore, ERLDC have proposed that ERPC may take up the renovation work with CPWD on their behalf as the building belongs to Government of India. A brief operational scheme is given below.

Breif scheme proposed:

1. ERPC Secretariat will request estimates from CPWD
2. CPWD will submit estimates to ERPC Secretariat. ERPC Secretariat in turn will forward the estimates to ERLDC for checking and placing of funds.
3. ERLDC will transfer funds to ERPC Establishment Fund.
4. Upon receipt of funds, ERPC Secretariat will release the payment to CPWD.
5. All day to day coordination during execution of the work will be done by ERLDC.

6. Other than use as a via medium, ERLDC will not have any claim on ERPC Establishment Fund.

A detailed operational mechanism to be followed will be chalked out by ERPC Secretariat and ERLDC in a separate meeting.

ERLDC have informed that their finance department have already given a green signal to the scheme. CPWD have also informed that if order is placed on them by ERPC Secretariat they will treat the case as is being done for already ongoing renovation works at ERPC Secretariat.

ERPC may approve the proposal of taking funds into ERPC Establishment Fund from ERLDC for ERLDC renovation works and onward transfer of the same to CPWD.

Deliberation in ERPC meeting

ERPC approved the proposal of taking funds into ERPC Establishment Fund from ERLDC for internal renovation works of ERLDC technical block and onward transfer of the same to CPWD.

PART D: HOSTING OF THE NEXT ERPC MEETING & OTHER MATTERS

Item No.D1: Finalisation of dates and venue for the next ERPC & TCC meetings

The roster for hosting of ERPC meetings is given below (as per CBR approved by ERPC) :

Sl. No.	Host Organisation
1.	WEST BENGAL
2.	DVC
3.	NHPC
4.	POWERGRID
5.	SIKKIM
6.	PTC
7.	ODISHA
8.	JHARKHAND
9.	BIHAR
10.	NTPC – hosted 30 th ERPC Mtg.
11.	CESC
12.	APNRL
13.	MPL
14.	SESA STERLITE LTD.
15.	GMRKEL
16.	NVVN
17.	TPTCL
18.	JITPL

Now, it is the turn of Jharkhand (JUVNL, JUSNL, JBVNL & TVNL) to host the next meetings. Members may decide about the dates and the venue for the next TCC & ERPC meetings.

Deliberation in ERPC meeting

It was decided that the next (32nd) TCC & ERPC meetings would be hosted by Jharkhand (JUVNL, JUSNL, JBVNL & TVNL) in February 2016. JUVNL was requested to take the lead and finalise the dates and venue in consultation with ERPC Secretariat.

PART E: ITEMS FOR INFORMATION

ERPC noted the following:

ITEM NO. E1:	Implementation of Zone settings as per Protection Philosophy of Eastern Region
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The Protection Philosophy of Eastern Region was finalized in special PCC meeting held on 20th July, 2015 which is as given below:

Sl. No.	Zone	Direction	Protected Line Reach Settings	Time Settings (in Seconds)	Remarks
1	Zone-1	Forward	80%	Instantaneous (0)	As per CEA
2a	Zone-2	Forward	For single ckt- 120 % of the protected line	0.5 to 0.6 - if Z2 reach overreaches the 50% of the shortest line ; 0.35- otherwise	As per CEA
			For double ckt- 150 % of the protected line		As per CEA
2b	Zone-2 (for 220 kV and below voltage Transmission lines of utilities)	Forward	120 % of the protected line, or 100% of the protected line + 50% of the adjacent shortest line	0.35	As per CEA with minor changes
3	Zone-3	Forward	120 % of the (Protected line + Next longest line)	0.8 - 1.0	As per CEA
4	Zone-4	Reverse	10%- for long lines (for line length of 100 km and above) 20%- for shot lines (for line length of less than 100 km)	0.5	As per CEA

Note:

- 1) **Zone-2:- Z2 Reach should not encroach the next lower voltage level.**
- 2) **Zone-3:- If Z3 reach encroaches in next voltage level (after considering “in-feed”), then Z3 time must be coordinated with the fault clearing time of remote end transformer.**
- 3) **Zone-4:- If utility uses carrier blocking scheme, then the Z4 reach may be increased as per the requirement. It should cover the LBB of local bus bar and should be coordinated with Z2 time of the all other lines.**
- 4) **The above settings are recommended primarily (exclusively) for uncompensated lines.**

All the constituents agreed on the principles read with notes as above.

Thereafter, PCC advised all constituents to compute their revised settings of inter State Transmission lines as per the above agreed philosophy and submit to ERPC/ERLDC at the earliest so that the agreed zone settings can be implemented by September, 2015.

Further, the standard values of R, X parameters as furnished by Powergrid as given below:

S. N.	Conductor type	Line	Voltage	Positive sequence Resistance (R) Ohm/ph/km	Positive sequence Reactance (X) ohm/ph/km	Zero sequence Resistance (R0) ohm/ph/km	Zero sequence Reactance (X0) ohm/ph/km	Mutual compensation Impedance (ZM) ohm/ph/km
1	TWIN MOOSE	D/C	400	0.0297	0.332	0.161	1.24	0.528
2	QUAD MOOSE	D/C	400	0.0146	0.2509	0.1895	0.833	0.528
3	SINGLE ZEBRA	D/C	220	0.0749	0.3993	0.22	1.339	0.824
4	SINGLE ZEBRA	S/C	220	0.079	0.41	0.2765	1.435	NA
5	SINGLE PANTHER	S/C	132	0.1402	0.3976	0.295	1.386	NA

Note: It was informed that the above R and X values are not standard value. These values may be considered in general as reference wherever measured values are not available. The R and X value has been measured from line impedance test and the test result has shown slight deviation from general R and X value of conductor.

Thereafter, PCC advised all constituents to compute their revised settings of inter State Transmission lines as per the above agreed philosophy and submit to ERPC/ERLDC at the earliest so that the agreed zone settings can be implemented by September, 2015.

In 35th PCC, constituents requested for line parameters of TWIN MOOSE S/C, PANTHER D/C and ACSR conductors.

Till 36th PCC, modified zone settings have been submitted by DVC only. However, NTPC has informed that the revised zone settings have been implemented except the Z-3 (restricting it to the next voltage level).

BSPTCL, JUSNL, WBSETCL, OPTCL and POWERGRID may submit the modified settings.

TCC may advise.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that Powergrid vide mail dated 04.11.2015 has submitted the Line Parameters of different conductors which is as given below:

Tower	R1	X1	B1	R0	X0	B0	Xm	Xom	Load-ability
132kV D/C Single Panther	0.1400	0.4010	2.8600	0.3540	1.3300	1.7800	0.2630	0.8220	
220kV D/C Single Zebra	0.0697	0.3980	2.9100	0.2810	1.2900	1.8400	0.2510	0.8030	400.00
400kV S/C Twin Moose	0.0288	0.3280	3.5500	0.2850	1.0200	2.6100			
400kV D/C Twin Moose	0.0288	0.3070	3.7700	0.2690	1.0700	2.2900	0.2080	0.6750	1500.00
400kV D/C Quad Moose	0.0147	0.2530	4.5800	0.2480	1.0000	2.6400	0.2030	0.6620	2000.00
400kV D/C Tripple snowbird	0.0195	0.2700	4.2700	0.2000	0.8620	2.4900	0.2130	0.5040	
400kV D/C Twin Lapwing	0.0197	0.3060	3.8000	0.2050	0.9010	2.3700	0.1700	0.5020	
765kV S/c Quad Bersimis	0.0114	0.2860	4.0200	0.2400	0.9360	2.6000			3500.00
765kV D/C Hexa zebra	0.0446	0.9070	1.2700	0.8310	3.4100	0.7190			
220 kV SINGLE ZEBRA S/C	0.074875	0.39925		0.219978	1.339228				
132 kV SINGLE PANTHER S/C	0.1622	0.3861		0.4056	1.622				

He also informed that JUSNL, BSPTCL and WBSETCL also submitted the revised zone settings.

TCC advised all the other constituents to implement the revised zone settings and submit the settings to ERPC.

Further, TCC referred the issue to PCC forum to review the line parameters and monitor the progress of implementation of revised zone settings.

ITEM NO. E2:	Strengthening of Kolaghat – Kharagpur – Musaboni 132 KV D/C line of DVC
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The existing Jamshedpur – Musaboni – Hizlee (DVC) – Kolaghat (DVC) 132 kV D/C line passes through very close proximity of WBSETCL's Kharagpur 400/220/132 kV sub-station (around 1 Km) and Debra 132/33 kV sub-station (around 0.5 Km).

It is understood that the line segment of DVC is not utilised to its full capacity as there is source constraints and facing low voltage problem due to very long 132 kV line segment (around 240 Km) between Kolaghat to Jamshedpur.

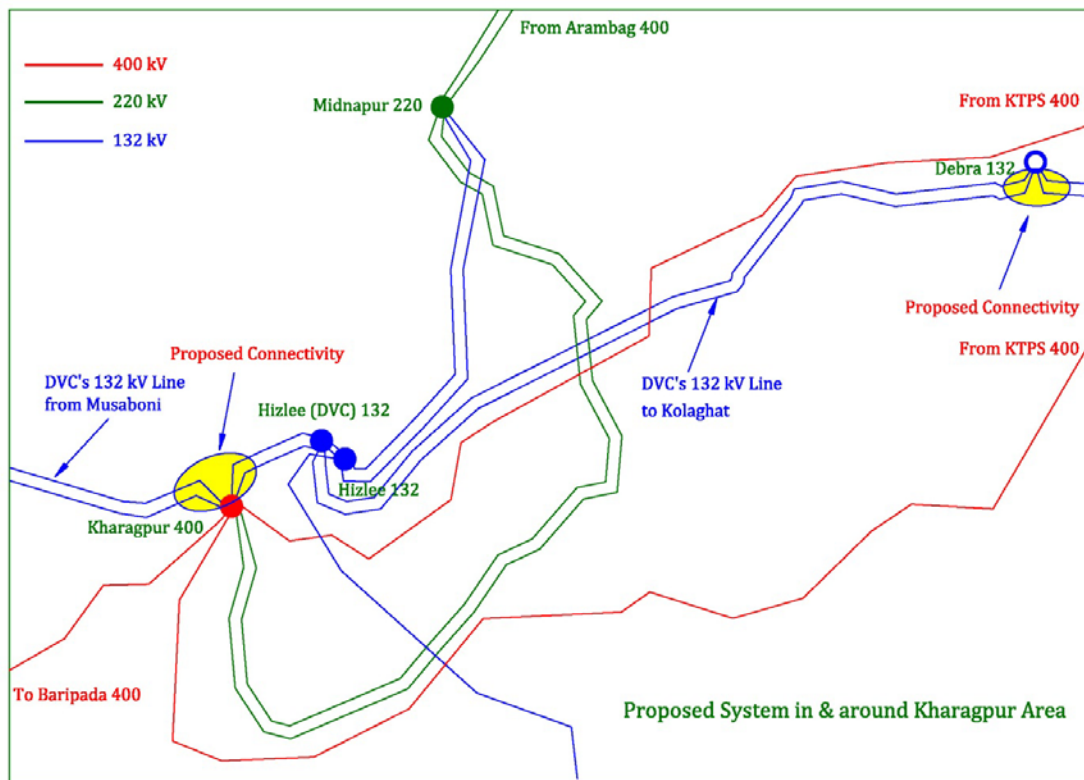
Considering above, WBSETCL proposed LILO of Musaboni – Hizlee (DVC) portion of this line at Kharagpur 400/220/132 kV sub-station of WBSETCL for injection of power which will lead injection of power in between and reduce the effective length of continuous 132 kV line from 240 Km to 160 Km. Normally, Kharagpur – Musaboni portion will be kept off condition and this line will be utilised during exigency. This in turn will help in flow of more power at better regulated voltage, thereby improves the power quality/reliability at DVC's system.

Further it is proposed LILO of Hizlee (DVC) – Kolaghat (DVC) portion of this line at Debra 132 kV sub-station of WBSETCL, which is around 0.5 Km away from the line, for drawal of around 50-60 MW power. This will set aside construction of around 25 Km 132 kV D/C line.

The above arrangement will be benefit to the Nation in general and will benefit the consumers of both the State of Jharkhand & West Bengal in particular.

In view of above, WBSETCL proposed utilisation of Kharagpur (WBSETCL) – Hizlee (DVC) – Debra (WBSETCL) portion of the DVC's above line to achieve the following benefits:

1. Existing assets can be utilised effectively and gainfully
2. DVC, Jharkhand & West Bengal will be benefited
3. Construction of new transmission line (Midnapur to Debra 132 kV D/C; RL \approx 25 Km) can be avoided resulting less burden to consumers
4. Impacts to agricultural operations & forests can be avoided by keeping away construction of a new transmission line parallel with an existing line on separate structures
5. National interest will be served



ERPC made a preliminary study of the proposal.

TCC may allow secretariat to present the study results and guide on the issue so that the same could be decided in next Standing Committee for State Sector Meeting.

Deliberation in the TCC meeting

ERPC gave a brief presentation on WBSETCL proposal and explained that since 400kV system is getting connected at 132kV Kharagpur(DVC) S/s, it will improve the voltage in around Kharagpur during peak load hours.

DVC also delivered a presentation and informed that they have installed 220/132 kV ATRs at Durgapur (DVC) due to which the low voltage problem at 132kV Kharagpur(DVC) S/s is now resolved.

During deliberation Chairperson, ERPC pointed that in present days getting ROW for new lines is difficult and therefore the existing lines/infrastructure must be used for better utilization in national interest which ultimately benefit the consumers.

After detailed discussion, TCC decided that a threadbare deliberation is required at State Standing Committee (SSCM) with all details, Accordingly, TCC advised DVC and West Bengal to submit the details required for load flow study to ERLDC/ERPC before next SSCM meeting and advised ERPC and ERLDC to carry out detailed study.

The issue was referred to 2nd meeting of SSCM scheduled to be held on 4th December, 2015.

ITEM NO. E3:	Priority-based augmentation of ICT capacity
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High loadings with consequent non-compliance of (n-1) security criterion were observed for the 400/220kV ICTs at Patna, Muzaffarpur, Maithon and Sasaram throughout July to October. Though the ICT capacities at these substations are scheduled for augmentation in a phased manner starting from Jan-16, in the interest of secure and unconstrained operation, an additional ICT or replacement of an existing 315 MVA ICT by a 500MVA ICT is required at each of the following locations on priority basis by April 2016 i.e. before onset of next summer season:

1. Patna
2. Muzaffarpur
3. Maithon
4. Sasaram

Keeping in view the rapidly growing demand of Bihar and uncertainty of generation level within the 220kV system of DVC, POWERGRID may arrange for augmentation of ICT capacity as per the aforesaid priority.

The load duration curves of ICTs for last three months are depicted in **Annexure-B7**.

TCC may deliberate & decide.

Deliberation in the TCC meeting

TCC advised Powergrid to expedite the argumentation of the ICTs.

Powergrid has given the schedule of commissioning as follows:

1. Patna- 1st ICT – Jan, 2016 & 2nd ICT- Mar, 2016
2. Muzaffarpur- Dec, 2015
3. Maithon- 1st ICT- Mar, 2016 & 2nd ICT- June, 2016
4. Sasaram- 1st ICT- Jan, 2016 & 2nd ICT- Mar, 2016

So all the ICTs will be available before Summer.

Director, BSPTCL informed that the up-gradation of 315 MVA ICT by 500 MVA ICT at Purnea was accomplished in less than 10 days and therefore thanked Powergrid.

TCC appreciated the effort of Powergrid and advised Powergrid to prepare a write up for early commissioning/up gradation of ICT, which may be circulated in lower forum of ERPC for the benefit of ER constituents.

Deliberation in the ERPC meeting

Director, BSPTCL informed that 220kV Biharshariff-Tenughat system is being upgraded to 400kV level and requested Powergrid to install additional 500 MVA ICT at Biharshariff.

Powergrid informed that they are replacing the ICTs where N-1 contingency is not satisfied and they will place the details in next Standing Committee Meeting.

ITEM NO. E4:	Priority-based commissioning of bus reactor for control of high voltage during lean periods
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With approach of winter season, the demand in E. Region and W. Bengal in particular has started reducing, thereby aggravating the high voltage problem at some of the 400kV S/Stns.

At Beharampur, the 400kV bus voltage is frequently exceeding 420kV, with corresponding rise of 400kV AC side voltage at HVDC B-t-B Bheramara. Persistent high voltage at Farakka and at Sagardighi power stations is also responsible for causing high voltage at Beharampur.

As the switching in/out of harmonic filter banks is dependent on HVDC power order and cannot be controlled manually, Bangladesh is often expressing difficulty in importing the full quantum of power scheduled from NTPC and W. Bengal, to avoid overvoltage tripping of any 400kV incoming circuit, on account of automatic switching in of additional filter bank.

Therefore an additional bus-reactor of 80MVAR or 125 MVAR capacity needs to be installed at Beharampur on urgent basis to control the 400kV voltage below 420kV. In addition, bus reactor capacity also needs to be enhanced at Farakka to control the voltage

Further, the bus reactor of Jamshedpur (125 MVAR) and Biharshariff (125 MVAR) needs to be installed in order of priority, as early as possible.

TCC may deliberate.

Deliberation in the TCC meeting

Powergrid informed that for additional bus-reactor of 125 MVAR capacity at Beharampur, NIT will be done in Nov, 2015 and best efforts will be made for commissioning the same by Dec, 2016 even when commissioning schedule is Apr, 2017.

Regarding Bus reactor of Jamshedpur and Biharshariff, it was informed that the reactors will be available by April/May 2016 and will be commissioned in another 3 months.

TCC advised Powergrid to expedite the diversion of reactors from other regions/locations.

NLDC informed that additional bus reactor at Behrampur is urgently required as Bangladesh power is getting curtailed because of high voltage issues.

Powergrid informed that efforts are being made to divert 50 MVAR reactor from Rourkela which is kept as a spare to Behrampur and to commission by June 2016.

ITEM NO. E5:	Commissioning of 125 MVAR reactor at 400 kV Jeypore S/S.
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In 30th TCC, OPTCL informed that 220kV Jeypore is facing severe high voltage problem and insisted for lowering of ICT tap at 400kV Jeypore S/s. ERLDC informed that load flow study was done and further lowering of ICT tap (at present tap is at 14) is not possible as it will enhance the 400kV side voltage. ERLDC suggested for early commissioning of 125 MVAR reactor at 400kV Jeypore to control the high voltage.

In view of above, TCC insisted Powergrid to explore the diversion of some reactors for early commissioning of a reactor at 400kV Jeypore i.e. by August, 2015 as schedule target of 2016 is not affordable.

Powergrid agreed to commission the reactor by August, 2015 by diverting one reactor from other scheme/region.

In 112th OCC, held on 21.08.2015, OCC advised Powergrid-Odisha to expedite the installation of reactor at 400kV Jeypore (PG) S/s.

Powergrid may update.

Deliberation in the TCC meeting

Powergrid-odisha informed that 125MVAR reactor at 400kV Jeypore (PG) S/s will be installed by December, 2015.

ITEM NO. E6:	Status of Bus Splitting of Kahalgaon STPS Stage I&II, NTPC.
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In 24th ERPC meeting held on 27.04.2013, ERPC advised NTPC to go ahead with the scheme as it is a technical requirement for safe, secure operation of the grid. It was also decided that initially constituents of ER will share their portion of cost as per tariff approved by CERC for this purpose, and subsequently if there is release of PSDF by CERC the same will be reimbursed to constituents accordingly.

Appraisal Committee of PSDF rejected the NTPC proposal for PSDF funding.

Subsequently NTPC filed an Interlocutory Application for in-principle approval to the work of 400 kV Bus Sectionaliser and capitalization of the associated expenditure for the purpose of tariff for safe and reliable operation of the grid.

But Commission vide order dated 6/2/15 issued the following-

QUOTE:

“

6. The submissions have been considered. We now consider as to whether the prayer of the petitioner for in-principle approval for the additional capital expenditure schemes is maintainable. Regulation 7 (3) of the 2014 Tariff Regulations provides that “in case of an existing generating station or transmission system or element thereof, the application shall be made not later than 180 days from the date of notification of the regulations based on admitted capital cost including any additional capital expenditure already admitted up to 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014- 15 to 2018-19. Accordingly, the petitioner vide its affidavit dated 14.8.2014 has filed the petition (Petition No.283/GT/2014) for determination of tariff of the generating station for 2014-19. The Commission in the tariff regulations applicable during the tariff period 2004- 09 had made provisions for „in-principle“ approval of the project capital cost for thermal power generating stations. However, while framing the 2009 Tariff Regulations (applicable for the period 2009-14) and the 2014 Tariff Regulations (applicable for the tariff period 2014-19), the Commission has done away with the provision for „in principle“ approval of the project capital cost applicable to thermal power generating stations. Since the scheme of the 2014 Tariff Regulations do not provide for the grant of in-principle approval, the prayer of the petitioner for grant of in-principle approval for additional capital expenditure of the said scheme is rejected.

7. It is noted that in Petition No. 283/GT/2014, the petitioner has claimed the projected additional capitalisation of Rs.98.94 crore in Form-9A for the year 2016-17 under Regulation 14(3)(ii) read with Regulation 14(3)(ix) of the 2014 Tariff Regulations on the grounds similar to those raised in the I.A. The claim of the petitioner for capitalisation of the said work will be considered after prudence check in terms of the provisions of the 2014 Tariff Regulations. Hence, the prayer of the petitioner for grant of in-principle approval of the work on 400kV Bus Sectionaliser is not allowed.

.....”

UNQUOTE

NTPC may update.

Deliberation in the TCC meeting

NTPC informed that they are going ahead with the implementation of Bus Splitting of Kahalgaon STPS Stage I&II and the implementation is expected to be completed by December, 2018.

NTPC has given the schedule as follows:

- *400/132kV Switchyard package - bid opened. Award by another 2 months and completion time is 15 months for line bays and rest will be completed within 24 months.*
- *Site levelling – Site package awarded under execution.*
- *Transformer package – tendering under process and will be awarded in 4 months.*

In view of increasing fault level at KHSTPP TCC advised NTPC to expedite.

ERLDC also enquired about the status of implementation of bus splitting scheme at other 400kV substations and Powergrid updated the commissioning target as follows:

- *Maithon - within 15 days*
- *Biharshariff - Feb, 2016*
- *Durgapur - Oct, 2016*

ITEM NO. E7:	Constraints in evacuation of JITPL power – JITPL
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JITPL vide letter dated 28-07-2015 informed that both the units of Derang, Angul, Odisha were declared CoD (unit#1 on 6th June, 2014 and unit#2 on 12th Feb, 2015) but to it NOC for 980 MW transaction only was issued against 1044 MW LTA.

JITPL cited that LILOs of 400kV Meramundali-Bolangir/Jeypore S/c line at Angul s/s and LILO of one line of 400kV Talcher-Meramundali D/c line at Angul S/s are causing constraint in evacuation.

JITPL further mentioned that as per the 17th standing committee meeting held on 25-05-2015, the above LILOs are to be removed.

112th OCC decided to refer the issue of removal of LILOs of 400kV Meramundali-Bolangir/Jeypore S/c line at Angul s/s and LILO of one line of 400kV Talcher-Meramundali D/c line at Angul S/s to next Standing Committee meeting as it will be done by CTU.

The decision of 17th SCM regarding “Bypassing arrangement of LILO of 400kV lines at Angul” is as given below:

QUOTE

“28.0 Bypassing arrangement of LILO of 400kV lines at Angul – agenda by POWERGRID

28.1 LILO of Meramundali – Bolangir/Jeypore 400kV S/c line at Angul pooling station and LILO of one ckt of Talcher - Meramundali 400 kV D/c line at Angul pooling station has been implemented along with Orissa Phase-I transmission system. While agreeing with these LILOs, it was decided that the LILOs would be disconnected after commissioning of 765 kV Angul pooling station. Now, 765kV Angul s/s and one ckt of Angul-Jharsuguda 765 kV line has been commissioned and the 2nd circuit of Angul-Jharsuguda line would be commissioned shortly. Further, under Orissa Ph-I generation projects, 5 generation projects are to be connected at Angul. Till date, only GMR and JITPL have been commissioned.

28.2 400kV 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 400kV LILOs may be operated either by-passing Angul substation or terminating at Angul sub-station as and when required, depending upon the power flow condition.

28.3 After, discussion Members agreed to the proposal as a part of Easter Region strengthening scheme-17 (ERSS-17) ”

UNQUOTE

CTU/Powergrid may update.

Deliberation in the TCC meeting

JITPL representative was absent to justify their agenda. TCC took serious note on this.

However, TCC felt decision taken in standing committee meeting and subsequently ratified in ERPC need no further deliberation under ERPC forum.

ITEM NO. E8:	Maintenance of 400 kV LILO of Farakka-Subhasgram at SgTPP & 400 kV D/C SgTPP- Parulia line
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In 30th ERPC, as a follow up discussions on MOM of 17th SCM Powergrid informed that

1. LILO portion of 400 KV Farakka-Subhagram line will be maintained as per the agreement with WBPDCCL.
2. For 400kV Sg TPP-Parulia D/C line, the AMC contract will be extended up to December, 2016 and after that WBPDCCL has to plan for alternate arrangement for O&M of this line.

Subsequently, CEA vide letter dated 18.06.2015 issued a corrigendum for the minutes of 17th SCM wherein the para 27.7 was amended as---

“After further discussion it was decided that the LILO portion & 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID and necessary commercial arrangement in this regard would be made between POWERGRID and WBPDCCL”

In 114th OCC held on 16.10.2015, Powergrid informed that MOU for AMC of 400kV Sg TPP-Parulia (Durgapur) D/C line has been signed for one year.

WBPDCCL/ POWERGRID may update.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that as per corrigendum of 17th SCM minutes LILO portion & 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID.

Powergrid informed that as per policy decision taken in the Corporate office, the lines constructed by PGCIL on deposit basis will be maintained by PGCIL. So maintenance of these lines will be carried out by Powergrid in compliance of decision taken in 17th SCM.

ITEM NO. E9:	Standing Committee on Transmission Planning for State Sectors
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In line with decision taken in 30th ERPC meeting **Standing Committee on Transmission Planning for State Sectors in Eastern Region was formed.**

First meeting was held at ERPC, Kolkata on 21.09.2015 chaired by Director (Projects), BSPTCL. Salient Decisions taken in the meeting are as follows:

- Apart from STUs, one representative from each SLDC/CLD of ER and GM, ERLDC will be member of the Standing Committee.

- Powergrid (representatives from ER-I, ER-II and PG-Odisha) will also be members of the Standing Committee.
- CEA and CTU will also be invited for the meetings of Standing Committee and their System Study Group may be called as and when required by the Standing Committee.
- The meetings of the Standing Committee will be held on Quarterly basis. However, the meeting should be convened at least before the SCM for CTU planning as conducted by CEA/CTU.
- It was decided to focus the following points in the meeting:
 - STU evacuation system from 400 kV PG/CTU Substations for proper load anchoring.
 - STU network strengthening schemes.
 - Constraints/congestion experienced in STU networks.
 - Any agenda of SCM for central sector, which needs detailed deliberation by ER States.

JUSNL, Sikkim and Powergrid/CTU may nominate their representatives.

Deliberation in the TCC meeting

TCC advised JUSNL, Sikkim and Powergrid (ER-I, ER-II and PG-Odisha), CTU to send the nomination before 2nd Standing Committee on State Sectors meeting scheduled to be held on 4th December, 2015.

TCC also advised all the STUs to nominate SLDC representative before 4th December, 2015.

ITEM NO. E10:	Status of construction of Chuzachen bay at Rangpo S/s.
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In 29th TCC/ERPC meeting, Sikkim informed that they will send the proposal to Powergrid for consultancy.

In 30th TCC, Sikkim informed that MOU has been signed with Powergrid on 24th April, 2015 and the advance payment will be released by next week.

Powergrid informed that they will place the order after receipt of advance payment.

In 110th OCC, Sikkim informed that payment has been approved by Government of Sikkim and the advance payment will be made to Powergrid by 15th July, 2015.

In 113th OCC, Sikkim representative informed that PFC will release the payment by September 2015.

Sikkim and Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid informed that payment has been received from Sikkim and they will start the construction work at the earliest.

On enquiry representative from PGCIL informed that the proposal of Bus-Split scheme at 132KV Rangpo S/S as approved in 114th OCC meeting are being studied by its engineering wing and roadmap for implementation of the scheme will be placed in 115th OCC meeting scheduled to be held on 20.11.15.

ITEM NO. E11:	Status of construction of 400 kV Sterlite-Jharsuguda D/C sections
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Several deliberations were held on the issue of construction of 400 kV Sterlite –Jharsuguda D/C dedicated line of Vedanta Ltd (formerly known as Sesa Sterlite Ltd).

30th ERPC decided that Powergrid, Odisha would chalk out a draft action plan and design suitable target as far as the construction of these lines are concerned. A team may be formed at ERPC to assist Powergrid, Odisha in finalising the draft plan and on finalising the same the ERPC team should exercise stringent monitoring/assessment of monthly progress made by Sterlite. Sterlite was requested to strictly adhere to the action plan.

Sterlite agreed to complete the construction work as per the monthly target fixed by ERPC team.

Next assessment of the progress will be made by ERPC in its 31st meeting.

Accordingly Powergrid designed certain formats detailing execution plan & SSL was asked to fill the same with all details before finalization of targets.

In 113th OCC held on 14.09.2015, Sterlite submitted the required formats with detailed information as desired.

OCC took serious note and advised Sterlite to expedite the construction work.

In 114th OCC held on 16.10.2015, Sterlite informed that 16 nos tower foundations have been completed and the forest clearance is expected by December, 2015.

OCC felt that there is no considerable progress and advised Sterlite to expedite the work.

The formats as submitted by Sterlite is given at **Annexure-B16**.

Sterlite may update the status. TCC may decide the further course of action.

Deliberation in the TCC meeting

Vedanta informed that out of 66 tower foundations, 21 have been completed and rest is expected to be completed by December, 2015. Commissioning of line is expected by 15 April, 2016.

TCC advised Vedanta to strictly adhere to the schedule.

Updated status will be placed as annexure in the final version of MOM.

ITEM NO. E12:	Handing over of 2 nos 132 kV bays at 400/220/132 kV Kuchei (Baripada) Grid S/s in Odisha.
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In line with decision taken in the Standing Committee meeting held in New Delhi on 08.02.2012, OPTCL was allotted 4 nos. 132 kV bays at Kuchei Grid S/s in Odisha.

However during site visit by OPTCL for connection of 2 nos.132kV feeders from Kuchei – Jaleswar line it was found that there was insufficient space for termination.

It was however noticed that 2 nos. equipped 132kV bays meant for Jharkhand were available at Kuchei S/s lying un-utilised and was learnt that the same bays shall not be used in near future. It was also informed that JUVNL is yet to construct 132kV line that will be connected with these two bays. Since these two bays cannot be used by Jharkhand in the near future and the guarantee period of equipment / materials are going to expire, it is better if OPTCL can immediately use these bays for its line, which is going to be completed within next 3 to 4 months.

During 110th OCC meeting at Kolkata, this issue of allotment of bays was discussed and it was opined that consent of JUVNL, may be accorded for handing over the two 132kV bays to OPTCL. In view of this, JUSNL/JUVNL was requested to communicate their consent for sparing the two bays meant for JUVNL to OPTCL for better utilization of the existing equipments in the bay within its guarantee period.

In 114th OCC, JUSNL informed that the issue was discussed at higher level meeting wherein deliberation was in favour of handing over the two 132kV bays to Odisha.

OCC requested ERPC Secretariat to pursue the issue with MD, JUSNL.

JUSNL/OPTCL may update.

Deliberation in the TCC meeting

JUSNL accepted the proposal of OPTCL.

ITEM NO. E13:	Restoration of Sagbari-Melli 132kV section of 132kV Rangit-Melli S/C line
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132kV Rangit-Melli S/C line was restored on 10-05-15, after long outage, with LILO at Sagbari S/Stn of Sikkim.

However, it is understood that 132kV Sagbari-Melli section has not yet been normalized. Recent SEM readings indicate that the flow through 132kV Rangit-Sagbari section is consistently NIL.

It may be appreciated that though 132kV Rangit-Sagbari-Melli is an intra-state line, it provides an alternate route for evacuation of Rangit HPS generation, which is an ISGS, and enhances the reliability of both Sikkim and Rangit. Throughout the high hydro period, (July-Sep) the absence of Rangit-Sagbari-Melli line led to frequent high loading of 132kV Chujachen-Melli line, close to its tripping threshold (75MW).

As more number of hydro IPPs get connected to the 132kV system of Sikkim, it is imperative to have all available lines in service for maintaining the maximum level of reliability.

Sikkim may therefore be advised to restore the entire portion of 132kV Rangit-Sagbari-Melli line at the earliest.

TCC may advise.

Deliberation in the TCC meeting

Sikkim informed that they will give their best effort to restore the entire portion of 132kV Rangit-Sagbari-Melli line by Nov, 2015

ITEM NO. E14:	Downstream 220kV system development of STUs (Bihar, Jharkhand & Odisha) from the various approved and ongoing sub-stations of PGCIL
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Under the ERSS-III scheme, following new 400 kV sub-stations have been / are being commissioned by POWERGRID

- 2x200 MVA, 400/132 kV sub-stations at Lakhisarai & Banka in Bihar
- 2x315 MVA, 400/220 kV at Chaibasa & Daltonganj in Jharkhand
- 2x315 MVA, 400/220 kV at Bolangir, Keonjhar & Pandiabil in Odisha.

Lakisharai: 400/132KV Lakisharai Substation along with 200 MVA ICT, 80 MVAR Bus Reactor and line bay of Lakhisarai (PG) – Lakhisarai (BSPTCL) 132 kV D/c line has been charged at rated voltage and declared under commercial operation w.e.f. 01.04.2014.

The latest status as updated in 114th OCC as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	The 2x200 MVA, 400/132 kV Lakhisarai sub-station	
a.	132 kV Lakhisarai (PG)-Lakhisarai (BSPTCL) D/C line	Charged.
b.	132 kV Lakhisarai-Jamui (BSPTCL) D/C line	Charged on 5 th October, 2015.
2.	2x200 MVA, 400/132 kV Banka sub-station	
a.	LILO of 1 st circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Charged.
b.	LILO of 2 nd circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Mid November, 2015
c.	132 kV Banka (PG)-Sultanganj (BSPTCL) line-I	Completed
d.	132 kV Banka (PG)-Sultanganj (BSPTCL) line-II	Completed

BSPTCL may update.

Deliberation in the TCC meeting

BSPTCL updated the status as follows:

Sl. No.	Name of the transmission line	Completion schedule
2.	2x200 MVA, 400/132 kV Banka sub-station	
b.	LILO of 2 nd circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Line completed and bays by December, 2015

Chaibasa: 400/220kV ICT-II and its associated bays at Chaibasa were already charged. After completion of both GSS i.e. 400/220 kV Chaibasa (PGCIL) and 220/132/33 kV GSS at Chaibasa (JUSNL) under consultancy projects awarded to M/s PGCIL, the above said grids will be connected by 220 kV D/C transmission line.

Daltonganj: 400/220kV Daltonganj S/s was expected to be commissioned by October, 2015. But it developed a land acquisition problem which has already been taken up by CTU with Jharkhand Govt. It is not yet resolved.

In 17th SCM held on 25.05.15----

Following transmission line would be constructed by JUSNL for drawl of power at 220 kV and 132 kV level from Daltonganj (PG).

- a) Daltonganj (PG)-Latehar (JUSNL) 220 kV D/C
- b) Daltonganj (PG)-Garwa (JUSNL) 220 kV D/C
- c) Daltonganj (PG)-Daltonganj (JUSNL) 132 kV D/C
- d) Daltonganj (PG)-Chatrapur / Lesliganj (JUSNL) 132 kV D/C

It was agreed to create 132 kV level at Daltonganj (PG) along with 2x160 MVA 220/132 kV ICT and 4 no. 132 kV line bays by POWERGRID under regional strengthening scheme.

In 30th TCC, it was informed that land acquisition is in progress for Daltonganj (PG) S/s.

The status of the project is being monitored in review meetings for the Status of Downstream Projects of Daltonganj and Chaibasa Sub-stations of JUSNL. The latest status as reviewed in 1st SSCM (i.e. 4th review meeting) is enclosed at **Annexure-B19**.

JUSNL may update.

Deliberation in the TCC meeting

JUSNL updated the status.

Updated status will be placed as annexure in the final version of MOM.

Bolangir: PGCIL has already commissioned the 2x315MVA 400/220kV Bolangir S/s by LILOing of 400kV Meramandali-Jeypore S/C line with an objective of supplying power from ER grid to Bolangir and its adjoining areas in Odisha.

In 17th SCM held on 25.05.15----

OPTCL informed that Bolangir 400/220 kV S/S of POWERGRID would be connected to OPTCL system through following 220 kV system of OPTCL:

- a) LILO of one circuit of Sadeipalli-Kesinga 220 kV D/C line at Bolangir S/S
- b) LILO of one circuit of Katapalli-Sadeipalli 220 kV D/C line at Bolangir S/S

Severe RoW problems are being faced in both the above lines and negotiations with land owners are going on.

Keonjhar : The sub-stations at Keonjhar have been commissioned by PGCIL.

In 17th SCM held on 25.05.15-----

OPTCL added that Keonjhar 400/220 kV S/S of POWERGRID would be connected to OPTCL system through following 220 kV System:

- a) Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line
- b) Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line

OPTCL informed to construct one 220/33kV Grid S/s at Keonjhar for which in-principle approval of BoD has already been taken and construction of 220/132/33kV Grid S/s at Turumunga has already been initiated to be funded under JICA funding.

The above lines are expected to be completed by 2019.

Pandiabil:

In 17th SCM held on 25.05.15----

OPTCL informed that the 400/220kV Pandiabil Grid S/s of PGCIL which is under construction would be connected to OPTCL 220 kV System through following 220 kV links.

- a) Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line
- b) LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)

OPTCL added that the above lines are expected to be completed by Dec., 2015.

In 114th OCC, OPTCL updated the completion schedule as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	2x315MVA 400/220kV Bolangir S/s	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	5 out of 14 completed. Dec, 2015 (Severe ROW problem)
b.	LILO of one circuit of Katapalli-Sadeipalli220 kV D/C line at Bolangir S/S	One tower left due to forest clearance. End of December, 2015
2.	400/220 kV Keonjhar S/S	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	Yet to be awarded
b.	Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line	Yet to be awarded
3.	400/220kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	It will take 1 year for completion.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	Work yet to be started.

OPTCL may update.

Deliberation in the TCC meeting

OPTCL updated the status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	2x315MVA 400/220kV Bolangir S/s	
a.	LILO of one circuit of Sadeipalli-Kesinga 220 kV D/C line at Bolangir S/S	5 out of 14 completed. Dec, 2015 (Severe ROW problem)
b.	LILO of one circuit of Katapalli-Sadeipalli 220 kV D/C line at Bolangir S/S	One tower left due to forest clearance. End of December, 2015
2.	400/220 kV Keonjhar S/S	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	Tender opening 18 Nov 2015
b.	Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line	Yet to be awarded
3.	400/220kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	It will take 1 year for completion.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	May, 2016

ITEM NO. E15:	Payment/Receipt Status from various pool accounts in ER
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E15.1. Payment of Deviation Charges -- present status

The status of Deviation Charge payment informed by ERLDC as on 23.10.2015 is enclosed at **Annexure – B22.1**. The current principal outstanding Deviation Charge of BSPHCL, JUVNL & APNRL is ` **2997.14476 Lacs**, ` **638.69686 Lac** & ` **480.00801 Lac** respectively considering bill up to 04.10.2015. ERLDC has en-cashed the LC of M/s APNRL on 20.08.15. The en-cashed amount from LC has been utilized for payment of outstanding Deviation Charge to other recipient's constituents.

BSPHCL, JUVNL & APNRL may confirm the program for payment of outstanding dues.

Deliberation in the TCC meeting

ERLDC updated that the outstanding for BSPHCL was 2.35 Cr, for JUVNL it was 6.15 Cr and for APNRL it was 3.95 Cr considering bills upto 25.10.15.

BSPHCL, JUVNL and APNRL informed that they are taking necessary action for early payment.

This is for information of ERPC

E15.2. Reactive Energy Charges – present status.

The updated position of Receipt/Payment of Reactive Energy Charges as submitted by ERLDC in the pool as on 16.10.2015 (considering bill up to 04.10.2015) is indicated in **Annexure – B22.2**. The total outstanding receivable on account of **Reactive charges from WBSETCL** is ` **195.71241 Lac**.

WBSETCL may confirm the program for payment of outstanding dues.

Deliberation in the TCC meeting

ERLDC updated that the outstanding against WBSETCL was 2.58 Cr as per bills upto 25.10.15. WBSETCL informed that they would clear their dues at the earliest.

ITEM NO. E16:	Opening of LC by ER constituents for Deviation Charges Payments
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Clause 10 (4) of CERC Deviation Settlement Mechanism and related matters Regulations, 2014 vide notification No. L-1/132/2013/CERC dated 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

The details of LC amount required to be opened in 2015-16 by ER constituents is given in **Annexure – B24**. Letters to this effect has already been issued by ERLDC to the defaulting entities viz, BSPHCL, JUVNL, DVC, JITPL, APNRL & IndBarath.

LC of BSPHCL, JUVNL, DVC, JITPL, APNRL & IndBarath have not opened the LC. In the 30th TCC/ERPC meeting held on 20.06.15, constituents informed that they would open the LC shortly. Moreover ERLDC has en-cashed the LC of M/s APNRL due to non-payment of deviation charge and requested APNRL to recoup the LC. Till date APNRL has not recouped the LC.

BSPHCL, JUVNL, DVC, JITPL, APNRL & Ind Barath may please intimate the latest status.

Deliberation in the TCC meeting

ERLDC updated that BSPHCL has opened the LC. APNRL informed that they have opened LC and will send the soft copy. JITPL and Ind Bharath representative were not presnt. JUVNL informed that action has been initiated at their end for early liquidation of the dues.

ITEM NO. E17:	Erroneous recording/Non receipt of data by/from Interface Meters
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A. Erroneous recording

i. Lakhisarai(BSPHCL)

SEM data received from Lakhisarai(BSPHCL)of 132 KV Lakhisarai(BSPHCL) – Lakhisarai (PG)-1 line showing erroneous(reversed polarity as compared to PGCIL end) since installation of SEM at BSPHCL end in the month of September 2014. The matter is already informed to the official of BSPHCL and also discussed in 30th TCC/ERPC meeting. However the problem still persists.

BSPHCL may intimate the latest update.

Deliberation in the TCC meeting

BSPHCL informed that the issue will be resolved by the end of this month.

ii. Lalmatia(JUVNL)

SEM data received from Lalmatia(JUVNL)of 220 KV Lalmatia(JUVNL) – Farakka (NTPC) line showing erroneous(2/3rd reading as compared to Farakka end) since last six months. The matter is already informed to the official of JUVNL. However the problem still persists.

JUVNL may intimate the latest update.

Deliberation in the TCC meeting

JUVNL informed that the issue will be resolved by an early date.

B. By passing of SEMs of Tie Lines

i. Sabour at BSPTCL

SEM is installed at both end of 132 KV Sabour-Banka (PG) Line. As per the SEM data received from 132 KV Sabour(BSPTCL), readings of meter (Serial No. NP-7874-A) installed at Sabour end of 132 KV Sabour-Banka (PG) Line is not recording any flow compared to Banka PGCIL end since June 2015. It was gathered from Sabour that line is feeding load to Sultanganj(BSPTCL) regularly through Transfer Bus of Sabour by passing the SEM at Sabour.

Sabour Load is being fed by availing power through 132 KV Sabour-Kahalgaon (NTPC) Tie Line and the same is received at Main Bus of Sabour. Power flowing through 132 KV Sabour-Banka(PG) Line is availed at Main Bus only when 132 KV Sabour-Kahalgaon(NTPC) Line is not in service. In that case Meter installed at Sabour end of Sabour-Banka(PG) Line records the energy flow through the line.

In absence of non-recording of data by SEM installed at Sabour BSPTCL end of the aforesaid Tie line, data validation and energy accounting is being affected. Presently energy accounting is being done considering Banka PGCIL end meter.

Bypassing of SEM installed at Tie line is violation of CEA metering regulation 2006 and the same is needed to be restored. The matter was also discussed in 112th OCC meeting held on 21.08.15 and CCM on 16.09.15. However problem still persists.

BSPTCL may respond. Members may discuss.

Deliberation in the TCC meeting

BSPHCL informed that the issue has been resolved recently. BSPHCL informed that they did not bypass the SEM intentionally. However, changes made in the system due to contingency led to such a situation. If installation of temporary SEM could solve the problem, BSPHCL is agreeable to it.

ii. Kishanganj at BSPTCL

SEM is installed at both end of 132 KV Kishanganj-Dalkhola (WB) Line. As per the SEM data received from 132 KV Kishanganj(BSPTCL) , readings of meter (Serial No. NP-5236-A) installed at Kishanganj end of 132 KV Kishanganj-Purnea(PG) Line is not recording any flow compared to Purnea PGCIL end since 14:00 hrs of 29th June 2015. It was gathered from Kishanganj that line is feeding load to Farbisganj at BSPTCL regularly through Transfer Bus of Kishanganj bypassing the SEM at Kishanganj.

Kishanganj Load is being fed by availing power through 132 KV Kishanganj-Dalkhola (WB) Tie Line and the same is being received at Main Bus of Kishanganj. Power flowing through 132 KV Kishanganj-Purnea(PG) Line is availed at Main Bus only when 132 KV Kishanganj-Dalkhola(WB) Line is not in service. In that case Meter installed at Kishanganj end of Kishanganj-Purnea(PG) Line records the energy flow through the line. This problem started from the date when Kishanganj starts availing power from Dalkhola Grid of WBSETCL.

In absence of non-recording of data by SEM installed at Kishanganj BSPTCL end of the aforesaid Tie line, data validation and energy accounting is being affected. At present energy accounting is being done considering Purnea PGCIL end meter.

Bypassing of SEM installed at Tie line is violation of CEA metering regulation 2006 and the same is needed to be restored. The matter was also discussed in 112th OCC meeting held on 21.08.15 and CCM dated 16.09.15. However problem still persists.

BSPTCL may respond. Members may discuss.

Deliberation in the TCC meeting

BSPHCL informed that the issue has been resolved recently. BSPHCL informed that they did not bypass the SEM intentionally. However, changes made in the system due to contingency led to such a situation. If installation of temporary SEM could solve the problem, BSPHCL is agreeable to it.

C. Non Receipt of SEM data from Various Locations

i. Kharagpur in WB

SEM data of Kharagpur (WBSETCL) of 400 KV Kharagpur(WB)– Baripada(PG) line is not being received by ERLDC since 1st week of July 2015. It was gathered that the meter has got hanged. Powergrid and WBSETCL were requested by ERLDC to Rectify/replace the meter. Till now no action has been taken.

Powergrid and WBSETCL may please respond.

Deliberation in the TCC meeting

ERLDC informed that WBSETCL have confirmed that the issue will be resolved very shortly.

ii. Mejia in DVC

SEM data of Mejia (DVC) of 400 KV Mejia(DVC)– Maithon(PG) line is not being received by ERLDC since last 3 weeks. The meter is neither reporting in AMR system nor through DCD. Powergrid and DVC were intimated about the problem and ERLDC requested to Rectify/replace the meter. Till now no action has been taken.

Powergrid and DVC may please respond.

Deliberation in the TCC meeting

ERLDC informed that DVC have confirmed that the issue will be resolved very shortly.

ITEM NO. E18:	Non-release of payment towards service charges for maintenance of EMS/SCADA system
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LTSA (Long term Service Agreement) contract for EMS/SCADA system installed at all control center has been awarded to M/s Alstom T&D Ltd. on 15th January 2010. Status of due payment to be received from JUSNL (erstwhile JSEB) is as follows:

The updated outstanding against EMS SCADA AMC as on 12.05.2015 is follows:

Constituents	21 st Qtr (07.04.15)	22 nd Qtr (30.04.15)	23 rd Qtr (20.07.15)	Total(in Rs)
JUSNL	NIL	NIL	1453059	1453059
DVC	NIL	NIL	1633976	1633976
OPTCL	NIL	NIL	NIL	NIL
BSPTCL	NIL	NIL	NIL	NIL

Besides the above Outstanding, service tax payment of Rs 315727/- is also due from JUSNL since Oct 2014 onwards.

Members may respond. TCC may note.

Deliberation in the TCC meeting

ERLDC informed that DVC had cleared their dues. JUSNL informed that it was under process and payment is expected to be released shortly.

ITEM NO. E19:	Huge outstanding—MPL
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Maithon power Limited is reeling under severe cash flow problems in view of nonpayment of energy bills by DVC and WBSEDCL. As on 30th September 2015 MPL has an outstanding of Rs 314 Crores which consists of Rs 228 Crores from DVC and Rs 86 Crores from WBSEDCL. MPL seeks ERPC's intervention in this. Otherwise the day is not far when MPL will have to shut down its units.

DVC and WBSEDCL may respond.

Deliberation in the TCC meeting

MPL informed that they have received schedule for part payment from WBSEDCL. WBSEDCL informed that they would admit the interest component only as per actual. DVC informed that there are some deviation from CERC approved tariff order related to bills submitted by MPL and needed to be resolved.

TCC expressed that all parties should follow CERC regulation in letter & spirit.

ITEM NO. E20:	Signing of Transmission Service Agreement for Transmission System Strengthening in Indian System for transfer of power from new HEPs to be implemented through Tariff Based Competitive Bidding process
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RECTPCL vide mail dated 29.10.2015 intimated that the Central Electricity Authority, Govt. of India vide Gazette Notification no. 100/1/EC (33)/SP&PA-2014 dated 9th February, 2015 has appointed REC Transmission Projects Company Ltd (RECTPCL) as the Bid Process Coordinator for selection of developer to establish aforementioned transmission projects through Tariff Based Competitive Bidding process.

Based on the aforesaid mandate, they have initiated two-stage bidding process for selection of developer in accordance with the Guidelines notified by Ministry of Power, GoI. The first stage of Request for Qualification (short-listing) of bidders has since been concluded and short-listed bidders have been issued Request for Proposal document along with Transmission Service Agreement (TSA) on 08.07.2015 which have been prepared based on standard bidding documents.

One of the key requirements of Guidelines and the Standard Bidding Documents is to provide the Bidders a copy of the signed / executed TSA which is a condition precedent for submission of price proposals by the Bidders.

In view of the above RECTPCL has requested for signing of Transmission Service Agreement for the project in the presence of Eastern Regional Power Committee as witness.

Members may discuss.

Deliberation in the TCC meeting

It was informed that the scheme was already approved in Standing committee meeting where representative from WBSETCL from west Bengal was present. The same was subsequently ratified by ERPC. Therefore, it was reiterated that at this juncture, when Government notification was already issued, delay in signing of TSA may attract irrevocable complexities. Therefore stakeholders were requested to sign the TSA at the earliest.

WBSEDCL informed that they do not have any reservation against signing of TSA as it is a notified scheme of the Government of India. However, WBSEDCL emphasized that deliberation with state utilities with tentative indication of financial implication must be done before taking up of all such transmission schemes as final.

Representative from CEA assured that in future efforts will be made to place all such type of transmission planning in ERPC forum with all details/load flow studies for deliberation before finalizing agenda items of Standing Committee Meeting.

TCC also requested all constituent members to participate in the Standing Committee meetings without fail.

ITEM NO. E21:	Status of Transmission projects approved in various meetings
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The status updated in 30th TCC/ERPC meeting on transmission projects approved to various meetings is given below:

Sl No.	Scheme	ERPC/TCC Meeting	Latest status updated in 30th TCC Meeting
1	Converting 2x63 MVAR line reactors of 400kV D/C Kishanganj line at Patna Substation as Bus reactors	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
2	Installation of 2x500 MVA, 400/220 kV ICTs instead of earlier approved 400/220 kV, 2x315 MVA + 1x500 MVA, ICTs at Kishanganj	28 th ERPC Meeting	Powergrid informed that 1 st ICT will be commissioned by October, 2015 and 2 nd ICT by November, 2015.
3	Conversion of line reactor of 765 kV Ranchi- Dhananjaygarh line as Bus Reactor at 765kV Ranchi S/s	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
4	Construction of 132 kV D/C Deogarh – Banka line for reliable power supply to Railway TSS from 132 kV Deogarh (JSEB) S/S		To be discussed in empowered committee meeting conducted by CEA.
5	Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double main scheme.	28 th ERPC Meeting	Powergrid informed that the work will be awarded by September, 2015.
6	Change in proposed the Associated 765 kV System Strengthening Scheme in ER	28 th ERPC Meeting	Powergrid informed that it will be discussed again in next standing committee meeting.

7	Conversion of 50 MVAR Line Reactor presently installed at Jeerat end of 400 kV Berhampur – Jeerat line to Bus Reactor in Parallel with existing Bus Reactor at Jeerat	26 th ERPC Meeting	Powergrid informed that order has been placed and the work is expected to be completed by March, 2016.
8	Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders	26 th ERPC Meeting	Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by July, 2016.
9	Augmentation of existing 250KVA DG set at 400/220kV Biharsariff S/S with 500KVA.	25 th ERPC Meeting	Powergrid informed that the DG set has been augmented.
10	Augmentation of existing 100MVA ICT with 160MVA at 220/132 kV Birpara and Siliguri S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
11	Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme has been changed; fresh DPR is under preparation.
12	Addition of 1x125 MVAR Bus Reactor each at Baripada & Maithon 400 kV S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
13	Strengthening of Farakka – Malda corridor	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
14	Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul & Jharsuguda S/S).	25 th ERPC Meeting	Powergrid informed that work has been awarded on March, 2015 and expected to be completed by September, 2016.
15	Augmentation of Transformation Capacity at 400/220 kV Baripada S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
16	Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) & Sasaram (PG) S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
17	Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 rd & 4 th Circuits)	25 th ERPC Meeting	Bay construction at Muzaffarpur to be done by Powergrid under consultancy projected. Expected to be completed by November, 2016.
18	Modification of 132 kV Bus arrangement at 220/132 kV Siliguri S/S (PG)	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.
19	Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram	25 th ERPC Meeting	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
20	Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid	25 th ERPC Meeting	WBSETCL assured that the scheme will be completed within 20 months from the date of LOA
21	Construction of down linking transmission network for drawal of power from	25 th ERPC Meeting	Powergrid informed that four numbers of 220 kV bays at 440 kV

	Kishanganj 400/220 kV S/S of Powergrid		Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. The work has been awarded on October, 2014 and expected to be completed by June, 2016.
22	Upgradation of the 3x100 MVA spare ICT at Purnea with 3x160 MVA ICT.	25 th ERPC Meeting	Powergrid informed that two ICTs have been replaced, third one will be replaced by Sep, 2015.
23	Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme will be implemented by July, 2016.
24	Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to- Back station at Gazuwaka (one for each pole)	25 th ERPC Meeting	Powergrid informed that preparation of DPR in in progress.
25	GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada	24 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.

Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid updated the status as follows:

Sl No.	Scheme	ERPC/TCC Meeting	Latest status updated in 30th TCC Meeting
1	Converting 2x63 MVAR line reactors of 400kV D/C Kishanganj line at Patna Substation as Bus reactors	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
2	Installation of 2x500 MVA, 400/220 kV ICTs instead of earlier approved 400/220 kV, 2x315 MVA + 1x500 MVA, ICTs at Kishanganj	28 th ERPC Meeting	Powergrid informed that 1 st ICT will be commissioned by Jan, 2016 and 2 nd ICT by Feb, 2016.
3	Conversion of line reactor of 765 kV Ranchi- Dhananjaygarh line as Bus Reactor at 765kV Ranchi S/s	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
4	Construction of 132 kV D/C Deoghar – Banka line for reliable power supply to Railway TSS from 132 kV Deogarh (JSEB) S/S		To be discussed in empowered committee meeting conducted by CEA.
5	Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double main scheme.	28 th ERPC Meeting	Powergrid informed that the NIT – Nov, 2015. Award March, 2016.
6	Change in proposed the Associated 765 kV System Strengthening Scheme in ER	28 th ERPC Meeting	It was discussed and finalized in 17 th SCM.

7	Conversion of 50 MVAR Line Reactor presently installed at Jeerat end of 400 kV Berhampur – Jeerat line to Bus Reactor in Parallel with existing Bus Reactor at Jeerat	26 th ERPC Meeting	Powergrid informed that order has been placed and the work is expected to be completed by March, 2016.
8	Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders	26 th ERPC Meeting	Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by July, 2016.
9	Augmentation of existing 250KVA DG set at 400/220kV Biharsariff S/S with 500KVA.	25 th ERPC Meeting	Powergrid informed that the DG set has been augmented.
10	Augmentation of existing 100MVA ICT with 160MVA at 220/132 kV Birpara and Siliguri S/S	25 th ERPC Meeting	Birpara by March, 2016 & Siliguri by June, 2016. (Subject to the shutdown approval by WB.)
11	Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme has been changed; fresh DPR is under preparation.
12	Addition of 1x125 MVAR Bus Reactor each at Baripada & Maithon 400 kV S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
13	Strengthening of Farakka – Malda corridor	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
14	Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul & Jharsuguda S/S).	25 th ERPC Meeting	Powergrid informed that work has been awarded on March, 2015 and expected to be completed by September, 2016.
15	Augmentation of Transformation Capacity at 400/220 kV Baripada S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
16	Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) & Sasaram (PG) S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
17	Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 rd & 4 th Circuits)	25 th ERPC Meeting	Bay construction at Muzaffarpur to be done by Powergrid under consultancy projected. Expected to be completed by November, 2016.
18	Modification of 132 kV Bus arrangement at 220/132 kV Siliguri S/S (PG)	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.
19	Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram	25 th ERPC Meeting	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
20	Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid	25 th ERPC Meeting	WBSETCL assured that the scheme will be completed within 20 months from the date of LOA
21	Construction of down linking transmission network for drawal of power from	25 th ERPC Meeting	Powergrid informed that four numbers of 220 kV bays at 440 kV

	Kishanganj 400/220 kV S/S of Powergrid		Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. The work has been awarded on October, 2014 and expected to be completed by June, 2016.
22	Upgradation of the 3x100 MVA spare ICT at Purnea with 3x160 MVA ICT.	25 th ERPC Meeting	Powergrid informed that two ICTs have been replaced, third one will be replaced by Feb, 2016.
23	Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme will be implemented by July, 2016.
24	Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to- Back station at Gazuwaka (one for each pole)	25 th ERPC Meeting	Powergrid informed that preparation of DPR in in progress.
25	GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada	24 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.

ITEM NO. E22:	Status of Spare Transformers & Reactors approved in various meetings
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The status updated in 30th TCC/ERPC meeting on Spare transformers & reactors to be commissioned by Powergrid for use in ER.

Sl No.	Spare transformer/reactor	Latest status updated in 30 th TCC Meeting
1	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff	Available at site.
2	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur	Utilized at 400 kV Farakka. Procurement of spare ICT is under process.
3	1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation	Available at site.
4	2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by September, 2016.
5	1 X 110MVA, 765KV single phase bus reactor at Sasaram	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
FOR MEMBER STATES:		
1	2 X 315 MVA 400/220 kv ICTs	Available
2	2 X 160/150 MVA 220/132 kv ICTs	One ICT utilised at Purnea S/s, 2 nd ICT available at Siliguri S/s.
3	1 X 50 MVA 132/66 kv ICT	Available
SURPLUS FROM OLD AS SPARE		
1	3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss	Replaced with 160MVA transformer.
2	2x100 MVA, 220/132kV (to be released from one	Yet to be taken out

	at Birpara & one at Siliguri)	
3	2x100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)	Yet to be taken out

Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid updated the status as follows:

Sl No.	Spare transformer/reactor	Latest status updated in 30 th TCC Meeting
1	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff	Used at Biharshariff in place of failed ICT. Procurement of new spare is under progress. NIT- Dec, 2015.
2	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur	Utilized at 400 kV Farakka. Procurement of spare ICT is under process. NIT – Dec, 2015.
3	1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation	Available at site.
4	2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by September, 2016.
5	1 X 110MVA, 765KV single phase bus reactor at Sasaram	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
FOR MEMBER STATES:		
1	2 X 315 MVA 400/220 kv ICTs	Available at Jamshedpur & Rourkela
2	2 X 160/150 MVA 220/132 kv ICTs	One ICT utilised at Purnea S/s, 2 nd ICT available at Siliguri S/s.
3	1 X 50 MVA 132/66 kv ICT	Available at Gangtok
SURPLUS FROM OLD AS SPARE		
1	3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss	Replaced with 160MVA transformer.
2	2x100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)	Yet to be taken out
3	2x100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)	Yet to be taken out

ITEM NO. E23:	ADDITIONAL AGENDA
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ITEM NO. E23.1:	Augmentation of transformation capacity by additional 1 no. 400/220kV 500MVA Transformer at 400/220kV Biharsharif-- PGCIL
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The maximum power flow observed in all the 03 nos.315 MVA ICTs at Biharsharif is 550-650MW. It has been observed that during outage of any one of the transformers for AMP activities or because of any forced outages, remaining transformers get overloaded and as such are not

adequate to cater the load demand at Biharsharif substation. Sometimes, the load restriction is being resorted to during peak demand to avoid overloading of transformers.

Further, after upgradation of 220kV TTPS-BSF line to 400 kV level and termination at POWERGRID Biharsharif substation, the power (100 to 160MW) feeding from TTPS end will also go through the ICT of Biharsharif substation which will further aggravate the loading problem.

It is proposed to augment transformation capacity by additional 01 no. 400/220kV, 500MVA transformer at Biharsharif Substation to fulfill n-1 contingency, reduce overloading and load restriction problem and keep a margin of increasing load demand for future.

Powergrid may elaborate.

Deliberation in the TCC meeting

Powergrid informed that additional 500MVA ICT is required before charging the 400kV TTPS-BSF line which is expected within 3-4 months.

TCC referred the issue to lower forum of the ERPC for study.

ITEM NO. E23.2:	Split Bus arrangement for Kahalgaon-Biharsharif-III & IV circuits at NTPC Kahalgaon – PGCIL
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Under split bus arrangement for various substations in ER project, Kahalgaon-Biharsharif-III & IV circuits (presently known as Banka-Kahalgaon-I&II) are to be reconfigured from its present position to stage-II side of Kahalgaon switchyard of NTPC.

The construction of transmission line is expected to be completed by the end of Jan'2016. In order to complete the construction of line up to dead end tower, the location of gantry of stage-II of switchyard, which is to be constructed by NTPC Kahalgaon, is required by POWERGRID. Also, bay construction work of said circuit is to be expedited by the NTPC Kahalgaon so that it matches with completion target of line.

Powergrid may elaborate.

Deliberation in the TCC meeting

NTPC informed that location for termination of line has already provided. It was also informed that the civil package for construction of bays has been awarded.

ITEM NO. E23.3:	Tri-Partite Agreements – PGCIL
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Tri-Partite Agreements signed between State Govts, Govt. of India and RBI is expiring by Oct'2016. All the constituents are requested to take-up with their respective ministries and communicate their confirmation for extension of the same for the further period of 10 years, to enable MoP to proceed further in the matter. In case of non-extension of TPA, all the constituents shall be required to furnish LC towards Payment Security Mechanism for 210% of their average billing instead of present 105% of the same, as per CERC Regulations.

Powergrid may elaborate.

Deliberation in the TCC meeting

TCC advised Powergrid to interact with ER constituents on the issue.

ITEM NO. E23.4:	Pending payments towards ISTS tariff – PGCIL
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Status of Outstanding payments from ER Constituents is given below:

Rs. in Cr.			
Name of the DIC	Total Dues*	Outstanding	>60 days Outstanding Dues*
South Bihar		94	45
North Bihar		56	21
Jharkhand		19	6
West Bengal		64	2
Total		233	74

*In addition to the above dues, late payment surcharge is also outstanding from a few constituents.

Powergrid may elaborate.

Deliberation in the TCC meeting

TCC advised the respective constituents to liquidate the dues.

ITEM NO. E23.5:	Outstanding Letter of Credit – PGCIL
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Following constituents are required to enhance/ extend LC towards Payment Security Mechanism, as per CERC Regulations:

Rs. in Cr.			
DIC	Value of LC Required	LC Available	Validity
Jharkhand (JSEB)	10.71	0	Previous LC expired long back on 01.01.2015. Needs to furnish a fresh LC.
North Bihar	16.39	0	Previous LC expired on 21.09.2015. Needs to furnish a fresh LC.
South Bihar	27.91	8.12	Valid up to 21.12.2015. LC needs enhancement.

Necessary action is required on urgent basis.

Non-availability of LC for requisite value and validity as per CERC Regulations is causing serious problem for POWERGRID to comply with the provisions of CERC Regulations and Loan Covenants.

Powergrid may update.

Deliberation in the TCC meeting

TCC advised the respective constituents to comply the provisions of CERC Regulations.

ITEM NO. E23.6:	Payment pending from JUSNL in Wideband AMC, RTU AMC & APS AMC – PGCIL
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Payment is pending from JUSNL in Wideband AMC, RTU AMC & APS AMC since long time. The issue has been discussed in last SCADA meeting at ERLDC & JUSNL committed for release of payment, but till date payment is not released. This is critically affecting further payment to the executing parties. The details of payment are attached at **Annexure-B33.7**.

Powergrid may update.

Deliberation in the TCC meeting

JUSNL informed that approval for payment is under process and will be released soon.

ITEM NO. E23.7:	Outstanding issues of NHPC --- NHPC
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A) Non-opening of LC of requisite value

NBPDCL has to provide LC of `6.79 Crs. Similarly, SBPDCL has to provide Letter of Credit of `11.90 Crs. This issue was also discussed with concerned officials of both the discoms during visit of NHPC officials in the month of Oct'2015.

NBPDCL & SBPDCL may provide LC of requisite amount on top priority.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

B) Payment of outstanding dues for more than 60 days: -

i) WBSEDCL

An arrear amount of `176.10 Crs is outstanding since March'2015 (i.e. energy supplied up to Feb'2015) and surcharge of ` 19.14 Crs (up to 31.10.2015) is outstanding in respect of

WBSEDCL on account of energy supplied from TLDP-III power station. Also, an amount of ` 5.40 Crs including surcharge of ` 0.85 Crs is outstanding for more than 60 days in respect of energy supplied from Rangit & Teesta-V Power Stations. We are regularly making request to WBSEDCL to clear all outstanding dues in respect of Rangit, Teesta-V and TLDP-III power Stations.

ii) NBPDCCL

An amount of ` 16.51 Crs is outstanding for more than 60 days including surcharge of ` 1.01 Crs.

iii) SBPDCL

An amount of ` 8.36 Crs is outstanding for more than 60 days including surcharge of ` 3.27 Crs

WBSEDCL, NBPDCCL & SBPDCL may release the outstanding dues as above at the earliest.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues. Respective constituents were requested to co-operate in this regard.

C) Signing of PPA in respect of Teesta-IV H.E.Project:-

Signing of Power Purchase Agreement is pending with Gridco, SBPDCL & NBPDCCL in spite of regular follow up with these discoms. NHPC has to submit the status of execution of PPA by the discoms who have given consent to procure power from the said hydro-electric project, to MOP.

GRIDCO, NBPDCCL & SBPDCL may sign the long pending Power purchase agreement at the earliest.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

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

Signing of Power Purchase Agreement is pending with Gridco, SBPDCL, NBPDCCL, WBSEDCL, Sikkim and JUVNL in spite of regular follow up with these discoms. All above discoms may be requested to sign the PPA at the earliest so that status of signing of PPA by the beneficiaries may be intimated to MOP.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

E) Delay in certification of date wise Declared Capacity (DC) in respect of Teesta Low Dam –III Power Station

NHPC vide letter dated 18.09.2015 requested to WBSETCL to certify and issue date wise Declared Capacity (DC) in respect of TLDP-III Power Station latest by 10th day of every month. In response WBSETCL intimated that the 'Final' schedule of SLDC is prepared three days after publication of 'Final' schedule by ERLDC. ERLDC is therefore, requested to issue 'Final' schedule by 5th day of every month so that energy bills to WBSEDCL on account of energy supplied from TLDP-III Power Station may be raised by NHPC in time.

NHPC may update the status.

Deliberation in the TCC meeting

ERLDC pointed out that intra state scheduling issues of TLDP-III may be taken up with SLDC, West Bengal.

ITEM NO. E24:	Any Other Items.
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2. GM, ERLDC informed that data from Sterlite, Nabinagar, Sagardhigi and Raghunathpur are not coming/intermittent.

Deliberation in the TCC meeting

TCC advised respective constituents to look into the matter on urgent basis.

3. An issue of delayed updation of schedule on ERLDC portal was raised by WBSETCL

Deliberation in the TCC meeting

ERLDC assured the house to look into the matter.

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 31st TCC MEETING

Date: 13th November, 2015

Venue: Hotel Swosti Premium, Bhubaneswar

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 31st TCC MEETING

Date: 13th November, 2015 (Friday)

Venue: Hotel Swosti Premium, Bhubaneswar.

ITEM NO. A1:	Confirmation of the Minutes of 30th TCC meeting held on 19.06.2015 at East Bourne Resort Khallini, Shimla.
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The minutes of the 30th TCC meeting held on 19th June 2015 were circulated vide letter no. ERPC/TCC & Committee/14/2015/H-362-431 dated 17th July 2015.

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

Members may confirm the minutes of 30th TCC meeting.

Deliberation in the TCC meeting

Members confirmed the minutes of 30th TCC meeting.

Part B :: ITEMS FOR DISCUSSION

ITEM NO. B1:	Poor- representation of constituent members in various sub-Committee meetings of ERPC
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ERPC (Conduct of Business Rules), 2011 provides for functions, composition, periodicity and other procedures of all sub-committee meetings of ERPC like OCC, PCC, CC and other special meetings. But unfortunately it is being observed that on many occasions sub-committee meetings of ERPC are not being represented by some of our constituent members.

The issue was discussed in 27th TCC/ERPC meeting wherein all the constituents were advised to give proper representation in lower forums of ERPC for fruitful deliberation.

TCC/ERPC also advised ERPC Secretariat to strictly monitor the pattern of representation of constituents in all the meetings of lower forum of ERPC and report back to next TCC meeting.

Non-representation in the recent past is placed below for ready reference:

Sl. No	Name of Meeting	Held on	Non-representation
1	110 th OCC	29.06.15	Adhunik
2	111 th OCC	24.07.15	Adhunik, JITPL
3	112 th OCC	21.08.15	Sikkim
4	113 th OCC	14.09.15	WBSEDCL, SLDC Bihar, Adhunik, JITPL

5	114 th OCC	16.10.15	Sikkim, Adhunik, JITPL
6	32 nd PCC	30.06.15	SLDC Bihar, SLDC Jarkhand, SLDC West Bengal, Sikkim, Adhunik, JITPL, MPL, GMR,
7	33 rd PCC	21.07.15	SLDC Bihar, SLDC Jarkhand, SLDC DVC, Adhunik, Sterlite, JITPL, MPL, GMR,
8	34 th PCC	14.08.15	SLDC Bihar, Sikkim, NHPC, Adhunik, JITPL, MPL, GMR,
9	35 th PCC	15.09.15	SLDC Bihar, Sikkim, Adhunik, JITPL, MPL, GMR,
10	36 th PCC	15.10.15	SLDC Bihar, Sikkim, Adhunik, JITPL, MPL, GMR,
11	Special PCC Meeting	20.07.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR
12	5 th PRM Meeting	24.09.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR
13	1 st Standing committee meeting for state sector	21.09.15	Sikkim
14	30 th CCM	16.09.15	JUSNL, Sikkim, Adhunik, JITPL, MPL, GMR, Sterlite,

TCC may deliberate and ensure proper representation in sub-committee meetings of ERPC.

Deliberation in the TCC meeting

Member Secretary, ERPC pointed that last few sub-committee meetings of ERPC, especially PCC meetings, have been poorly represented for the last few months. It was informed that representatives from SLDCs mainly from Bihar and Jharkhand are regularly not attending PCC meetings of ERPC inspite of specific instruction of ERPC. Due to these, it was reiterated, many of the sensitive issues left undecided, unresolved.

TCC advised all constituents to ensure proper representation in sub-committee meetings of ERPC.

Bihar and Jharkhand and others agreed to ensure proper representation in PCC meetings with SLDC personnel.

Sikkim agreed for proper representation in all the meetings of lower forum of ERPC.

ITEM NO. B2:	Reporting and Analysis of Disturbances in PCC Meeting— Submission of DR, EL and other relevant information.
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It was observed that in most cases reports are not received within the stipulated time and also lack of complete details and supporting documents like DR and EL outputs. This leads to incomplete and/or delayed analysis of the incidents.

It is also observed that representatives from respective SLDCs are frequently not attending PCC meetings with detailed analysis of the disturbances occurred in the respective control area. As a result PCC is facing problem in giving proper recommendations towards protection coordination problems.

The issue was discussed in 28th TCC Meeting, wherein all the constituents were advised the following:

- Concern SLDC to give the preliminary reports of disturbance in their respective systems to ERLDC in time in specific format as per CERC guidelines along with relay flags, DR printout, pre-fault condition etc.
- Concern protection engineers to submit the detail analysis of the disturbance in respective system to ERLDC/ERPC at least 3/4 days ahead of monthly PCC meeting.
- Concern officer from SLDC and Protection wing to attend PCC meetings and analytically present the case with all the details including SLD.

However on many occasions till date since 28th ERPC it has been observed that the decision of ERPC were not being complied. Few of such cases are placed below as ready reference:

Sl. No.	Disturbance	Information not furnished during/before the meeting	Utility
32nd PCC Meeting			
1.	Multiple trippings in South Odisha system on 21/05/15 09:24 hrs.	PCC advised Powergrid to submit the detail report with proper analysis on tripping of all 400 kV lines along with all DR, EL and other relevant information pertaining to this incidence.	Powergrid-Odisha
	Total power failure at 220kV Budhipadar and adjacent 220kV and 132kV Sub-stations of OPTCL system on 23/05/15 at 11:08hrs.	PCC advised OPTCL to enquire about the tripping incidences and report it after proper analysis.	OPTCL
33rd PCC Meeting			
	Total power failure at 220/132 kV Hatia S/s (JUSNL) on 14/06/15 at 07:30hrs.	On scrutiny of disturbance report submitted by SLDC, JUSNL with respect to reports of CRITIL, JUSNL, PCC observed wide variance and with that it was difficult to arrive at the conclusion. Therefore, PCC advised JUSNL to analyze the disturbance properly and place the detail report in the next PCC meeting.	JUSNL
34th PCC Meeting			
	Total power failure at 220kV Budhipadar S/s of OPTCL system on 03/07/15 at 22:27hrs.	PCC advised OPTCL to collect the tripping details at IBTPS, Katapalli & Vedanta ends and submit to ERPC/ERLDC within 10 days.	OPTCL

35th PCC Meeting			
	Total Power failure in part of North Bihar on 11/08/15 at 13:09hrs.	PCC advised to collect all the tripping details along with pre-fault data like power flow in the lines etc. from the respective sub-stations and carry out the detailed analysis.	BSPTCL
	Total Power failure in part of North Bihar on 17.08.15, 15:27 & 15:35 hrs.	PCC advised to collect all the tripping details along with pre-fault data like power flow in the lines etc. from the respective sub-stations and carry out the detailed analysis.	BSPTCL
	Total Power failure in part of North Bihar on 18.08.15, 11:35 and 11:42hrs.	PCC advised BSPTCL to collect the tripping details of 132 KV Purnea-Forbesganj line and submit to ERPC/ERLDC.	BSPTCL
	Total power failure at 220kV Chandil S/s of JUSNL system on 28/08/15 at 16:05hrs.	PCC advised JUSNL to send the DR output files to ERPC/ERLDC within 2 days for proper analysis of the incident	JUSNL
36th PCC Meeting			
	Disturbance at 132 kV Lalmatia (JUSNL) S/s on 02/09/15 at 12:29 hrs	ERLDC informed that details were not mentioned in the reports received from both JUSNL and NTPC end. PCC felt that constituents should send the report with proper details for detailed analysis of the tripping incidence.	NTPC and JUSNL

TCC may ensure proper co-ordination among SLDC and protection engineers towards compliance of direction of 28th ERPC.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that constituents are not sending proper tripping reports, DR and EL output files to ERPC/ERLDC. These lead to incomplete/delayed analyses of the incidents and PCC could not arrive any conclusion. It was further intimated that on many occasions analysis were not done at constituent level. Without DR/EL, lack of proper information and proper analysis disturbances are not being properly deliberated and PCC failed to advise remedial measures. These are resulting repetition of the same type of disturbances. Therefore, Member Secretary, ERPC expressed, the purpose of PCC meeting is getting defeated.

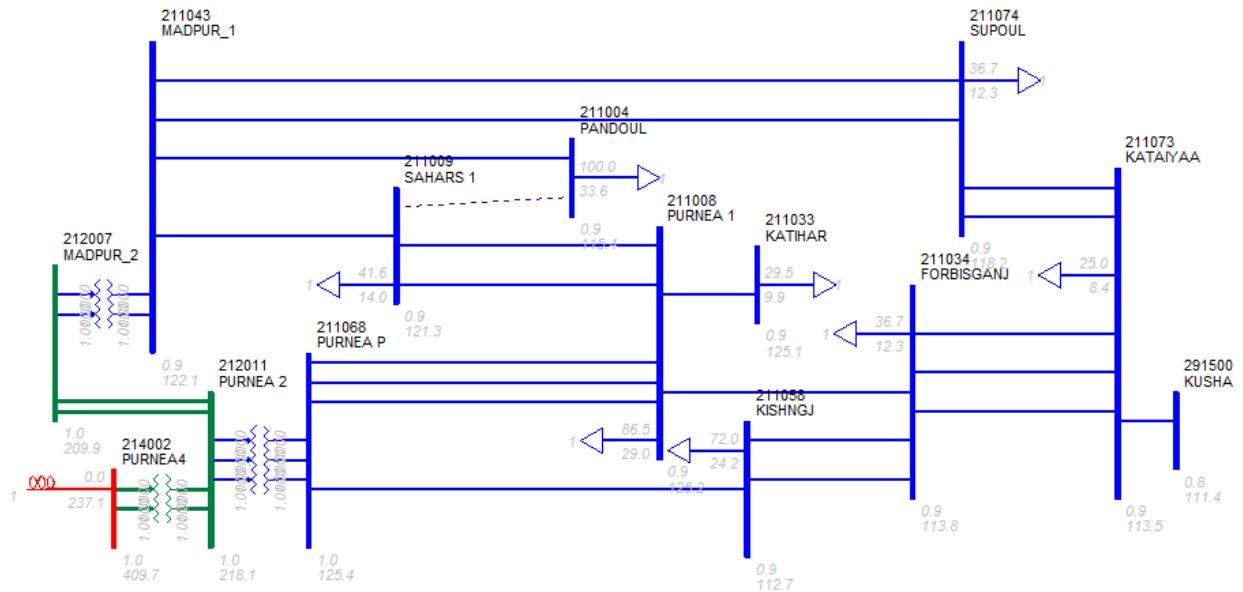
ERLDC added that representatives usually attend PCC meeting without preparation. Repeated trippings are being occurred in Bihar and Jharkhand system which needs special attention by the ERPC forum.

NLDC informed that they are also updating regarding lessons learned from the disturbances and it will be difficult to arrive at conclusion without DR and EL output files.

TCC advised all constituents to send the tripping reports in proper formats as well as DR,EL, SOE outputs etc. to ERPC/ERLDC within time frame. TCC also advised all constituents to attend the all the PCC meetings of ERPC with detailed analysis of the tripping incidences along with required information and with proper representation from respective SLDCs.

ITEM NO. B3:	Uncoordinated trippings around Purnea (and loss of supply to Nepal) & Bihar Shariff in BSPTCL system and frequent disturbances in JUSNL system
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A. Around N. Purnea/ Purnea



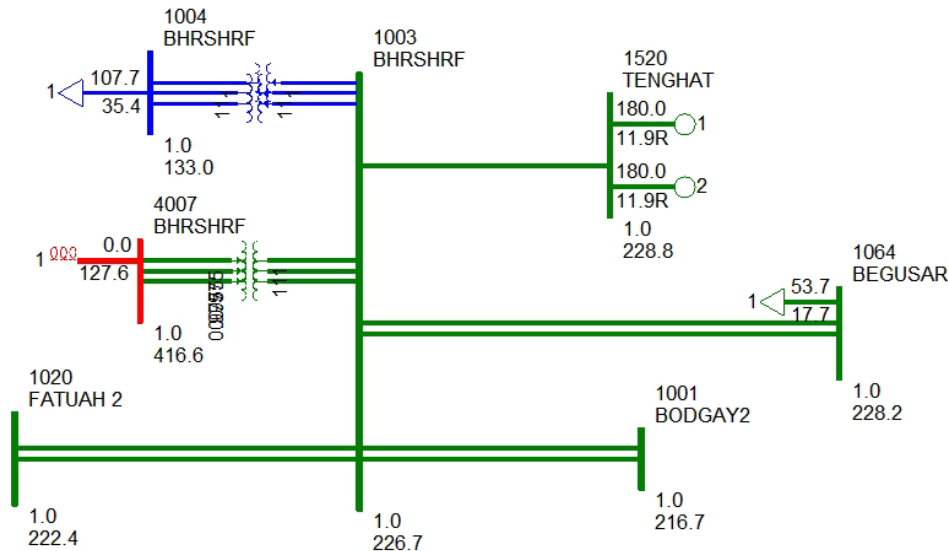
220kV N. Purnea – Madhepura line (single as well as both circuits) along with 132kV Purnea (PG) – Kishanganj and/or Purnea(BSPTCL) – Farbisganj lines tripped on a number of occasions during August to September, 2015. Some of the instances are listed below:

- 11/08/15, 13:09hrs:- Load Loss of 300 MW as total power failure occurred in part of North Bihar (Madhepura, Supaul, Katiya) due to tripping of 220kV Purnea (PG)-Madhepura-II on B-Ø to ground fault. Power supply to Nepal also got interrupted.
- 18/08/15, 11:35 and 11:42hrs:- Load loss of 222 MW as total power failure occurred in part of North Bihar (Madhepura, Supaul, Katiya) due to tripping of 220kV Purnea (PG)-Madhepura-II on B-Ø to ground fault. Power supply to Nepal also got interrupted.
- 27/08/15, 22:18 hrs:- Load loss 350 MW as total power interrupted at 220 KV Madhepura S/S when 220kV Purnea- Madhepura- I tripped on R-Y fault . 220kV Purnea- Madhepura-II tripped on Y-N fault. At the same time 132 KV Purnea(Bihar) – Purnea(PG) –T/C ,132 KV Purnea-Kishanganj and 132 KV Purnea(Bihar) –Farbisganj S/C tripped on O/C
- 07.09.15, 23:01 hrs:-Load loss 450 MW as power supply interrupted in some parts of North Bihar and in Nepal due to tripping of 220/132kV ICTs at Madhepura S/s.
- 08.09.15, 12:35 hrs:- Load loss 90 MW as total power failure occurred at 220kV Madhepura S/s due to tripping of 220kV Purnea (PG)-Madhepura-D/C on B-Ø to ground fault.

Such tripping, besides causing widespread power failure in N. Bihar, also led to interruption of power supply to Nepal.

The incidents were deliberated in 35th and 36th PCC meetings of ERPC, but due to lack of detailed information, the shortcomings and requisite corrective measures could not be identified.

B. Biharshariff



Complete failure of power supply to Biharshariff and adjoining S/Stns occurred at 11:01 hrs of 10.09.15 and again at 08:30 hrs of 08.10.15, due to delayed fault clearance within BSPTCL system.

At 11:01 hrs of 10-09-15, all the 400/220kV, 315 MVA ICT-I,II & III at Biharshariff (PGCIL) tripped from HV side due to operation of back up over current protection resulting in 450 MW load loss at Biharshariff, Fatuah, Gaighat, Sheikhpura, Hatida, Hulasganj etc. The incident was deliberated in the 36th PCC meeting, but could not be analysed in detail.

Similar nature of disturbance occurred at 08:30 hrs of 8-10-15 due to SLG (i.e B-N) fault in 220kV Biharshariff- Begusarai-I and subsequent tripping of 220kV Biharshariff- Begusarai-II followed by tripping of all the three 400/220kV, 315MVA ICTs at Biharshariff(PG) on back-up overcurrent protection.

The above occurrences indicate that the primary protection of BSPTCL transmission elements connected at Biharshariff are repeatedly failing to clear faults within their respective protective zones.

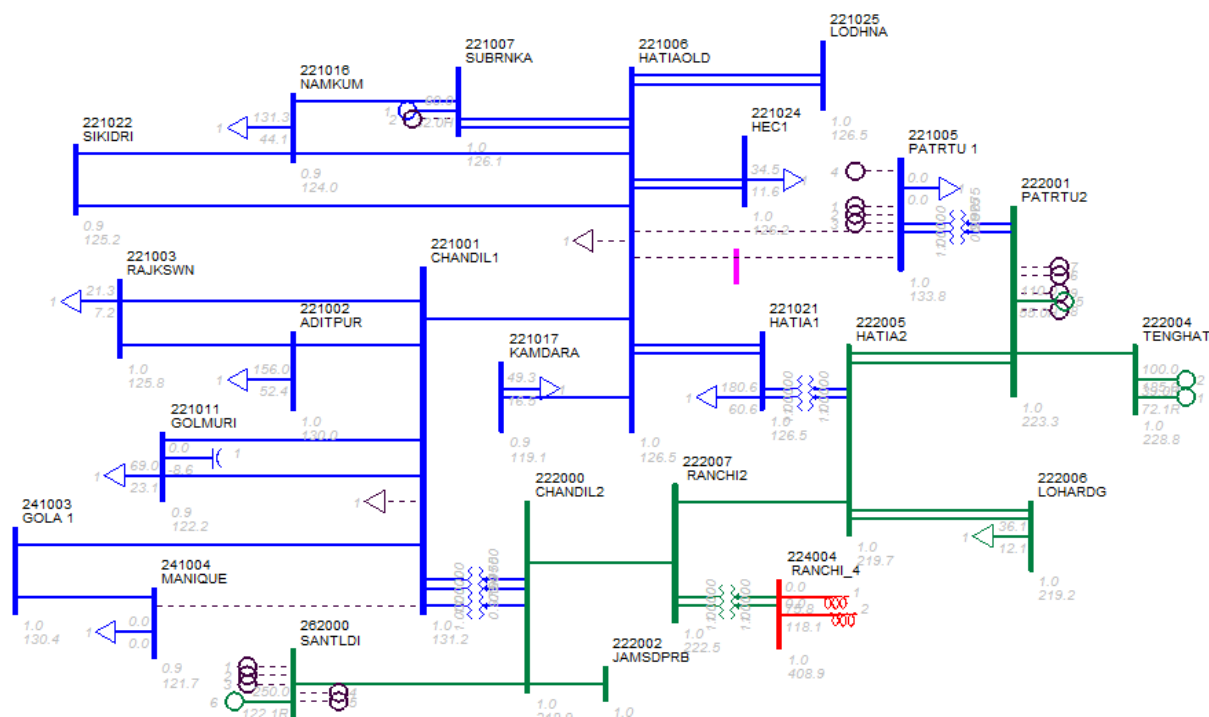
C. Frequent disturbances in JUSNL system

Repeated disturbances are occurring at various locations within JUSNL, causing interruption of supply to the loads catered from Chandil and Lalmatia S/Stns in particular.

Some of the instances are listed below:

- Disturbance at 132 kV Lalmatia (JUSNL) S/s on 03/06/15 at 16:50hrs, 02/09/15 at 12:29 hrs, 17/09/15 at 13:10hrs and 27/09/15 at 17:43hrs
- Total power failure at 220/132 kV Hatia S/s (JUSNL) on 14/09/15 at 11:38hrs

- Total power failure at 220kV Chandil S/s of JUSNL system on 29/07/15 at 16:53 Hrs, on 14/08/15 at 10:10hrs and on 28/08/15 at 16:05hrs



Apart from domestic, industrial and commercial consumers, traction services are also being adversely affected.

The incidents could not be analysed satisfactorily during deliberations in 34th, 35th and 36th PCC meetings in the absence of adequate supporting information from JUSNL.

Under the circumstances, TCC may consider formation of a core group comprising experts from PGCIL, DVC, WBSETCL, ERLDC and ERPC Secretariat to look into the deficiencies around New Purnea/ Purnea & Biharshariff in BSPTCL system and in JUSNL system and identify suitable remedial measures to prevent recurrence of such incidents.

TCC may deliberate.

Deliberation in the TCC meeting

DIRECTOR (Projects) BSPTCL, informed that the tripping of 220kV Purnea/Madhepura as mentioned above were due to transient fault on 220kV Madhepura-Purnea D/C line because of infringement. Moreover huge quantum of power is being exported to Nepal and in case of tripping of any 132kV line in that area lead to overloading of the lines.

DIRECTOR, BSPTCL added that there were two trippings in Biharshariff as mentioned above. No fault was observed at Bihar end in one case whereas in other incidence 220kV Begusarai end failed to identify the fault. It was informed that the protection system at 220kV Begusarai is being made effective.

Member Secretary, ERPC informed that repeated trippings are being occurred in around New Purnea, Madhepura and Biharshariff in Bihar which are adversely affecting power supply in different state regions including cross border supply to Nepal.

Therefore, it was proposed to constitute a team of protection experts of eastern region which will be assigned to give expert opinion on remedial measures after visiting the affected areas.

Bihar and other members appreciated the proposal.

After detailed deliberation, TCC decided to constitute a team with following members with Member Secretary as team leader for reviewing the protection system in around New Purnea, Madhepura and Biharshariff substations in Bihar and Chandil, Ramchandrapur and Adityapur in Jharkhand:

- *Shri Sabyasachi Roy, ACE, WBSETCL,*
- *Shri L Nayak, GM, OPTCL*
- *Shri Jayanta Datta, SE, DVC*
- *Shri Surajit Bannerjee Asst GM, ERLDC,*
- *Shri Jiten Das, Asst GM, PGCIL*

TCC referred the issue to ERPC for concurrence.

ITEM NO. B4:	Implementation of Zone settings as per Protection Philosophy of Eastern Region
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The Protection Philosophy of Eastern Region was finalized in special PCC meeting held on 20th July, 2015 which is as given below:

Sl. No.	Zone	Direction	Protected Line Reach Settings	Time Settings (in Seconds)	Remarks
1	Zone-1	Forward	80%	Instantaneous (0)	As per CEA
2a	Zone-2	Forward	For single ckt- 120 % of the protected line	0.5 to 0.6 - if Z2 reach overreaches the 50% of the shortest line ; 0.35- otherwise	As per CEA
			For double ckt- 150 % of the protected line		As per CEA
2b	Zone-2 (for 220 kV and below voltage Transmission lines of utilities)	Forward	120 % of the protected line, or 100% of the protected line + 50% of the adjacent shortest line	0.35	As per CEA with minor changes
3	Zone-3	Forward	120 % of the (Protected line + Next longest line)	0.8 - 1.0	As per CEA

4	Zone-4	Reverse	10%- for long lines (for line length of 100 km and above) 20%- for short lines (for line length of less than 100 km)	0.5	As per CEA
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Note:

- 1) **Zone-2:- Z2 Reach should not encroach the next lower voltage level.**
- 2) **Zone-3:- If Z3 reach encroaches in next voltage level (after considering “in-feed”), then Z3 time must be coordinated with the fault clearing time of remote end transformer.**
- 3) **Zone-4:- If utility uses carrier blocking scheme, then the Z4 reach may be increased as per the requirement. It should cover the LBB of local bus bar and should be coordinated with Z2 time of the all other lines.**
- 4) **The above settings are recommended primarily (exclusively) for uncompensated lines.**

All the constituents agreed on the principles read with notes as above.

Thereafter, PCC advised all constituents to compute their revised settings of inter State Transmission lines as per the above agreed philosophy and submit to ERPC/ERLDC at the earliest so that the agreed zone settings can be implemented by September, 2015.

Further, the standard values of R, X parameters as furnished by Powergrid as given below:

S. N.	Conductor type	Line	Voltage	Positive sequence Resistance (R) Ohm/ph/km	Positive sequence Reactance (X) ohm/ph/km	Zero sequence Resistance (R0) ohm/ph/km	Zero sequence Reactance (X0) ohm/ph/km	Mutual compensation Impedance (ZM) ohm/ph/km
1	TWIN MOOSE	D/C	400	0.0297	0.332	0.161	1.24	0.528
2	QUAD MOOSE	D/C	400	0.0146	0.2509	0.1895	0.833	0.528
3	SINGLE ZEBRA	D/C	220	0.0749	0.3993	0.22	1.339	0.824
4	SINGLE ZEBRA	S/C	220	0.079	0.41	0.2765	1.435	NA
5	SINGLE PANTHER	S/C	132	0.1402	0.3976	0.295	1.386	NA

Note: It was informed that the above R and X values are not standard value. These values may be considered in general as reference wherever measured values are not available. The R and X value has been measured from line impedance test and the test result has shown slight deviation from general R and X value of conductor.

Thereafter, PCC advised all constituents to compute their revised settings of inter State Transmission lines as per the above agreed philosophy and submit to ERPC/ERLDC at the earliest so that the agreed zone settings can be implemented by September, 2015.

In 35th PCC, constituents requested for line parameters of TWIN MOOSE S/C, PANTHER D/C and ACSR conductors.

Till 36th PCC, modified zone settings have been submitted by DVC only. However, NTPC has informed that the revised zone settings have been implemented except the Z-3 (restricting it to the next voltage level).

BSPTCL, JUSNL, WBSETCL, OPTCL and POWERGRID may submit the modified settings.

TCC may advise.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that Powergrid vide mail dated 04.11.2015 has submitted the Line Parameters of different conductors which is as given below:

Tower	R1	X1	B1	R0	X0	B0	Xm	Xom	Load-ability
132kV D/C Single Panther	0.1400	0.4010	2.8600	0.3540	1.3300	1.7800	0.2630	0.8220	
220kV D/C Single Zebra	0.0697	0.3980	2.9100	0.2810	1.2900	1.8400	0.2510	0.8030	400.00
400kV S/C Twin Moose	0.0288	0.3280	3.5500	0.2850	1.0200	2.6100			
400kV D/C Twin Moose	0.0288	0.3070	3.7700	0.2690	1.0700	2.2900	0.2080	0.6750	1500.00
400kV D/C Quad Moose	0.0147	0.2530	4.5800	0.2480	1.0000	2.6400	0.2030	0.6620	2000.00
400kV D/C Tripple snowbird	0.0195	0.2700	4.2700	0.2000	0.8620	2.4900	0.2130	0.5040	
400kV D/C Twin Lapwing	0.0197	0.3060	3.8000	0.2050	0.9010	2.3700	0.1700	0.5020	
765kV S/c Quad Bersimis	0.0114	0.2860	4.0200	0.2400	0.9360	2.6000			3500.00
765kV D/C Hexa zebra	0.0446	0.9070	1.2700	0.8310	3.4100	0.7190			
220 kV SINGLE ZEBRA S/C	0.074875	0.39925		0.219978	1.339228				
132 kV SINGLE PANTHER S/C	0.1622	0.3861		0.4056	1.622				

He also informed that JUSNL, BSPTCL and WBSETCL also submitted the revised zone settings.

TCC advised all the other constituents to implement the revised zone settings and submit the settings to ERPC.

Further, TCC referred the issue to PCC forum to review the line parameters and monitor the progress of implementation of revised zone settings.

ITEM NO. B5:	Implementation of Bandel Islanding Scheme, WBPDC
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In 23rd TCC technical feasibilities of new Islanding schemes on Bakreswar and Bandel TPS of WBPDC were placed and approved.

Thereafter, it was also decided that implementation of Bandel Islanding scheme will commence after Islanding Schemes for Bakreswar TPS will be in place.

Subsequently on completion of Bakreswar Islanding Scheme WBPDC in 30th TCC informed that four numbers of old units (each of 60 MW) at Bandel TPS required to be renovated for implementation of islanding scheme. Unit#5 of Bandel TPS is having capacity of HP, LP bypass of 30% and it is under renovation. However, further detail deliberation is required for implementation of the scheme.

30th ERPC advised to initiate the implementation process in line with decision of previous board but advised secretariat to have deliberations in lower forum for further reviewing the Technical bits of the Bandel Islanding Scheme.

In 112th OCC, WBPDCCL delivered a fresh presentation for the Islanding scheme in Bandel TPS.

After discussions, 112th OCC expressed doubt on survival of the islanding scheme with single unit (unit#5 of 250 MW). However, OCC referred the issue to PCC for further discussion.

In 35th PCC held on 15.09.2015, PCC felt that with 30% HP-LP bypass and through islanding scheme catering huge variation of load (from 225 MW to 105 MW) between peak & off-peak and summer & winter conditions, the success of survival of island will be very less. In addition since the load from 4/5 stations are considered it would be difficult to make island with only UFR operated relays. The communication system through fibre optic or any specific communication channel is therefore recommended.

After detailed deliberation, PCC advised WBSETCL and ERLDC to check whether the islanding scheme can be put into service specifically for peak periods or more load stations can be added in off-peak conditions.

In 114th OCC, WBSETCL informed that adding more load stations during off-peak conditions is a difficult task with such huge seasonal variation in load and it is not possible without manual intervention of grid operator.

Considering all the facts and figures, OCC decided that Bandel Islanding Scheme could be implemented for grid security meant for peak periods only and accordingly advised WBPDCCL to initiate implementation.

TCC may decide.

Deliberation in the TCC meeting

WBPDCCL informed that after R&M of unit #5 the effective capacity became 215 MW (from earlier capacity of 250 MW). It was also informed that with unit #5, the success rate of islanding scheme will be less than 50 % as unit may not available (during maintenance and other problems).

He also added as per decision of the WB SERC the old units of Bandel i.e. Unit # 1, 2, 3 & 4 units are going to be renovated and the islanding scheme for whole Bandel TPS can be implemented after renovation to improve the reliability of the islanding scheme.

It was informed that all those criteria have been considered during deliberation in OCC and PCC meetings and OCC agreed to implement the islanding scheme as proposed above only for peak periods.

TCC agreed and advised WBPDCCL to go ahead with the implementation of islanding scheme.

WBPDCCL and WBSETCL agreed.

TCC referred the issue for ERPC endorsement.

ITEM NO. B6:	Strengthening of Kolaghat – Kharagpur – Musaboni 132 KV D/C line of DVC
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The existing Jamshedpur – Musaboni – Hizlee (DVC) – Kolaghat (DVC) 132 kV D/C line passes through very close proximity of WBSETCL's Kharagpur 400/220/132 kV sub-station (around 1 Km) and Debra 132/33 kV sub-station (around 0.5 Km).

It is understood that the line segment of DVC is not utilised to its full capacity as there is source constraints and facing low voltage problem due to very long 132 kV line segment (around 240 Km) between Kolaghat to Jamshedpur.

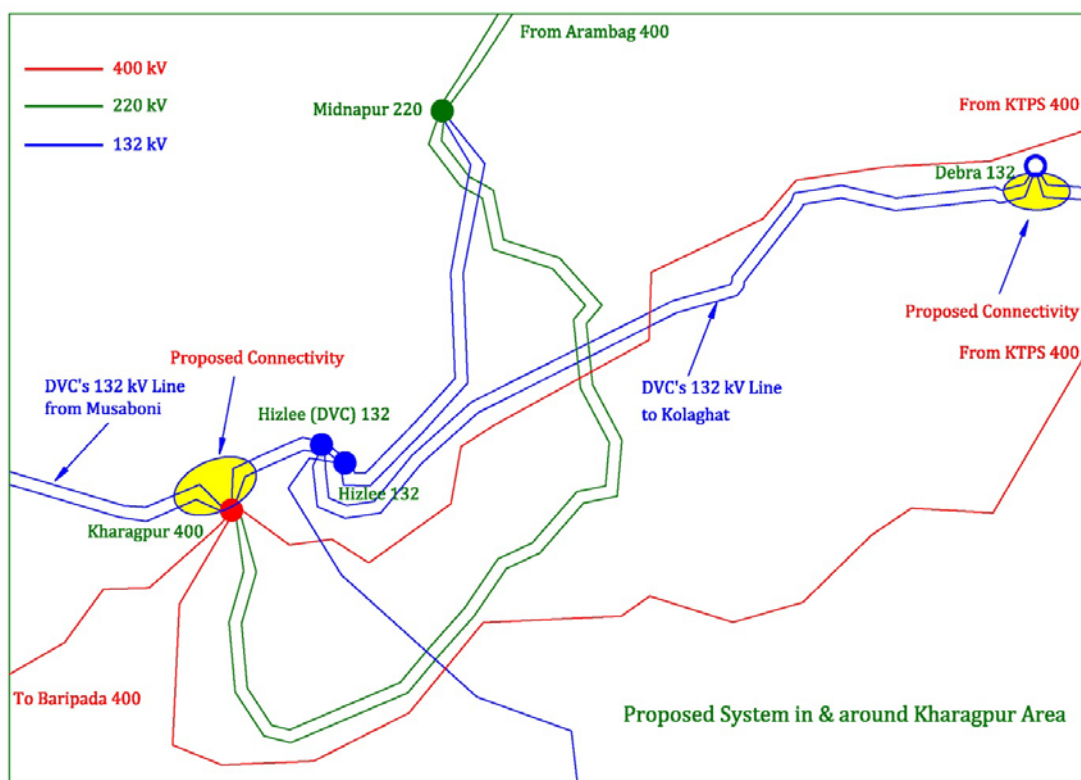
Considering above, WBSETCL proposed LILO of Musaboni – Hizlee (DVC) portion of this line at Kharagpur 400/220/132 kV sub-station of WBSETCL for injection of power which will lead injection of power in between and reduce the effective length of continuous 132 kV line from 240 Km to 160 Km. Normally, Kharagpur – Musaboni portion will be kept off condition and this line will be utilised during exigency. This in turn will help in flow of more power at better regulated voltage, thereby improves the power quality/reliability at DVC's system.

Further it is proposed LILO of Hizlee (DVC) – Kolaghat (DVC) portion of this line at Debra 132 kV sub-station of WBSETCL, which is around 0.5 Km away from the line, for drawal of around 50-60 MW power. This will set aside construction of around 25 Km 132 kV D/C line.

The above arrangement will be benefit to the Nation in general and will benefit the consumers of both the State of Jharkhand & West Bengal in particular.

In view of above, WBSETCL proposed utilisation of Kharagpur (WBSETCL) – Hizlee (DVC) – Debra (WBSETCL) portion of the DVC's above line to achieve the following benefits:

1. Existing assets can be utilised effectively and gainfully
2. DVC, Jharkhand & West Bengal will be benefited
3. Construction of new transmission line (Midnapur to Debra 132 kV D/C; RL \approx 25 Km) can be avoided resulting less burden to consumers
4. Impacts to agricultural operations & forests can be avoided by keeping away construction of a new transmission line parallel with an existing line on separate structures
5. National interest will be served



ERPC made a preliminary study of the proposal.

TCC may allow secretariat to present the study results and guide on the issue so that the same could be decided in next Standing Committee for State Sector Meeting.

Deliberation in the TCC meeting

ERPC gave a brief presentation on WBSETCL proposal and explained that since 400kV system is getting connected at 132kV Kharagpur(DVC) S/s, it will improve the voltage in around Kharagpur during peak load hours.

DVC also delivered a presentation and informed that they have installed 220/132 kV ATRs at Durgapur (DVC) due to which the low voltage problem at 132kV Kharagpur(DVC) S/s is now resolved.

During deliberation Chairperson, ERPC pointed that in present days getting ROW for new lines is difficult and therefore the existing lines/infrastructure must be used for better utilization in national interest which ultimately benefit the consumers.

After detailed discussion, TCC decided that a threadbare deliberation is required at State Standing Committee (SSCM) with all details, Accordingly, TCC advised DVC and West Bengal to submit the details required for load flow study to ERLDC/ERPC before next SSCM meeting and advised ERPC and ERLDC to carry out detailed study.

The issue was referred to 2nd meeting of SSCM scheduled to be held on 4th December, 2015.

ITEM NO. B7:	Priority-based augmentation of ICT capacity
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High loadings with consequent non-compliance of (n-1) security criterion were observed for the 400/220kV ICTs at Patna, Muzaffarpur, Maithon and Sasaram throughout July to October. Though the ICT capacities at these substations are scheduled for augmentation in a phased manner starting from Jan-16, in the interest of secure and unconstrained operation, an additional ICT or replacement of an existing 315 MVA ICT by a 500MVA ICT is required at each of the following locations on priority basis by April 2016 i.e. before onset of next summer season:

1. Patna
2. Muzaffarpur
3. Maithon
4. Sasaram

Keeping in view the rapidly growing demand of Bihar and uncertainty of generation level within the 220kV system of DVC, POWERGRID may arrange for augmentation of ICT capacity as per the aforesaid priority.

The load duration curves of ICTs for last three months are depicted in **Annexure-B7**.

TCC may deliberate & decide.

Deliberation in the TCC meeting

TCC advised Powergrid to expedite the argumentation of the ICTs.

Powergrid has given the schedule of commissioning as follows:

1. Patna- 1st ICT – Jan, 2016 & 2nd ICT- Mar, 2016
2. Muzaffarpur- Dec, 2015
3. Maithon- 1st ICT- Mar, 2016 & 2nd ICT- June, 2016
4. Sasaram- 1st ICT- Jan, 2016 & 2nd ICT- Mar, 2016

So all the ICTs will be available before Summer.

Director, BSPTCL informed that the up-gradation of 315 MVA ICT by 500 MVA ICT at Purnea was accomplished in less than 10 days and therefore thanked Powergrid.

TCC appreciated the effort of Powergrid and advised Powergrid to prepare a write up for early commissioning/up gradation of ICT which may be circulated in lower forum of ERPC for the benefit of ER constituents.

ITEM NO. B8:	Priority-based commissioning of bus reactor for control of high voltage during lean periods
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With approach of winter season, the demand in E. Region and W. Bengal in particular has started reducing, thereby aggravating the high voltage problem at some of the 400kV S/Stns.

At Beharampur, the 400kV bus voltage is frequently exceeding 420kV, with corresponding rise of 400kV AC side voltage at HVDC B-t-B Bheramara. Persistent high voltage at Farakka and at Sagardighi power stations is also responsible for causing high voltage at Beharampur.

As the switching in/out of harmonic filter banks is dependent on HVDC power order and cannot be controlled manually, Bangladesh is often expressing difficulty in importing the full quantum of power scheduled from NTPC and W. Bengal, to avoid overvoltage tripping of any 400kV incoming circuit, on account of automatic switching in of additional filter bank.

Therefore an additional bus-reactor of 80MVAR or 125 MVAR capacity needs to be installed at Beharampur on urgent basis to control the 400kV voltage below 420kV. In addition, bus reactor capacity also needs to be enhanced at Farakka to control the voltage

Further, the bus reactor of Jamshedpur (125 MVAR) and Biharshariff (125 MVAR) needs to be installed in order of priority, as early as possible.

TCC may deliberate.

Deliberation in the TCC meeting

Powergrid informed that for additional bus-reactor of 125 MVAR capacity at Beharampur, NIT will be done in Nov, 2015 and best efforts will be made for commissioning the same by Dec, 2016 even when commissioning schedule is Apr, 2017.

Regarding Bus reactor of Jamshedpur and Biharshariff, it was informed that the reactors will be available by April/May 2016 and will be commissioned in another 3 months.

TCC advised Powergrid to expedite the diversion of reactors from other regions/locations.

NLDC informed that additional bus reactor at Behrampur is urgently required as Bangladesh power is getting curtailed because of high voltage issues.

Powergrid informed that efforts are being made to divert 50 MVAR reactor from Rourkela which is kept as a spare to Beharampur and to commission by June 2016.

ITEM NO. B9:	Commissioning of 125 MVAR reactor at 400 kV Jeypore S/S.
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In 30th TCC, OPTCL informed that 220kV Jeypore is facing severe high voltage problem and insisted for lowering of ICT tap at 400kV Jeypore S/s. ERLDC informed that load flow study was done and further lowering of ICT tap (at present tap is at 14) is not possible as it will enhance the 400kV side voltage. ERLDC suggested for early commissioning of 125 MVAR reactor at 400kV Jeypore to control the high voltage.

In view of above, TCC insisted Powergrid to explore the diversion of some reactors for early commissioning of a reactor at 400kV Jeypore i.e. by August, 2015 as schedule target of 2016 is not affordable.

Powergrid agreed to commission the reactor by August, 2015 by diverting one reactor from other scheme/region.

In 112th OCC, held on 21.08.2015, OCC advised Powergrid-Odisha to expedite the installation of reactor at 400kV Jeypore (PG) S/s.

Powergrid may update.

Deliberation in the TCC meeting

Powergrid-odisha informed that 125MVAR reactor at 400kV Jeypore (PG) S/s will be installed by December, 2015.

ITEM NO. B10:	Status of Bus Splitting of Kahalgaon STPS Stage I&II, NTPC.
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In 24th ERPC meeting held on 27.04.2013, ERPC advised NTPC to go ahead with the scheme as it is a technical requirement for safe, secure operation of the grid. It was also decided that initially constituents of ER will share their portion of cost as per tariff approved by CERC for this purpose, and subsequently if there is release of PSDF by CERC the same will be reimbursed to constituents accordingly.

Appraisal Committee of PSDF rejected the NTPC proposal for PSDF funding.

Subsequently NTPC filed an Interlocutory Application for in-principle approval to the work of 400 kV Bus Sectionaliser and capitalization of the associated expenditure for the purpose of tariff for safe and reliable operation of the grid.

But Commission vide order dated 6/2/15 issued the following-

QUOTE:

“.....

6. The submissions have been considered. We now consider as to whether the prayer of the petitioner for in-principle approval for the additional capital expenditure schemes is maintainable. Regulation 7 (3) of the 2014 Tariff Regulations provides that “in case of an existing generating station or transmission system or element thereof, the application shall be made not later than 180 days from the date of notification of the regulations based on admitted capital cost including any additional capital expenditure already admitted up to 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014- 15 to 2018-19. Accordingly, the petitioner vide its affidavit dated 14.8.2014 has filed the petition (Petition No.283/GT/2014) for determination of tariff of the generating station for 2014-19. The Commission in the tariff regulations applicable during the tariff period 2004- 09 had made provisions for „in-principle“ approval of the project capital cost for thermal power generating stations. However, while framing the 2009 Tariff Regulations (applicable for the period 2009-14) and the 2014 Tariff Regulations (applicable for the tariff period 2014-19), the Commission has done away with the provision for „in principle“ approval of the project capital cost applicable to thermal power generating stations. Since the scheme of the 2014 Tariff Regulations do not provide for the grant of in-principle approval, the prayer of the petitioner for grant of in-principle approval for additional capital expenditure of the said scheme is rejected.

7. It is noted that in Petition No. 283/GT/2014, the petitioner has claimed the projected additional capitalisation of Rs.98.94 crore in Form-9A for the year 2016-17 under Regulation 14(3)(ii) read with Regulation 14(3)(ix) of the 2014 Tariff Regulations on the grounds similar to those raised in the I.A. The claim of the petitioner for capitalisation of the said work will be considered after prudence check in terms of the provisions of the 2014 Tariff Regulations. Hence, the prayer of the

petitioner for grant of in-principle approval of the work on 400kV Bus Sectionaliser is not allowed.

.....”

UNQUOTE

NTPC may update.

Deliberation in the TCC meeting

NTPC informed that they are going ahead with the implementation of Bus Splitting of Kahalgaon STPS Stage I&II and the implementation is expected to be completed by December, 2018.

NTPC has given the schedule as follows:

- *400/132kV Switchyard package - bid opened. Award by another 2 months and completion time is 15 months for line bays and rest will be completed within 24 months.*
- *Site levelling – Site package awarded under execution.*
- *Transformer package – tendering under process and will be awarded in 4 months.*

In view of increasing fault level at KHSTPP TCC advised NTPC to expedite.

ERLDC also enquired about the status of implementation of bus splitting scheme at other 400kV substations and Powergrid updated the commissioning target as follows:

- *Maithon - within 15 days*
- *Biharshariff - Feb, 2016*
- *Durgapur - Oct, 2016*

ITEM NO. B11:	Constraints in evacuation of JITPL power -- JITPL
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JITPL vide letter dated 28-07-2015 informed that both the units of Derang, Angul, Odisha were declared CoD (unit#1 on 6th June, 2014 and unit#2 on 12th Feb, 2015) but to it NOC for 980 MW transaction only was issued against 1044 MW LTA.

JITPL cited that LILOs of 400kV Meramundali-Bolangir/Jeypore S/c line at Angul s/s and LILO of one line of 400kV Talcher-Meramundali D/c line at Angul S/s are causing constraint in evacuation.

JITPL further mentioned that as per the 17th standing committee meeting held on 25-05-2015, the above LILOs are to be removed.

112th OCC decided to refer the issue of removal of LILOs of 400kV Meramundali-Bolangir/Jeypore S/c line at Angul s/s and LILO of one line of 400kV Talcher-Meramundali D/c line at Angul S/s to next Standing Committee meeting as it will be done by CTU.

The decision of 17th SCM regarding “Bypassing arrangement of LILO of 400kV lines at Angul” is as given below:

QUOTE

“28.0 Bypassing arrangement of LILO of 400kV lines at Angul – agenda by POWERGRID

28.1 LILO of Meramundali – Bolangir/Jeypore 400kV S/c line at Angul pooling station and LILO of one ckt of Talcher - Meramundali 400 kV D/c line at Angul pooling station has been implemented along with Orissa Phase-I transmission system. While agreeing with these LILOs, it was decided that the LILOs would be disconnected after commissioning of 765 kV Angul pooling station. Now, 765kV Angul s/s and one ckt of Angul-Jharsuguda 765 kV line has been commissioned and the 2nd circuit of Angul-Jharsuguda line would be commissioned shortly. Further, under Orissa Ph-I generation projects, 5 generation projects are to be connected at Angul. Till date, only GMR and JITPL have been commissioned.

28.2 400kV 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 400kV LILOs may be operated either by-passing Angul substation or terminating at Angul sub-station as and when required, depending upon the power flow condition.

28.3 After, discussion Members agreed to the proposal as a part of Easter Region strengthening scheme-17 (ERSS-17) ”

UNQUOTE

CTU/Powergrid may update.

Deliberation in the TCC meeting

JITPL representative was absent to justify their agenda. TCC took serious note on this.

However, TCC felt decision taken in standing committee meeting and subsequently ratified in ERPC need no further deliberation under ERPC forum.

ITEM NO. B12:	Ratification of decisions of 17th Standing Committee Meeting on Power System Planning For Eastern Region
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The 17th meeting of Standing Committee on Power System Planning for Eastern Region convened by CEA, was held on 25.05.2015 at New Delhi. Various proposals for system strengthening schemes of Eastern Regional Grid were discussed and finalized. The minutes of the Standing Committee Meeting on were issued vide CEA letter no.66/5/SP&PA-2013/1367-1379 dated 11.06.2015.

In 30th TCC/ERPC, during deliberation on various decisions taken in 17th SCM, constituents raised certain observations on the minutes of 17th SCM. ERPC/TCC clarified that decisions of Standing Committee was evolved out in presence of constituent members of Eastern Region. Therefore ERPC decided that all constituents would communicate their reservations on minutes of 17th SCM, if any, within a week to Chief Engineer, SP&PA Division, CEA with a copy to Member Secretary, ERPC. Otherwise, decision taken in 17th SCM will be considered as ratified by ERPC.

In response to the above, WBSETCL and Powergrid had given their observations for modification in minutes of 17th SCM. No other constituents had responded.

Subsequently, two nos of corrigendum were issued vide CEA letter dated 18.06.2015 and 18.09.2015 respectively.

Corrigendum-1

ERPC vide its letter No. ERPC/MS/2015/1367-1379 dated 11.06.2015 has requested for additions/modification in para 27.7 of the minutes.

1. Para 27.7 was amended as given below:

“After further discussion it was decided that the LILO portion and 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID and necessary commercial arrangement in this regard would be made between POWERGRID and WBPDCCL”

Corrigendum-2

WBSETCL vide its letter No. CE/CPD/CEA/371 dated 27.07.2015 and POWERGRID vide its letter no. C/CTU/E/00/PLG dated 03.08.2015 have requested for additions/modification in items nos. 4, 9, 11 & 22 of the minutes of 17th SCM.

1. Para 4.0: Eastern Region Strengthening Scheme-XV (ERSS-XV): System strengthening in Eastern Region for transfer of additional 500MW power to Bangladesh

The following text to be inserted after 4.7-

WBSETCL agreed with the proposal and also cited that work of approved 765 kV system in West Bengal is to be expedited simultaneously on PRIORITY basis to ensure stability of power system at Jeerat(WB), Subhasgram(PG) & Rajarhat(PG) 400 kV sub-stations.

2. Para 9.0: 765 kV System Strengthening Scheme in Eastern Region

The following text to be inserted after 9.5-

WBSETCL submitted that actual demand for last 4-5 years of Eastern Region particularly for West Bengal almost matches with the 18th EPS projections. WBSETCL requested to implement the phase-I project on TOP PRIORITY basis in order to ensure security & reliability of power supply in the eastern part of West Bengal as well as additional export of 500 MW power to Bangladesh. Balance portion of the previously approved scheme shall be considered in phase- II.

3. Para 9.6 as per the uploaded minutes:

"After, further deliberation, Members agreed to the implementation of middle portion of the 765 kV ring as Eastern Region Strengthening Scheme-XVIII (ERSS- XVIII): 765 kV System Strengthening in ER (Phase-I) with the scope of works as given below:"

Amended para 9.6:

"After, further deliberation, Members agreed to the implementation of middle portion of the 765 kV ring as Eastern Region Strengthening Scheme- XVIII (ERSS- XVIII) : 765 kV System Strengthening in ER (Phase-I) with the scope of works as given, below on Top Priority basis:"

4. Para 11.0: Transformer augmentation requirements in Eastern Region

The following text to be inserted after 11.4-

WBSETCL mentioned that the present loading of 400/220 ICTs of Durgapur 400 kV substations of POWERGRID is not as much as shown. However, installation of 3rd 315 MVA transformer may be justified if 1 no. 220 kV bay earlier earmarked for 220 kV Durgapur-Bidhannagar line is revived for future connectivity of WBSETCL. WBSETCL informed that they have contemplated up-gradation of existing Ukhra 132 kV sub-station to 220 kV substation inter connecting with 220 kV D/C line from Durgapur 400 kV sub-station of POWERGRID. It was decided that the approval of revival of one 220kV bay and a new 220kV line bay including one no. 315 MVA ICT bay at Durgapur would be taken up in the next SCM subject to confirmation from WBSETCL regarding proposed Durgapur – Ukhra 220kV D/c line.

5. Para 22.0:Reconductoring of Maithon RB - Maithon 400kV D/c line of POWERGRID

The following text to be inserted after 22.2-

POWERGRID informed that implementation of Re-conductoring of Maithon RB – Maithon (PG) 400kV D/c line shall also require modifications / additions in bay equipment at Maithon 400/220kV sub-station of POWERGRID and switchyard of Maithon RB(MPL) generation project. The same was also agreed.

6. Installation of 2 nos. 50 MVAR line reactors at Sasaram end of Biharsharif - Sasaram 400 kV D/c (Quad) line (Part of Transmission System associated with DVC & Maithon RB Generation Projects-Supplementary Scheme)

Para 30.0(New Para to be added after Para 29.0):

POWERGRID stated that the approved scope of the subject transmission system indicated 2 nos. 400 kV line bays (without reactor) at Sasaram for termination of Biharsharif - Sasaram 400 kV D/c (Quad) line. Keeping in view the line length and voltage profile in ER, 50 MVAR line reactor at Sasaram end of both circuits of Biharsharif - Sasaram 400 kV D/c (Quad) line (200km quad conductor) was incorporated in the DPR of the subject scheme. However, CERC (vide Order No. 187/TT/2011) disallowed the tariff for these line reactors citing non-approval in Standing Committee and ERPC as the reason. Accordingly, constituents' approval for these reactors is required. The matter was discussed and members agreed for post-facto approval of installation of 50 MVAR line reactors at Sasaram end of Biharsharif - Sasaram 400 kV D/c line.

TCC may ratify the additions/modifications of 17th SCM minutes.

Deliberation in the TCC meeting

TCC approved the minutes of 17th SCM along with subsequent corrigendum.

Referred to ERPC for Concurrence.

ITEM NO. B13:	Maintenance of 400 kV LILO of Farakka-Subhasgram at SgTPP & 400 kV D/C SgTPP- Parulia line
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In 30th ERPC, as a follow up discussions on MOM of 17th SCM Powergrid informed that

1. LILO portion of 400 KV Farakka-Subhagram line will be maintained as per the agreement with WBPDCCL.
2. For 400kV Sg TPP-Parulia D/C line, the AMC contract will be extended up to December, 2016 and after that WBPDCCL has to plan for alternate arrangement for O&M of this line.

Subsequently, CEA vide letter dated 18.06.2015 issued a corrigendum for the minutes of 17th SCM wherein the para 27.7 was amended as---

“After further discussion it was decided that the LILO portion & 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID and necessary commercial arrangement in this regard would be made between POWERGRID and WBPDCCL”

In 114th OCC held on 16.10.2015, Powergrid informed that MOU for AMC of 400kV Sg TPP-Parulia (Durgapur) D/C line has been signed for one year.

WBPDCCL/ POWERGRID may update.

Deliberation in the TCC meeting

Member Secretary, ERPC informed that as per corrigendum of 17th SCM minutes LILO portion & 400kV Sagardighi - Durgapur D/C line would be maintained by POWERGRID.

Powergrid informed that as per policy decision taken in the Corporate office, the lines constructed by PGCIL on deposit basis will be maintained by PGCIL. So maintenance of these lines will be carried out by Powergrid in compliance of decision taken in 17th SCM.

ITEM NO. B14:	Standing Committee on Transmission Planning for State Sectors
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In line with decision taken in 30th ERPC meeting **Standing Committee on Transmission Planning for State Sectors in Eastern Region was formed.**

First meeting was held at ERPC, Kolkata on 21.09.2015 chaired by Director (Projects), BSPTCL. Salient Decisions taken in the meeting are as follows:

- Apart from STUs, one representative from each SLDC/CLD of ER and GM, ERLDC will be member of the Standing Committee.
- Powergrid (representatives from ER-I, ER-II and PG-Odisha) will also be members of the Standing Committee.
- CEA and CTU will also be invited for the meetings of Standing Committee and their System Study Group may be called as and when required by the Standing Committee.
- The meetings of the Standing Committee will be held on Quarterly basis. However, the meeting should be convened at least before the SCM for CTU planning as conducted by CEA/CTU.
- It was decided to focus the following points in the meeting:

- STU evacuation system from 400 kV PG/CTU Substations for proper load anchoring.
- STU network strengthening schemes.
- Constraints/congestion experienced in STU networks.
- Any agenda of SCM for central sector, which needs detailed deliberation by ER States.

JUSNL, Sikkim and Powergrid/CTU may nominate their representatives.

Deliberation in the TCC meeting

TCC advised JUSNL, Sikkim and Powergrid (ER-I, ER-II and PG-Odisha), CTU to send the nomination before 2nd Standing Committee on State Sectors meeting scheduled to be held on 4th December, 2015.

TCC also advised all the STUs to nominate SLDC representative before 4th December, 2015.

ITEM NO. B15:	Status of construction of Chuzachen bay at Rangpo S/s.
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In 29th TCC/ERPC meeting, Sikkim informed that they will send the proposal to Powergrid for consultancy.

In 30th TCC, Sikkim informed that MOU has been signed with Powergrid on 24th April, 2015 and the advance payment will be released by next week.

Powergrid informed that they will place the order after receipt of advance payment.

In 110th OCC, Sikkim informed that payment has been approved by Government of Sikkim and the advance payment will be made to Powergrid by 15th July, 2015.

In 113th OCC, Sikkim representative informed that PFC will release the payment by September 2015.

Sikkim and Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid informed that payment has been received from Sikkim and they will start the construction work at the earliest.

On enquiry representative from PGCIL informed that the proposal of Bus-Split scheme at 132KV Rangpo S/S as approved in 114th OCC meeting are being studied by its engineering wing and roadmap for implementation of the scheme will be placed in 115th OCC meeting scheduled to be held on 20.11.15.

ITEM NO. B16:	Status of construction of 400 kV Sterlite-Jharsuguda D/C sections
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Several deliberations were held on the issue of construction of 400 kV Sterlite –Jharsuguda D/C dedicated line of Vedanta Ltd (formerly known as Sesa Sterlite Ltd).

30th ERPC decided that Powergrid, Odisha would chalk out a draft action plan and design suitable target as far as the construction of these lines are concerned. A team may be formed at ERPC to assist Powergrid, Odisha in finalising the draft plan and on finalising the same the ERPC team should exercise stringent monitoring/assessment of monthly progress made by Sterlite. Sterlite was requested to strictly adhere to the action plan.

Sterlite agreed to complete the construction work as per the monthly target fixed by ERPC team.

Next assessment of the progress will be made by ERPC in its 31st meeting.

Accordingly Powergrid designed certain formats detailing execution plan & SSL was asked to fill the same with all details before finalization of targets.

In 113th OCC held on 14.09.2015, Sterlite submitted the required formats with detailed information as desired.

OCC took serious note and advised Sterlite to expedite the construction work.

In 114th OCC held on 16.10.2015, Sterlite informed that 16 nos tower foundations have been completed and the forest clearance is expected by December, 2015.

OCC felt that the there is no considerable progress and advised Sterlite to expedite the work.

The formats as submitted by Sterlite is given at Annexure-B16.

Sterlite may update the status. TCC may decide the further course of action.

Deliberation in the TCC meeting

Vedanta informed that out of 66 tower foundations, 21 have been completed and rest is expected to be completed by December, 2015. Commissioning of line is expected by 15 April, 2016.

TCC advised Vedanta to strictly adhere to the schedule.

The updated status as placed by Vedanta is given at Annexure-B.16.

ITEM NO. B17:	Handing over of 2 nos 132 kV bays at 400/220/132 kV Kuchei (Baripada) Grid S/s in Odisha.
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In line with decision taken in the Standing Committee meeting held in New Delhi on 08.02.2012, OPTCL was allotted 4 nos. 132 kV bays at Kuchei Grid S/s in Odisha.

However during site visit by OPTCL for connection of 2 nos.132kV feeders from Kuchei – Jaleswar line it was found that there was insufficient space for termination.

It was however noticed that 2 nos. equipped 132kV bays meant for Jharkhand were available at Kuchei S/s lying un-utilised and was learnt that the same bays shall not be used in near future. It was also informed that JUVNL is yet to construct 132kV line that will be connected with these two bays. Since these two bays cannot be used by Jharkhand in the near future and the guarantee period of equipment / materials are going to expire, it is better if OPTCL can immediately use these bays for its line, which is going to be completed within next 3 to 4 months.

During 110th OCC meeting at Kolkata, this issue of allotment of bays was discussed and it was opined that consent of JUVNL, may be accorded for handing over the two 132kV bays to OPTCL. In view of this, JUSNL/JUVNL was requested to communicate their consent for sparing the two bays meant for JUVNL to OPTCL for better utilization of the existing equipments in the bay within its guarantee period.

In 114th OCC, JUSNL informed that the issue was discussed at higher level meeting wherein deliberation was in favour of handing over the two 132kV bays to Odisha.

OCC requested ERPC Secretariat to pursue the issue with MD, JUSNL.

JUSNL/OPTCL may update.

Deliberation in the TCC meeting

JUSNL accepted the proposal of OPTCL.

ITEM NO. B18:	Restoration of Sagbari-Melli 132kV section of 132kV Rangit-Melli S/C line
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132kV Rangit-Melli S/C line was restored on 10-05-15, after long outage, with LILO at Sagbari S/Stn of Sikkim.

However, it is understood that 132kV Sagbari-Melli section has not yet been normalized. Recent SEM readings indicate that the flow through 132kV Rangit-Sagbari section is consistently NIL.

It may be appreciated that though 132kV Rangit-Sagbari-Melli is an intra-state line, it provides an alternate route for evacuation of Rangit HPS generation, which is an ISGS, and enhances the reliability of both Sikkim and Rangit. Throughout the high hydro period, (July-Sep) the absence of Rangit-Sagbari-Melli line led to frequent high loading of 132kV Chujachen-Melli line, close to its tripping threshold (75MW).

As more number of hydro IPPs get connected to the 132kV system of Sikkim, it is imperative to have all available lines in service for maintaining the maximum level of reliability.

Sikkim may therefore be advised to restore the entire portion of 132kV Rangit-Sagbari-Melli line at the earliest.

TCC may advise.

Deliberation in the TCC meeting

Sikkim informed that they will give their best effort to restore the entire portion of 132kV Rangit-Sagbari-Melli line by Nov, 2015.

ITEM NO. B19:	Downstream 220kV system development of STUs (Bihar, Jharkhand & Odisha) from the various approved and ongoing sub-stations of PGCIL
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Under the ERSS-III scheme, following new 400 kV sub-stations have been / are being commissioned by POWERGRID

- 2x200 MVA, 400/132 kV sub-stations at Lakhisarai & Banka in Bihar
- 2x315 MVA, 400/220 kV at Chaibasa & Daltonganj in Jharkhand
- 2x315 MVA, 400/220 kV at Bolangir, Keonjhar & Pandiabil in Odisha.

Lakisharai: 400/132KV Lakisharai Substation along with 200 MVA ICT, 80 MVAR Bus Reactor and line bay of Lakhisarai (PG) – Lakhisarai (BSPTCL) 132 kV D/c line has been charged at rated voltage and declared under commercial operation w.e.f. 01.04.2014.

The latest status as updated in 114th OCC as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	The 2x200 MVA, 400/132 kV Lakhisarai sub-station	
a.	132 kV Lakhisarai (PG)-Lakhisarai (BSPTCL) D/C line	Charged.
b.	132 kV Lakhisarai-Jamui (BSPTCL) D/C line	Charged on 5 th October, 2015.
2.	2x200 MVA, 400/132 kV Banka sub-station	
a.	LILO of 1 st circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Charged.
b.	LILO of 2 nd circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Mid November, 2015
c.	132 kV Banka (PG)-Sultanganj (BSPTCL) line-I	Completed
d.	132 kV Banka (PG)-Sultanganj (BSPTCL) line-II	Completed

BSPTCL may update.

Deliberation in the TCC meeting

BSPTCL updated the status as follows:

Sl. No.	Name of the transmission line	Completion schedule
2.	2x200 MVA, 400/132 kV Banka sub-station	
b.	LILO of 2 nd circuit of Banka (BSPTCL)-Sabour (BSPTCL) 132 kV D/C line at Banka (PG)	Line completed and bays by December, 2015

Chaibasa: 400/220kV ICT-II and its associated bays at Chaibasa were already charged. After completion of both GSS i.e. 400/220 kV Chaibasa (PGCIL) and 220/132/33 kV GSS at Chaibasa

(JUSNL) under consultancy projects awarded to M/s PGCIL, the above said grids will be connected by 220 kV D/C transmission line.

Daltonganj: 400/220kV Daltonganj S/s was expected to be commissioned by October, 2015. But it developed a land acquisition problem which has already been taken up by CTU with Jharkhand Govt. It is not yet resolved.

In 17th SCM held on 25.05.15----

Following transmission line would be constructed by JUSNL for drawl of power at 220 kV and 132 kV level from Daltonganj (PG).

- a) Daltonganj (PG)-Latehar (JUSNL) 220 kV D/C
- b) Daltonganj (PG)-Garwa (JUSNL) 220 kV D/C
- c) Daltonganj (PG)-Daltonganj (JUSNL) 132 kV D/C
- d) Daltonganj (PG)-Chatrapur / Lesliganj (JUSNL) 132 kV D/C

It was agreed to create 132 kV level at Daltonganj (PG) along with 2x160 MVA 220/132 kV ICT and 4 no. 132 kV line bays by POWERGRID under regional strengthening scheme.

In 30th TCC, it was informed that land acquisition is in progress for Daltonganj (PG) S/s.

The status of the project is being monitored in review meetings for the Status of Downstream Projects of Daltonganj and Chaibasa Sub-stations of JUSNL. The latest status as reviewed in 1st SSCM (i.e. 4th review meeting) is enclosed at Annexure-B19.

JUSNL may update.

Deliberation in the TCC meeting

JUSNL updated the status.

The updated status as placed by JUSNL is given at Annexure-B.19.

Bolangir: PGCIL has already commissioned the 2x315MVA 400/220kV Bolangir S/s by LILOing of 400kV Meramandali-Jeypore S/C line with an objective of supplying power from ER grid to Bolangir and its adjoining areas in Odisha.

In 17th SCM held on 25.05.15----

OPTCL informed that Bolangir 400/220 kV S/S of POWERGRID would be connected to OPTCL system through following 220 kV system of OPTCL:

- a) LILO of one circuit of Sadeipalli-Kesinga 220 kV D/C line at Bolangir S/S
- b) LILO of one circuit of Katapalli-Sadeipalli 220 kV D/C line at Bolangir S/S

Severe RoW problems are being faced in both the above lines and negotiations with land owners are going on.

Keonjhar : The sub-stations at Keonjhar have been commissioned by PGCIL.

In 17th SCM held on 25.05.15-----

OPTCL added that Keonjhar 400/220 kV S/S of POWERGRID would be connected to OPTCL system through following 220 kV System:

- a) Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line
- b) Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line

OPTCL informed to construct one 220/33kV Grid S/s at Keonjhar for which in-principle approval of BoD has already been taken and construction of 220/132/33kV Grid S/s at Turumunga has already been initiated to be funded under JICA funding.

The above lines are expected to be completed by 2019.

Pandiabil:

In 17th SCM held on 25.05.15----

OPTCL informed that the 400/220kV Pandiabil Grid S/s of PGCIL which is under construction would be connected to OPTCL 220 kV System through following 220 kV links.

- a) Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line
- b) LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)

OPTCL added that the above lines are expected to be completed by Dec., 2015.

In 114th OCC, OPTCL updated the completion schedule as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	2x315MVA 400/220kV Bolangir S/s	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	5 out of 14 completed. Dec, 2015 (Severe ROW problem)
b.	LILO of one circuit of Katapalli-Sadeipalli220 kV D/C line at Bolangir S/S	One tower left due to forest clearance. End of December, 2015
2.	400/220 kV Keonjhar S/S	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	Yet to be awarded
b.	Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line	Yet to be awarded
3.	400/220kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	It will take 1 year for completion.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	Work yet to be started.

OPTCL may update.

Deliberation in the TCC meeting

OPTCL updated the status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	2x315MVA 400/220kV Bolangir S/s	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C	5 out of 14 completed.

	line at Bolangir S/S	Dec, 2015 (Severe ROW problem)
b.	LILO of one circuit of Katapalli-Sadeipalli 220 kV D/C line at Bolangir S/S	One tower left due to forest clearance. End of December, 2015
2.	400/220 kV Keonjhar S/S	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	Tender opening 18 Nov 2015
b.	Keonjhar (PG)-Turumunga (OPTCL) 220 kV D/C line	Yet to be awarded
3.	400/220kV Pandiabil Grid S/s	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	It will take 1 year for completion.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	May, 2016

ITEM NO. B20:	Provision of additional OPGW-- PRM
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Provision of OPGW connectivity in 400 KV Bihashariff –Koderma T/L (111 Km) in lieu of 400 KV Gaya-Koderma T/L (124 Km) for providing redundancy for Koderma TPS of DVC under MWR package was proposed.

In 4th PRM, members agreed to the proposal in principle and recommended for ERPC approval.

POWERGRID requested for inclusion of additional OPGW installation in Barh –Gorakhpur (354 Km) and Rajarhat – Farakka (345 km).

In 5th PRM, members agreed to the proposal of additional OPGW in principle and recommended for ERPC approval.

TCC may approve.

Deliberation in the TCC meeting

On enquiry, Powergrid updated the latest schedule of OPGW work as follows:

- *BSPTCL- The priority links (212 Kms) packages – package awarded & 850 Kms package – bid opening on 16th Nov, 2015.*
- *DVC – Bid opened and will be awarded by Nov, 2015.*
- *WB - Bid opened and will be awarded by Nov, 2015.*

TCC approved the following:

- *OPGW connectivity in 400 KV Bihashariff –Koderma T/L (111 Km) in lieu of 400 KV Gaya-Koderma T/L (124 Km) for providing redundancy for Koderma TPS of DVC under MWR package*
- *Additional OPGW installation in Barh –Gorakhpur (354 Km) and Rajarhat – Farakka (345 km).*

TCC referred to ERPC for further approval.

ITEM NO. B21:	Identification of non-ISTS carrying inter-state power
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The CERC (Sharing of Transmission charges and Losses) (Third Amendment) Regulations, 2015 require the identification of STU lines carrying interstate power. The certification of such lines carrying interstate power are to be done by RPC in consultation with RLDC. List of lines proposed to be carrying interstate power had been sought from all the states, however, only WBSETCL and OPTCL have responded. The list of lines submitted by WBSETCL and OPTCL are given at **Annexure-B21**.

In a Suo-Motu Petition (Petition No-15/Suo-Motu/2012 dated 14.06.2012), CERC had observed thus:

6. As a first step towards inclusion of non-ISTS lines in the PoC transmission charges, the Commission proposes to include the transmission lines connecting two States, for computation of PoC transmission charges and losses. However, for the disbursement of transmission charges, tariff for such assets needs to be approved by the Commission in accordance with the provisions of Sharing Regulations. Accordingly, we direct the owners of these inter-State lines to file appropriate application before the Commission for determination of tariff for facilitating disbursement.

Many STU's have already filed their petitions (Petition No. 246/TT/2013 (Haryana), 232/TT/2013 (KSEB), 217/TT/2013 (MP), etc) before CERC for inclusion of STU lines connecting two states.

Constituents may confirm whether they have filed petitions before CERC for inclusion of transmission lines connecting two states.

Since some of the lines proposed by WBSETCL and OPTCL are in the nature of transmission lines connecting two states, ERPC may certify these as Inter State Lines for the purpose of inclusion for tariff recovery under PoC mechanism.

In case any intra state line is desired to be certified as carrying interstate power, the list of such lines may be sent to ERPC Secretariat and ERLDC for further necessary action.

TCC may advise.

Deliberation in the TCC meeting

It was informed that WBSETCL and OPTCL have filed petitions for inclusion of their lines as interstate lines. CERC vide their Order dated 08.06.15 (Pet No-259/TT/2013) has already considered the 400 kV Kharagpur-Baripada and 220 kV Santhaldih-Chandil lines of WBSETCL. However for OPTCL (petition No- 203/TT/2013) order may not have been issued by CERC as on date. BSPHCL and JUSNL informed that they are on the job of identifying the lines in their system.

It was also informed that as per CERC order lines connecting two states may be considered as natural ISTS. For such lines the constituents may directly approach the commission for adoption of SERC tariff or for determination of tariff in case SERC tariff was not available.

For balance lines TCC members were informed that Certification of non-ISTS lines carrying inter-State power, which were not approved by the RPCs on the date of notification of the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2009, shall be done on the basis of load flow studies. For this purpose, STU shall put up proposal to the respective RPC Secretariat for approval. RPC Secretariat, in consultation with RLDC, using WebNet Software would examine the proposal. The results of the load flow studies and participation factor indicating flow of Inter State power on these lines shall be used to compute the percentage of usage of these lines as inter State transmission.

List of Lines considered by CERC in their Suo Motu order in petition No-15/Suo-Motu/2012 dated 14.03.12

Voltage (KV)	LINES		
400	Kolaghat	Baripada	WBSETCL-PG
220	Waria	Bidhannagar 1	DVC-WBSETCL
220	Waria	Bidhannagar 2	DVC-WBSETCL
220	Chandil	Santaldih	JSEB-WBSETCL
220	Patratu	BodhGaya 1	JSEB-BSEB
220	Patratu	BodhGaya 2	JSEB-BSEB
220	Patratu	BodhGaya 3	JSEB-BSEB
220	Tenughat	Biharshariff	JSEB-BSEB
220	Joda	Ramchandrapur	OPTCL-JSEB
220	Jindal	Jamshedpur	OPTCL-JSEB (DVC)

Lines carrying Inter State Power as Submitted by WBSETCL

SL. NO.	Voltage (kV)	TIE LINE		REMARKS
1	132	BIRPARA (PG)	BIRPARA CKT 1	WBSETCL
2	132	BIRPARA (PG)	BIRPARA CKT 2	WBSETCL
3	132	NJP	NBU CKT 1	WBSETCL
4	132	NJP	NBU CKT 2	WBSETCL
5	132	MALDA (PG)	MALDA CKT 1	WBSETCL
6	132	MALDA (PG)	MALDA CKT 2	WBSETCL
7	400	JEERAT	BERHAMPORE CKT	PGCIL
8	400	JEERAT	SUBHASGRAM CKT	PGCIL
9	400	KHARAGPUR	BARIPADA CKT	WBSETCL
10	220	STPS	CHANDIL CKT	WBSETCL
11	220	BIDHANNAGAR	WARIA CKT 1	DVC
12	220	BIDHANNAGAR	WARIA CKT 2	DVC
13	132	RANGIT	RAMMAM CKT	WBSETCL
14	220	SUBHASGRAM(PG)	SUBHASGRAM CKT 1	WBSETCL
15	220	SUBHASGRAM(PG)	SUBHASGRAM CKT 2	WBSETCL
16	400	PARULIA	BIDHANNAGAR CKT 1	WBSETCL
17	400	PARULIA	BIDHANNAGAR CKT 2	WBSETCL
18	400	SGTPP	FARAKKA CKT	PDCL
19	400	SGTPP	SUBHASGRAM CKT	PDCL
20	400	SGTPP	PARULIA CKT 1	PDCL
21	400	SGTPP	PARULIA CKT 2	PDCL
22	220	DALKHOLA (PG)	DALKHOLA CKT 1	WBSETCL
23	400	SGTPP	PARULIA CKT 2	PDCL

24	132	KURSEONG	RANGIT CKT	PGCIL
25	132	KURSEONG	SILIGURI CKT	WBSETCL
26	220	SUBHASGRAM (PG)	EMSS (CESC) CKT 1	CESC
27	220	SUBHASGRAM (PG)	EMSS (CESC) CKT 2	CESC
28	220	SUBHASGRAM (PG)	BANTALA CKT	WBSETCL
29	220	SUBHASGRAM (PG)-	NEW TOWN CKT	WBSETCL
30	400	SUBHASGRAM (PG)	HEL CKT 1	HEL
31	400	SUBHASGRAM (PG)	HEL CKT 2	HEL
32	400	SGTPP	BERHAMPORE CKT 1	PGCIL
33	400	SGTPP	BERHAMPORE CKT 2	PGCIL

Sl.No 9, 10 have already been considered by CERC for inclusion in PoC vide Order dated 08.06.15 (Pet No-259/TT/2013)

Sl No 11,12,13 & 24 may be in the nature of natural ISTS lines as per CERC order dated 14.03.12 (petition No-15/Suo-Motu/2012)

Tie LINES MAINTAINED BY OPTCL & USED AS ISTS LINES as submitted by OPTCL				
SL.NO.	Voltage (KV)	LINES		CIRCUIT
1	400	INDRAVATI PH	INDRAVATI (PGCIL)	1
2	400	RENGALI PG	KOLAGHAT	1
3	220	BALIMELA PH	U SILERU	1
4	220	JAYANAGAR	JAYANAGAR (PGCIL)	2
5	220	BUDHIPADAR	KORBA DC	2
6	220	TARKERA	BISRA	2
7	220	JODA	RC PUR (JSEB)	1
8	220	JODA-JSPL	JAMSHEDPUR (DVC)	1
9	220	RENGALI (OPTCL)	RENGALI (PGCIL)	2
10	220	RENGALI PH	KANIHA	1
11	220	KANIHA	TTPS	1
12	220	KANIHA	MERAMUNDALI	2
13	220	KUCHEI	BALASORE	2
14	132	JODA	KENDUPOSI (JSEB)	1
15	132	KUCHEI	RAIRANGPUR	1
16	132	KUCHEI	BARIPADA	1

For Sl.No 5 CERC in order dated 29.05.15 (Pet No-185/TT/2013) has already directed that wheeling charges for the line are to be pooled in PoC w.e.f 01.07.2011.

Sl.No 2,3,7,8 &14 may be in the nature of natural ISTS lines as per CERC order dated 14.03.12 (petition No-15/Suo-Motu/2012)

All constituents were requested to provide the list of their lines with details of portion (in % and Km) under their ownership along with latest status of filing of petition/order of CERC to ERPC Secretariat for initiating action in this regard.

Referred to ERPC for advice.

ITEM NO. B22:	Payment/Receipt Status from various pool accounts in ER
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B22.1. Payment of Deviation Charges -- present status

The status of Deviation Charge payment informed by ERLDC as on 23.10.2015 is enclosed at **Annexure – B22.1**. The current principal outstanding Deviation Charge of BSPHCL, JUVNL &

APNRL is ` 2997.14476 Lacs, ` 638.69686 Lac & ` 480.00801 Lac respectively considering bill up to 04.10.2015. ERLDC has en-cashed the LC of M/s APNRL on 20.08.15. The en-cashed amount from LC has been utilized for payment of outstanding Deviation Charge to other recipient's constituents.

BSPHCL, JUVNL & APNRL may confirm the program for payment of outstanding dues.

Deliberation in the TCC meeting

ERLDC updated that the outstanding for BSPHCL was 2.35 Cr, for JUVNL it was 6.15 Cr and for APNRL it was 3.95 Cr considering bills upto 25.10.15.

BSPHCL, JUVNL and APNRL informed that they are taking necessary action for early payment.

B22.2. Reactive Energy Charges – present status.

The updated position of Receipt/Payment of Reactive Energy Charges as submitted by ERLDC in the pool as on 16.10.2015 (considering bill up to 04.10.2015) is indicated in **Annexure – B22.2**. The total outstanding receivable on account of **Reactive charges from WBSETCL is ` 195.71241 Lac.**

WBSETCL may confirm the program for payment of outstanding dues.

Deliberation in the TCC meeting

ERLDC updated that the outstanding against WBSETCL was 2.58 Cr as per bills upto 25.10.15. WBSETCL informed that they would clear their dues at the earliest.

Workshop & expenditure details

i. Workshop on emerging issues of Power System operation

In accordance with the decision of TCC and ERPC, ERPC & ERLDC in coordination with GRIDCO organized two day workshop on 27.08.2015 and 28.08.2015 at Bhubaneswar focusing the power system operation and market operation including recent developments and best practices.

GRIDCO is requested to submit the expenditure for arranging the above workshop.

Deliberation in the TCC meeting

GRIDCO informed that they would confirm the expenditure details at the earliest.

ii. Training cum Workshop on Power System Protection

As approved in 30th TCC/ERPC, a workshop/training on Generator Protection (Thermal & Hydel) and HVDC for protection engineers is scheduled to be held from 23rd November, 2015 to 27th

November, 2015 at Talcher Super Thermal Power Station (TSTPS), NTPC. The details of the training module is given at **Annexure-B22.2 (ii)**.

All constituents may nominate their entry level protection engineers for the training.

TCC may advise.

Deliberation in the TCC meeting

Constituents appreciated the initiative taken by NTPC for hosting the protection workshop and felt that this type of trainings being conducted under ERPC forum will help the protection engineers of eastern region immensely.

All agreed to send their nomination at the earliest, if not given already.

Referred to ERPC for guidance.

ITEM NO. B23:	Reconciliation of accounts
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B23.1. Reconciliation of Deviation Accounts

At the end of 2nd quarter of 2015-16, the reconciliation statement (Period: 01.07.15 to 30.09.15) has also been issued by ERLDC on 05.10.15 and statements had been sent to the respective constituents. The Reconciliation statement and Reconciliation status is also available at ERLDC website (www.erlhc.org). The status of reconciliation statement is enclosed in **Annexure-B23.1**.

APNRL, NVVN and IndBarath have not signed reconciliation statement for 1st Qtr of 2015-16. BSPHCL , JUVNL & SIKKIM have not signed reconciliation statement since more than last 3 quarters.

Constituents, who have not yet reconciled the account, are once again requested to submit the signed reconciliation statement at the earliest. If the confirmation is not received within 2 weeks from the date of issuance of the letters the statements issued by ERLDC have been deemed to be reconciled.

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents

B23.2. Reconciliation of Reactive Account

At the end of 2nd quarter of 2015-16, the reconciliation statement (Period: 01.07.15 to 30.09.15) has also been issued by ERLDC on 05.10.15 and statements had been sent to the respective constituents. WBSETCL & SIKKIM have not reconciled the Reactive account.

If the confirmation is not received within 2 weeks from the date of issuance of the letters the statements issued by ERLDC have been deemed to be reconciled.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

B23.3. Short Term Open Access payment/receipts reconciliation

a. For STOA payments made to SLDC / STU:

The reconciliation statements of STOA payments for financial year 2014-15 and Apr'15 to Sep'15 have been send to the DVC, OPTCL and WBSETCL for checking at their end and confirmation.

Confirmation has been received from DVC and OPTCL for the entire period except Sep'15. WBSETCL is yet to for the period of July'14 to Sep'15.

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.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

b. For payments received from STOA applicants:

The payment receipt statements of STOA for the period of Dec'12 to Mar'13, FY-2013-14 , FY-2014-15 and Apr'15-Sep'15 have been send to the BSEB, JSEB, JITPL, GRIDCO, WBSEDCL, Vedanta Limited (Sterlite) , TSL, GMRKEL, SAIL-RSP, SAIL-DSP for checking at their end and confirmation.

Signed reconciliation statements have been received from BSEB for the period of Dec'12 to Mar'13 only. SSL, JITPL, GMRKEL and TSL have sent the reconciled statements for the entire period. JSEB has not confirmed for the entire period of FY-2014-15 and Jul'15-Sep'15. GRIDCO has confirmed and signed reconciliation statements for the entire period except Sep-14. WBSEDCL has confirmed and signed reconciliation statements for Nov'13, Dec'13, Jan'14, May-14 and Oct-14 only.

SAIL-RSP has not sent the reconciled statement for the months of NOV-14 and FEB-15 only. 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.

ERLDC may update. TCC may note

Deliberation in the TCC meeting

ERLDC explained their audit requirement for signing of reconciliation statement. It was also informed that the reconciliation statements are regularly uploaded on ERLDC website for checking by the constituents.

TCC advised all constituents to send their concerned persons responsible for signing reconciliation statements in commercial meetings of ERPC without fail so that the issue could be settled.

Referred to ERPC for further guidance to TCC members in this regard.

ITEM NO. B24:	Opening of LC by ER constituents for Deviation Charges Payments
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Clause 10 (4) of CERC Deviation Settlement Mechanism and related matters Regulations, 2014 vide notification No. L-1/132/2013/CERC dated 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

The details of LC amount required to be opened in 2015-16 by ER constituents is given in **Annexure – B24**. Letters to this effect has already been issued by ERLDC to the defaulting entities viz, BSPHCL, JUVNL, DVC, JITPL, APNRL & IndBarath.

LC of BSPHCL, JUVNL, DVC, JITPL, APNRL & IndBarath have not opened the LC. In the 30th TCC/ERPC meeting held on 20.06.15, constituents informed that they would open the LC shortly. Moreover ERLDC has en-cashed the LC of M/s APNRL due to non-payment of deviation charge and requested APNRL to recoup the LC. Till date APNRL has not recouped the LC.

BSPHCL, JUVNL, DVC, JITPL, APNRL & Ind Barath may please intimate the latest status.

ERLDC updated that BSPHCL has opened the LC. APNRL informed that they have opened LC and will send the soft copy. JITPL and Ind Bharath representative were not presnt. JUVNL informed that action has been initiated at their end for early liquidation of the dues.

ITEM NO. B25:	Erroneous recording/Non receipt of data by/from Interface Meters
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A. Erroneous recording

i. Lakhisarai(BSPHCL)

SEM data received from Lakhisarai(BSPHCL)of 132 KV Lakhisarai(BSPHCL) – Lakhisarai (PG)-1 line showing erroneous(reversed polarity as compared to PGCIL end) since installation of SEM at BSPHCL end in the month of September 2014. The matter is already informed to the official of BSPHCL and also discussed in 30th TCC/ERPC meeting. However the problem still persists.

BSPHCL may intimate the latest update.

Deliberation in the TCC meeting

BSPHCL informed that the issue will be resolved by the end of this month.

ii. Lalmatia(JUVNL)

SEM data received from Lalmatia(JUVNL)of 220 KV Lalmatia(JUVNL) – Farakka (NTPC) line showing erroneous(2/3rd reading as compared to Farakka end) since last six months. The matter is already informed to the official of JUVNL. However the problem still persists.

JUVNL may intimate the latest update.

Deliberation in the TCC meeting

JUVNL informed that the issue will be resolved by an early date.

B. By passing of SEMs of Tie Lines

i. Sabour at BSPTCL

SEM is installed at both end of 132 KV Sabour-Banka (PG) Line. As per the SEM data received from 132 KV Sabour(BSPTCL), readings of meter (Serial No. NP-7874-A) installed at Sabour end of 132 KV Sabour-Banka (PG) Line is not recording any flow compared to Banka PGCIL end since June 2015. It was gathered from Sabour that line is feeding load to Sultanganj(BSPTCL) regularly through Transfer Bus of Sabour by passing the SEM at Sabour.

Sabour Load is being fed by availing power through 132 KV Sabour-Kahalgaon (NTPC) Tie Line and the same is received at Main Bus of Sabour. Power flowing through 132 KV Sabour-Banka(PG) Line is availed at Main Bus only when 132 KV Sabour-Kahalgaon(NTPC) Line is not in service. In that case Meter installed at Sabour end of Sabour-Banka(PG) Line records the energy flow through the line.

In absence of non-recording of data by SEM installed at Sabour BSPTCL end of the aforesaid Tie line, data validation and energy accounting is being affected. Presently energy accounting is being done considering Banka PGCIL end meter.

Bypassing of SEM installed at Tie line is violation of CEA metering regulation 2006 and the same is needed to be restored. The matter was also discussed in 112th OCC meeting held on 21.08.15 and CCM on 16.09.15. However problem still persists.

BSPTCL may respond. Members may discuss.

Deliberation in the TCC meeting

BSPHCL informed that the issue has been resolved recently. BSPHCL informed that they did not bypass the SEM intentionally. However, changes made in the system due to contingency led to such a situation. If installation of temporary SEM could solve the problem, BSPHCL is agreeable to it.

ii. Kishanganj at BSPTCL

SEM is installed at both end of 132 KV Kishanganj-Dalkhola (WB) Line. As per the SEM data received from 132 KV Kishanganj(BSPTCL) , readings of meter (Serial No. NP-5236-A) installed at Kishanganj end of 132 KV Kishanganj-Purnea(PG) Line is not recording any flow compared to Purnea PGCIL end since 14:00 hrs of 29th June 2015. It was gathered from Kishanganj that line is feeding load to Farbisganj at BSPTCL regularly through Transfer Bus of Kishanganj bypassing the SEM at Kishanganj.

Kishanganj Load is being fed by availing power through 132 KV Kishanganj-Dalkhola (WB) Tie Line and the same is being received at Main Bus of Kishanganj. Power flowing through 132 KV Kishanganj-Purnea(PG) Line is availed at Main Bus only when 132 KV Kishanganj-Dalkhola(WB) Line is not in service. In that case Meter installed at Kishanganj end of Kishanganj-Purnea(PG) Line records the energy flow through the line. This problem started from the date when Kishanganj starts availing power from Dalkhola Grid of WBSETCL.

In absence of non-recording of data by SEM installed at Kishanganj BSPTCL end of the aforesaid Tie line, data validation and energy accounting is being affected. At present energy accounting is being done considering Purnea PGCIL end meter.

Bypassing of SEM installed at Tie line is violation of CEA metering regulation 2006 and the same is needed to be restored. The matter was also discussed in 112th OCC meeting held on 21.08.15 and CCM dated 16.09.15. However problem still persists.

BSPTCL may respond. Members may discuss.

Deliberation in the TCC meeting

BSPHCL informed that the issue has been resolved recently. BSPHCL informed that they did not bypass the SEM intentionally. However, changes made in the system due to contingency led to such a situation. If installation of temporary SEM could solve the problem, BSPHCL is agreeable to it.

C. Non Receipt of SEM data from Various Locations

i. Kharagpur in WB

SEM data of Kharagpur (WBSETCL) of 400 KV Kharagpur(WB)– Baripada(PG) line is not being received by ERLDC since 1st week of July 2015. It was gathered that the meter has got hanged. Powergrid and WBSETCL were requested by ERLDC to Rectify/replace the meter. Till now no action has been taken.

Powergrid and WBSETCL may please respond.

Deliberation in the TCC meeting

ERLDC informed that WBSETCL have confirmed that the issue will be resolved very shortly.

ii. Mejia in DVC

SEM data of Mejia (DVC) of 400 KV Mejia(DVC)– Maithon(PG) line is not being received by ERLDC since last 3 weeks. The meter is neither reporting in AMR system nor through DCD. Powergrid and DVC were intimated about the problem and ERLDC requested to Rectify/replace the meter. Till now no action has been taken.

Powergrid and DVC may please respond.

Deliberation in the TCC meeting

ERLDC informed that DVC have confirmed that the issue will be resolved very shortly.

ITEM NO. B26:	Future requirement of Special Energy Meters (SEMs) and DCDs
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In 30th ERPC meeting procurement of 965 no of SEM's and 110 nos of Laptop/DCD (in 111th OCC meeting) was approved.

The estimated cost of above procurement is Rs.4.0 Cr (approx.).

Powergrid had proposed in the last CCM that as has been done in earlier such procurement the expenditure on above items along-with POWERGRID overhead charges @ 15% may 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 the last CCM,

Members agreed with Powergrid proposal and recommended to TCC that expenditure on SEM's and DCD/Laptops along-with POWERGRID overhead charges @ 15% may 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.

TCC may recommend to ERPC for approval of cost sharing mechanism.

Deliberation in the TCC meeting

TCC approved and recommended to ERPC for approval.

ITEM NO. B27:	Implementation of Automatic meter reading in ER
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The work for implementation of Automatic Meter Reading for 97 locations in Eastern Region has been awarded to TCS by POWERGRID on 06.11.2012 for ` 226.03 Lakhs and the scheduled completion of the project were six (6) months from the date of award.

Further ERLDC requested POWERGRID, ER – II to incorporate 25 locations in the 2nd phase of AMR implementation at the end of 2014.

Meanwhile due to addition of new substations/generating stations/transmission lines in Eastern Region, 16 new locations have been added after 2nd phase of implementation of AMR project. These 16 new locations are required to be added under AMR project as 3rd phase of implementation.

112th OCC agreed to include 16 new locations in AMR project.

Powergrid informed that AMRs have been installed at 97 locations in 1st phase and in 2nd phase 25 locations have been included as deviation. But, further new 16 locations cannot be accommodated in the existing order as the scope of further deviation (i.e. addition of new location) is not possible. So, a fresh order needs to be placed for inclusion of new locations in AMR project.

OCC advised Powergrid to proceed for 3rd Phase of implementation of AMR project for addition of new locations.

In the last CCM PGCIL informed that for inclusion of the above 16 new locations and 136 SEMs, total cost implication will be approximately 1.0 Cr.

It was noted that the original AMR project was of 2.26 Cr for 98 substations and around 400 SEMs. Powergrid was requested negotiate with the vendor and place before TCC the list of locations and updated cost implication, if any for approval. Powergrid in the 114th OCC meeting informed that the actual cost would be 1.12 Cr for 16 locations 136 SEMs.

The list of new locations with SEMs to be incorporated are enclosed in **Annexure-B27**.

Subsequently, Powergrid vide mail dated 02.11.2015 informed that the total cost involvement for the same including Five(5) years AMC will be approximately Rs. 1.29 Cr.

POWERGRID may update the latest status.

Deliberation in the TCC meeting

PGCIL informed that the cost was inclusive of five year AMC.

TCC approved and recommended to ERPC for approval.

ITEM NO. B28:	Non-release of payment towards service charges for maintenance of EMS/SCADA system
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LTSA (Long term Service Agreement) contract for EMS/SCADA system installed at all control center has been awarded to M/s Alstom T&D Ltd. on 15th January 2010. Status of due payment to be received from JUSNL (erstwhile JSEB) is as follows:

The updated outstanding against EMS SCADA AMC as on 12.05.2015 is follows:

Constituents	21stQtr (07.04.15)	22ndQtr (30.04.15)	23rdQtr (20.07.15)	Total(in Rs)
JUSNL	NIL	NIL	1453059	1453059
DVC	NIL	NIL	1633976	1633976
OPTCL	NIL	NIL	NIL	NIL
BSPTCL	NIL	NIL	NIL	NIL

Besides the above Outstanding, service tax payment of Rs 315727/- is also due from JUSNL since Oct 2014 onwards.

Members may respond. TCC may note.

Deliberation in the TCC meeting

ERLDC informed that DVC had cleared their dues. JUSNL informed that it was under process and payment is expected to be released shortly.

ITEM NO. B29:	Huge outstanding—MPL
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Maithon power Limited is reeling under severe cash flow problems in view of nonpayment of energy bills by DVC and WBSEDCL. As on 30th September 2015 MPL has an outstanding of Rs 314 Crores which consists of Rs 228 Crores from DVC and Rs 86 Crores from WBSEDCL. MPL seeks ERPC's intervention in this. Otherwise the day is not far when MPL will have to shut down its units.

DVC and WBSEDCL may respond.

Deliberation in the TCC meeting

MPL informed that they have received schedule for part payment from WBSEDCL. WBSEDCL informed that they would admit the interest component only as per actual. DVC informed that there are some deviation from CERC approved tariff order related to bills submitted by MPL and needed to be resolved.

TCC expressed that all parties should follow CERC regulation in letter & spirit.

ITEM NO. B30:	Signing of Transmission Service Agreement for Transmission System Strengthening in Indian System for transfer of power from new HEPs to be implemented through Tariff Based Competitive Bidding process
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RECTPCL vide mail dated 29.10.2015 intimated that the Central Electricity Authority, Govt. of India vide Gazette Notification no. 100/1/EC (33)/SP&PA-2014 dated 9th February, 2015 has appointed REC Transmission Projects Company Ltd (RECTPCL) as the Bid Process Coordinator for selection of developer to establish aforementioned transmission projects through Tariff Based Competitive Bidding process.

Based on the aforesaid mandate, they have initiated two-stage bidding process for selection of developer in accordance with the Guidelines notified by Ministry of Power, GoI. The first stage of Request for Qualification (short-listing) of bidders has since been concluded and short-listed bidders have been issued Request for Proposal document along with Transmission Service Agreement (TSA) on 08.07.2015 which have been prepared based on standard bidding documents.

One of the key requirements of Guidelines and the Standard Bidding Documents is to provide the Bidders a copy of the signed / executed TSA which is a condition precedent for submission of price proposals by the Bidders.

In view of the above RECTPCL has requested for signing of Transmission Service Agreement for the project in the presence of Eastern Regional Power Committee as witness.

Members may discuss.

Deliberation in the TCC meeting

It was informed that the scheme was already approved in Standing committee meeting where representative from WBSETCL from west Bengal was present. The same was subsequently ratified by ERPC. Therefore, it was reiterated that at this juncture, when Government notification was already issued, delay in signing of TSA may attract irrevocable complexities. Therefore stakeholders were requested to sign the TSA at the earliest.

WBSEDCL informed that they do not have any reservation against signing of TSA as it is a notified scheme of the Government of India. However, WBSEDCL emphasized that deliberation with state utilities with tentative indication of financial implication must be done before taking up of all such transmission schemes as final.

Representative from CEA assured that in future efforts will be made to place all such type of transmission planning in ERPC forum with all details/load flow studies for deliberation before finalizing agenda items of Standing Committee Meeting.

TCC also requested all constituent members to participate in the Standing Committee meetings without fail.

ITEM NO. B31:	Status of Transmission projects approved in various meetings
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The status updated in 30th TCC/ERPC meeting on transmission projects approved to various meetings is given below:

Sl No.	Scheme	ERPC/TCC Meeting	Latest status updated in 30th TCC Meeting
1	Converting 2x63 MVAR line reactors of	28 th ERPC	Powergrid informed that the reactor

	400kV D/C Kishanganj line at Patna Substation as Bus reactors	Meeting	has been charged.
2	Installation of 2x500 MVA, 400/220 kV ICTs instead of earlier approved 400/220 kV, 2x315 MVA + 1x500 MVA, ICTs at Kishanganj	28 th ERPC Meeting	Powergrid informed that 1 st ICT will be commissioned by October, 2015 and 2 nd ICT by November, 2015.
3	Conversion of line reactor of 765 kV Ranchi- Dhananjaygarh line as Bus Reactor at 765kV Ranchi S/s	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
4	Construction of 132 kV D/C Deoghar – Banka line for reliable power supply to Railway TSS from 132 kV Deogarh (JSEB) S/S		To be discussed in empowered committee meeting conducted by CEA.
5	Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double main scheme.	28 th ERPC Meeting	Powergrid informed that the work will be awarded by September, 2015.
6	Change in proposed the Associated 765 kV System Strengthening Scheme in ER	28 th ERPC Meeting	Powergrid informed that it will be discussed again in next standing committee meeting.
7	Conversion of 50 MVAR Line Reactor presently installed at Jeerat end of 400 kV Berhampur – Jeerat line to Bus Reactor in Parallel with existing Bus Reactor at Jeerat	26 th ERPC Meeting	Powergrid informed that order has been placed and the work is expected to be completed by March, 2016.
8	Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders	26 th ERPC Meeting	Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by July, 2016.
9	Augmentation of existing 250KVA DG set at 400/220kV Biharsariff S/S with 500KVA.	25 th ERPC Meeting	Powergrid informed that the DG set has been augmented.
10	Augmentation of existing 100MVA ICT with 160MVA at 220/132 kV Birpara and Siliguri S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
11	Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme has been changed; fresh DPR is under preparation.
12	Addition of 1x125 MVAR Bus Reactor each at Baripada & Maithon 400 kV S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
13	Strengthening of Farakka – Malda corridor	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
14	Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul & Jharsuguda S/S).	25 th ERPC Meeting	Powergrid informed that work has been awarded on March, 2015 and expected to be completed by September, 2016.
15	Augmentation of Transformation Capacity at 400/220 kV Baripada S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.

16	Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) & Sasaram (PG) S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
17	Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 rd & 4 th Circuits)	25 th ERPC Meeting	Bay construction at Muzaffarpur to be done by Powergrid under consultancy projected. Expected to be completed by November, 2016.
18	Modification of 132 kV Bus arrangement at 220/132 kV Siliguri S/S (PG)	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.
19	Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram	25 th ERPC Meeting	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
20	Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid	25 th ERPC Meeting	WBSETCL assured that the scheme will be completed within 20 months from the date of LOA
21	Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that four numbers of 220 kV bays at 440 kV Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. The work has been awarded on October, 2014 and expected to be completed by June, 2016.
22	Upgradation of the 3x100 MVA spare ICT at Purnea with 3x160 MVA ICT.	25 th ERPC Meeting	Powergrid informed that two ICTs have been replaced, third one will be replaced by Sep, 2015.
23	Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme will be implemented by July, 2016.
24	Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to- Back station at Gazuwaka (one for each pole)	25 th ERPC Meeting	Powergrid informed that preparation of DPR in in progress.
25	GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada	24 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.

Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid updated the status as follows:

Sl No.	Scheme	ERPC/TCC Meeting	Latest status updated in 30 th TCC Meeting
1	Converting 2x63 MVAR line reactors of 400kV D/C Kishanganj line at Patna Substation as Bus reactors	28 th ERPC Meeting	<i>Powergrid informed that the reactor has been charged.</i>
2	Installation of 2x500 MVA, 400/220 kV ICTs instead of earlier approved 400/220	28 th ERPC Meeting	<i>Powergrid informed that 1st ICT will be commissioned by Jan, 2016 and</i>

	kV, 2x315 MVA + 1x500 MVA, ICTs at Kishanganj		2 nd ICT by Feb, 2016.
3	Conversion of line reactor of 765 kV Ranchi- Dhananjaygarh line as Bus Reactor at 765kV Ranchi S/s	28 th ERPC Meeting	Powergrid informed that the reactor has been charged.
4	Construction of 132 kV D/C Deoghar – Banka line for reliable power supply to Railway TSS from 132 kV Deogarh (JSEB) S/S		To be discussed in empowered committee meeting conducted by CEA.
5	Modification of 132 kV Bus arrangement at 220/132 kV Birpara S/s of Powergrid from existing single main & transfer bus scheme to double main scheme.	28 th ERPC Meeting	Powergrid informed that the NIT – Nov, 2015. Award March, 2016.
6	Change in proposed the Associated 765 kV System Strengthening Scheme in ER	28 th ERPC Meeting	It was discussed and finalized in 17 th SCM.
7	Conversion of 50 MVAR Line Reactor presently installed at Jeerat end of 400 kV Berhampur – Jeerat line to Bus Reactor in Parallel with existing Bus Reactor at Jeerat	26 th ERPC Meeting	Powergrid informed that order has been placed and the work is expected to completed by March, 2016.
8	Retrofitting of pilot wire protection of 132 kV Purnea (PG) – Purnea (BSPHCL) feeders	26 th ERPC Meeting	Powergrid informed that the scheme was covered in the scheme of modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid under GIS package. The work has been awarded and expected to be completed by July, 2016.
9	Augmentation of existing 250KVA DG set at 400/220kV Biharsariff S/S with 500KVA.	25 th ERPC Meeting	Powergrid informed that the DG set has been augmented.
10	Augmentation of existing 100MVA ICT with 160MVA at 220/132 kV Birpara and Siliguri S/S	25 th ERPC Meeting	Birpara by March, 2016 & Siliguri by June, 2016. (Subject to the shutdown approval by WB.)
11	Transmission System for immediate evacuation of power from North Karanpura STPP (3x660 MW) to Chandwa and Gaya Pooling stations of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme has been changed; fresh DPR is under preparation.
12	Addition of 1x125 MVAR Bus Reactor each at Baripada & Maithon 400 kV S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
13	Strengthening of Farakka – Malda corridor	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
14	Procurement of two single phase spare ICT units (2x500 MW), 765/400 kV for Eastern Region - to be stationed at Angul & Jharsuguda S/S).	25 th ERPC Meeting	Powergrid informed that work has been awarded on March, 2015 and expected to be completed by September, 2016.
15	Augmentation of Transformation Capacity at 400/220 kV Baripada S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.
16	Augmentation of transformation capacity at the existing 400/220 kV Jamshedpur (PG) & Sasaram (PG) S/S	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be completed by November, 2016.

17	Establishment of 220 kV MTPS (Extn.) – Muzaffarpur (PG) D/C line (3 rd & 4 th Circuits)	25 th ERPC Meeting	Bay construction at Muzaffarpur to be done by Powergrid under consultancy projected. Expected to be completed by November, 2016.
18	Modification of 132 kV Bus arrangement at 220/132 kV Siliguri S/S (PG)	25 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.
19	Procurement of 110 MVAR, 765 kV Single Phase spare Reactor unit at Sasaram	25 th ERPC Meeting	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
20	Establishment of Gazol 220/132 kV S/S in Malda by LILO of Malda-Dalkhola 220 kV D/C line of Powergrid	25 th ERPC Meeting	WBSETCL assured that the scheme will be completed within 20 months from the date of LOA
21	Construction of down linking transmission network for drawal of power from Kishanganj 400/220 kV S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that four numbers of 220 kV bays at 440 kV Kishanganj (PG) for 2xD/C 220 kV Kishanganj (PG)-Kishanganj (BSPHCL) will be under regional scheme as informed by CEA. The work has been awarded on October, 2014 and expected to be completed by June, 2016.
22	Upgradation of the 3x100 MVA spare ICT at Purnea with 3x160 MVA ICT.	25 th ERPC Meeting	Powergrid informed that two ICTs have been replaced, third one will be replaced by Feb, 2016.
23	Modification of 132 kV Bus arrangement at 220/132 kV Purnea S/S of Powergrid	25 th ERPC Meeting	Powergrid informed that the scheme will be implemented by July, 2016.
24	Single phase spare converter transformer units of 1x234MVA for pole 1 and 1x201.2 MVA for pole 2 at 2x500 MW HVDC Back-to- Back station at Gazuwaka (one for each pole)	25 th ERPC Meeting	Powergrid informed that preparation of DPR in in progress.
25	GIS bays for 400 kV, 125 MVAR Bus Reactor at Baripada	24 th ERPC Meeting	Powergrid informed that the work has been awarded and expected to be complete by November, 2016.

ITEM NO. B32:	Status of Spare Transformers & Reactors approved in various meetings
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The status updated in 30th TCC/ERPC meeting on Spare transformers & reactors to be commissioned by Powergrid for use in ER.

Sl No.	Spare transformer/reactor	Latest status updated in 30 th TCC Meeting
1	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff	Available at site.
2	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur	Utilized at 400 kV Farakka. Procurement of spare ICT is under process.
3	1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation	Available at site.
4	2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.	Powergrid informed that the work has been awarded on March, 2015

		and expected to be delivered by September, 2016.
5	1 X 110MVA, 765KV single phase bus reactor at Sasaram	Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.
FOR MEMBER STATES:		
1	2 X 315 MVA 400/220 kv ICTs	Available
2	2 X 160/150 MVA 220/132 kv ICTs	One ICT utilised at Purnea S/s, 2 nd ICT available at Siliguri S/s.
3	1 X 50 MVA 132/66 kv ICT	Available
SURPLUS FROM OLD AS SPARE		
1	3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss	Replaced with 160MVA transformer.
2	2x100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)	Yet to be taken out
3	2x100 MVA, 220/132kV (to be released from Purnea (2nos.) S/Stn.)	Yet to be taken out

Powergrid may update the status.

Deliberation in the TCC meeting

Powergrid updated the status as follows:

SI No.	Spare transformer/reactor	Latest status updated in 30th TCC Meeting
1	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Biharshariff	<i>Used at Biharshariff in place of failed ICT. Procurement of new spare is under progress. NIT- Dec, 2015.</i>
2	1 X 315 MVA, 400/220 KV AUTO TRANSFORMER Durgapur	<i>Utilized at 400 kv Farakka. Procurement of spare ICT is under process. NIT – Dec, 2015.</i>
3	1 X 80 MVAR SHUNT REACTOR AS O&M SPARE Rourkela Substation	<i>Available at site.</i>
4	2 X 500 MVA, 765/400 KV single phase ICTs at Angul & Jharsuguda.	<i>Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by September, 2016.</i>
5	1 X 110MVA, 765KV single phase bus reactor at Sasaram	<i>Powergrid informed that the work has been awarded on March, 2015 and expected to be delivered by March, 2016.</i>
FOR MEMBER STATES:		
1	2 X 315 MVA 400/220 kv ICTs	<i>Available at Jamshedpur & Rourkela</i>
2	2 X 160/150 MVA 220/132 kv ICTs	<i>One ICT utilised at Purnea S/s, 2nd ICT available at Siliguri S/s.</i>
3	1 X 50 MVA 132/66 kv ICT	<i>Available at Gangtok</i>
SURPLUS FROM OLD AS SPARE		
1	3x 50 MVA, 220/132kV (to be released from Malda (2nos.) & Birpara (1no.) S/Ss	<i>Replaced with 160MVA transformer.</i>
2	2x100 MVA, 220/132kV (to be released from one at Birpara & one at Siliguri)	<i>Yet to be taken out</i>
3	2x100 MVA, 220/132kV (to be released from	<i>Yet to be taken out</i>

Purnea (2nos.) S/Stn.)	
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ITEM NO. B33:	ADDITIONAL AGENDA
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ITEM NO. B33.1:	Augmentation of transformation capacity by additional 1 no. 400/220kV 500MVA Transformer at 400/220kV Biharsharif-- PGCIL
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The maximum power flow observed in all the 03 nos.315 MVA ICTs at Biharsharif is 550-650MW. It has been observed that during outage of any one of the transformers for AMP activities or because of any forced outages, remaining transformers get overloaded and as such are not adequate to cater the load demand at Biharsharif substation. Sometimes, the load restriction is being resorted to during peak demand to avoid overloading of transformers.

Further, after upgradation of 220kV TTPS-BSF line to 400 kV level and termination at POWERGRID Biharsharif substation, the power (100 to 160MW) feeding from TTPS end will also go through the ICT of Biharsharif substation which will further aggravate the loading problem.

It is proposed to augment transformation capacity by additional 01 no. 400/220kV, 500MVA transformer at Biharsharif Substation to fulfill n-1 contingency, reduce overloading and load restriction problem and keep a margin of increasing load demand for future.

Powergrid may elaborate.

Deliberation in the TCC meeting

Powergrid informed that additional 500MVA ICT is required before charging the 400kV TTPS-BSF line which is expected within 3-4 months.

TCC referred the issue to lower forum of the ERPC for study.

ITEM NO. B33.2:	Split Bus arrangement for Kahalgaon-Biharsharif-III & IV circuits at NTPC Kahalgaon – PGCIL
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Under split bus arrangement for various substations in ER project, Kahalgaon-Biharsharif-III & IV circuits (presently known as Banka-Kahalgaon-I&II) are to be reconfigured from its present position to stage-II side of Kahalgaon switchyard of NTPC.

The construction of transmission line is expected to be completed by the end of Jan'2016. In order to complete the construction of line up to dead end tower, the location of gantry of stage-II of switchyard, which is to be constructed by NTPC Kahalgaon, is required by POWERGRID. Also, bay construction work of said circuit is to be expedited by the NTPC Kahalgaon so that it matches with completion target of line.

Powergrid may elaborate.

Deliberation in the TCC meeting

NTPC informed that location for termination of line has already provided. It was also informed that the civil package for construction of bays has been awarded.

ITEM NO. B33.3:	Replacement of Pilot wire Protection relays for 220kV Durgapur-DVC line-I & II with state of the art Numerical type Line differential protection relays – PGCIL
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Pilot wire protection type HORM-4 is provided in the 220kV Durgapur-DVC Line-I & II at both POWERGRID and DVC ends for protection of the line. For the said purpose, an underground cable is laid between the two stations. The line length of the said feeder is 800m. The protections were commissioned in 1987. Frequent problems are being observed in the pilot wire protection provided in the above line.

Therefore, it is proposed to replace the pilot wire protections at both POWERGRID and DVC end with state of art numerical type line differential protection. Already fiber optic cable is available in the said line required for the line differential protection.

For replacement of the pilot wire protection in 220KV Durgapur-DVC Ckt-I & II with numerical type line differential protections at both POWERGRID & DVC end, total cost involvement will be approximately Rs. 20.0 lacs.

In 113th OCC meeting held on 14.09.2015, OCC agreed to the proposal and referred to Commercial Committee for further approval.

Members may discuss.

Deliberation in the TCC meeting

TCC agreed to the proposal and advised Powergrid to implement.

Powergrid agreed to replace the pilot wire protection from O&M cost. However, TCC advised DVC to borne the cost as the line belongs to DVC.

TCC referred the issue to ERPC.

ITEM NO. B33.4:	Tri-Partite Agreements – PGCIL
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Tri-Partite Agreements signed between State Govts, Govt. of India and RBI is expiring by Oct'2016. All the constituents are requested to take-up with their respective ministries and communicate their confirmation for extension of the same for the further period of 10 years, to enable MoP to proceed further in the matter. In case of non-extension of TPA, all the constituents shall be required to furnish LC towards Payment Security Mechanism for 210% of their average billing instead of present 105% of the same, as per CERC Regulations.

Powergrid may elaborate.

Deliberation in the TCC meeting

TCC advised Powergrid to interact with ER constituents on the issue.

ITEM NO. B33.5:	Pending payments towards ISTS tariff – PGCIL
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Status of Outstanding payments from ER Constituents is given below:

Rs. in Cr.			
Name of the DIC	Total Dues*	Outstanding	>60 days Outstanding Dues*
South Bihar		94	45
North Bihar		56	21
Jharkhand		19	6
West Bengal		64	2
Total		233	74

*In addition to the above dues, late payment surcharge is also outstanding from a few constituents.

Powergrid may elaborate.

Deliberation in the TCC meeting

TCC advised the respective constituents to liquidate the dues.

ITEM NO. B33.6:	Outstanding Letter of Credit – PGCIL
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Following constituents are required to enhance/ extend LC towards Payment Security Mechanism, as per CERC Regulations:

Rs. in Cr.			
DIC	Value of LC Required	LC Available	Validity
Jharkhand (JSEB)	10.71	0	Previous LC expired long back on 01.01.2015. Needs to furnish a fresh LC.
North Bihar	16.39	0	Previous LC expired on 21.09.2015. Needs to furnish a fresh LC.
South Bihar	27.91	8.12	Valid up to 21.12.2015. LC needs enhancement.

Necessary action is required on urgent basis.

Non-availability of LC for requisite value and validity as per CERC Regulations is causing serious problem for POWERGRID to comply with the provisions of CERC Regulations and Loan Covenants.

Powergrid may update.

Deliberation in the TCC meeting

TCC advised the respective constituents to comply the provisions of CERC Regulations.

ITEM NO. B33.7:	Payment pending from JUSNL in Wideband AMC, RTU AMC & APS AMC – PGCIL
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Payment is pending from JUSNL in Wideband AMC, RTU AMC & APS AMC since long time. The issue has been discussed in last SCADA meeting at ERLDC & JUSNL committed for release of payment, but till date payment is not released. This is critically affecting further payment to the executing parties. The details of payment are attached at **Annexure-B33.7**.

Powergrid may update.

Deliberation in the TCC meeting

JUSNL informed that approval for payment is under process and will be released soon.

ITEM NO. B33.8:	Outstanding issues of NHPC --- NHPC
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A) Non-opening of LC of requisite value

NBPDCL has to provide LC of `6.79 Crs. Similarly, SBPDCL has to provide Letter of Credit of `11.90 Crs. This issue was also discussed with concerned officials of both the discoms during visit of NHPC officials in the month of Oct'2015.

NBPDCL & SBPDCL may provide LC of requisite amount on top priority.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

B) Payment of outstanding dues for more than 60 days: -

i) WBSIEDCL

An arrear amount of `176.10 Crs is outstanding since March'2015 (i.e. energy supplied up to Feb'2015) and surcharge of ` 19.14 Crs (up to 31.10.2015) is outstanding in respect of WBSIEDCL on account of energy supplied from TLDP-III power station. Also, an amount of ` 5.40 Crs including surcharge of ` 0.85 Crs is outstanding for more than 60 days in respect of energy supplied from Rangit & Teesta-V Power Stations. We are regularly making request to

WBSEDCL to clear all outstanding dues in respect of Rangit, Teesta-V and TLDP-III power Stations.

ii) NBPDCCL

An amount of ` 16.51 Crs is outstanding for more than 60 days including surcharge of ` 1.01 Crs.

iii) SBPDCL

An amount of ` 8.36 Crs is outstanding for more than 60 days including surcharge of ` 3.27 Crs

WBSEDCL, NBPDCCL & SBPDCL may release the outstanding dues as above at the earliest.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues. Respective constituents were requested to co-operate in this regard.

C) Signing of PPA in respect of Teesta-IV H.E.Project:-

Signing of Power Purchase Agreement is pending with Gridco, SBPDCL & NBPDCCL in spite of regular follow up with these discoms. NHPC has to submit the status of execution of PPA by the discoms who have given consent to procure power from the said hydro-electric project, to MOP.

GRIDCO, NBPDCCL & SBPDCL may sign the long pending Power purchase agreement at the earliest.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

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

Signing of Power Purchase Agreement is pending with Gridco, SBPDCL, NBPDCCL, WBSEDCL, Sikkim and JUVNL in spite of regular follow up with these discoms. All above discoms may be requested to sign the PPA at the earliest so that status of signing of PPA by the beneficiaries may be intimated to MOP.

Deliberation in the TCC meeting

NHPC was advised to take up the matter with individual constituents for settlement of the issues.

E) Delay in certification of date wise Declared Capacity (DC) in respect of Teesta Low Dam –III Power Station

NHPC vide letter dated 18.09.2015 requested to WBSETCL to certify and issue date wise Declared Capacity (DC) in respect of TLDP-III Power Station latest by 10th day of every month. In response WBSETCL intimated that the 'Final' schedule of SLDC is prepared three days after

publication of 'Final' schedule by ERLDC. ERLDC is therefore, requested to issue 'Final' schedule by 5th day of every month so that energy bills to WBSEDCL on account of energy supplied from TLDP-III Power Station may be raised by NHPC in time.

NHPC may update the status.

Deliberation in the TCC meeting

ERLDC pointed out that intra state scheduling issues of TLDP-III may be taken up with SLDC, West Bengal.

ITEM NO. B34:	Any Other Items.
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1. GM, ERLDC informed that data from Sterlite, Nabinagar, Sagardhigi and Raghunathpur are not coming /intermittent.

Deliberation in the TCC meeting

TCC advised respective constituents to look into the matter on urgent basis.

2. An issue of delayed updation of schedule on ERLDC portal was raised by WBSETCL

Deliberation in the TCC meeting

ERLDC assured the house to look into the matter.

3. Restricted Governor Mode of Operation

In many previous events of sudden rise or dip in frequency on account of disturbances causing large load change or generation outage, it was observed that RGMO/FGMO response from most of the plant was inadequate. The same was discussed in several OCC meetings.

In the recent order of CERC in petition no 302/MP/2013 dated 23.10.2015 filed by SRLDC in matter of "Endangering the secured grid operation on Southern region (SR) through inadequate/non-performance of Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO) with Manual Intervention (MI) and Noncompliance of Regulation 5.2(f), (g), (h), (i).....". Commission has seen non putting generating units under RGMO/FGMO as violation of grid code, salient point of order are as follows :-

- I. As per the above provisions, all thermal generating units of 200 MW and above and all hydro units of 10 MW and above which are synchronized with the Grid, irrespective of their ownership, are required to have their governors in operation at all time in accordance with the provisions of sub-clauses (i) to (iii) of Clause (f) of Regulation 5.2 the Grid Code.

- II. For units running near technical minimum oil support, if required, should be provided as the same is being passed as normative consumption in tariff. Taking out of RGMO/FGMO with MI during technical minimum condition or for any other reason is not desirable, as it would jeopardize the grid security.
- III. On the issue of keeping margins while scheduling of the units, CERC is of the view that the units should not be scheduled by RLDCs/SLDCs beyond ex-bus generation corresponding to 100% of the Installed Capacity. Further, units should not be allowed to operate with their valves wide open. This would ensure adequate primary response by opening of the valve to the fullest.
- IV. On the issue of poor primary response and non-sustainability of primary response after few minutes it is clarified that the limit of 5% increase in generation was stipulated by the commission after considering all these difficulties of the generators and based on the recommendation of CEA who had already considered these objections at length.
- V. With regard to hydro units of Kadamparai (4x100MW) Pump storage Hydro generating Station under SLDC, Tamil Nadu. Taking note of the importance of hydro units in providing sustainable primary response to the grid, we are not inclined to entertain exemption in case of Kadamparai (4x100MW) hydro generating station.
- VI. Having considered the submissions of the petitioner and the respondents, we direct that all generators in Southern region, unless otherwise exempted, shall strictly comply with the Regulation 5.2 (f), (g), (h) and (i) of the Grid Code and shall deliver RGMO/FGMO performance to the extent of mandated level.
- VII. Any wilful locking of the Governors, poor and reverse response, introduction of more than mandated dead band or any other activity to curtail the primary response, will be viewed seriously and action under Section 142 of Act shall be taken.
- VIII. Penalty for declaring COD without RGMO/FGMO service in place, already exists in 2014 Tariff Regulations. However, staff of the Commission is directed to review the procedure for declaration of COD.
- IX. It is noted that SLDCs are regularly conducting meetings with generators for sensitizing the issue of improving the primary response. However, SLDCs are not reporting the performance of the generators on regular basis. Accordingly, SLDCs/RLDCs are directed to keep watch on the response of generators during major frequency excursions and submit report on quarterly basis to SERCs and POSOCO. SLDCs, through their respective SERCs, may also initiate action against defaulting State's generators in accordance with the provisions of the Grid Code.

Summary of present RGMO/FGMO status in Eastern Regionis as follows:

Sl No	Details	Capacity in MW
1	Total eligible unit capacity in MW	28397
2	Capacity of Units declared under RGMO/FGMO	17726
3	Capacity of Units applied for exemption at CERC	6728
4	Capacity of Units granted exemption from CERC	Nil
5	Net Effective capacity under RGMO/FGMO as CERC did't gave exemption	28397

For a recent event occurred on 12 Oct. 2015 where frequency rises by 0.11 Hz on account of 930 MW load and 150 MW generation loss in Northern Region, considering effective change in frequency (beyond 50.05 Hz) for RGMO as .09 Hz the ideal response from all in service power plant should be around 773 MW however actual response received is only 70 MW subsiding 4% load response. Summary of response is as follows:

SI No	RGMO Performance level	Categorization as	No of units in category
1	Performance of 70% and more than that of mandated value	Responded Unit	2
2	Performance of below 70% but above 30% of mandated value	Partially Responded unit	4
3	Performance of 30% and below of mandate value	In-sufficiently Responded Unit	24
4	No change in Generation level	Non-responsive unit	4
5	Change in Generation opposite to the desired direction	Reverse Responsive Unit	16
6	SCADA data not available		48

From the above table it is clear that most of the units in Eastern region are not participating in RGMO/FGMO.

TCC may note.

Deliberation in the TCC meeting

Representative of NLDC stated that in accordance with the provisions of sub-clauses (i) to (iii) of Clause (f) of Regulation 5.2 the Grid Code, all thermal generating units of 200 MW and above and all hydro units of 10 MW and above which are synchronized with the Grid, irrespective of their ownership, are required to have their governors in operation at all time. However, very few units in Eastern Region are meeting the above requirement.

He pointed out that for a recent event on 12 Oct. 2015 in which frequency rose by 0.11 Hz on account of 930MW load and 150 MW generation loss in Northern Region, the ideal response from all in-service units in ER considering effective change infrequency as .09 Hz (beyond 50.05 Hz) for RGMO should have been around 773 MW. However the actual response obtained was only 70 MW, subsiding 4%load response. This is far from satisfactory.

He added that recently, CERC in its order dated 23.10.2015 on Petition No.302/MP/2013 filed by SRLDC, inter-alia ruled that

Quote -

VI. having considered the submissions of the petitioner and the respondents, we direct that all generators in Southern region, unless otherwise exempted, shall strictly comply with the Regulation 5.2 (f), (g), (h) and (i) of the Grid Code and shall deliver RGMO/FGMO performance to the extent of mandated level.

VII. Any wilful locking of the Governors, poor and reverse response, introduction of more than mandated dead band or any other activity to curtail the primary response, will be viewed seriously and action under Section 142 of Act shall be taken.

VIII. Penalty for declaring COD without RGMO/FGMO service in place, already exists in 2014 Tariff Regulations. However, staff of the Commission is directed to review the procedure for declaration of COD.

IX. It is noted that SLDCs are regularly conducting meetings with generators for sensitizing the issue of improving the primary response. However, SLDCs are not reporting the performance of the generators on regular basis. Accordingly, SLDCs/RLDCs are directed to keep watch on the response of generators during major frequency excursions and submit report on quarterly basis to SERCs and POSOCO. SLDCs, through their respective SERCs, may also initiate action against defaulting State's generators in accordance with the provisions of the Grid Code.

- Unquote

TCC members took serious note of the present status of adherence to the mandatory role of power stations of providing RGMO response, and requested all generating companies meeting the eligibility of providing primary response to comply with the provisions of IEGC.

Part C :: ITEMS FOR INFORMATION

ITEM NO. C1:	Status of PLCC system installed in Eastern Region
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In 29th TCC meeting, PGCIL was advised to take the lead role in solving the problems emanating from non-operation/non-availability of the PLCC system with logistic & funding support by respective constituent.

Subsequently in 30th TCC, Powergrid agreed to restore the PLCC system at both ends (its own end as well as the constituent end) of a line wherein the other ends are not operational for some reasons or others as one time job.

TCC advised Powergrid to submit the survey report along with roadmap and requirement for restoration of PLCC system.

Powergrid agreed to submit the report by 29th June, 2015 in 110th OCC.

Powergrid (ER-I) vide letter dated 09.10.2015 has submitted the details for tie lines of Bihar and Jharkhand.

In 114th OCC, Powergrid ER-II has submitted the details of their control area.

Powergrid-Odisha agreed to submit the details in a week time.

Consolidated survey report along with roadmap and requirement for restoration of PLCC system under Powergrid ER-I & ER-II are enclosed in **Annexure-C1**.

TCC may note.

ITEM NO. C2:	Installation of polymer insulators on New Transmission lines
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In the 30th ERPC Meeting held on 20.06.2015, Powergrid representative delivered a brief presentation highlighting the benefits of Polymer insulators vis-à-vis porcelain/anti-fog disc type insulators mainly on account of high number of trippings of transmission lines due to flashover of insulators.

Powergrid proposed the scheme for new transmission lines as well as for the existing ones and at the same time assured that there would be no extra financial burden on the constituents for replacement of the insulators.

ERPC agreed for installation of polymer insulators in new transmission lines and replacement of porcelain insulators with polymer insulators in existing transmission lines.

Powergrid informed that they require shutdown of transmission line for replacement of porcelain insulators with polymer insulators and requested to consider the replacement period as deemed

availability (not attributable to Powergrid). Powergrid also informed that NR is already considering the replacement period as deemed availability.

ERLDC agreed to accommodate the shutdown if there is no network constraint and advised Powergrid to place the request well before.

ERPC in principle agreed to consider the replacement period as per the provisions of existing regulations. Further, Powergrid was advised to place the detailed roadmap for implementation of this scheme along with other requisite details such as time frame for completion, deemed availability, etc in lower forum of ERPC.

In 111th OCC, Powergrid informed that the order had been placed for polymer insulator with delivery schedule of four (4) months. The details will be placed shortly.

In 113th OCC, Powergrid ER-I has submitted the tentative schedule of replacement work.

OCC advised Powergrid to submit the detail schedule inclusive of time required for replacement etc. so that the same may be put up for further discussion and approval.

In 114th OCC, Powergrid ER-II submitted the tentative schedule of replacement and wanted to start the replacement work with 220kV Birpara-Salakati D/C line in December

OCC decided to discuss the shutdown of the line in next OCC meeting in November, 2015 and referred the commercial issues to next commercial meeting.

The tentative schedule as submitted by Powergrid ER-I & ER-II is given at **Annexure- C2**.

TCC may note.

ITEM NO. C3:	Study/ Analysis by the consultant to ensure Secure and Reliable Operation of National Grid
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To conduct the study/analysis for ensuring secure and reliable operation of National Grid the consultancy was awarded to M/s Tractabel, Romania, M/s Tractabel, India and M/s Lehmeier International Private Limited, India. The work is divided into two tasks.

- Task-I: covers the status of implementation of recommendations of enquiry committee on grid disturbance.
- Task-II: covers the study of the 762 third party protection audit reports and conduct on-site Protection Audit for 76 no. out of the 762 substations.

Task-I: To study the status of implementation of recommendations of enquiry committee by the Consultant

The consultant interacted with all ER constituents at ERPC, Kolkata from 31st August, 2015 to 4th September, 2015 and collected the latest status of implementation of recommendations of enquiry committee on grid disturbance.

Final report is yet to be received from the consultant.

TCC may note.

Task-II: On-site Protection Audit by the Consultant to conduct the study/ Analysis to ensure Secure and Reliable Operation of National Grid

M/s Tractabel, Romania will carry out the on-site Protection audit of the 15 shortlisted substations of the Eastern Region under Task-II.

The consultant submitted the format of checklist and a format of bus bar and breaker failure protection details to be filled up by the respective constituents. The formats are already circulated to respective nodal officers vide letter dated 31-07-2015 and the softcopy of the format is also available in ERPC website www.erpc.gov.in.

Subsequently, Powergrid ER-II, WBSETCL, DVC, BSPTCL, OPTCL, OHPC, JUSNL and Powergrid-Odisha have already submitted the required data.

Only filled up requisite format is yet to be received from Powergrid ER-I.

TCC may note.

ITEM NO. C4:	Third Party Protection Audit
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1. Status of 1st Third Party Protection Audit:

The compliance status of 1st Third Party Protection Audit observations is as follows:

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	37	68.52
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	27	39.71
Odisha	59	38	64.41
JUSNL	34	16	47.06
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

The substation wise latest status of compliance is made available at ERPC website: www.erpc.gov.in. (Observations include PLCC rectification/activation which needs a comprehensive plan)

TCC may note.

2. Schedule for 2nd Third Party Protection Audit:

The latest status of 2nd Third Party Protection audit is as follows:

- | | |
|--------------------|---|
| 1) Jeerat (PG) | Completed on 15 th July 2015 |
| 2) Subashgram (PG) | Completed on 16 th July 2015 |

- | | |
|--------------------------------------|---|
| 3) Kolaghat TPS (WBPDC)- | Completed on 7 th August 2015 |
| 4) Kharagpur (WBSETCL) 400/220kV - | Completed on 7 th August 2015 |
| 5) Bidhannagar (WBSETCL) 400 & 220kV | Completed on 8 th September, 2015 |
| 6) Durgapur (PG) 400kV S/s | Completed on 10 th September, 2015 |
| 7) DSTPS(DVC) 400/220kV | Completed on 9 th September, 2015 |
| 8) Mejia (DVC) TPS 400/220kV | Completed on 11 th September, 2015 |

In 114th OCC, it was decided to carry out the protection audit in 400kV Mendhasal (OPTCL), Talcher STPS (NTPC), Angul (PG), GMR and JITPL S/s during 1st week of November, 2015.

TCC may note.

ITEM NO. C5:	Pollution mapping for Eastern Region
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The Pollution Mapping work in ER was started with on-site measurement of ESDD and NSDD. The latest available status is as follows:

Utility	Scope	Installed Locations	Number of locations where 1 st set of Measurements Completed
JUSNL	67	27	6
BSPTCL	59	52	6
WBSETCL	73	70	43
OPTCL	164	102	99
Sikkim	12	9	6
Powergrid ER 1	99	99	99
Powergrid ER 2	40	40	40
Powergrid Odisha	43	43	43

TCC may note.

ITEM NO. C6:	Payment/Receipt Status from Congestion & PSDF accounts in ER
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C6.1. Congestion account - Present Status

The status of congestion charge payment after full settlement is enclosed at **Annexure – C6.1.**

TCC may note.

C6.2. Status of PSDF

As informed by ERLDC, an amount of ` **824.02 Cr.** has been transferred to PSDF so far. The break up details of fund transferred to PSDF is enclosed in **Annexure- C6.2.**

TCC may note.

ITEM NO. C7:	Non availability of SCADA data telemetry at ERLDC
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The status as updated in the 114th OCC meeting is given in **Annexure-C7**.

TCC may note.

ITEM NO. C8:	Status of new ULDC scheme and up-gradation of ULDC scheme
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The status as updated in the 5th PRM meeting which was held on 24th September, 2015 at ERPC is as given in **Annexure-C8**.

TCC may note.

ITEM NO. C9:	HIGHLIGHTS & GRID PERFORMANCE FOR THE PERIOD FROM JUN, 2015 TO SEPT, 2015 -- ERLDC
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A) Real time operation:

During the period under review, power supply position in the region was as under:

	Jun-14	Jul-14	Aug-14	Sep-14	Jun-15	Jul-15	Aug-15	Sep-15
AvgFrq. (Hz)	49.93	49.93	49.92	49.95	50.01	49.99	49.98	49.94
PkDmd (MW)	17078	17175	16606	17177	17582	17662	17634	18171
Energy Consum. (MU/day)	354	352	344.9	349	362.7	356.4	372.1	383.9
Region Gen (MU)	12467	12187	11488	11063	12644	12537	12732	12431
% increase in Reg Gen.					1.4	2.9	10.8	12.4

B) System Operational Discipline during the period from Jun-15 to Sep-15

- i) Frequency profile during the period under review improved considerably. The month-wise energy draws of ER constituents were as given hereunder:

(Figures in MU)

	Jun-15		Jul-15		Aug-15		Sep-15	
	SCH	ACT	SCH	ACT	SCH	ACT	SCH	ACT
BSPHCL	1696	1658	1793	1769	1871	1885	1936	1947
JUVNL	355	317	384	347	417	406	407	408

DVC	-716	-713	-541	-564	-502	-521	-522	-534
OPTCL	524	539	543	552	585	606	495	500
WBSETCL	1387	1403	1478	1497	1623	1649	1587	1593
SIKKIM	28	26	34	25	28	25	25	24

C) Frequency & Voltage

Frequency profile for the period during **Jun-15 to Sep-15** is given hereunder. The frequency mostly remained within the allowable range for the entire period, except during September.

Month	% of time for which frequency			
	<49.9	49.9-50.05	> 50.05	IEGC band 49.9-50.05
Jun-15	9.2	64.17	26.63	64.17
Jul-15	10.64	70.29	19.07	70.29
Aug-15	15.64	70.26	14.11	70.26
Sep-15	30.12	60	9.87	60

Maximum and minimum voltages recorded at some important 400 kV sub-stations were as follows:

SUB-STATION / POWER STN.	Jun-15		Jul-15		Aug-15		Sep-15	
	MAX.	MIN	MAX.	MIN	MAX.	MIN	MAX.	MIN
	(KV)	(KV)	(KV)	(KV)	(KV)	(KV)	(KV)	(KV)
FARAKKA	424	408	424	400	426	400	425	402
SUBHASGRAM	432	376	428	383	431	384	428	372
DURGAPUR	423	404	423	406	425	401	423	398
JEERAT	424	375	427	384	429	382	423	372
PURNEA	424	396	424	400	422	401	421	396
MUZAFFARPUR	420	390	418	388	416	390	415	387
JAMSHEDPUR	432	415	433	417	432	412	433	411
RENGALI	407	393	405	395	405	394	407	394
JEYPORE	422	386	420	383	423	378	434	376

It may be observed that the voltage varies widely at Jeerat, Subhasgram and Muzaffarpur, which are major load centres of W. Bengal and Bihar.

While 400/220kV ICT taps at these sub-stations are reviewed and adjusted periodically, WBSETCL and BSPTCL may kindly take necessary action for controlling low voltage phenomenon by installing appropriate compensation at respective load ends.

D) Constituent-wise demand met is given below:

		Jun-14	Jul-14	Aug-14	Sep-14	Jun-15	Jul-15	Aug-15	Sep-15
BSPHCL	AVG	2253	2282	2186	2391	2791	2881	2999	3139

	MAX DMD(MW)								
	MU/DAY	48	48	47	50	58	60	63	68
JUVNL	AVG MAX DMD(MW)	933	942	939	932	1000	998	1047	1028
	MU/DAY	21	21	21	21	22	21	23	22
DVC	AVG MAX DMD(MW)	2503	2495	2362	2392	2627	2546	2504	2574
	MU/DAY	60	59	56	58	62	59	59	61
ODISHA	AVG MAX DMD(MW)	3586	3511	3461	3572	3807	3832	3897	3682
	MU/DAY	79	74	75	77	72	73	75	78
W. BENGAL	AVG MAX DMD(MW)	7125	7335	7280	7380	6967	6725	7107	7307
	MU/DAY	145	148	146	142	148	143	152	155

E) Inter-regional energy exchange during the review period were as follows:

(Figures in MU)

Region	Jun-15		Jul-15		Aug-15		Sep-15	
	SCH	ACT	SCH	ACT	SCH	ACT	SCH	ACT
NER	73	64	-41	-52	-145	-149	-126	-88
SR	633	629	563	684	736	908	465	533
WR	-237	301	158	229	-334	-199	-409	-271
NR	1725	1122	1541	1310	1833	1331	1791	1426
TOTAL	2195	2115	2222	2170	2090	1891	1721	1600

[(+) => export from ER ; (-) => import by ER]

F) Reservoir levels of important hydro stations in ER during Jun-15 to Sep-15 (as on last day of the month) is given below:

MDDL / FRL	Jun-15	Jul-15	Aug-15	Sep-15
590/630 FT	602.17	609	624.5	630
1440/ 1516 FT	1487.6	1485.1	1484.3	1499.7
109.7/ 123.5 MTR	114.04	120.2	119.1	119.2
844/ 858 MTR	851.74	850.9	851	856.3
625/ 641 MTR	631.72	630.4	630.8	636.2
2685/ 2750 FT	2727.2	2725.3	2728.3	2748.2

G) IMPORTANT EVENTS :

1. 400kV Barh-Gorakhpur-I was charged for the first time at 20:30hrs of 01/06/15.

2. 160 MVA ICT-II at Purnea was charged for the first time on no load at 17:31hrs of 09/06/15. Subsequently the same was loaded for the first time at 17:36hrs of 10/06/15.
3. 80 MVA spare L/R of 765kV Angul-Jharsuguda-II at Angul was charged for the first time in R-ph at 23:58 hrs of 29/06/15.
4. 160 MVA, 220/132 kV Grid S/s at Puri (Samangara) S/s was commissioned on 14.07.2015 at 14:14 Hrs.
5. 132 kV LILO of Nimapara-Puri line to Puri (Samangara) S/s charged on 15.07.2015
6. 100 MVA Auto-I at Mendhasal charged on 17.07.2015 at 21:43 Hrs.
7. 132 kV Mandhasal-Khurda ckt charged on 17.07.2015 at 23:05 Hrs.
8. 220kV Maithon-Dumka-I and II bays at Maithon were successfully charged for the first time at 21:27hrs and 21:29hrs of 09/07/15 respectively. Subsequently, 220kV Maithon-Dumka-I and II were charged on no load at 18:45hrs and 21:42hrs of 20/07/15 respectively and 220kV Bus-I and II at Dumka were charged at 19:04hrs and 19:17hrs of 20/07/15 respectively. Finally both 220kV Maithon-Dumka-I and II were loaded at 16:54hrs of 22/07/15.
9. 500 MVA ICT-I at New Purnea was charged for the first time on no load at 19:14hrs of 10/07/15. Subsequently the same was loaded at 18:32hrs of 11/07/15.
10. 132kV Banka-Sultangunj-I was charged for the first time on no load at 18:50hrs of 15/07/15. Subsequently the same was loaded at 19:05 hrs of 15/07/15.
11. 160 MVA, 220/132 kV Grid S/s at Puri (Samangara) S/s was commissioned on 14.07.2015 at 14:14 Hrs.
12. 132 kV LILO of Nimapara-Puri line to Puri (Samangara) S/s charged on 15.07.2015
13. 100 MVA Auto-I at Mendhasal charged on 17.07.2015 at 21:43 Hrs.
14. 132 kV Mandhasal-Khurda ckt charged on 17.07.2015 at 23:05 Hrs.
15. 125 MVA B/R at Indravati (PG) was charged for the first time at 16:05 hrs of 01/08/15.
16. LILO of 220kV Ramchandrapur-Joda upto dead end tower at Chaibasa (JUSNL) was charged for the first time at 19:44hrs of 10/08/15.
17. 400kV New Ranchi-Chandawa-I was anti-theft charged for the first time at 18:28 hrs of 11/08/15.
18. 400kV Baripada-New Duburi and 400kV New Duburi-Mendhasal were charged for the first time at 19:01hrs and 20:11hrs of 17/08/15 respectively. Also 80 MVA BR at New Duburi was charged at 21:07hrs of 17/08/15.
19. 315 MVA ICT-I and II at New Duburi were charged for the first time on no load at 21:02hrs and 21:18hrs of 28/08/15 respectively. Finally 315 MVA ICT-I and II at New Duburi were loaded at 14:24hrs and 15:37hrs of 29/08/15 respectively.
20. 220kV Sasaram (PG)-Sasaram (BSPHCL)-Ara-II was charged for the first time at 18:59hrs of 19/08/15.
21. 400kV Meramundali-New Duburi-II was charged first time at 13:15 hrs on 11/9/15.
22. 400kV Bus sectionalizing breaker-I (between Bus-I and Bus-III) at Durgapur was charged for the first time at 17:47hrs of 01/09/15.
23. 220kV Rangpo-Jorethang was charged for the first time on no load from Rangpo end up to isolator at JLHEP at 19:44hrs of 04/09/15. Subsequently, 220kV New Melli-Jorethang was charged on no load from Rangpo end up to isolator at JLHEP at 19:04hrs of 05/09/15. Finally, 220kV Bus at JLHEP was charged at 13:05hrs of 14/09/15.
24. Indbharat Unit-I of 350 MW was synchronized for the first time at 17:03hrs of 11/09/15.
25. 400kV Meramundali-New Duburi-II was charged for the first time at 13:15hrs of 11/09/15.

26. NTPC Barh Unit-V (660 MW) was synchronized for the first time at 15:10 hrs of 01/03/15 and achieved full load at 21:10 hrs on 4/3/15.
27. JLHEP Unit-I of 48 MW was synchronized for the first time at 19:57hrs of 20/09/15. COD of JLHEP Unit-I of 48 MW was declared w.e.f 00:00hrs of 26/09/15.
28. JLHEP Unit-II of 48 MW was synchronized for the first time at 00:07hrs of 21/09/15.
29. COD of JLHEP Unit-II of 48 MW was declared w.e.f 00:00hrs of 01/10/15.

ANNEXURES

LIST OF PARTICIPANTS IN THE 31st ERPC MEETING

Date: 14.11.2015

Venue: Hotel Swosti Premium, Bhubaneswar

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LIST OF PARTICIPANTS IN THE 31st TCC MEETING

Date: 13.11.2015

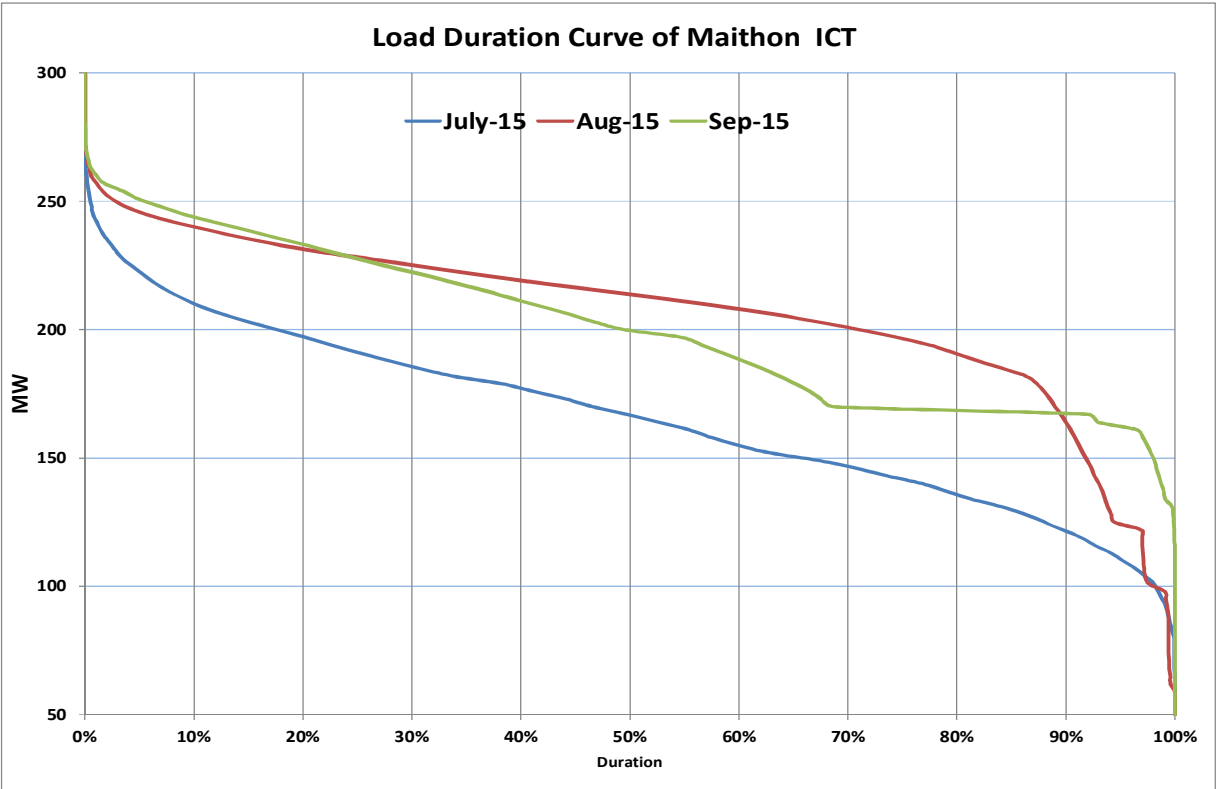
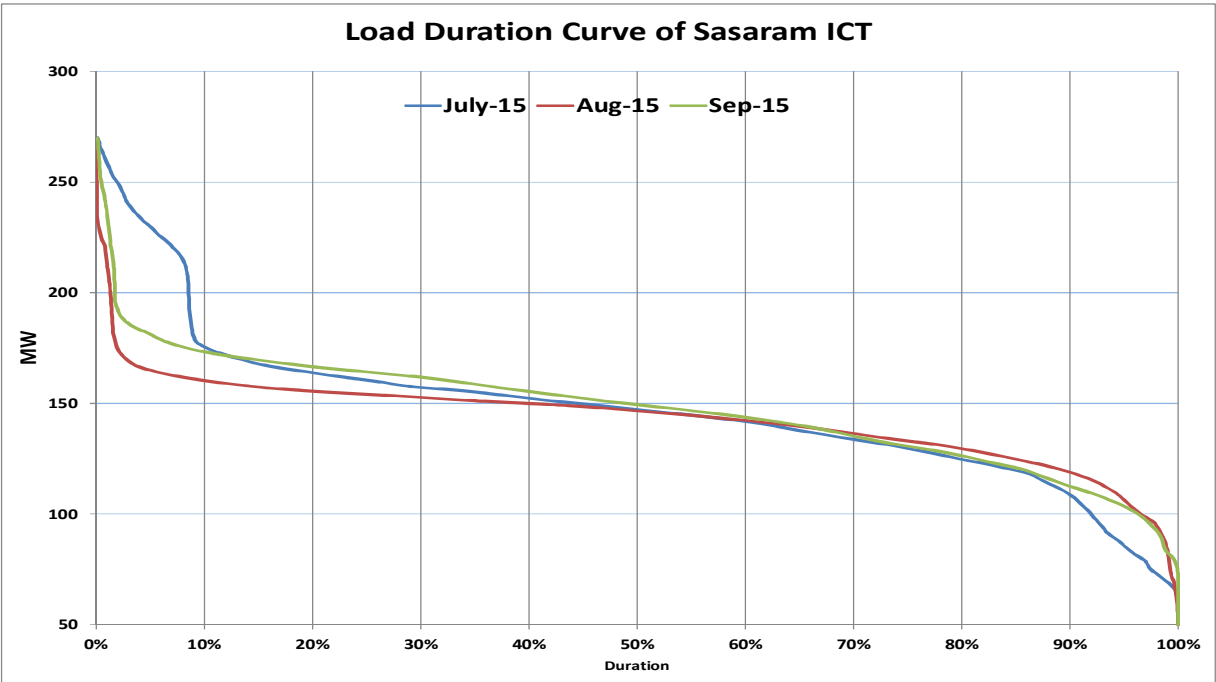
Venue: Hotel Swosti Premium, Bhubaneswar

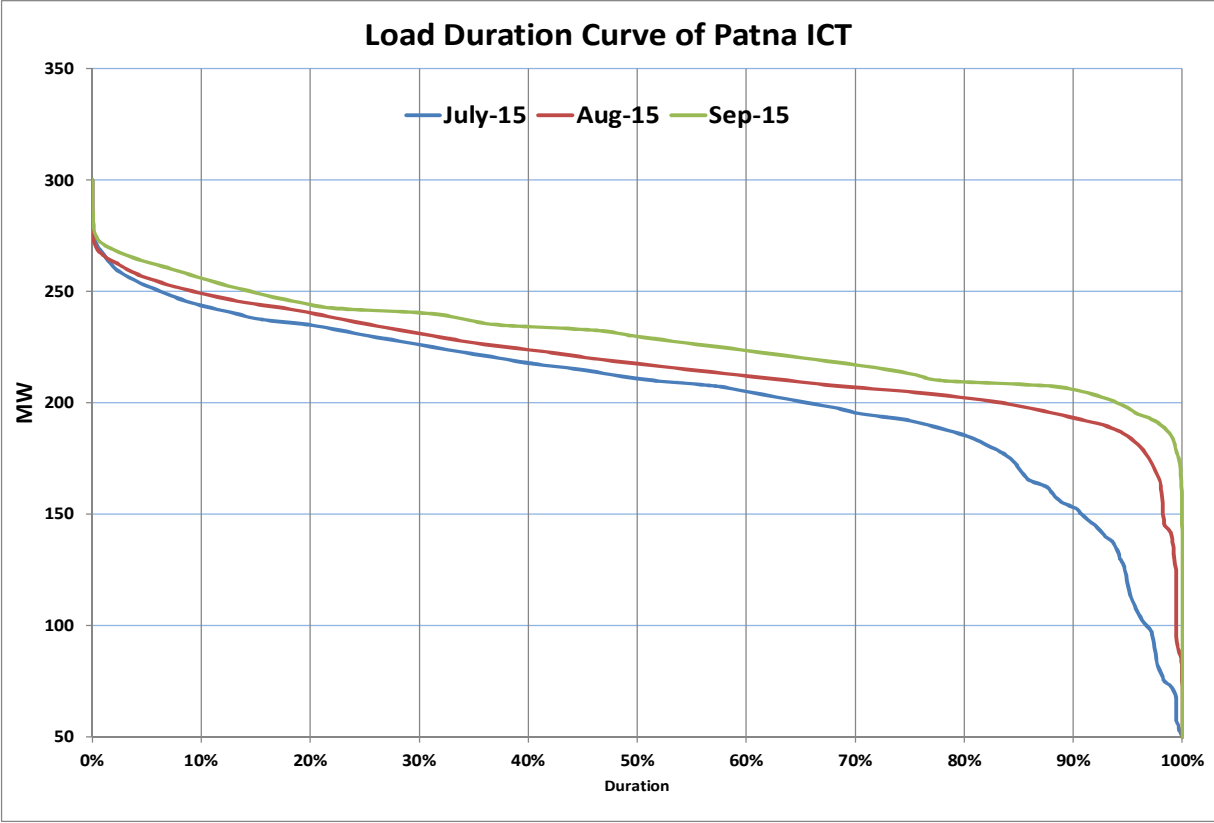
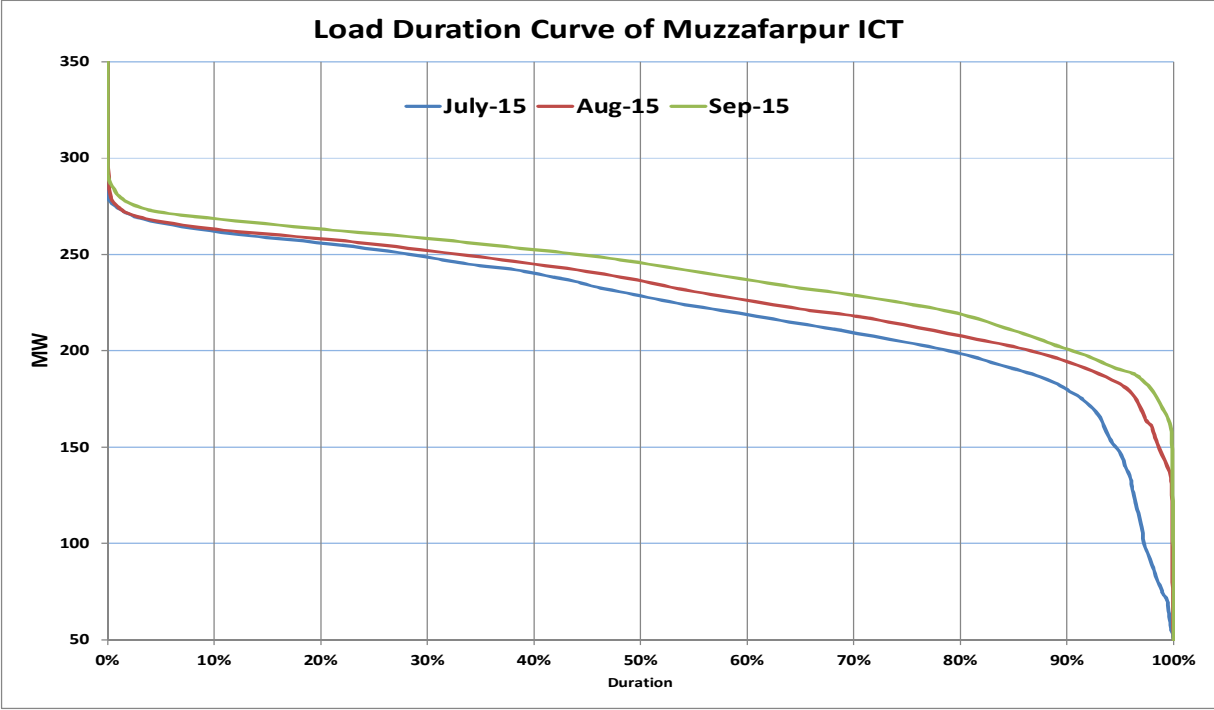
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PROGRESS OF 400 kV D/C VEDANTA - JHARSUGUDA T/ L. AS ON 13/10/2015

SUPPLY PORTION

Sl. No.	Activities	Status	Remarks
1	Release of Tower spotting data & Sag Template Curve	1. Date of release of Tower spotting data: (please enclose copy) 2. Date of release of Sag Template: (please enclose copy)	1.Tower Spotting data released on dtd.05/07/2015 ,Submitted to PGCIL vide letter no.PGCIL/LILO/001 dtd.28/07/2015(COMPLETED) 2.Sag Template released on dtd.05/07/2015(COMPLETED)
2	Release of Drg. & BOM for Stub (All type of Tower)	1. Date of release of Drawing For Stub: (please mention type & quantity of stub) 2. Date of release of BOM for Stub: (please mention type & quantity of stub)	1.Structural Drawing released on 01/08/2015, DA+0 =15Nos , DA+3=05Nos,DA+6 =06Nos, DC+0=08Nos, DC+6 = 03Nos,DC+9=03Nos, DD+0=14Nos,DD+3=03Nos,DD+9=02Nos,DD+18=01Nos, DD+25=01Nos,DD+30=07Nos (COMPLETED EXCEPT DA & DC TYPE TOWER) 2.BOM released on 01/08/2015, DA+0 =15Nos , DA+3=05Nos,DA+6 =06Nos, DC+0=08Nos, DC+6 = 03Nos,DC+9=03Nos, DD+0=14Nos,DD+3=03Nos,DD+9=02Nos,DD+18=01Nos, DD+25=01Nos,DD+30=07Nos (COMPLETED EXCEPT DA & DC TYPE TOWER)
3	Release of Structural Drg. & BOM, Shop floor Drg. For all type of Tower	1. Date of release of Structural/shop floor Drawing : (Please mention type & qty of tower) 2. Date of release of BOM for Tower: (please mention type & quantity of Tower with type of extension)	1.(i)DD TYPE TOWER RELEASED ON 01/08/2015 (COMPLETED),(ii)DA & DC TYPE TOWER DESIGN HAS BEEN APPLIED TO PGCIL,PGCIL QUOTED THE OFFER,WAITING FROM PGCIL ,GURGAON FOR RECONFIRMATION OF DESIGN OF DA & DC TYPE TOWER ORDER. 2.(i)DD TYPE TOWER RELEASED ON 01/08/2015,(ii)DA & DC TYPE TOWER DESIGN HAS BEEN APPLIED TO PGCIL,PGCIL HAS QUOTED THE OFFER,BUT PGCIL HAS REFUSED TO SUPPLY THE TOWER DESIGN OF DA & DC TYPE TOWER.QTY AS ABOVE
4	Release of Drg. for Tower Accessories	1.Date of release of Drawing for Tower Accessories: (please mention details of accessories & quantities)	All the drawings received on 07/10/2015,Expected date of approved released drawing 15/10/2015
5	Proto Fabrication and Assembly	Please Give details of proto fabrication and assembly according to the Tower type.	For DD type tower Expected date of proto 18/10/2015 DA & DC TYPE TOWER DESIGN HAS BEEN APPLIED TO PGCIL,PGCIL QUOTED THE OFFER,REVALIDATION OF OFFER OF PGCIL TOWER DESIGN OF DA & DC TYPE TOWER IS AWAITED.
6	Release of apprvd. Proto corrected Drg.	1. Date of release of approved proto corrected Drawing : (please Mention type of Tower)	For DD type tower Expected date of approved drawing 22/10/2015. DA & DC TYPE TOWER DESIGN HAS BEEN APPLIED TO PGCIL,PGCIL QUOTED THE OFFER,REVALIDATION OF OFFER OF PGCIL TOWER DESIGN OF DA & DC TYPE TOWER IS AWAITED.
7	Release of apprvd. Stringing Chart	Date of release of approved Stringing chart: (if partly approved then please mention section of the line along with location no.)	Expected date of released of stringing chart 2/11/2015.From location no.AP-1/0 to 32/0 Stringing Chart is approved on 04/09/2015.Length
8	Manufacturing of Stub and receipt at site	Please mention total required quantity according to the Tower type and status of receipt till date at site of the same. Also mention the schedule of balance quantity.	Total DA =22Nos, DC=14Nos, DD=28Nos Manufacturing of stub P.O. No. SRAIPL/VL/TL/2905-15/01 dtd.19/05/2015 Received till date :DA=06Nos,DC=02Nos,DD=02Nos.,Followings are under receipt:DA=10Nos,DC=05Nos,DD=10Nos
9	Manufacturing of Tower and receipt at site	Please mention total required quantity according to the type and status of receipt till date at site of the same. Also mention the schedule of supply for balance quantity.	DA+0 =15Nos , DA+3=05Nos,DA+6 =06Nos, DC+0=08Nos, DC+6 = 03Nos,DC+9=03Nos, DD+0=14Nos,DD+3=03Nos,DD+9=02Nos,DD+18=01Nos, DD+25=01Nos,DD+30=07Nos
10	Approval and Supply of Line Materials- Conductor/ Earth wire/Hardware/Earthing Materials/ Bird Guard /Aviation Light	1. Please mention total requirement of Line Materials(Conductor/ Earth wire/Hardware/ Earthing Materials/ Bird Guard / Aviation Light): 2. Receipt at site of the above: 3. Schedule of supply of balance quantity.	1.Qty. finalised on dtd. 12/10/2015.(COMPLETED)

Note : 01. If related work has not been started yet, planning for starting & completion need to be provided.

02. As per detailed survey total quantity required for all supply items has already been finalised. Kindly provide Purchase order placement status including quantity for which PO placed & planning for placement of PO for balance quantity of supply.

ERECTION PORTION

Sl. No.	Activities	Status	Remarks
1	Route Alignment	A. Please mention Date of finalization of route alignment (along with name of important village/ mouza/ area etc.) B. Length of finalized route : C. Status of Notification for construction of line	A..Finalization of route alignment,28/07/2015 (COMPLETED)1.KENAPALI 2. MAHULPALI 3.RANGIAMUNDA 4.KURGA 5.KEPSE 6.HUNDARMAL 7.KIRIPSIRA 8.PORHADIHI 9.SURDA 10.KHARMARBAHAL 11.JAMUNADHIPA 12.TELINGAPALI 13.MAHIPANI 14.NUAPARAH 15.PORHABAHAL 16.DHATAKDIPHA 17.PARDIADIHI 18.KUNDUKELA 19.DEULI 20.KAINTARA B.Length of finalized route :20.345Km C.Section 68 is in hand
2	Detailed Survey	1. Date of completion of detailed survey: (if not completed please Mention the completed) length	Completion date of Survey,28/07/2015 (COMPLETED) .On village map plotting is under progress,expected completion by 20/09/2015.
3	Forest Survey	1. Date of completion of survey: (if not completed please intimate the status) Total forest area involved(in Hectares)with bifurcation according to type of forest land	1.Earlier proposal Dt.20/02/2015 2.Forest area involved 11.03Ha.NOTE:Due to severe ROW apprehension & avoiding of extra 05nos low gantry crossing, original route was revised.The matter has been discussed with PGCIL,Sundergarh.As per the advice of PGCIL,Sundergarh line rerouting has been done . Revised Forest Proposal will be submitted on 26/10/2015. 2.After finalisation of village map plotting/DGPS SURVEY ,Forest areas are to be finalised by 01/12/2015
4	Inputs for Forest Proposal	1. Date of submission of application. 2. Please mention present status. 3. Anticipated date of clearance. 4. Proposal/ status of Compesatory Aforestation.(please Give details)	1. Application to be submitted on 20/02/2015 2. Odisha State Sl.No.FP/OR/TRANS/10273/2015 dtd.27.02.2015 3.Anticipated date of forest clearance : 15/10/2015 4.Forest Diversion Approval is required for 11.03 Ha, NOTE:Due to severe ROW apprehension & avoiding of extra 05nos low gantry crossing, original route was revised.The matter has been discussed with PGCIL,Sundergarh.As per the advice of PGCIL,Sundergarh line rerouting has been done . Revised Forest Proposal will be submitted on 12/10/2015.
5	Status of Detailed Survey Report	1. Please mention status of detailed survey (if survey done by other agency then mention the date of submission of detailed survey report)	Check survey has been carried out by M/s.SR Associates Infrastructure Pvt.Ltd & Survey report was approved on
6	Profiling	1.Please metion date of completion of preparation and approval of profiling.	1.Date of completion of profiling approval :01/08/2015
7	Tower spotting	1. Please mention date of completion.	Dt.07/08/2015
8	Approval of Detailed Survey	1. Please mention date of approval of detailed survey.	1.Detail Survey was approved on dtd :08/12/2012
9	Check Survey	1. Please mention date of completion of Check survey.	1.Date of completion of check survey :28/07/2015
10	Submission/ Approval of Check Survey	1. Please mention date of submission/ approval of Check survey.	1.Date of completion of profiling approval :01/08/2015(COMPLETED)
11	Detailed Soil Investigation	1. Please mention present status along with no of loction done.	As on 11/09/2015,Soil investigation report done for 45Nos out of 64Nos. Balance will be completed by 29/09/2015
12	Execution - Foundation	1. Please give location wise status and planning	16Nos of foundation completed & planning to complete by 25th JAN.2016. FOLLOWING LOCATION FOUNDATION COMPLETED 27/3 on dtd 24/05/2015 , 27/04 on dtd20/05/2015 27/1 on dtd.01/06/2015 ,27/2 on dtd.12/06/2015 , 27/0 on dtd.06/06/2015 ,26/0 on dtd.17/06/2015 , 22/1 on dtd.25/07/2015 20/0 on dtd.04/08/2015 , 19/1 on dtd.11/08/2015 ,15/0 on dtd.13/08/2015 , 14/0 on dtd.18/08/2015 ,31/2 on dtd.30/08/2015 , 31/4 on dtd.03/09/2015 ,31/3 on dtd.10/09/2015 , 29/0 on dtd.08/10/2015.

13	Execution- Tower Erection	1. Please give location wise status and planning	Erection start dt.02/11/2015 completion date25/03/2016
14	Execution- Stringing	1. Please give stretch wise status and planning	Stringing start dt.12/12/2015,Completion Dt.09/04/2016
Sl. No.	Activities	Status	Remarks
15	Clearance for Power Line Crossing	1. Please mention no of Power line crossings involved in the finalised route with voltage level and name of line and ownership of line. 2. Please mention status of submission and approval of these Power line crossing proposals.	1.(i)Line is crossing under 765KV Sundergarh - Dharmajaygarh Circuit-1 & 2 & proposed 765KV Sundergarh-Dharmajaygarh Circuit-3 & 4 line in low gantry system at Village Rangiamunda-Tangrapalli,Sundergarh (ii) Overhead crossing of 400KV Raigarh-Sundergarh Line at village Kirpisara-Tangrapalli-Sundergarh 2.Application for power line crossing & profile submitted vide letter no.VL/LILO/PGCIL/003 dtd.04th Sept.2015 at PGCIL,Sundergarh,Query has been raised by PGCIL & detail CAD drawing submitted on 13/10/2015.
16	Clearance for Railway Crossing	1. Please mention no of Railway crossings and name of route involved in the final route. 2. Please mention submission and status of approval.	No Railway crossing is there.
17	Statutory Clearance for PTCC(Rail & DOT), including aviation clearance from Defence & Civil aviation .	1. Please mention date of submission of application. 2. Present status of PTCC proposal.	Expected date of submission by 18/11/2015
18	Clearance & Handing over of Forest Land	1.Please mention Present status. 2. Anticipated Date of Clearance & Handing over of Forest Land	1. Compensatory afforestation land (CA Land) of 30 acres is arranged by us and after site inspection DFO already issued suitability certificate
19	Clearance from CEA		Section -68 approval is in hand.
20	Clearance from ERLDC		After charging of line ERLDC clearance is required.
21	Readiness of Line Bays (Both end)		VEDANTA end bay is in charged condition.Construction of at PGCIL is under progress ,expected completion of date 31st December,2015.
22	Notification for Charging		After completion of line works & line inspection ,notification for charging will be made.
23	Final checking of Tower and corridor		After completion of line works final checking of Tower & Corridor will be carried out.
24	Testing & Commissioning	1. Please indicate Schedule/Target date of Testing & Commissioning	Target date of testing & commissioning is dt.15/04/2016

Status of Downstream Projects of Daltonganj and Chaibasa Sub-stations of JUSNL as updated in 1st SSCM held at ERPC, Kolkata on 21-09-2015.

Tentative roadmap for completion of Priority work of Jharkhand consultancy work under Powergrid:

1. The road map for completion of Jharkhand consultancy priority work as designed in the meeting are as follows:

Sl. No.	Name of project	Completion Schedule	Remarks
i.	220/132kV Dumka S/s		Substation has been charged along with its associated transmission line on 22.07.2015.
ii.	220kV Dumka-Rupnarayanpur D/C line		Commissioned on 22.07.2015
iii.	a) Diversion of 220kV Joda-Ramchandrapur S/C (near Chaibasa S/s) b) LILO of 220kV S/C Ramchandrapur-Joda line at 220/132kV Chaibasa (JUSNL) S/s c) 220kV Chaibasa (PG)-Chaibasa(JUSNL) d) 33kV downstream system at Chaibasa e) 132kV Manoharpur S/s along with 132 kV Chaibasa-Manoharpur line	 Dec, 2015 Dec, 2015 March, 2016	 Completed. Completed. Line completed only dead end terminations is to be done. One 33 kV feeder of 20 MW load capacity has already completed and another 2 feeders are being constructed by JBVNL likely to be completed within another 45 days. Foundation- 295/337, Erection- 271/319 and Stringing- 26.17/96 km completed.
iv.	220/132/33kV Chaibasa S/s	Dec, 2015	33kV feeders are under the scope of JBVNL
v.	132kV Jamtara S/s bay extension, 132kV Jamtara-Madhupur D/C line, 132kV Madhupur S/s	Dec, 2015	
vi.	a) 400/220kV Daltonganj S/s (PGCIL) b) 220/132kV Daltonganj S/s (JUSNL)	March, 2016	In 17 th SCM, it was agreed to create 132 kV level at Daltonganj (PG) along with 2x160 MVA, 220/132 kV ICT and 4 no. 132 kV line bays by POWERGRID as a part of ERSS-17.

2. The schemes of JUSNL for power evacuation from 400/220 kV Daltonganj and Chaibasa sub-stations are given at **Annexure-I**.
3. Powergrid was requested to expedite the schedule iii to v.
4. It was informed that work is going on war-footing basis and assured all efforts to maintain /prepone the schedule. However, it was communicated that ROW and forest clearance issues are main hindrances resolving of which needs cooperation from Jharkhand authorities. Jharkhand assured all sorts of assistance.
5. Powergrid will send the monthly Progress report to ERPC. Subsequently, review meeting will be convened once in a quarter unless otherwise required.

**Report for Meeting on Status of Downstream Projects of Daltonganj and
Chaibasa Substation to be Held on 21.09.2015 at 15:00 hrs. at ERPC , Kolkata**

**Power evacuation from 400/220 kV Daltonganj Grid Sub-Station
(item No. 14 of records of discussion of 17th SCMPSP of ER)**

Proposal of JUSNL (Jharkhand Urja Sancharan Nigam Limited) for provision of 220/132 kV Auto transformer in proposed 400/220 kV GSS of M/s POWERGRID at Daltonganj with provision of 02 nos. 132 kV bays for JUSNL

JUSNL has informed that due to land acquisition constraints at Daltonganj, it is not possible to create 220 kV level at Daltonganj. POWERGRID is constructing 2x315 MVA 400/220 kV S/S at Daltonganj. JUSNL has requested to provide 2x160 MVA 220/132 kV Auto transformer in the Daltonganj 400 kV S/S of POWERGRID along with necessary 132 kV bays. The existing 220 kV D/C Latehar – Daltonganj transmission line (presently charged at 132 kV level) of JUSNL is passing nearby Daltonganj of POWERGRID. JUSNL has proposed that line from Latehar to Daltonganj will be LILO at Daltonganj (PG) in such a way Daltonganj (PG)-Latehar would be operated at 220 kV and Daltonganj (PG)- Daltonganj (JUSNL) would be operated at 132 kV. JUSNL has also informed that they are constructing 220/132kV Garhwa Rd. S/S as well as Daltonganj Garwah Rd. 220kV line which would now be connected at Daltonganj (PG) substation.

Taking care of the reliability aspect of 220/132 kV ICT at Daltonganj, the following was proposed :

- a) 2x160 MVA, 220/132 kV Auto transformer at Daltonganj substation along with 4 number of 132 kV line bays (under the scope of POWERGRID)
- b) LILO of Daltonganj (JUSNL)-Latehar 220kV D/c (operated at 132kV) line of JUSNL at Daltonganj (PG) so that Daltonganj (PG)-Latehar D/c would be operated at 220 kV and Daltonganj (PG)-Daltonganj (JUSNL) would be operated at 132 kV. (Scope of JUSNL)
- c) Daltonganj (PG) –Garwa Rd. 220kV D/c line along with 220/132kV S/s at Garwa Rd. (Scope of JUSNL)

Director (Projects), BSPTCL stated that cost of 220/132 kV ICT and associated bays should be borne by Jharkhand, as Jharkhand is the sole beneficiary. AGM, POWERGRID said that ISTS sub-stations are created for the drawl of power by the state and because of land acquisition constraint, JUSNL is not able to construct 220/132 kV sub-station at Daltonganj.

CE (Trans), JUSNL informed that following transmission would be constructed by JUSNL for drawl of power at 220 kV and 132 kV level from Daltonganj (PG).

- a) Daltonganj (PG)-Latehar (JUSNL) 220 kV D/C
- b) Daltonganj (PG)-Garwa (JUSNL) 220 kV D/C
- c) Daltonganj (PG)-Daltonganj (JUSNL) 132 kV D/C
- d) Daltonganj (PG)-Chatrapur / Lesliganj (JUSNL) 132 kV D/C

After, further discussion, it was agreed to create 132 kV level at Daltonganj (PG) along with 2x160 MVA 220/132 kV ICT and 4 no. 132 kV line bays by POWERGRID as a part of Easter Region strengthening scheme-17 (ERSS-17).

In view of above land for 220/132KV GSS at Garhwa is being identified and the project has been included in 24x7 Power for all scheme.

Power evacuation from 400/220 kV Chaibasa Grid Sub-Station

Construction of 220/132/33 kV GSS at Chaibasa is already in progress & likely to be completed soon. This scheme is under consultancy projects awarded to M/s PGCIL Under Jharkhand Consultancy Project , under the same project following Transmission line is being constructed and status is as mentioned below:-

- 220KV D/C Chaibasa(JUSNL) to Chaibasa(PGCIL) Transmission line, -
This transmission line has been completed only dead end terminations is to be done
- LILO of 220KV S/C Ramchanderpur-Joda Transmission line at 220/132/33KV GSS Chaibasa
Completed
- 220KV Ramchanderpur-Chaibasa transmission line
Foundation 111/130, Erection – 110/130 and Stringing 18.41/38Km Completed

For power evacuation at 132 kV level, following transmission lines are under construction by PGCIL under Jharkhand Consultancy from 220/132/33 kV GSS at Chaibasa:

- a) 132 kV D/C, 3 phase Chaibasa – Manoharpur transmission line
Foundation 295/337, Erection – 295/337 and Stringing 31.59/96Km Completed
- b) 132 kV D/C, 3 phase Manoharpur – Simdega transmission line
Foundation 280/319, Erection – 271/319 and Stringing 26.17/96Km Completed

For evacuation at 33KV Level one No. 33KV Feeder of 20MW load capacity has already been completed and another 2No. 33KV feeder is being constructed by JBVNL , which is likely to be completed within 45Days.

Also JUSNL have planned to construct following 132 kV D/C, 3 phase transmission line from 220/132/33 kV GSS at Chaibasa:

- a) 220 kV D/C, 3 phase Chaibasa – Gua transmission line (SAIL DEPOSIT WORK).
Agenda has been approved BoD , JUSNL and requisition of fund has been made from M/s SAIL .
- b) 132 kV D/C, 3 phase Chaibasa – Chakradharpur transmission line
- b) 132 kV D/C, 3 phase Chaibasa – Noamundi transmission line
- c) 132 kV D/C 3 Ph. Chaibasa -Rajkharsawan line with construction of 132 kV bay at 132/33 kV Rajkharsawan grid.

- d) LILO of one Ckt Of 132 KV D/C 3 ph Noamundi- Chaibasa Transmission Line at 132/33 KV GS/S Kendposi including with 2 nos. of 132 kV bay.
- e) LILO of one Ckt Of 132 KV D/C 3 ph Chaibasa - Manoharpur Transmission Line at 132/33 KV GS/S at Goelkera including with 2 nos. of 132 kV bay.

Scheme from Sl. No. (b) to (f) could not be taken in financial year 2015-16 due to non-availability of fund from State Govt./ other sources. Efforts are being made to get funds from World Bank and other Financial institutions to implement these projects under 24x7 , Power for all . After availability of fund these scheme will be taken in financial year 2016-17 and onwards.

Annexure- B21

INTERCONNECTED TRANSMISSION LINES OF WEST BENGAL

SL. NO.	TIE LINE	REMARKS
1	132 KV BIRPARA (PG)- BIRPARA CKT 1	WBSETCL
2	132 KV BIRPARA (PG)- BIRPARA CKT 2	WBSETCL
3	132 KV NJP- NBU CKT 1	WBSETCL
4	133 KV NJP- NBU CKT 2	WBSETCL
5	132 KV MALDA (PG)-MALDA CKT 1	WBSETCL
6	132 KV MALDA (PG)-MALDA CKT 2	WBSETCL
7	400 KV JEERAT -BERHAMPORE CKT	PGCIL
8	400 KV JEERAT -SUBHASGRAM CKT	PGCIL
9	400 KV KHARAGPUR- BARIPADA CKT	WBSETCL
10	220 KV STPS-CHANDIL CKT	WBSETCL
11	200 KV BIDHANNAGAR -WARIA CKT 1	DVC
12	200 KV BIDHANNAGAR -WARIA CKT 2	DVC
13	132KV RANGIT- RAMMAM CKT	WBSETCL
14	220KV SUBHASGRAM(PG)- SUBHASGRAM CKT 1	WBSETCL
15	220KV SUBHASGRAM(PG) - SUBHASGRAM CKT 2	WBSETCL
16	400 KV PARULIA -BIDHANNAGAR CKT 1	WBSETCL
17	400 KV PARULIA -BIDHANNAGAR CKT 2	WBSETCL
18	400 KV SGTPP - FARAKKA CKT	PDCL
19	400 KV SGTPP - SUBHASGRAM CKT	PDCL
20	400 KV SGTPP -PARULIA CKT 1	PDCL
21	400 KV SGTPP -PARULIA CKT 2	PDCL
22	220 KV DALKHOLA (PG)-DALKHOLA CKT 1	WBSETCL
23	400 KV SGTPP -PARULIA CKT 2	PDCL
24	132 KV KURSEONG -RANGIT CKT	PGCIL
25	132 KV KURSEONG -SILIGURI CKT	WBSETCL
26	220 KV SUBHASGRAM (PG)-EMSS (CESC) CKT 1	CESC
27	220 KV SUBHASGRAM (PG)-EMSS (CESC) CKT 2	CESC
28	220 KV SUBHASGRAM (PG)-BANTALA CKT	WBSETCL
29	220 KV SUBHASGRAM (PG)-NEW TOWN CKT	WBSETCL
30	220 KV SUBHASGRAM (PG)-HEL CKT 1	HEL
31	220 KV SUBHASGRAM (PG)-HEL CKT 2	HEL
32	400 KV SGTPP-BERHAMPORE CKT 1	PGCIL
33	400 KV SGTPP-BERHAMPORE CKT 2	PGCIL

NON ISTS LINES MAINTAINED BY OPTCL & USED AS ISTS LINES

SL.NO.	LINES	CIRCUIT	ROUTE KMS	CIRCUIT KMS
1	400 KV INDRAVATI PH - INDRAVATI (PGCIL)	1	3.701	3.701
2	400KV RENGALI PG-KOLAGHAT	1	241.500	241.500
3	220 KV BALIMELA PH - U SILERU	1	24.760	24.760
4	220KV JAYANAGAR-JAYANAGAR (PGCIL)	2	7.730	15.460
5	220 KV BUDHIPADAR-KORBA DC	2	60.000	120.000
6	220 KV TARKERA - BISRA	2	15.335	30.670
7	220KV JODA-RC PUR (JSEB)	1	15.500	15.500
8	220KV JODA-JSPL-JAMSHEDPUR (DVC)	1	32.000	32.000
9	220KV RENGALI (OPTCL)-RENGALI (PGCIL)	2	1.000	2.000
10	220 KV RENGALI PH-KANIHA	1	29.500	29.500
11	220KV KANIHA-TTPS	1	34.500	34.500
12	220KV KANIHA-MERAMUNDALI	2	42.520	85.040
13	220 KV KUCHEI- BALASORE	2	76.859	153.718
14	132 KV JODA- KENDUPOSI (JSEB)	1	49.900	49.900
15	132 KV KUCHEI-RAIRANGPUR	1	65.180	65.180
16	133 KV KUCHEI-BARIPADA	1	11.653	11.653
	TOTAL	22		

Annexure - B22.1

SUMMARY OF DEVIATION CHARGE RECEIPT AND PAYMENT STATUS

BILL from 30.03.14 to 04.10.2015 (upto Week - 27(B) of 2015 - 16)
Last Payment Disbursement Date - 23.10.15

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
WR	36684.41202	35258.93047	0.00000	0.00000	1425.48155
SR	11480.23650	11815.29288	1939.28298	2170.76912	-103.57024
NER	4432.19852	3587.77725	1013.33700	1116.37417	947.45844
NR	0.00000	0.00000	61430.51877	56291.86803	-5138.65074
BSPHCL	6495.60300	2914.92500	583.53324	0.00000	2997.14476
JSEB	1244.53028	164.29730	747.43764	305.90152	638.69686
DVC	537.08100	538.98015	2530.39536	2471.07362	-61.22089
GRIDCO	1570.72147	1728.96403	597.75822	756.00078	0.00000
WBSETCL	5204.16670	5218.24694	184.70730	198.78754	0.00000
SIKKIM	36.67206	0.00000	1054.79004	1029.60925	11.49127
NTPC	7999.72172	7558.40294	0.00000	0.06272	441.38150
NHPC	0.00000	0.00000	1860.81404	1787.78425	-73.02979
MPL	4.51955	51.47902	714.70676	747.49502	-14.17121
STERLITE	4142.91570	4124.89491	188.13669	188.13669	18.02079
APNRL	573.15556	0.00000	93.14755	0.00000	480.00801
CHUZACHEN (GATI)	256.69005	256.69005	368.37673	364.08053	-4.29620
NVVN (IND-BNG)	31.64586	31.64586	75.86302	75.86302	0.00000
JITPL	598.41621	671.99189	1533.89463	1529.25047	-78.21984
GMR	670.05007	665.70545	376.41345	398.62720	26.55837
IND BARATH	171.07004	128.41375	0.00000	0.00000	42.65629
TPTCL(DAGACHU)	321.41011	322.92220	150.25810	110.82020	-40.94999
JLHEP (DANS ENERG	0.00000	0.00000	40.00380	25.54485	-14.45895
Pool Balance	0.00000	0.00000	-621.22377	42.08344	663.30721
Addl Deviation charge	7043.58688	5429.42767	0.00000	0.00000	1614.15921
IRE	0.00000	0.00000	527.56201	0.00000	-527.56201

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

STATUS OF REACTIVE CHARGES

RECEIVABLE IN ER POOL AS PER PUBLISHED A/C UPTO 04.10.15 (2015 -16)
AS ON 16.10.2015

CONSTITUENT	AMOUNT RECEIVABLE IN THE POOL (Rs.)	AMOUNT RECEIVED IN THE POOL (Rs.)	OUTSTANDING (Rs.)
WBSETCL	36316782	16745541	19571241
JUVNL	0	0	0
GRIDCO	0	0	0
SIKKIM	152983	152983	0
TOTAL	36469765	16898524	19571241

Annexure- B22.2 (ii)

**TRAINING MODULE FOR PROTECTION ENGINEERS AT TSTPS, NTPC,
TALCHER.**

SCHEDULE: 23RD NOVEMBER TO 27TH NOVEMBER, 2015

NO. OF PERSONS: 30 (Max)

DAY1:

TIME	PARTICULARS
10:30 AM	REGISRTATION
11:00 AM	INTRODUCTORY SPEECH REGARDING THE COURSE CONTENT AND PRESENT DAY APPLICATIONS
11:30 AM	SPEECH BY MEMBER SECRETARY, ERPC & OTHER HIGH DIGNITARIES
12:00-1:30 PM	INTRODUCTION TO THERMAL GENERATORS
1:30 -2:30PM	LUNCH
2:30-3:45 PM	GENERATOR PROTECTION <ul style="list-style-type: none">• INTRODUCTION TO GENERATOR PROTECTION SYSTEMS<ul style="list-style-type: none">• GENERATOR DIFFERENTIAL PROTECTION• GENERATOR & TRANSFORMER DIFFERENTIAL PROTECTION
3:45 PM	TEA
4:00-5:30 PM	GENERATOR PROTECTION <ul style="list-style-type: none">• STATOR FAULTS• STATOR PROTECTION SCHEMES<ul style="list-style-type: none">• ROTOR PROTECTION• GENERATOR GROUNDING• EARTH FAULT PROTECTION

DAY2:

TIME	PARTICULARS
10:00AM-11:30PM	<ul style="list-style-type: none">• LOSS OF FIELD PROTECTION• NEGATIVE SEQUENCE OR CURRENT UNBALANCE PROTECTION• OVER/UNDER FREQUENCY PROTECTION• OVEREXCITATION AND OVERVOLTAGE PROTECTION<ul style="list-style-type: none">• OVER LOADING PROTECTION• OUT OF STEP PROTECTION• OVER SPEED PROTECTION• BACK UP PROTECTION• OTHER PROTECTION
11:45PM-1:15PM	SWITCHYARD LAYOUT OF GENERATING STATION <ul style="list-style-type: none">• SINGLE LINE DIAGRAM OF GENERATOR & GT PROTECTION WITH CT,PT LOCATIONS• PROTECTION MEASURES FOR GENERATOR• ELECTROMECHANICAL AND DIGITAL RELAYS• MODERN DAY RELAYS & THEIR ADVANTAGES• BUS TRANSFER SCHEMES & ITS APPLICATION IN MODERN DAY TRENDS
1:15PM-2:15PM	LUNCH
2:15PM-3:45PM	<ul style="list-style-type: none">• STATION SERVICE TRANSFORMER & ITS INTEGRATION WITH UNIT TRANSFORMER BOARDS• DIFFERENT TYPES OF STATION TRANSFORMERS• CAPABILITY CURVE & ITS APPLICATION
4:00PM-5:30PM	MAINTAINANCE PRACTICES

DAY3: VISIT TO GENERATING STATION (1ST HALF) & SWITCHYARD (2ND HALF)

DAY4:

TIME	PARTICULARS
10:00AM-11:30PM	BASICS OF HVDC TRANSMISSION SYSTEM
11:45PM-1:15PM	HVDC PROTECTION SYSTEM <ul style="list-style-type: none">• DC PROTECTIONS• AC PROTECTIONS
1:15PM-2:15PM	LUNCH
2:15PM-5:30PM	VISIT TO NEARBY HVDC SUB-STATION

DAY5:

TIME	PARTICULARS
10:00AM-11:30PM	HYDRO GENERATOR PROTECTION <ul style="list-style-type: none">• INTRODUCTION TO GENERATOR PROTECTION SYSTEMSDIFFERENT PROTECTIONS OF GENERATOR<ul style="list-style-type: none">• GENERATOR STATOR EARTH FAULT PROTECTION<ul style="list-style-type: none">• EARTH FAULT PROTECTION• NEUTRAL GROUNDING SCHEMES
11:45PM-1:15PM	<ul style="list-style-type: none">• DIFFERENTIAL PROTECTION• OVER LOADING PROTECTION• OUT OF STEP PROTECTION• REVERSE POWER PROTECTION• CURRENT UNBALANCE PROTECTION• EXCITATION FIELD PROTECTION<ul style="list-style-type: none">• OTHER PROTECTION
1:15PM-2:15PM	LUNCH
2:15PM-3:30PM	INTERACTIVE SESSION (FOR OVERALL TRAINING) WITH FILLING OF FEEDBACK FORMS
3:30PM-4:00PM	DISTRIBUTION OF PARTICIPATION CERTIFICATES & VOTE OF THANKS

Annexure- B23.1

	2014-15				2015-16	
Name of The Utility	Q1 (01.07.14)	Q2 (08.10.14)	Q3 (05.01.15)	Q4 (07.04.15)	Q1 (01.07.15)	Q2(05.10.15)
Inter Regional						
WR	YES	YES	YES	YES	YES	NO
SR	NO	NO	YES	YES	YES	NO
NER	YES	YES	NO	YES	NO	NO
NR	NO	NO	NO	NO	NO	NO
Intra Regional						
BSPHCL	NO	NO	NO	NO	NO	NO
JUVNL	YES	YES	YES	NO	NO	NO
DVC	YES	YES	YES	YES	YES	NO
GRIDCO	YES	YES	YES	YES	YES	NO
WBSETCL	YES	YES	YES	YES	YES	YES
SIKKIM	NO	NO	NO	NO	NO	NO
NTPC	YES	YES	YES	YES	YES	YES
NHPC	YES	YES	YES	YES	YES	NO
MPL	YES	YES	YES	YES	YES	YES
STERLITE	YES	YES	YES	YES	YES	NO
APNRL	YES	NO	YES	YES	NO	NO
CHUZACHEN(GATI)	YES	YES	YES	YES	YES	NO
NVVN	YES	YES	YES	YES	NO	NO
GMR	YES	YES	YES	YES	YES	NO
JITPL	YES	YES	YES	YES	YES	YES
INBEUL	N/A	N/A	NO	YES	NO	NO
TPTCL (DAGACHU)	N/A	N/A	N/A	YES	YES	NO

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

Current Status of Letter of Credit (LC) amount against UI charges for ER constituents*Figures in Lacs of Rupees*

SI No	ER Constituents	No. of weeks in which UI/Deviation Charge payable	No of times payment was delayed during 2014-15	Total UI/Deviation charges payable to pool during 2014-15	Average weekly UI/Deviation Charge liability	LC Amount	Due date of expiry	Remarks
		(A)	(B)	(C)	(D)	(E)	(F)	(G)
1	BSPHCL	28	28	4659.91439	89.61374	98.57511	Already expired on 08.01.2015	Not Opened
2	JUVNL	32	32	3707.07118	71.28983	78.41881	Already Expired on 16.09.2014	Not Opened
3	DVC	33	3	7336.19874	141.08075	155.18882		Not Opened
4	WBSETCL	50	2	14085.93753	270.88341	297.97176	08.09.2016	Opened
5	SIKKIM	5	5	134.79305	2.59217	2.85139	04.10.2016	Opened
6	MPL	15	13	414.42411	7.96969	8.76666	31.08.2016	Opened
7	STERLITE	29	6	2068.14512	39.77202	43.74922	31.05.2016	Opened
8	APNRL	37	37	1657.059	31.86652	35.05317	Already encashed on 20.08.15	Not Recouped
9	CHUZACHEN	17	3	148.81229	2.86177	3.14795	31.03.2016	Opened
10	JITPL	41	7	4105.77792	78.95727	86.85299		Not Opened
11	GMR	16	10	1209.52649	23.26012	25.58614	15.07.2016	Opened
12	IND-BARATH	20	8	54.65274	2.73264	3.00590		Not Opened

Annexure- B27**3rd Phase : 16 Locations**

S.No	Location	Utility
1	CHAIBASA(CHB)	PG
2	RANGPO(RGP)	PG
3	NEW MELLI (NML)	PG
4	SAGBARI(SGB)	SIKKIM
5	GYALSHING(GSH)	SIKKIM
6	NABINAGAR(NBN)	NTPC
7	IND-BARATH (IBR)	IPPR
8	TALCHER SOLAR (TLS)	NTPC
9	KUDRA(KUD)	BIHAR
10	RANCHI NEW(RNC)	PG
11	LAKHISARAI(LKS)	PG
12	LAKHISARAI(LKK)	BIHAR
13	JAMUI(JMU)	BIHAR
14	KISANGANJ (PG)	PG
15	JINDAL(JITPL)	IPPR
16	BALIMELA(BLM)	GRIDCO

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)



पूर्वी क्षेत्र पारेषण प्रणाली-I मुख्यालय : अलंकार प्लेस (द्वितीय, पाँचवा व छठा तल), बोरिंग रोड, पटना-800 001

दूरभाष : 0612-2231071, 2233140, फैक्स : 0612-2228984

Eastern Region Transmission System-I H.Q.: Alankar Place (2nd, 5th & 6th Floor), Boring Road, Patna-800 001

Tel.: 0612 - 2231071, 2233140 Fax : 0612 - 2228984

Ref. No.: ER-I/PAT/AM(ER-I)/

Date : 09.10.2015

To

Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road, Tollygunj, Kolkata-700033

Sub: Tentative cost estimate for one time restoration of PLCC system of STUs Tie lines in Eastern Region-I.

Dear Sir,

This is with reference to the letter ref. no. ERPC/MS/2015 Dated 05.10.2015 regarding cost estimate for one time restoration of PLCC system of 220 KV tie lines of STUs whose PLCC are non operational for some or other reason. As communicated earlier, following tie lines of STUs have been identified whose PLCC system at STU end are non operational.

- 1) 220KV Ranchi-Chandil-I&II
- 2) 220 KV Ranchi-Hatia-I&II
- 3) 220 KV Patna-Fathua
- 4) 220 kv Patna-Khagaul
- 5) 220 kv Gaya-Bodhgaya-I&II
- 6) 220 KV Gaya-Dehri-I&II

Accordingly a tentative cost estimate has been prepared based on the survey report by POWERGRID engineer of respective STUs substation. The total tentative cost for one time restoration of PLCC of BSPTCL system comes to Rs 8197000/- and for JUSNL system comes to Rs 468400/-. Details of tentative cost estimate are attached as annexure-I&II. However, actual expenditure for one time restoration of PLCC system will be based on the actual procurement/ work done as per POWERGRID standard practice and visit of service engineer of respective OEM.

This is for your kind information and further necessary action please.

Thanking you.

Yours faithfully,

(Signature)
(S.K.Singh)

DGM (AM)/ER-I

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF BSPTCL

S.NO.	ITEM DESCRIPTION	UNIT	QTY	AMOUNT	REMARKS
BODHGAYA AND DEHRI S/S					
1	Supply, Erection and commissioning of 220KV CVT alongwith support structure.	NO.	4	1500000	02 NOS-DEHRI AND 02 NOS-BODHGAYA
2	Supply, Erection and commissioning of Wave trap alongwith support structure and BPI.	NO.	4	2500000	02 NOS-DEHRI AND 02 NOS-BODHGAYA
3	Supply and laying of HF CABLE	KM	1	250000	FOR BOTH DEHRI AND BODHGAYA
4	Supply, laying and termination of CABLE (5CX2.5 SQ.MM) BETWEEN RELAY PANEL TO PLCC	KM	1	300000	FOR BOTH DEHRI AND BODHGAYA
5	CLAMPS AND CONNECTOR FOR CVT AND WAVETRAPH	NO.	8	150000	04 NOS. CVT AND 04 NOS- WT
6	JUMPER CONDUCTOR	NO.	8	150000	04 NOS. CVT AND 04 NOS- WT
7	DEPUTATION OF RELAY ENGINEER	DAYS	6	300000	03 DAYS EACH FOR DEHRI AND BODHGAYA
8	DEPUTATION OF PLCC ENGINEER	DAYS	6	300000	03 DAYS EACH FOR DEHRI AND BODHGAYA
9	CVT FOUNDATION	NO.	2	400000	01 NOS-DEHRI AND 01 NOS-BODHGAYA
10	MISCELLANEOUS	LS		150000	
SUB TOTAL(A)				6000000	
KHAGAUL AND FATHUA S/S					
1	Supply, installation and commissioning of LMU	NO.	2	500000	01 NO.-KHAGAUL AND 01 NO. -FATHUA
2	DEPUTATION OF SERVICE ENGINEER	LS		300000	02 days for kahgaul and 02 days for fathua
3	REPAIR OF PLCC CARDS	LS		100000	
4	MISCELLANEOUS	LS		100000	
SUB TOTAL(B)				1000000	
SUB TOTAL (A+B)				7000000	
POWERGRID CONSULTANCY FEE@15%				1050000	
SERVICE TAX ON CONSULTANCY FEE				147000	
TOTAL EXCLUDING TAXES AND DUTIES OF EACH ITEM				8197000	

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF JSUNL

S.NO.	ITEM DESCRIPTION	UNIT	QTY	AMOUNT	REMARKS
CHANDIL AND HATIA S/S					
1	Deputation of service engineer for PLCC	DAYS	6	300000	02 DAYS-HATIA AND 02 DAYS-CHANDIL
2	Miscellaneous	LS		100000	
SUB TOTAL				400000	
POWERGRID CONSULTANCY FEE@15%				60000	
SERVICE TAX ON CONSULTANCY FEE				8400	
TOTAL EXCLUDING TAXES AND DUTIES OF EACH ITEM				468400	

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



J-1-15, Block- EP, Sector-V, Salt Lake City, Kolkata – 700 091.
Tel. (033) 2357-2822, (033) 2357-2822 (Fax)

Ref : ER-II/KOL/AM/2015

Date: 15.10.2015

To,
The Member Secretary
Eastern Region Power Committee
14, Golf Club Road, Tollygunj,
Kolkata-700033

Sub: Tentative cost estimate for one time restoration of PLCC system of STUs Tie Lines in Eastern Region-II.

Dear Sir,

This has reference to the letter ref. no. ERPC/MS/2015 Dated 05.10.2015 regarding cost estimate for one time restoration of PLCC system of the tie lines of STUs, for which PLCC are non-operational/ not available for some or other reason.

The following tie lines of the STU systems were identified

WBSETCL System:

1. 132KV Siliguri-NBU line.
2. 132KV Siliguri-NJP line.
3. 132KV Siliguri-Karsiang line.
4. 132KV Malda-Malda D/C line.
5. 132KV Birpara-Birpara D/C line.

Sikkim System:

1. 132KV Siliguri-Meli line.

Accordingly, a tentative cost estimate has been prepared based on the survey report of POWERGRID engineer of respective STU station. The total tentative cost for one time restoration of PLCC of WBSETCL system comes to Rs. 2,91,50,141.00 and for Sikkim syetm comes to Rs. 57,41,469.00. Details of tentative cost estimate are attached as Annex-I & II. However, actual expenditure for one time restoration of PLCC system will be based on the actual procurement/ work done as per POWERGRID standard practice and visit of service engineer of respective OEM.

This is for your kind information and further necessary action please.

Thanking you.

Yours faithfully

Jiten Das

Asst.GM (AM)

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF WBSETCL

Sl No.	Items Description	Unit	Qty.	Amount	Remarks
A.	132KV SILIGURI NBU LINE				
1	Supply , Erection and Commissioning of PLCC Pane	NO	4	1411986.00	
2	Supply, Erection and Commissioning of 132KV CVT alongwith support structure	NO	2	470022.00	
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	954504.00	
4	Supply and Erection of Coupling Device	No.	2	92241.00	
5	Supply and Laying of HF Cable	KM	2	271034.00	1km length SLG and 1km at NBU
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length SLG and 0.5km at NBU
7	Clamps and Connector for Wave Trap & cvt	NO	6	112500.00	
8	Jumper Conductor	NO	6	112500.00	
9	Deputation of Relay Engineer	Days	6	300000.00	3days at SLG and 3 Days at NBU
10	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at SLG and 4 Days at NBU
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
13	CVT Foundation	Nos	2	200000.00	
14	Miscellaneous	LS		300000.00	
Sub Total A				5448070.00	

B.	132KV SILIGURI NJP LINE				
1	Supply , Erection and Commissioning of PLCC Panel	NO	4	1411986.00	
2	Supply, Erection and Commissioning of 132KV CVT alongwith support structure	NO	2	470022.00	
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	954504.00	
4	Supply and Erection of Coupling Device	No.	2	92241.00	
5	Supply and Laying of HF Cable	KM	2	271034.00	1km length SLG and 1km at NJP

6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length SLG and 0.5km at NJP
7	Clamps and Connector for Wave Trap & cvt	NO	6	112500.00	
8	Jumper Conductor	NO	6	112500.00	
9	Deputation of Relay Engineer	Days	6	300000.00	3days at SLG and 3 Days at NJP
10	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at SLG and 4 Days at NJP
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
13	CVT Foundation	Nos	2	200000.00	
14	Miscellaneous	LS		300000.00	
Sub Total B				5448070.00	
C. 132KV SILIGURI KERSIANG LINE					
1	Supply , Erection and Commissioning of PLCC Panel	NO	4	1411986.00	
2	Supply, Erection and Commissioning of 132KV CVT alongwith support structure	NO	2	470022.00	
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	954504.00	
4	Supply and Erection of Coupling Device	No.	2	92241.00	
5	Supply and Laying of HF Cable	KM	2	271034.00	1km length SLG and 1km at Kersiang
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length SLG and 0.5km at Kersiang
7	Clamps and Connector for Wave Trap & cvt	NO	6	112500.00	
8	Jumper Conductor	NO	6	112500.00	
9	Deputation of Relay Engineer	Days	6	300000.00	3days at SLG and 3 Days at Kersiang
10	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at SLG and 4 Days at Kersiang
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
13	CVT Foundation	Nos	2	200000.00	
14	Miscellaneous	LS		300000.00	

Sub Total C				5448070.00	
D.	132KV MALDA-MALDA D/C LINE				
1	Supply , Erection and Commissioning of PLCC Panel	NO	6	2256540.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 132KV CVT alongwith support structure	NO	2	470022.00	
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	954504.00	
4	Supply and Erection of Coupling Device	No.	2	92241.00	
5	Supply and Laying of HF Cable	KM	2	271034.00	1km length MALDA and 1km at MLD.
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length MALDA and 0.5km at MLD.
7	Clamps and Connector for Wave Trap & cvt	NO	6	112500.00	
8	Jumper Conductor	NO	6	112500.00	
9	Deputation of Relay Engineer	Days	6	300000.00	3days at MALDAand 3 Days at MLD.
10	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at MALDA and 4 Days at MLD.
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
13	CVT Foundation	Nos	2	200000.00	
14	Miscellaneous	LS		300000.00	
Sub Total D.				6292624.00	
E.	132KV BIRPARA-BIRPARA D/C LINE				
1	Supply , Erection and Commissioning of PLCC Panel	NO	6	2256540.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 132KV CVT alongwith support structure	NO	2	470022.00	
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	954504.00	
4	Supply and Erection of Coupling Device	No.	2	92241.00	

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5	Supply and Laying of HF Cable	KM	2	271034.00	1km length BIRPARA and 1km at BRP.
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length BIRPARA and 0.5km at BRP.
7	Clamps and Connector for Wave Trap & cvt	NO	6	112500.00	
8	Jumper Conductor	NO	6	112500.00	
9	Deputation of Relay Engineer	Days	6	300000.00	3days at BIRPARA and 3 Days at BRP.
10	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at BIRPARA and 4 Days at BRP
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
13	CVT Foundation	Nos	2	200000.00	
14	Miscellaneous	LS		300000.00	
Sub Total E.				6292624.00	
Sub Total (A+B+C+D+E)				24893374.00	
POWERGRID CONSULTANCY FEE @ 15%				3734006.10	
SERVICE TAX ON CONSULTANCY FEE @ 14%				522760.85	
TOTAL EXCLUDING TAXES AND DUTIES OF EACH ITEM				29150140.95	

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ESTIMATE FOR ONE TIME RESTORATION OF PLCC PANEL OF SIKKIM

Sl No.	Items Description	Unit	Qty.	Amount	Remarks
1	Supply , Erection and Commissioning of PLCC Pane	NO	4	1411986.00	The protection panels available are old and obsolete. 1 no. PLCC panel with Speech+ data & 1 no. PLCC panel with Speech+ Data+ Protection coupler has been considered each at Siliguri & Melli.
2	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	1154504.00	
3	Supply and Erection of Coupling Device	No.	2	92241.00	
4	Supply and Laying of HF Cable	KM	2	271034.00	1km length SLG and 1km at Melli
5	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336342.00	0.5 km length SLG and 0.5km at Melli
6	Clamps and Connector for Wave Trap	NO	4	75000.00	
7	Jumper Conductor	NO	4	75000.00	
8	Deputation of Relay Engineer	Days	6	300000.00	3days at SLG and 3 Days at Melli
9	Deputation of PLCC Engineer	Days	8	400000.00	4 Days at SLG and 4 Days at Melli
10	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573.00	
11	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368.00	
12	Miscellaneous	LS		300000.00	
Total				4903048.00	
POWERGRID CONSULTANCY FEE@15%				735457.2	
Service Tax on Consultancy Fee@14%				102964.008	
Total Excluding Taxes and Duties of Each Item				5741469.21	



पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)



पावरग्रिड

27, शहीद नगर, भुवनेश्वर (ओडिशा)-751007

दुरभाष: (0674) 2548586, 2548174, फैक्स: 2548586

27, Saheed Nagar, Bhubaneswar (Odisha)-751007

Tel: (0674) 2548586, 2548174, Fax: 2548586

Ref : ER-II/ODP/AM/2015

Date: 06.11.2015

To,
The Member Secretary
Eastern Region Power Committee
14, Golf Club Road, Tollygunj,
Kolkata-700033

Sub: Tentative cost estimate for one time restoration of PLCC system of STUs Tie Lines in Odisha.

Dear Sir,

This has reference to the letter ref. no. ERPC/MS/2015 Dated 05.10.2015 regarding cost estimate for one time restoration of PLCC system of the tie lines of STUs, for which PLCC are non-operational/ not available for some or other reason.

The following lines of the STU systems (OPTCL) were identified:


- 1) 400KV Indravati(PG)-Indravati(OHPC) Line.
- 2) 220KV Jeypore(PG)-Jaynagar(OPTCL) D/C line.
- 3) 220KV Rengali(PG)-Rengali(OPTCL) D/C Line.
- 4) 220KV Rourkela(PG)- Tarkera(OPTCL) D/C line.
- 5) 132KV Baripada(PG)- Rairangpur(OPTCL) S/C line.
- 6) 132KV Baripada(PG)- Baripada(OPTCL) S/C line.

Accordingly, a tentative cost estimate has been prepared based on the survey report of POWERGRID engineer on PLCC of respective OPTCL lines. The total tentative cost for one time restoration of PLCC of OPTCL system comes to Rs.6,23,86,512.00. Details of tentative cost estimate are attached as Annex-I. However, actual expenditure for one time restoration of PLCC system will be based on the actual procurement/ work done as per POWERGRID standard practice and visit of service engineer of respective OEM.

This is for your kind information and further necessary action please.

Thanking you.

Yours faithfully


(A.K. Behera)
DGM (AM)


Encl : As above.

Annexure-I

**ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES
CONNECTING POWERGRID S/S**

SUMMARY

SL.NO.	NAME OF LINE	COST ESTIMATE (Rs.)
A	400KV INDRAVATI(PG) - INDRAVATI(OHPC) S/C LINE	7732249.00
B	220KV JEYPORE(PG) - JAYNAGAR(OPTCL) D/C LINE	10898188.00
C	220KV RENGALI(PG) - RENGALI(OPTCL) D/C LINE	11958591.00
D	220 KV ROURKELA(PG) - TARKERA(OPTCL) D/C LINE	10850453.50
E	132KV BARIPADA(PG)- RAIRANGPUR(OPTCL) S/C LINE	5918394.00
F	132KV BARIPADA(PG) - BARIPADA(OPTCL) S/C LINE	5918394.00
	TOTAL :	53276269.50
	POWERGRID Consultancy fee @15 % :	7991440.43
	Service tax on Consultancy fee @ 14 % :	1118801.66
	Grand Total Excluding taxes & duties of each item :	62386511.58


 06/11/15
 (S.K. Naik)
 Ch. Ugo (AM)
 Bhubaneswar.

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

SI No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
A.	400KV INDRAVATI(PG) - INDRAVATI(OHPC) S/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel.	NO	6	352996.5	2117979.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 420KV CVT	NO	4	376253	1505012.00	2 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of 420KV Wave Trap	NO	4	268735	1074940.00	2 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	No.	4	92241	368964.00	2 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	4	135517	542068.00	1km length at PG end and 3km at OHPC end
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336345	336345.00	0.5 km length PG end and 0.5km at OHPC end.
7	Clamps and Connector for Wave Trap & CVT	NO	8	18750	150000.00	
8	Jumper Conductor	NO	8	18750	150000.00	
9	Deputation of Relay Engineer	Days	6	50000	300000.00	3days at PG and 3 Days at OHPC end
10	Deputation of PLCC Engineer	Days	8	50000	400000.00	4 Days at PG end and 4 Days at OHPC end
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368	363368.00	
13	Miscellaneous (EARTHING FLAT, NUT BOLTS ETC)	LS		300000	300000.00	
Sub Total (A) :					7732249.00	

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

SI No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
B.	220KV JEYPORE(PG) - JAYNAGAR(OPTCL) D/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel.	NO	6	352996.5	2117979.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 245KV CVT.	NO	8	283152	2265216.00	4 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of Wave Trap	NO	8	231717	1853736.00	4 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	No.	8	92241	737928.00	4 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	6	135517	813102.00	2km length PG end and 4km at JAYNAGAR end
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336345	336345.00	0.5 km length PG end and 0.5km at JAYNAGAR
7	Clamps and Connector for Wave Trap & CVT	NO	16	18750	300000.00	
8	Jumper Conductor	NO	16	18750	300000.00	
9	Deputation of Relay Engineer	Days	8	50000	400000.00	4days at PG end and 4 Days at JAYNAGAR
10	Deputation of PLCC Engineer	Days	10	50000	500000.00	5 Days at PG end and 5 Days at JAYNAGAR
11	Supply, Erection and Commissioning of 48V Battery system	SET	2	123573	247146.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	2	363368	726736.00	
13	Miscellaneous (EARTHING FLAT, NUT BOLTS ETC)	LS		300000	300000.00	
Sub Total (B) :					10898188.00	

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ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

Sl No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
C.	220KV RENGALI(PG) - RENGALI(OPTCL) D/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel.	NO	6	352996.5	2117979.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 245KV CVT alongwith support structure.	NO	8	300464	2403712.00	4 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of Wave Trap, support structure and BPI	NO	8	263895	2111160.00	4 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	NO	8	92241	737928.00	4 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	5	135517	677585.00	2km length PG and 3km at OPTCL end
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336345	336345.00	0.5 km length PG and 0.5km at OPTCL end.
7	Clamps and Connector for Wave Trap & CVT	NO	16	18750	300000.00	
8	Jumper Conductor	NO	16	18750	300000.00	
9	Deputation of Relay Engineer	Days	8	50000	400000.00	4days at PG and 4 Days at OPTCL
10	Deputation of PLCC Engineer	Days	10	50000	500000.00	5 Days at PG and 5 Days at OPTCL
11	Supply, Erection and Commissioning of 48V Battery system	SET	2	123573	247146.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	2	363368	726736.00	
13	CVT Foundation	Nos	8	100000	800000.00	
14	Miscellaneous (EARTHING FLAT, NUT BOLTS ETC)	LS		300000	300000.00	
Sub Total (C) :					11958591.00	

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

SI No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
D.	220 KV ROURKELA(PG) - TARKERA(OPTCL) D/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel (single channel)	NO	6	352996.5	2117979.00	2 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 245KV CVT	NO	8	283152	2265216.00	4 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of Wave Trap	NO	8	231717	1853736.00	4 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	No.	8	92241	737928.00	4 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	8	135517	1084136.00	4km length RKL and 4km at Tarkera end
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1.5	336345	504517.50	0.5 km length RKL and 1 km at Tarkera
7	Clamps and Connector for Wave Trap & CVT	SET	16	18750	300000.00	
8	Jumper Conductor	NO	16	18750	300000.00	
9	Deputation of Relay Engineer	Days	8	50000	400000.00	4days at RKL and 4 Days at Tarkera
10	Deputation of PLCC Engineer	Days	10	50000	500000.00	5 Days at RKL and 5 Days at Tarkera
11	Supply, Erection and Commissioning of 48V Battery system	SET	1	123573	123573.00	
12	Supply, erection and Commissioning of 48V Battery Charger	No.	1	363368	363368.00	
13	Miscellaneous (EARTHING FLAT, NUT BOLTS ETC)	LS		300000	300000.00	
Sub Total (D) :					10850453.50	

ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

SI No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
E.	132KV BARIPADA(PG)- RAIRANGPUR(OPTCL) S/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel.	NO	4	352996.5	1411986.00	1 NO.PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 245KV CVT alongwith support structure	NO	4	235011	940044.00	2 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI	NO	4	238626	954504.00	2 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	No.	4	92241	368964.00	2 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	3	135517	406551.00	1km length BARIPADA and 2km at RAIRANGPUR.
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336345	336345.00	0.5 km length BARIPADA and 0.5km at RAIRANGPUR.
7	Clamps and Connector for Wave Trap & CVT	SET	8	18750	150000.00	
8	Jumper Conductor	NO	8	18750	150000.00	
9	Deputation of Relay Engineer	Days	8	50000	400000.00	4 Days at BARIPADA and 4Days at BALASORE.
10	Deputation of PLCC Engineer	Days	10	50000	500000.00	5 Days at BARIPADA and 5 Days at BALASORE.
11	Miscellaneous	LS		300000	300000.00	
	Total (F) :				5918394.00	

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ESTIMATE FOR ONE TIME RESTORATION OF PLCC OF OPTCL LINES CONNECTING POWERGRID S/S

Sl No.	Items Description	Unit	Qty.	Unit Rate	Amount	Remarks
F.	132KV BARIPADA(PG) - BARIPADA(OPTCL) S/C LINE					
1	Supply , Erection and Commissioning of PLCC Panel.	NO	4	352996.5	1411986.00	1 NO. PLCC PANEL WITH PROTECTION COUPLER AND 1 NO. PLCC WITH SPEECH AND DATA HAS BEEN CONSIDERED AT EACH STATION.
2	Supply, Erection and Commissioning of 245KV CVT alongwith support structure	NO	4	235011	940044.00	2 NOS CVT AT EACH STATION FOR PHASE TO PHASE COUPLING.
3	Supply , Erection and Commissioning of Wave Trap support structure and BPI.	NO	4	238626	954504.00	2 NOS WAVE TRAP AT EACH STATION FOR PHASE TO PHASE COUPLING.
4	Supply and Erection of Coupling Device	No.	4	92241	368964.00	2 NOS AT EACH STATION
5	Supply and Laying of HF Cable	KM	3	135517	406551.00	1km length at PG end and 2km at OPTCL end.
6	Supply, Laying and termination of CABLE (14CX2.5Sqmm) between relay panel to PLCC	KM	1	336345	336345.00	0.5 km length at PG end and 0.5km at OPTCL end.
7	Clamps and Connector for Wave Trap & CVT	SET	8	18750	150000.00	
8	Jumper Conductor	NO	8	18750	150000.00	
9	Deputation of Relay Engineer	Days	8	50000	400000.00	4 Days at PG end and 4Days at OPTCL end.
10	Deputation of PLCC Engineer	Days	10	50000	500000.00	5 Days at PG end and 5 Days at OPTCL end.
11	Miscellaneous	LS		300000	300000.00	
	Total (G) :				5918394.00	

EASTERN REGION TRANSMISSION SYSTEM- I

Road Map for Replacement of Disc Insulator With Polymer Insulator in Polluted area

Sl. No.	Voltage (KV)	Name of the Transmission line	Line Length (KM)	No of locations under polluted stretches		Polymer requirement (Capacity wise)		Remarks	Tentative replacemnet period
				Suspension	Tension	120 KN	420 KN		
1	765	Gaya-Fatehpur S/C (ER- I)	147.808	35	20	360	1100	Brick Kiln Area	20 Days
2	765	Gaya - Balia S/C	228.060	23	32	312	1628	Brick Kiln Area	20 Days
Total (String)						672	2728		

Sl. No.	Voltage (KV)	Name of the Transmission line	Line Length (KM)	No of locations under polluted stretches		Polymer requirement (Capacity wise)		Remarks	Tentative replacemnet period
				Suspension	Tension	120 KN	160 KN		
3	400	Patna - Balia-I & II	195.323	84	18	1026	864	Brick Kiln Area	25 Days
4	400	Biharsharif- Balia-I & II	241.786	92	14	1118	672	Brick Kiln Area	15 Days
5	400	Koderma- Biharsharif-I & II	110.719	15	5	185	240	Cruser Units	4 Days
6	400	Biharsharif-Sasaram - III & IV	198.773	20	8	248	384	Cruser Units	8 Days
7	400	Patna -Balia-III & IV	179.849	88	20	1076	960	Brick Kiln Area	25 Days
8	400	Barh - Patna - III & IV	68.650	0	5	5	240	Brick Kiln Area	2 Days
9	400	Barh - Patna - I & II	92.998	4	2	50	96	Brick Kiln Area	2 Days
10	400	Kahalgaon - Barh -I & II	217.240	7	3	87	144	Nearby NTPC	3 Days
11	400	Koderma - Gaya - I & II	124.497	25	5	305	240	Cruser Units	7 Days
12	400	Maithan - Gaya - I & II	276.954	36	15	447	720	Cruser Units	9 Days
13	400	Farakka - Kahalgaon - I & II	94.741	25	8	158	192	Nearby NTPC	5 Days
14	400	Kahalgaon - Biharsharif - I & II	201.467	25	10	160	240	Nearby NTPC	8 Days
15	400	Kahalgaon - Maithon - I & II	171.854	24	12	156	288	Nearby NTPC	6 Days
16	400	Jamshedpur - Rourkela S/C - I	151.120	32	14	206	336	Nearby TISCO	7 Days
17	400	Jamshedpur - Rourkela S/C - II	152.787						
18	400	Biharsharif - Sasaram - I & II	192.059	18	8	116	192	Brick Kiln Area	4 Days
19	400	Sasaram - Sarnath - Allahabad I & II	215.427	28	12	180	288	Brick Kiln Area	6 Days
20	400	Biharsharif - Muzaffarpur - I&II	129.983	23	9	147	216	Brick Kiln Area	6 days
21	400	Ranchi - Raghunathpur - Maithon-I&II	199.813	40	15	255	360	Cruser Units	8 Days
22	400	Ranchi - Sipat-I & II (ER Portion)	136.236	35	18	228	432	Cruser Units	8 days
23	400	Ranchi-Rourkela I & II	144.935	12	6	78	144	Cruser Units	3 Days
24	400	Farakka - Kahalgaon - III & IV	95.267	30	15	195	360	Nearby NTPC	7 Days
25	400	Maithon (RB) - Ranchi - I & II	187.642	40	15	255	360	Cruser Units	7 Days
26	400	Nabinagar - Sasaram - I & II	81.647	16	8	104	192	Brick Kiln Area	4 days
27	400	Jamshedpur - TISCO - Baripada - I&II	140.280	24	14	158	336	Nearby TISCO	5 Days
28	400	Kahalgaon - Banka-I & II	47.700	16	6	102	144	Nearby TISCO	4 Days
29	400	Banka-Biharsharif-I & II	184.540	12	4	76	96	Brick Kiln Area	3 Days
Total (String)						7121	8736		

Sl. No.	Voltage (KV)	Name of the Transmission line	Line Length (KM)	No of locations under		Polymer requirement		Remarks	Tentative replacemnet period
				Suspension	Tension	70 KN	120 KN		
30	220	Dalkhola - Purnea - I & II	40.292	90	17	557	204	Foggy & Decapping prone	12 Days
31	220	Purnea - New Purnea-I & II	1.083		3	3	36		1 Day
32	220	Sasaram-Ara I & II	112.136	22	6	138	72	Brick Kiln Area	4 Days
33	220	Ara-Khagaul - I & II	48.439	32	3	195	36	Brick Kiln Area	4 Days
34	220	Ranchi - Chandil - I & II (LILO portion)	8.065	5	5	35	60	Brick Kiln Area	2 Days
35	220	Ranchi - Patrati -I & II (LILO portion)	6.918	5	5	35	60	Brick Kiln Area	2 Days
36	220	Gaya - Dehri (LILO portion) - I & II	10.995	10	4	64	48	Cruser Units	2 Days
37	220	Gaya-Bodhgaya (LILO portion) - I & II	12.698	12	5	77	60	Cruser Units	3 Days
Total (String)						1104	576		

Annexure-C2

Sl. No.	Voltage (KV)	Name of the Transmission line	Line Length (KM)	No of locations under		Polymer requirement		Remarks	Tentative replacement period
				Suspension	Tension	70 KN	90 KN		
38	132	Dehri - Sasaram S/C	61.689	40	12	0	198	Brick Kiln Area	6 Days
39	132	Sasaram - Mohania - Karamnasa S/C	29.000	32	12	0	174	Brick Kiln Area	5 Days
40	132	Ara - ARA/ Dumraon (LILO Portion)	1.702		9	0	117	Brick Kiln Area	2 Days
41	132	Purnea - Purnea/Dalkola (LILO Portion)	0.500		3	0	39	Foggy area	1 Days
Total (String)						0	528		

Abstract of Polymer Insulator	420 KN	160 KN	120 KN	90 KN	70 KN	Total
String	2728	8736	8369	528	1104	21465

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



J-1-15, Block- EP, Sector-V, Salt Lake City, Kolkata – 700 091.
Tel. (033) 2357-2822, (033) 2357-2822 (Fax)

Ref : ER-II/KOL/AM/2015

Date: 15.10.2015

To,
The Member Secretary
Eastern Region Power Committee
14, Golf Club Road, Tollygunj,
Kolkata-700033

Sub: Tentative Programme for replacement of Porcelain insulators with Polymer insulators in the transmission lines of POWERGRID ER-II.

Dear Sir,

Attached e find here with the tentative schedule for replacemnt of orcelain insulators with polymer insulators in the transmission lines of POWERGRID Eastern Region-II. This is for your kind information please.

Thanking you.

Yours faithfully


15/10/15

Jiten Das

Asst.GM (AM)

TENTATIVE SCHEDULE OF REPLACEMENT OF PORCELAIN INSULATORS WITH POLYMER INSULATORS IN THE LINES OF
POWERGRID EASTERN REGION-II

Sl No.	Name of Line	Line Length (Km)	Voltage(KV)	Programme for replacement
1	220KV Birpara-Salakati D/C Line	157	220	Dec'15
2	220KV Birpara-Chukha D/C Line (Indian Portion)	36	220	April'16
3	220KV Birpara-Malbase (Indian Portion)	38	220	May'16
4	220KV Birpara-New Siliguri D/C line	80	220	June'16
5	220KV Siliguri-Dalkola D/C line	119	220	Aug'16
6	220KV Siliguri-New Siliguri D/C line	5.2	220	Oct'16
7	400KV New-Siliguri-Tala-I D/C line	98	400	April'16 to March'17
8	400KV New-Siliguri-Tala-II D/C line	116	400	
9	400KV New-Siliguri-Bongaigaon D/C line	216	400	
10	400KV New- Siliguri-Purnea D/C line (I & II)	168	400	
11	400KV Ne-Siliguri-Rangpo D/C Line	126	400	
12	400KV Rangpo-Teesta-V D/C Line	8	400	
13	132 KV Siliguri-Meli Line	92	132	
14	132KV Siliguri-Karsiang Line	31.3	132	
15	132Kv Karsiang-Rangit Line	61.2	132	
16	220KV Dalkola-Malda D/C line.	116	220	
17	400KV Malda-New-Purnea D/C line	167	400	
18	400KV Malda-Farakka D/C line	40	400	
19	400KV Farakka-Durgapur Ckt-I	150	400	
20	400KV Farakka-Durgapur Ckt-II	146	400	
21	400KV Farakka-Berhampore S/C line	74	400	
22	400KV Farakka-Sagardighi S/C line	55	400	
23	400KV Jamshedpur D/C lineV And	156.76	400	
24	400KV Durgapur-Jamshedpur S/C line	177	400	
25	400KV Maithon-Jamshedpur D/C line	153	400	
26	400KV Maithon-Mejia D/C line	59	400	
27	400KV Maithon-Durgapur D/C line	70.77	400	
28	400KV Maithon-Mejia Ckt-III	83	400	
29	400KV Maithon-Maithon(RB) D/C Line	31.5	400	



Annexure - C6.1

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
BSEB	0.67823	0.67823	0.39118	0.39118	0.00000
JSEB	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 130.02 As on 17.09.2013

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

DETAILS OF DISBURSEMENT TO POWER SYSTEM DEVELOPMENT FUND

SI No	Nature of Amount	Amount transferred to PSDF	Date of Disbursement	Cheque No	Remarks
1	Openeing Balance	76769.63799			Addl Dev Charge
2	Addl. Dev	535.88413	01.07.15		Addl Dev Charge 15-16
3	Addl. Dev	117.08059	07.07.15		Addl Dev Charge 15-16
4	Addl. Dev	65.76154	09.07.15		Addl Dev Charge 15-16
5	Addl. Dev	161.58235	14.07.15		Addl Dev Charge 15-16
6	Addl. Dev	3.91372	16.07.15		Addl Dev Charge 15-16
7	Addl. Dev	58.35980	20.07.15		Addl Dev Charge 15-16
8	Reactive Charge	1200.00000	21.07.15		Reactive Energy Charge
9	Addl. Dev	12.48279	22.07.15		Addl Dev Charge 15-16
10	Addl. Dev	386.65294	24.07.15		Addl Dev Charge 15-16
11	Addl. Dev	64.02258	28.07.15		Addl Dev Charge 15-16
12	Addl. Dev	79.50694	31.07.15		Addl Dev Charge 15-16
13	Addl. Dev	407.34167	04.08.15		Addl Dev Charge 15-16
14	Addl. Dev	72.85855	06.08.15		Addl Dev Charge 15-16
15	Addl. Dev	30.06415	10.08.15		Addl Dev Charge 15-16
16	Addl. Dev	53.85760	12.08.15		Addl Dev Charge 15-16
17	Addl. Dev	34.13959	17.08.15		Addl Dev Charge 15-16
18	Addl. Dev	26.72263	19.08.15		Addl Dev Charge 15-16
19	Addl. Dev	394.91263	24.08.15		DSM charges for 14-15 & Addl. Dev charges 15-16
20	Addl. Dev	113.62831	26.08.15		Addl Dev Charge 15-16
21	Addl. Dev	46.20752	31.08.15		Addl Dev Charge 15-16
22	Addl. Dev	511.74648	08.09.15		Addl Dev Charge 15-16
23	Addl. Dev	68.39639	11.09.15		Addl Dev Charge 15-16
24	Addl. Dev	129.22828	15.09.15		Addl Dev Charge 15-16
25	Addl. Dev	66.92997	22.09.15		Addl Dev Charge 15-16
26	Addl. Dev	205.31517	24.09.15		Addl Dev Charge 15-16
27	Addl. Dev	28.89591	28.09.15		Addl Dev Charge 15-16
28	Addl. Dev	72.28358	05.10.15		Addl Dev Charge 15-16
29	Addl. Dev	375.29925	07.10.15		Addl Dev Charge 15-16
30	Addl. Dev	126.75637	09.10.15		Addl Dev Charge 15-16
31	Addl. Dev	23.73515	14.10.15		Addl Dev Charge 15-16
32	Addl. Dev	144.94455	19.10.15		Addl Dev Charge 15-16
33	Addl. Dev	13.79365	23.10.15		Addl Dev Charge 15-16
	Total	82401.94277			

Latest status on non-availability of SCADA data

It was informed by ERLDC that some constituents are not updating single line diagram in SCADA as per actual real time network and same is causing lack of network visibility.

All constituents agreed to update SCADA single line diagram as per real network time to time and will furnished the same to ERLDC also.

The status as updated in the SCADA meeting is as given below:

- i) List of additional elements/feeders whose data is not available – station under ULDC project:

SL no	Name of Utility	KV	Name of station	Reason for non reporting	Latest status
1	OPTCL	220	Vedanta (9x135 MW)	No status points are available.	No isolators status are available. MW/ MVAR not available for sterlite 1/2 line, station transformer / Smelter. CBs of Bus coupler not available. Bus-1 KV/ HZ not available. Problem still not resolved

- ii) The List of RTU supplied under BSEB ULDC Project but data is faulty/ intermittent:

S/n	Name of RTU locations	Latest status	Remarks
1	Jakkanpur, Khagaul RTU, Dumraon, Karmnasha, Sitamarhi, , Purnea & Koshi	Data is reporting intermittently.	1) Data integrated through GPRS will be intermittent till Final communication packages is implemented (Already awarded to PGCIL for execution). 2) ALL RTU will be report to SLDC patna subject to availability of communication system (Already Awarded to PGCIL) 3) New RTU is being integrated with OSI systems and this RTU will report to ERLDC once ERLDC OSI system is ready. Problem still not resolved
2	Hathidah, Lakhisarai & Darbhanga	Data is reporting intermittently.. Due to re-conductoring work in Darbhanga-Samastipur T/L, Darbhanga is not reporting temporarily.	
3	BTPS	RTU dismantled. Renovation/overhauling work is going on. SAS is expected to be operational by the November, 2014.	
4	220 kV Hajipur	<i>Hajipur is temporarily down, BSPTCL working to restore it.</i>	
5	Jagdishpur, Sipara, Madhepura	RTU has been supplied by PGCIL under Sub-transmission project of Bihar but commissioning is left out. Now, it will be done in ULDC upgradation scheme.	
6	Siwan, Valmikinagar, Gopalganj, Kisanganj and Arrah	RTU along with communication has been included in the scope of work of Powergrid under up gradation/ replacement scheme of ULDC. It was scheduled to be completed by Oct'14. <i>RTU supplied by M/s. Chemtrols except Darbhanga. RTU reached site.</i>	

Annexure- C7

iii) The updated status of telemetry of JSEB Sub-Stations under ULDC project is as given below:

Sl. No.	Name of the RTU location	Latest status	Remarks
1	Ramchandrapur	Reporting is interrupted because of problem in PLCC link between Candil & Ramchandrapur. CVT brusted at Ramchandrapur bay and requires replacement. Arrangement in being done for its replacement.	1) RTU's CPU Card sent to Bhubaneswar for repairing . 2) All RTU will restored by Mid March 2015. Problem still not resolved. None of real time data available since 15/06/15.
2	Jamtara	Jamtara RTU has been shifted in new control room. POWER GRID has been requested to reintegrate the feeders in RTU as integration of additional feeder (new element) in the existing RTU. <i>Powergrid informed that Advance Payment towards new element integration is pending since long. After payment, M/s. ALSTOM will give the schedule of site visit for feeder integration.</i>	
3	Deoghar	Both LMU & LMDU rusted at Jamtara. Arrangement inbeing done for its replacement. Deoghar-Jamtara-Maithon link is interrupted also because of snatching of patching cable at Maithon (G) and Maithon (SLDC). This was found during survey of sites with M/s PUNCOM which will be corrected by the agency under AMC. AMC by PUNCOM has been started.	
4	Garawah	Garawah RTU will be restored when it will be connected from Ranchi end through Hatia-Loherdaga-Latehar-Daltonganj –Garwah Transmission lie.	
5	Kendposi	Reporting is interrupted because of shifting of Chandil bay at Rajkharsawan. PLCC outdoor equipment has been shifted recently to new location of Chandil bay at RKSJ. Some work like termination of co-axial cable will be done soon.	
6	Goelkera		
7	Jadugoda	Co-axial cable faulty at Golmuri (Chandil bay)	

iv) The updated status of telemetry of OPTCL Sub-Stations under ULDC project is project as given below:

S/n	Name of RTU Locations	Latest status
1	Nalco	<p>OPTCL informed that RTU is reporting but intermittent since it was not configured properly. The issue was already taken up with Nalco and it will be resolved soon.</p> <p>OPTCL has resolved the issue. Some Unit generation polarity will be resolved by Feb 2015.</p> <p>Problem still not resolved</p>

v) RTU telemetry provided but data are intermittent / new element not wired.

SL No	Name of station/ Utility	Reason for non reporting	Latest status
I	Lalmatia JSEB	MW / MVAR/ OLTC tap of 220/132 KV ICT –II not available	MW/MVAR/OLTC tap of 220/132 KV ICT-II not available. Will be complete during additional feeder integration, no time frame. Problem still not resolved
II	JSPL (Meramundali - 400)	Most of the data not available .	OPTCL informed that they are taking matter with JSPL. Problem still not resolved
IV	DVC		
	Patherdiah,		RTU reached site. commissioned within Feb 2015. (RTU Commissioned but not integrated with SLDC.)
	Kalipahari		RTU reached site. (RTU Commissioned but not integrated with SLDC.)

vi) Sub - Stations (220 & 132 kV) Telemetry not provided :

SL No	Name of station/ Utility	Reason for non reporting	Latest status
I	WBSETCL		
	Krishna Nagar	RTU not provided for data telemetry	RTU integrated .
	CESC S/s: EM 220 kV		CESC control centre ICCP will be integrated with WB's new OSI system by April 2015. WBSETCL confirmed that same will available TO OSI system by 31st July 2015.
	CESC : Kasba-132 kV, EM-132 kV Jadavpur, Chakmir, Majerhat and CESC Belur		
II	JSEB		
	Hatia New	RTU not provided for data telemetry	Hatia SAS to be integrated with SLDC. No time frame.
	Manique (Chandil)		By Feb 2015 all RTUs will be supplied. No commissioning time frame. Problem still not resolved
	Japla		By Feb 2015 all RTUs will be supplied. No commissioning time frame. Problem still not resolved

Unavailability Of Critical Real Time data :

Name of station/ Utility	Not reporting since	ERLDC Remarks
SEL	24/06/15	Status and CBs, SOE point of Old switch yard not available since 01/05/15. <i>Restoration work is in progress.</i>
APNRL	1/5/2015	<i>Work will start soon.</i>
Sasaram (765)	13/05/15	<i>Intermittent.</i>
GMR	Since Generation	None of Unit side data and protection signal available- <i>By mid November, 2015</i>
Sagardighi (400)	28/04/15	
Nabinagar (400)	28/12/14	
JUSNL (JSEB): None of data is available	15/06/15	

Eastern Regional Power Committee, Kolkata

Minutes of 5th Project Review Meeting on “Status of New ULDC scheme and up-gradation of ULDC scheme” held on 24.09.2015 at ERPC, Kolkata

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

Member Secretary, ERPC chaired the meeting and welcomed all the participants. He expressed concern over the timely completion of new ULDC scheme.

General Manager, ERLDC stressed that the Installation and commissioning of DVC Maithon and Jharkhand CC should be done on priority and the reporting of Existing RTUs from these control centres should be achieved by October end. Normal functioning of all the CCs of the constituent systems i.e. DVC Maithon, Ranchi, WBSETCL Andul Road, BSPTCL Patna, Sikkim to be achieved by December'15 as the Alstom system is planned to be switched off in January'16.

Members agreed for the following schedule for completing the balance work of control centre:

[A] DVC Maithon system I&C

1. I&C work of APS commenced on 23.09.15
2. DVC APS and server installation to be completed by 15.10.15.
3. System configuration and upgradation of the system to be achieved by 30th Oct.
4. All existing RTUs reporting at DVC need to be tested on PDS by October 20, and dataflow from these RTUs to ERLDC should be achieved by 30th October.
5. Pre-SAT of DVC should be taken up wef 20.10.15

[B] Jharkhand Ranchi System I&C

1. WIPRO I&C Team for APS and Networking shall be deputed at Ranchi CC on 5th Oct 2015.
2. Balance work of APS server installation at Ranchi to be completed by 15.10.15.
3. Balance work of server/router/switches/fireball including their configuration etc to be completed by 30.10.15.
4. System configuration and upgradation of the system to be achieved by 30th Oct.2015
5. All existing RTUs reporting at Ranchi need to be tested on new system by 30.10.15.and dataflow from these RTUs to ERLDC should be achieved by 5th November.
6. Pre-SAT of Jharkhand system should be taken up wef 30.10.15.

[C] DVC Andul Road (Main)

1. DVC informed that the site will be ready by 30.09.15 and Chemtrols should take up the installation of the equipment accordingly.

2. Wipro/Chemtrols committed that balance equipment of DVC (Main) and WB (B/UP) i.e. ACDBs, UPS and Batteries etc shall be supplied by November end and then the I&C activity of the CC shall be taken up.

[C] WB Backup Salt Lake

1. WBSETCL informed that the site will be ready by 30.11.15 and Chemtrols should take up the installation of the equipment accordingly.
2. Wipro/Chemtrols committed that balance equipment of WB (B/UP) i.e. ACDBs, UPS and Batteries, VCS system etc shall be supplied by November end and then commissioning of CC will be taken up.

[D] Retest of SAT variances and completion of balance work at BSPTCL

1. Up-gradation Activity in progress. Re-test shall commence on 21.09.15 and to be completed by 15.10.15.

[E] WBSETCL Main Andul Road

1. PWOERGRDI informed that they have zeroed down on the problem being faced in the FO communication of Velocis and will get it rectified.
2. Chemtrols/OSI to look into the ICCP problem and need to test it in coordination with CESC. The testing will take place wef 21.09.15. WBSETCL and CESC to facilitate the same.

PART – A

ITEM NO. A.1: Confirmation of minutes of 4th Project Review Meeting (PRM) held on 23rd July, 2015 at ERPC, Kolkata

The minutes of 4th Project Review Meeting (PRM) held on 23.07.2015 circulated vide letter dated 28.07.2015.

No comments have been received from any constituent.

The minutes of the above meetings may be confirmed.

Deliberation in the meeting

Members confirmed the minutes of 4th PRM meeting.

PART- B

FOLLOW-UP OF DECISIONS OF THE PREVIOUS PRM MEETING(S)

POWERGRID Points:-

1. UPS room for back-up Control centre SLDC-Maithon and air conditioning of UPS room: -

DVC has confirmed that the work front is ready for installation at SLDC Maithon and M/s Chemtrols has been requested for installation team from 01.08.2015.

Deliberation in the meeting

M/s Chemtrols has been requested for completion of APS and Power cabling work by 20th October, 2015.

2. Building readiness for Control centres of backup SLDC of WBSETCL: -

WBSETCL has informed that they are in the process of awarding LOA for implementation of renovation work at backup SLDC. They have confirmed that work front for backup SLDC will be ready latest by November-2015. However, POWERGRID has requested WBSETCL for providing of work front/completion of renovation work on priority basis i.e. 1st for installation of Auxiliary Power supply equipment and thereafter control centre so that work can commence sequentially.

Deliberation in the meeting

M/s WBSETCL confirmed that work order will be placed to the party in the 1st week of October and vendor will start the work thereafter and installation of UPS will be completed with in October -2015 and data reporting to ERLDC through ICCP can be done by end of October-2015.

3. Fibre connectivity between Howrah SLDC WBSETCL and Howrah DVC Sub-station:-

Member secretary informed that a meeting with higher officials of DVC & WBSECTL will be arranged in the next week to discuss the issue.

Deliberation in the meeting

Member secretary informed that a meeting with higher officials of DVC & WBSECTL will be arranged by October-2015.

4. Air-conditioning at UPS room of JUSNL: -

No representative of JUSNL was present in the meeting to appraise the status.

5. VDU in place of PDC for BSPTCL & JSEB Requirements under URTDSM Project:

Under URTDSM project, full fledged PDC has been envisaged at SLDC's of Bihar and Jharkhand. '01' (One) PMU is to be installed at Muzaffarpur in Bihar and '02' (Two) PMUs at Tenughat & Patratu in Jharkhand. In view of the space constraints at respective SLDC's it was agreed that PMUs of these power plants may be directly connected with ERLDC PDC and providing of PDC

facilities at SLDC's Bihar and Jharkhand may be deleted from the scope of Bihar and Jharkhand. It was also agreed to provide remote VDU for viewing of PMU data at SLDC Bihar and Jharkhand from ERLDC.

Deliberation in the meeting

Action will be taken as stated above.

ERTS-I, Powergrid Points:

6. Provision of OPGW connectivity in 400 KV Bihashariff –Koderma T/L (111 Km) in lieu of 400 KV Gaya-Koderma T/L (124 Km) for providing redundancy for Koderma TPS of DVC under MWR package.

In 4th PRM, members agreed to the proposal in principle and recommended for ERPC approval.

Deliberation in the meeting

POWERGRID requested for inclusion of additional OPGW installation in Barh –Gorakhpur (354 Km) and Rajarhat – Farakka (345 km).

Members agreed to the proposal of additional OPGW in principle and recommended for ERPC approval.

7. SCADA/EMS Up-gradation package

- (i) Issues of JUSNL:

- (a) Readiness of Air –Conditioning at control centre location for Installation & Commissioning of VPS system, SCADA servers etc
 - (b) Confirmation to RTU Integration Schedule of Chemtrols for identification of CT/PT & DI/DO points by JUSNL.

Deliberation in the meeting

No representative of JUSNL was present in the meeting to appraise the status.

Member secretary advised to arrange a meeting at Ranchi for resolving JUSNL issues along with the POWERGRID ER-I & ER-II, POSOCO and M/s Chemtrols representatives.

- (ii) Issues of BSPTCL:

- a) SAT report signing by BSPTCL for already commissioned RTU's (54 /73 RTU's commissioned /ready for data communication to SLDC Patna) .23 RTU's reporting at SLDC Patna :-

Deliberation in the meeting

BSPTCL agreed to check and sign the SAT reports with their comments if any.

Communication Package (MWR-BSPTCL)

- a) **Air conditioning of BSPTCL sub-station communication rooms:** Commissioning of Commtel communication equipments are pending at Bodhgaya, Biharshariff, BTPS, Fatwa, Jakkanpur, Samastipur, MTPS Kanti & Hajipur for more than 08 months in want of Air conditioning environment in the communication room of BSPTCL sub-stations.

In 4th PRM, BSPTCL agreed to rectify/ provide Air conditioning facility at respective stations of BSPTCL and confirm POWERGRID for further commissioning/ functioning of M/s Commtel equipments.

Deliberation in the meeting

Commissioning of Commtel equipments has been done. However still Air conditioning at few of the locations needs to be recertified and improved by BSPTCL. BSPTCL to look into the issue and rectify the Air Conditioning system at the earliest.

- b) **Shifting of FODP :** Shifting of FODP is required to be carried out by BSPTCL at Bodhgaya & Fatwa to enable Commtel for commissioning of wideband link between Biharsharif – Bodhgaya & Biharshariff –Fatwa- Jakkanpur link respectively : -

In 4th PRM, BSPTCL agreed to shift the FODP and confirm POWERGRID for commissioning of the link.

Deliberation in the meeting

In lieu of FODP commtel equipment has been shifted and work has been completed.

- c) **Shifting of existing PDH Mux :** Shifting of existing PDH Mux is required to be carried out by BSPTCL at Bodhgaya, Fatwa & Hajipur to enable Commtel to commission the WIDEBAND link between Biharsharif –Bodhgaya & Biharshariff –Fatwa- Jakkanpur & Samastipur – Hajipur Link :-

In 4th PRM, BSPTCL agreed to shift the PDH MuX and confirm POWERGRID for commissioning of the link.

Deliberation in the meeting

Work has been completed

BSPTCL Points:

1. **Closure of variances of SAT of the Hardware & Software of BSPTCL portion:**
SAT of H/w & S/W (except DTS & EMS) has been conducted between 02-02-15 to 27-02-2015. Variances are still open. Customised application i.e. view of data in different aspect, load shedding schedule, report generation etc. has not been developed yet :-
2. **Testing of DO Controls.**
On checking of the system, M/s Chemtrols failed to perform the remote operation of breaker despite of SAT completed successfully.
3. **Erroneous data reporting on changes in database of OSI.**
SCADA application is not stable till now.

4. **Development of customized application for BSPTCL portion as well as overall view.**
Customised application i.e. view of data in different form, load shedding schedule, report generation etc. has not been developed yet.

In 4th PRM, M/s Chemtrols informed that for the above referred points 1, 2, 3 & 4, they are presently testing the SCADA/EMS system at ERLDC. After successful completion of testing and closing of variances at ERLDC, the same will be implemented at all the Control Centers of SLDC's including BSPTCL.

Deliberation in the meeting

M/s Chemtrols agreed to close the above referred points 1, 2, 3 & 4 by 15th/Oct/2015.

5. **Out of 101 RTUs, 73 RTUs has been delivered yet. I&C activities of RTU are slow. Only two team has been deployed.**
It has been assured in different Project review Meeting by m/s Chemtrols to deploy additional team for BSPTCL but team has not been deployed.

M/s Chemtrols agreed to deploy '01' team for SAT and '02' more teams for I&C by 30.07.2015

6. **Readiness of Communication Link :**
Communication link for 26 nos GSS are only available at present. While communication of rest of the 75 GSS depends on the implementation of OPGW & PLCC package by POWERGRID. Commissioning of 4 nos. Newly constructed/under-constructed GSS may be affected due to non-availability of communication link in this financial year.

In 4th PRM, POWERGRID informed that regarding OPGW package for PRIORITY links (212 Km), re-negotiation with the party is being done and the same will be expected to be awarded within Aug-2015.

Regarding OPGW package for (850 Kms), the same is under award approval and expected to be awarded with in Aug-2015.

Regarding communication package retendering of package to be done, which is in progress.

Deliberation in the meeting

POWERGRID informed the packages priority links (212 Kms) and 850 Kms is expected to be awarded within 2 months.

7. **Outage of ICCP Communication Link between ERLDC, Kolkata and SLDC, Patna**
ICCP communication provided at the time of testing of exchange of data between ERLDC & BSPTCL is out of working.

In 4th PRM, POWERGRID informed that the ICCP link presently provided through Telecom is working. ICCP link through ULDC network can be provided after commissioning of wideband communication equipment/OPGW links between Biharshariff –Fatwa & Fatwa-Jakkanpur & UGOFC link between Jakkanpur- PATNA SLDC. M/s POWERGRID also informed that M/s KEC to deploy team and complete UGOFC work by end of Aug-2015.

Deliberation in the meeting

Underground work between Jakkanpur- PATNA SLDC is held up due to permission from concerned authorities due to elections. The work will be expedited and is expected to be completed by Dec-2015.

8. **Supply of RTU at Pusouli on priority :**
M/s Chemtrols has assured to deliver the RTU at Pusouli by 30th June but not delivered till date.

In 4th PRM, M/s Chemtrols to expedite the issue and supply the RTU on priority.

Deliberation in the meeting

Work will be completed after arranging of shutdown by BSPTCL.

OPTCL Points:

1. Microwave Reframing work:

- a. As per MOM of 3rd PRM held on 02.06.2015, the OPGW commissioning work in Mancheswar-OPTCL HQ was scheduled to be completed by July, 2015. Schedule may be updated.

In 4th PRM, POWERGRID informed that all the materials pertaining to the Link including Hardware is available and M/s KEC will deploy team from 03.08.2015 and OPGW installation will be completed by 15.08.2015.

Deliberation in the meeting

POWERGRID stated that work is in progress and will be completed by 10/Oct/2015.

- b. As per 3rd PRM, SAT schedule for the OPGW links was proposed to be started from 15th June, 2015 and completed by July, 2015. M/s KEC has not started any SAT so far. Schedule may be updated.

Deliberation in the meeting

POWERGRID/M/s KEC informed that SAT of OPGW will be completed by 31/10/2015.

2. New RTU integration:

- a. As per 3rd MOM Installation of DPLC to be completed by Aug-2015. Commissioning schedule of DPLC may be submitted.
- b. Installation/commissioning status of outdoor coupling equipment, Battery charger, Battery may be submitted by POWERGRID. Waybill has been issued by OPTCL.

In 4th PRM, POWERGRID informed that installation of Digital PLCC equipment has been completed at all sites where ever work front is available. POWERGRID informed that supply of balance outdoor equipment will be done by end of Aug-2015. POWERGRID informed that detail completion status of commissioning of PLCC & outdoor will be provided to OPTCL after having a meeting with M/s ALSTOM.

Deliberation in the meeting

POWERGRID / M/s Alstom stated that the all efforts will be taken for completion of all the works under the package by end of Dec-2015.

3. SCADA interface to all 220kV s/s:

a) OPGW Installation in TL of OPTCL Sector:-

As per MOM of 3RD PRM, OPGW installation on TL of OPTCL sector was to be completed by July, 2015

In 4th PRM, POWERGRID informed that '01' (One) gang is already working at site and 2nd Gang will be deputed by 26.07.2015. POWERGRID informed that all the OPGW works executed by M/s LS cable & system Ltd in OPTCL will be completed by end of Sep-2015

Deliberation in the meeting

POWERGRID / M/s LS cable & system Ltd stated that the all efforts will be taken for completion of all the works under the package by end of Dec-2015.

b) Supply of 5 new RTUs, one each at 4 sub-LDCs and one at Balasore :-

In line with decision taken in last PRM, PGCIL should revert back to OPTCL after discussion with M/s Chemtrols. OPTCL has not received any confirmation in this regard so far. -PGCIL may update

In 4th PRM, M/s Chemtrols agreed to submit the offer by 27.07.2015. POWERGRID will take necessary action after receiving of offer from M/s Chemtrols and expedite for earliest supply of RTU's.

Deliberation in the meeting

POWERGRID stated that there is no price break up for the RTU's in the contract and has requested OPTCL for procurement of RTU's from other contract .OPTCL has requested letter from POWERGRID regarding the same for which POWERGRID has agreed.

c) Provision of VCS at SLDC,Bhubaneswar :

In 4th PRM, POWERGRID informed that amend for supply of VCS at Bhubaneswar has already been issued. M/s Chemtrols has informed that they will expedite for supply of VCS at the earliest.

Deliberation in the meeting

M/s POWERGRID / Chemtrols stated that they will complete installation work by 15.11.2015.

d) ROW issue in Burla New-Bolangir New OPGW links:

OPTCL has already intimated the matter to district administration and has got assurance form the authorities to get help during execution of the work.

In 4th PRM, POWERGRID requested OPTCL to resolve ROW issues and issue PTW as per the request of M/s LS cable & system Ltd. POWERGRID informed that all the OPGW works executed by M/s LS cable & system Ltd in OPTCL will be completed by end of Sep-2015.

Deliberation in the meeting

POWERGRID requested OPTCL to resolve ROW issues and issue PTW as per the request of M/s LS cable & system Ltd. POWERGRID informed that all the OPGW works executed by M/s LS cable & system Ltd in OPTCL will be completed by end of Dec-2015.

4. Restoration of OPGW link between Rourkela PG-Kaniha:

ICCP link between SLDC, BBSR to ERLDC, Kolkata as well as data of Budhipadar sub-LDC are interrupted due to fibre loss between Rourkela PG to Kaniha OPGW link. Powegrid may be intimated to restore the said OPGW link.

In 4th PRM, POWERGRID informed OPTCL that OPGW link between Rourkela- Talcher has been rectified much earlier and presently there is no problem in the Link .However POWERGRID has agreed to test the link once again and submit the status of the link to OPTCL.

Deliberation in the meeting

POWERGRID stated that the Link is presently stable and the communication equipment pertaining to Barkot repeater will be commissioned by Oct -2015 which will further improve performance of the link.

WBSETCL Points:

1. Sagar2 i, e data pertaining to Analog & Digital value of Sagardighi- Behrampur line is not reporting since last 5 months : -

In 4th PRM, POWERGRID informed that they would look in to the issue and revert back

Deliberation in the meeting

POWERGRID informed that they would look in to the issue and revert back.

2. Terminal servers at NBU could not be commissioned as two (1+1) Ethernet link is to be provided from NBU Mux to Howrah, SLDC. Mux :-

In 4th PRM, POWERGRID informed that they will provide '02' no Ethernet links between NBU-Howrah by 24.07.2015

Deliberation in the meeting

POWERGRID informed that link already provided.

3. Ring protection to be implemented early by providing 6 no. protection KLM with management byte from Kasba to Durgapur commtel mux :-

In 4th PRM, POWERGRID informed that they will provide protection path through POWERGRID network by 24.07.2015.

Deliberation in the meeting

POWERGRID stated that they have already provided the link. However testing of the link will be done by 30/sep/2015.

4. Final OPGW SAT for MW replacement project in WBESTCL area is not executed.

In 4th PRM, POWERGRID informed that SAT of the OPGW links will be completed within Sep-2015

Deliberation in the meeting

POWERGRID informed that SAT of the OPGW links will be completed within Dec-2015

5. North Bengal traffic particularly 2w & 4w voice channels are not healthy. As per velocis engineer this happens due to 'cas' failure. Hence North Bengal traffic should on spare fiber not on electrical E1 patching.

In 4th PRM, POWERGRID informed that the issue will be attended by maintenance engineer of M/s LS Cable & system Ltd (M/s Vellocis).

Deliberation in the meeting

It was informed that the issue has been resolved.

6. Orange engineers could not establish E&M trunk with existing exchange.

In 4th PRM, POWERGRID informed that the existing exchange of WBSETCL is of Type-5 which is of lower and very old version and the exchange installed by Orange is of Type-1 (new version). Integration of the same is not possible due to compatibility issue. However POWERGRID has informed that they will once again discuss the issue with M/s Orange and revert back.

Deliberation in the meeting

POWERGRID stated that integration of BPL exchange with Orange Exchange is not possible due to compatible issues. However WBSETCL has requested for integration with their CGL exchange. POWERGRID has agreed for the same and has requested for arranging CGL engineer and confirm the same to POWERGRID for integration.

7. APS at Howrah SLDC still not completed.

Chemtrols previously in bilateral meeting said that they will complete the pending APS related job like commissioning of dg set, providing indicator lamps against incoming AC sources, dressing & ferruling oat input & output ACDB by 07.07.2015. but no progress was made.

Deliberation in the meeting

Work has been completed.

DVC Points:

- 1) Fibre connectivity between Howrah, DVC and ERLDC to be worked out

Member secretary informed that a meeting with higher officials of DVC & WBSECTL will be arranged in the next week to discuss the issue.

Deliberation in the meeting

Member secretary informed that a meeting with higher officials of DVC & WBSECTL will be arranged by October-2015

- 2) DVC has finished civil/electrical works at Maithon. Chemtrols to start l/c of CC equipments from 01/08/2015 as agreed by them earlier.

Deliberation in the meeting

M/s Chemtrols agreed to deploy team from 01.10.2015

- 3) Chemtrols to give timeline for completion of all RTU activities.

In 4th PRM, M/s Chemtrols to submit action plan for completion of RTU activities with in week.

Deliberation in the meeting

M/s Chemtrols to complete action plan for completion of RTU activities

SIKKIM Points:

1) DG foundation

In 4th PRM, Sikkim informed that DG set available at Sikkim Monitoring centre (SMC) is not required at Sikkim and to be transported and installed at Melli sub-station. POWERGRID informed that request from Sikkim in this regard is required. More over POWERGRID has informed that transportation of DG set needs to be done by Sikkim. After transportation conformation and readiness of foundation and termination details to be confirmed by Sikkim for commissioning of DG set by M/s Chemtrols.

Deliberation in the meeting

It was informed that the work is yet to get it done by PED, Sikkim.

2) DCPS & Communication requirement at RTU Locations

In 4th PRM, POWERGRID informed that necessary provision for supply of DCPS and associated battery bank and communication equipment where ever OPGW connectivity is available has been incorporated in M/s Commtel package and suitable amendment in this regard will be issued by July -15.

Deliberation in the meeting

The same be supplied and commissioned by 31/Oct/2015.

PART - C

NEW ITEMS TO BE DISCUSSED IN THE MEETING

A. Agenda Points by ULDC, POWERGRID

OPTCL issues

- 1. Pending amendment for five (5) nos. RTU under OPTCL consultancy project:**
Amendment to be issued at the earliest to facilitate supply –

POWERGRID stated that there is no price break up for the RTU's in the contract and requested OPTCL for procurement of RTU's from other contract. OPTCL requested letter from POWERGRID regarding the same for which POWERGRID has agreed.

- 2. Space identification for installation of UPS under URTDSM in OPTCL:** OPTCL to provide space for installation of UPS at control centre under URTDSM-

The schedule for survey to be done in 1st week of October.

3. **Pending cabling work between two buildings required for completion of SAT of PABX at Meeramandali:** PABX has been installed but SAT is pending as the inter building cabling between main building and the D-Block building is pending

Cabling work to be done by OPTCL.

JUSNL Issues

- 1.) 13 nos. JUSNL RTU location sites does not have 48 V DC supply. (Golmuri & kanke RTU Location is operational.

No representative of JUSNL attending the meeting to appraise the status.

- 2.) Fuel tank foundation for DG set is not constructed by JUSNL-

No representative of JUSNL attending the meeting to appraise the status.

- 3.) Chemtrols to give schedule for testing of VCS in JUSNL

POWERGRID stated that Communication link has already been provided. M/s Chemtrols to give schedule for testing of VCS.

- 4.) Installation of CC equipment schedule is to be provided by M/s Chemtrols –

M/s Chemtrol to provide the schedule.

- 5.) **Pending SAT of PABX at Kusai Colony:** Communication link to be provided for integration with PABX

POWERGRID stated that Communication link has already been provided.

General issues

1. **UPS room for back-up Control centre SLDC-Maithon and air conditioning of UPS room:-**
The issue was discussed at ERPC PRM meeting but the same is yet to be resolved –

DVC conformed that the site is ready for installation.

2. **Building readiness for Control centres of backup SLDC of WBSETCL:** - WBSETCL to confirm the readiness of building of back up SLDC so that implementation can be started

M/s WBSETCL has confirmed that work order will be placed to the party in the 1st week of October and vendor will start the work thereafter and installation of UPS will be completed with in October -2015 and data reporting to ERLDC through ICCP can be done by end of October-2015

3. **Fibre connectivity between Howrah SLDC WBSETCL and Howrah DVC Sub-station:-**

Member secretary informed that a meeting with higher officials of DVC & WBSECTL will be arranged by October-2015

4. **VDU in place of PDC for BSPTCL & JSEB Requirements under URTDSM Project:**

Under URTDSM project, full fledged PDC has been envisaged at SLDC's of Bihar and Jharkhand. '01' (One) PMU is to be installed at Muzaffarpur in Bihar and '02' (Two) PMUs at Tenughat & Patratu in Jharkhand. In view of the space constraints at respective SLDC's it was agreed that PMUs of these power plants may be directly connected with ERLDC PDC and providing of PDC facilities at SLDC's Bihar and Jharkhand may be deleted from the scope of Bihar and Jharkhand. It was also agreed to provide remote VDU for viewing of PMU data at SLDC Bihar and Jharkhand from ERLDC.

5. **Integration of legacy PABX system of WBSETCL with Hot line speech communication system-**

POWERGRID stated that integration of BPL exchange with Orange Exchange is not possible due to compatible issues. However WBSETCL has requested for integration with their CGL exchange. POWERGRID has agreed for the same and has requested for arranging CGL engineer and conform the same to POWERGRID for integration.

6. Requirement of tower schedules of transmission lines of WBSETCL, BSPTCL and DVC to be implemented in OPGW package under ULDC expansion scheme for necessary finalization of OPGW drum schedule

Constituents has requested POWERGRID for providing line details for providing of tower schedule from their end. POWERGRID agreed to provide the same.

7. Signing of MoU towards contract awarded for AMC of RTU by DVC, WBSETCL & OPTCL-

Constituents agreed to sign the same.

8. **Hotline speech communication:**

POWERGRID stated that installation of Orange PABX's at all the control centres wherever work front is available has been completed and integration of respective PABX's with ERLDC is in progress. POWERGRID requested constituents for witnessing the SAT as per the schedule to be submitted by the party and has requested for Taking Over of Hand sets envisaged under the contract for respective sectors for further installation at remote locations by them.

Constituents agreed for the same and has requested POWERGRID to forward the SAT schedule accordingly.

9. **URTDSM Project Related Issues** : Following methodologies are to be agreed by SLDCs/ RLDC for development system (PDS) which is likely to be dispatched very soon:

- ✓ Servers, switches, GPS and routers will be commissioned in the existing hub /CFE panel of Alstom available at SLDC/RLDC. For DVC the PDS system will be temporarily commissioned at Maithon and after commissioning of main SLDC at Howrah same will be integrated with the main system.
- ✓ ALSTOM would take care for the power loading in the hub panel as this is under AMC. Otherwise ALSTOM has to lay separate power cable from existing UPS system. Alstom

- has to ensure that the existing system should not be disturbed and properly segregated through proper sockets, MCBs etc at both ends.
- ✓ Alstom would install one workstation on any of the existing furniture identified by you. However necessary LAN and power supply cabling if required would be taken Care by ALSTOM.
- ✓ PDS router would be connected to the SDH equipment commissioned by COMMTEL. Channel provisioning for PMU and PDC has already been made and has already been communicated.

All the constituents agreed in principle for the above methodology

B. Chemtrols Agenda Items

S. No.	Issue	Discussion/Decision
<u>WBSETCL</u>		
1	PLCC and MUX Communication links are not stable/Error free. We are facing problem to commission our RTUs to SLDC Howrah	Powergrid to get it checked and rectified in a time bound schedule.
2	In many S/s it has been observed that 48V DC dropped to 38-42V dc when load is connected. Due to that our inverter are not getting power due to low voltage problem. Same issue has been found with 220V DC in some s/s.	WBSETCL asked for the list of such stations from Chemtrols. Chemtrols to furnish the list of such stations by 30 th Sept'15.
3	In many s/s LDMS software get corrupted due to improper use of system by the users at Substation.	WBSETCL to issue guidelines to their sub-station In-charges regarding this.
4	WBSETCL is requested to provide the communication channel plans for commissioning the rest of RTUs to SLDC	WBSETCL agreed to furnish the channel plans progressively.
5	Issue of diverting the Hind Motor RTU and erection and commissioning of Singur RTU	WBSETCL confirmed that the Hind Motor RTU to be shifted to Adisaptgram and install the RTU there. Regarding data list, WBSETCL stated that 33kV way may be left and the BOQ provided in the RTU be used for 132 kV feeders to the extent possible.
<u>JUSNL</u>		
1.	It has been found that 48V DC source is not available at 13sites out of 15.	JUSNL/POWERGRID to take action for providing the 48V DC at these stations.
2.	Fuel Tank foundation yet not completed.	JUSNL to get it done at the earliest
3.	Trenching work in between input ACDB and power source	- Do -
4.	JUSNL requested to provide the communication channel plans for commissioning their RTUs to SLD	JUSNL to furnish the Channel plan progressively.
5.	Progress of the interfacing of RTUs is very slow in Jharkhand. JUSNL to provide their testing team as per schedule given to them	JUSNL to provide more testing teams for expediting this work.
6.	Partition for Server room	JUSNL is doing it and expected to be completed within a week
<u>BSPTCL</u>		
1.	SAT pending for the completed RTUs.	Chemtrols is already addressing them
2.	Sign off installation certificate of CC hardware	BSPTCL assured that it will be signed by 28 th Sept'15

3	It has been found that 48V DC source is not available at 8 RTU sites, holding back the RTU commissioning activity	BSPTCL to address this issue at the earliest.
4.	Biharsarif RTU could not be erected as the RTU location yet to be finalized by BSPTCL	BSPTCL to sort out this issue
5	POWERGRID/BSPTCL to make available VCS Link between PATNA CC and ERLDC Kolkata. VCS SAT is pending for the want of this link	It will be make available within a week by POWERGRID
	<u>SIKKIM</u>	
1.	PED Sikkim is requested to provide the communication channel plans for commissioning the RTUs to SLDC.	PED Sikkim/POWERGRID agreed to provide the communication channel plans for commissioning the RTUs to SLDC.
2.	DG installation location and foundation for the same is yet to be confirmed by PED Sikkim decided	PED Sikkim is yet to get it done.

C. Agenda Points of BSPTCL

S. No.	Issue	Status
1.	During SAT of already commissioned RTU. It has been observed during the SAT of Khagaul, Bihta, Digha, Jakkanpur, Mithapur that some SOE are not exactly matching with the log book of respective S/s.	Chemtrols stated that this problem has already been rectified at Karbhigahia Site. There was some wiring arrangement issue at C&R panels of BSPTCL. During local testing we have checked all the points and showed the SOE point by point. BSPTCL has to ask their Operators to get involved at the time of installation of LDMS and get training to properly handle the LDMS software
2.	Closure of Variances of SAT of the HW & SW of BSPTCL portion. The SAT retest was to start from 17 th August but is yet to be started. Variances are still open. Customised applications i.e. view of data in different aspects, Load shedding schedule, Report generation etc has not been developed.	Due to non-conclusion of SAT issues at ERLDC, we could not start the PATNA CC re-SAT. It will now start wef 28.09.15.
3	Out of 101 RTUs, only 73 have been delivered, I&C activities of RTU are slow. Only one team has been deployed. It has been assured in last project review meeting by Chemtrols to deploy additional team for BSPTCL but team has not been deployed. Since last mtg only 2 nos, of GSS RTUs have been installed.	Out of 73 supplied we already installed 70 sites, interfaced 59 sites and commissioned 28 sites with SLDC. 30 sites LDMS completed. LDMS furniture installation is also in progress and done at 32 sites. Installation shall be completed by oct-15. Chemtrols stressed that 48V DC supply is not available in no. of Sub-stations. BSPTCL to arrange the same on priority.
6.	Supply of LDMS furniture. 73 Nos. supplied	73nos LDMS furniture supplied to BSPTCL Patna,

D. Agenda Points of DVC

S. No.	Issue	Status
1.	Chemtrols was to start Control Centre I/C work at Maithon from 1 st August'2015 which they failed and still not clear when it will start. Powergrid is requested to prepare a firm schedule –constituent wise	Chemtrols stated that work got delayed due to some unforeseen issues with our Sub-Contractor. The same have now been sorted out. The I&C work has already started at DVC on 23 rd . The team will further be strengthened by Sunday and the infrastructure work i.e APS installation, power cabling, Server Rack installation, network cabling, HW equipment installation etc. shall be completed by 15 th Oct'15.
2.	Work front at Howrah (Civil & Electrical) to be completed by Sept,2015. Powergrid& Chemtrols are requested to make schedule for I/C at Howrah SLDC.	Chemtrols / Wipro stated that the batteries manufacturing kept under hold by POWERGRID is being ordered. UPS and ACDBs are ready for FAT. Complete supply of these equipment is possible by November end. I&C will be taken up accordingly after receipt of APS equipment. POWERGRID asked to expedite the supply of these equipment ASAP.

E. Agenda Points of WBSETCL

S. No.	Issue	Status
1.	Ms. Velocis Engineers could not remove the SLIP ERROR (9.6 kbps) in sub-multiplexed asynchronous data channel used for RTU Data Integration. Chemtrols RTU could not be integrated for these reasons. However with using entire 64 kbps bandwidth there is no error. Matter is to be resolved quickly. [Action; L S Cable & PGCIL]	POWERGRID clarified that there is some problem in the FO communication channel configuration leading to SLIP error in the link. They assured to get it set right at the earliest. Chemtrols confirmed once this is set right, RTUs reporting thru MUX will start reporting correctly to the new system.
3.	Chemtrols couldn't commission the ICCP link between Howrah,SLDC and CESC inspite of seriesof meetings/ conversations with CESC. Dilly-dally activities of Chemtrols Engineers are delaying the work. [Action; M/S Chemtrols]	Chemtrols assured that the issue is being looked into by OSI/ Chemtrols Software team and expect to fix the problem by 10 th Oct'15. Chemtrols requested WBSETCL to get the support of CESC/Siemens in this endeavour.
4.	Tit –bit work on APS at SLDC,Howrah is still pending. [action; M/S Chemtrols]	Shall be done at the time of APS SAT, as the S/D of Batteries is required for doing this work. WBSETCL agreed for the same.

F. Agenda Points of OPTCL

S. No.	Issue	Status
1a.	<p>Microwave Reframing work:</p> <p><u>Laying of OPGW in 33kV Mancheswar-OPTCL HQ:-</u> Powertel has raised an invoice of Rs 3,47,665/- to OPTCL towards leasing of fibre link between Mancheswar-OPTCL HQ . OPTCL was forced to use the lease line for its ERP use due to delay in commissioning of OPGW in 33kV Mancheswar-OPTCL HQ under Microwave replacement scheme executed by Powergrid. Hence, it was requested by OPTCL in various meetings to waive out the leasing amount and as a result invoice for the same was not served on OPTCL. On all sudden OPTCL has been asked to clear the outstanding amount. Once again OPTCL requests ULDC wing to write to Powertel to waive out the same.</p>	Powergrid informed that the same will be taken care while closing the contracts.
1b	Pre SAT test is going on in 400kV Mendhasal-Meramundali line. Schedule for Pre SAT test in Chainpal - Meramundali, Tarkera - Budhipadar, Tarkera- Rourkela PG lines may be submitted by the vendor M/s KEC	<i>POWERGRID/M/s KEC informed that SAT of OPGW will be completed by 31/10/2015.</i>
2a	<p>New RTU integration:</p> <p>Installation/commissioning status of DPLC, outdoor coupling equipment not yet submitted by the vendor i.e M/s Alstom</p>	M/s Alstom will submit the same after discussion with Sr. GM (Telecom), OPTCL by the end of 2 nd week of October,2015
2b	<p>Compatibility of Barco supplied VPS with new system;</p> <p><i>POWERGRID has already place order on BARCO to upgrade the WIDOW XP controller to WINDOW 7 level</i></p>	<p>Chemtrols stated that once the upgradation is done, they will establish the connectivity between New Monarch system and the BARCO VPS.</p> <p>Schedule of work may be submitted to OPTCL.</p>
3a	5 RTU order status	Chemtrols have already submitted an offer to POWERGRID. POWERGRID shall issue the new order/order amendment shortly.
3b	VCS for OPTCL	Chemtrols informed that LOI has been place on Infotech Kolkata and the delivery will take place by Nov end. The Installation of the same will be taken up immediately after receipt at site.

5.	Migration of Old Data (ALSTOM) to new system (Monarch). SAVT is in progress till Sept'30. After that the parallel operation will start.	After completion of SAVT parallel operation will start.
6	Expenditure Plan for the FY 2015-16: Expenditure Plan for the FY 2015-16 may be submitted for onward submission to Odisha Regulatory Commission.	Powergrid will submit the expenditure plan by 30 th sept,2015
7	Project completion date: Final project completion date may be intimated for onward submission to Odisha Regulatory Commission	Powergrid stated that Project will be complete in all respect by 30 th Dec,2015