



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय

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No. NERPC/OP/Committee/2016/9854-9929

Date: February 22, 2016

To,

1. Hon'ble Chief Minister & In-charge of Power, Govt. of Mizoram, Aizawl - 796 001
2. Hon'ble Chief Minister & In-charge of Power, Govt. of Manipur, Imphal - 795 001
3. Hon'ble Minister of Power, Govt. of Arunachal Pradesh, Itanagar - 791 111
4. Hon'ble Minister of Power, Govt. of Meghalaya, Shillong - 793 001
5. Hon'ble Minister of Power, Govt. of Nagaland, Kohima - 797 001
6. Hon'ble Minister of Power, Govt. of Tripura, Agartala - 799 001
7. Member (GO&D), CEA, Sewa Bhavan, R.K. Puram, New Delhi - 110 066
8. Secretary (Power), Govt. of Arunachal Pradesh, Itanagar - 791 111
9. Addl. Chief Secretary (Power & P.E), Govt. of Assam, Dispur, Guwahati - 781 006
10. Commissioner & Secretary (Power), Govt. of Manipur, Imphal - 795001
11. Commissioner & Secretary (Power), Govt. of Meghalaya, Shillong - 793001
12. Secretary (Power), Govt. of Mizoram, Aizawl - 796001
13. Secretary (Power), Govt. of Nagaland, Kohima - 797001
14. Principal Secretary (Power), Govt. of Tripura, Agartala - 799001
15. Chairman & Managing Director, Me.ECL, Lumjingshai', S.R. Road, Shillong - 793 001
16. Chairman & Managing Director, TSECL, Agartala - 799001
17. Chairman & Managing Director, NEEPCO Ltd., Lower New Colony, Shillong - 793 003
18. Chairman, APDCL/AEGCL/APGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
19. Director (Finance), NHPC Ltd., NHPC Complex, Sector-33, Faridabad - 121 003
20. Director (Operation), POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon, Haryana - 122 001
21. Director (Marketing & BD), PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi - 110066
22. Director (Coml.), NTPC Ltd. NTPC Bhawan, Scope Complex, Institutional Area, Lodhi Road - 03
23. Managing Director, OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi - 110019
24. Executive Director (SO), NLDC, B/9, Qutub Institutional Area, Katwaria Sarai, New Delhi - 16
25. CEO, NVVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi - 03
26. Managing Director, APDCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
27. Managing Director, APGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001

Sub: Minutes of 16th TCC & 16th NER Power Committee Meetings held at Guwahati

Sir,

Please find enclosed herewith the minutes of 16th TCC and 16th NERPC meetings held at **"Hotel Taj Vivanta", Guwahati, Assam** on the **29th & 30th January, 2016** respectively for your kind information and necessary action. The minute is also available on the website of NERPC, www.nerpc.nic.in.

Encl: As above

(P. K. Mishra)
Member Secretary

Copy to:-

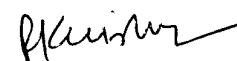
1. PS to Chairman, NERPC and Hon'ble Chief Minister & I/C of Power, Govt. of Assam, Guwahati - 799 001
2. PS to TCC Chairman and Managing Director, APDCL, Bijuli Bhawan, Guwahati - 781 001.

Copy for kind information to:

1. Director (Distribution), Me. ECL, Lumjingshai, S.R. Road, Shillong – 793 002
2. Director (Transmission), Me. PTCL, Lumjingshai, S.R. Road, Shillong – 793 002
3. Director (Generation), Me. PGCL, Lumjingshai, S.R. Road, Shillong – 793 002
4. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
5. Director (Tech.), NEEPCO Ltd., Lower New Colony, Shillong-793 003.
6. Managing Director, MSPDCL, Electricity Complex, Keishampat, Imphal – 795 001
7. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
8. Regional ED (East –II), NTPC, 3rd Floor, OLIC Bldg., Pl No- N.17/2, Nayapalli, Bhubaneswar-12
9. Executive Director, NERTS, PGCIL, Lapalang, Shillong - 793006
10. Executive Director (Comml.), NEEPCO Ltd., Lower New Colony, Shillong-793003.
11. Executive Director (O&M), NEEPCO Ltd., Lower New Colony, Shillong-793003.
12. Executive Director (Comml.), NHPC, NHPC Office Complex, Faridabad-121003.
13. Executive Director (O&M), NHPC, NHPC Office Complex, Faridabad-121003.
14. Executive Director (Marketing), PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi – 110066
15. ED, KISPL, G-02, Salcon Aurum Complex, 4, Commercial Centre, Jasola, New Delhi-110025
16. Chief Engineer (GM), CEA, 6th Floor, Sewa Bhawan, R.K.Puram New Delhi-110066.
17. GM, NERLDC, Lapalang, Lower Nongrah, Shillong - 793006
18. GM (O&M), NERTS, POWERGRID, Lapalang, Shillong – 793006
19. GM (Plant), OTPC, Pallatana, Udaipur, Kakraban Road, South Tripura – 799116
20. GM (BD), NVVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi – 03
21. Engineer-in-Chief, P&E Dept., Govt. of Mizoram, Aizawl – 796 001
22. Chief Engineer (E Zone), Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111.
23. Chief Engineer (W Zone), Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111.
24. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 1
25. Chief Engineer (Power), Dept. of Power, Govt. of Nagaland, Kohima – 797 001.
26. Chief Engineer, Loktak HE Project, NHPC, Komkeirap, Manipur-795124.
27. CGM, AEGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
28. CGM, APGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
29. CGM, APDCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
30. CGM (LDC), SLDC Complex AEGCL, Kahelipara, Guwahati-781019.
31. Head of SLDC, Me. ECL, Lumjingshai, S.R. Road, Shillong-793001
32. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111
33. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur
34. Head of SLDC, Dept. of Power, Govt. of Manipur, Keishampat, Imphal-795001
35. Head of SLDC, P&E Dept., Govt. of Mizoram, Aizawl-796001
36. Head of SLDC, TSECL, Agartala – 799001

Special Invitee(s):

37. Chairperson, CEA, Sewa Bhawan, R.K.Puram, New Delhi – 110066
38. Member (Power Systems), CEA, Sewa Bhawan, R.K.Puram, New Delhi – 110066
39. Secretary, North Eastern Council, Nongrim Hills, Shillong – 793 003
40. Secretary, DoNER, 258, 1st Floor, Vigyan Bhawan Annexe, New Delhi – 110011
41. Managing Director, Bhutan Power Corp. Ltd., Thimphu, Bhutan
42. Member Secretary, ERPC, 14 – Golf Club Road, Tollygunge, Calcutta – 700 033
43. Member Secretary, NRPC, NRPC Complex, 18-A, S.JS.S. Marg, Katwaria Sarai, New Delhi – 16
44. Member Secretary, WRPC, MIDC Area, Marol, Andheri (E), Mumbai – 400 093
45. Member Secretary, SRPC, 29 – R.C. Cross Road, Bangalore – 560 009
46. Director, NETC, 1st Floor, Corporation Tower, AMBIS Mall Complex, NH-8, Gurgoan – 122001.
47. Chairman & Managing Director, ONGC, Jeevan Bharti, Tower –II, Indira Chowk, New – Delhi – 1;
with a request to nominate the suitable officer concerning North Eastern States.


Member Secretary

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SUMMARY RECORD OF DISCUSSIONS
16TH TECHNICAL COORDINATION COMMITTEE
&
16TH NORTH EASTERN REGIONAL POWER COMMITTEE MEETINGS

The 16th TCC & 16th NER Power Committee meetings were held on 29th & 30th January, 2016 respectively at Hotel "Taj Vivanta", Guwahati. The meetings were co-hosted by Assam Power Distribution Company Ltd. (APDCL), Assam Power Generation Corporation Ltd. (APGCL) & Assam Electricity Grid Corporation Ltd. (AEGCL).

The list of participants is enclosed at **Annexure – I & II**.

I : PROCEEDINGS OF THE 16TH TCC MEETING

The meeting started with bouquets presentation to the dignitaries followed by welcome address by Shri. Jatin Das, CGM (AEGCL). Shri Das welcomed all TCC members and participants to the 16th TCC meeting and wished all participants a comfortable stay at the venue. After this, Shri R. L. Baruah, Chairman, TCC addressed the 16th TCC meeting. In his brief speech, Shri Baruah stated that TCC is an important forum for resolving various problems to make NER a self reliant in Power sector. He impressed upon the house that each utility should improve own performances and try to deliver the mandate of the government i.e. to supply power to all household. Shri P. K. Mishra, Member Secretary, NERPC welcomed all delegates of the 16th TCC meeting on behalf of NERPC. He expressed his sincere thanks to APDCL, APGCL & AEGCL for hosting the 16th TCC & 16th NERPC meetings and for making excellent arrangement and providing a comfortable stay for the delegates. Speech of Member Secretary, NERPC is attached at **Annexure – III**.

There was presentation by NERLDC on Sharing of Transmission charge of Bishwanath Chariali to Agra HVDC link. The presentation is attached at **Annexure-IV**

There was also presentation by APDCL on Petition on PoC charges. The presentation is attached at **Annexure-V**

Thereafter, Chairman, TCC requested Member Secretary to take up the agenda items for discussion.

The TCC meeting was concluded with the vote of thanks by Shri Jatin Baishya, GM, LD&C, AEGCL.

II : PROCEEDINGS OF THE 16TH NERPC MEETING

The 16th NER Power Committee meeting commenced with bouquets presentations to dignitaries followed by ceremonial lighting of lamps by Shri Rakibul Hussain, Hon'ble Power Minister, Assam & Chairman, NERPC, Shri Manik Dey, Hon'ble Power Minister, Tripura, Shri P. K. Mishra, Member Secretary, NERPC, Shri V.B. Pyarelal, Additional Chief Secretary, Govt. of Assam, Shri Ram Muivah, Secretary, NEC, Shri K.V. Eapen, Chairman, APDCL/APGCL/AEGCL, Shri R.L. Baruah, TCC Chairman & MD, APGCL, Shri G.K. Das, MD, AEGCL, Shri P.C. Pankaj, CMD, NEEPCO & Shri S. Ganguly, MD, OTPC.

Shri J. K. Sarma, CGM, AEGCL delivered the welcome address. Shri Sarma extended warm welcome to all the dignitaries, senior officials of central and state government departments and utilities and participants of the 16th NER Power Committee meeting. He urged all the constituents to come forward and solve mutual and common problems together for the benefit of NER region. He urged that all the technocrats to act together to usher in development in the country.

Shri P. K. Mishra, Member Secretary, NERPC welcomed all participants and expressed gratitude for participation in the meeting. He mentioned that under the dynamic leadership of Chairman, NERPC & Hon'ble Power Minister, Govt. of Assam, the meetings are now being conducted regularly. He requested that the trend should continue regularly. His speech is placed at **Annexure – VI**.

Shri Rakibul Hussain, Hon'ble Power Minister, Assam & Chairman, NERPC addressed the 16th NER Power Committee. He stated that the HVDC transmission system associated with North East Region connecting the Northern and Western Interconnector is understood to be commissioned connecting the NE Region directly with Northern and Western Region with the aim of evacuation of surplus power from Subansari Lower HEP and Kameng HEP and other such Hydro Projects of NER to other regions of the country.

Power Grid has already filed tariff petition of this transmission network before the CERC. As the associated ISGS units are not yet commissioned, APDCL feels that the tariff of the HVDC Transmission systems may be considered as deferred revenue on utilization. We have already taken it up with the Ministry of Power and we expect a positive result.

Full text of the speech of Hon'ble Power Minister, Assam & Chairman, NERPC is placed at **Annexure – IX**.

Shri Manik Dey, Hon'ble Power Minister, Tripura in his brief address expressed gratitude to NERPC and NERLDC for providing continued assistance to Tripura in managing day to day power supply in the state. He also stated that Government of India has changed the funding patterns of Smart Grid Pilot Project at 50:50 followed by (30:70) for upcoming projects under Smart Grid Mission instead of 90:10 (Grant: Loan). The NER states are affected for above change in funding pattern. It is therefore urged to Ministry of Power, Government of India to review the funding pattern and consider 100% grant for special category states

As per policy, 10% of Government of India plan budget is to be marked for NER states which are not being followed at present. Hence, Government of India is requested to maintain the above policy in true spirit.

Full text of the speech of Hon'ble Power Minister, Tripura is placed at **Annexure – VIII**.

The Hon'ble Chief Minister (I/C Power), Govt. of Manipur could not attend the meeting due to unavoidable circumstances. However, his speech was taken as read and placed at **Annexure – X**.

After this Chairman, NERPC requested Member Secretary, NERPC to take up the agenda for discussion.

The meeting concluded with the vote of thank by Shri M.K. Bordoloi, CGM, AEGCL.

**RECORD NOTES OF DISCUSSION
OF
16TH TCC & 16TH NERPC MEETINGS**

III : CONFIRMATION OF THE MINUTES OF 15TH TCC MEETING & 15TH NERPC MEETING (S)

The minutes of the 15th TCC and 15th NERPC meetings held on 20th & 21st August, 2015 at Guwahati were circulated vide letter no. NERPC/OP/Committee/2015/3988-4059 dated 21.09.2015.

No comments or observations were received from any constituents and hence, TCC and NERPC may confirm the minutes of above meetings.

Deliberation of the TCC

TCC confirmed the minutes of 15th TCC meeting.

Deliberation of the RPC

The RPC confirmed the minutes of 15th NERPC meeting.

CATEGORY - A : ITEMS DISCUSSED AND APPROVED BY THE COMMITTEE

A.1 : SHARING OF TRANSMISSION CHARGE OF BISHWANATH CHARIALI TO AGRA HVDC LINK: - APDCL - AGENDA REF. ITEM NO. A.5

Assam informed that Members are aware of the HVDC transmission system associated with North East Region connecting the Northern and Western Regions. Interconnector is commissioned connecting the NE Region directly with Northern and Western Region with the aim of evacuation of surplus power from Subansiri Lower HEP and Kameng HEP and other such Hydro Projects of NER to other Regions of the country. Already power from these two projects has been allocated by MOP to NER, North and Western regions. But unfortunately the Inter State Generating Stations (ISGS) associated with

this Network are yet to be commissioned. It is also worth mentioning that, as on date, so far as need of the NER is concerned the region does not have the requirement of such costly HVDC network. Some portion of the newly commissioned AC systems is being used by NER.

Meanwhile, Power Grid has already filed tariff petition of this transmission network before the CERC which is under process of hearing. APDCL, in its reply submission to CERC on the tariff petition, has mentioned about all these facts of HVDC Network in regional perspective. As the associated ISGS units are not yet commissioned, APDCL feels that the tariff of the HVDC Transmission Systems may be considered as deferred revenue on utilization as envisaged.

A.2	:	COMMISSIONING OF ± 800kV BISHWANATH CHARIALI -AGRA HVDC LINK: - APDCL/TSECL - AGENDA REF. ITEM NO. A.6
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POWERGRID has already commissioned the ± 800 KV Bishwanath Chariali-Agra HVDC with associated AC links and it has also filed tariff petition before CERC in this connection. At present power is flowing through the HVDC link in bidirectional mode. But it is found that such flow seems to be not incidental flow. NLDC/ NERLDC is often diverting power to the tune of 900 MW through this link even by restricting normal ER import through the existing AC link in between ER-NER and that too without prior intimation to Beneficiaries. As the POC tariff mechanism is distance, direction and quantum sensitive, such diversion of flow through ER-NR-NER results increase bill amount of APDCL and other Beneficiaries. APDCL therefore urges the Forum:

- A) To direct NLDC/ RLDC not to divert unilaterally any such flow which may result increase POC for regional Beneficiaries.***
- B) Any Network shut down for maintenance be so arranged such that these do not hamper normal flow of power through the shortest route.***
- C) To examine and assess the quantum of increase of POC bill amounts, if any, during the period up to the present date.***

Deliberation of TCC

DGM (MO), NERLDC through a presentation highlighted the issues of ± 800kV HVDC line in regard to Agenda A.1 & A.2:

- i. Impact of Loop flow on NER Regional pool loss

- ii. Loss in the HVDC line
- iii. PoC computation and impact on NER
- iv. Power Flow order in HVDC line

Forum enquired from Advisor (P), NEC for possibility of funding by NEC. Advisor (P), NEC suggested that since the capital involved is huge, DoNER may be approached for one time grant.

After detailed deliberation the following resolutions were adopted by the forum:

1. NERPC appreciates the benefits of Biswanath Chariali-Agra HVDC line and agrees with the view of CERC that the line is of National importance.
2. Cost as well as benefit needs to be shared by all five Regions. Sharing should be in proportion to approved withdrawal.
3. PSDF funding as one time grant should be explored by POWERGRID as first option.
4. As Bongaigaon and Salakati are metering points for ER-NER exchange as per IEGC(NER end of ER-NER), BNC end should continue to be metering point for BNC-Agra in view of bidirectional flow nature, more so considering size of NER power system in comparison with NR system (NER system is about 4.5% of NR system).
5. Power flow over BNC-Agra is to be regulated by NLDC considering National priority, but there should be flow of information up to SLDC level regarding change of power order. In general, SLDCs should be aware of the events.
6. Inclusion of flow over the HVDC line in PoC computation should be done after due approval of validation committee.
7. POWERGRID should organise a workshop on HVDC to explain advantages like Power Oscillation Damping controller, frequency controller and other features.

Regarding tariff of HVDC BNC Agra line, PGCIL stated that CERC has already allowed the tariff vide order dated 08.01.2016. However, the sharing mechanism among DICs shall be decided by CERC after next hearing.

Deliberation of RPC

The RPC approved the recommendation of TCC.

**A.3 : REDUCTION OF GAS SUPPLY TO PALLATANA GBPP - AEGCL -
AGENDA REF. ITEM NO. A.7**

Assam informed that out of the two running units of OTPC, one unit suddenly boxed up on 28.11.2015 at 12:52hrs without any advance intimation. OTPC, Pallatana the largest regional thermal power station of NER with cheapest fuel tariff has been curtailed of its fuel gas supply by ONGC from its original allotment quantum of 2.65 MMSCMD to 1.68 MMSCMD from around November' 2015 onwards. When the matter enquired, it was found that this was due to reduction of gas supply from ONGC. The cause of the reduction of gas supply to OTPC by ONGC is best known to them. The reduction in generation from OTPC has created power shortage in Assam as well as the other states of NER. Assam is managing this shortage by purchasing power at higher cost from the power exchange. As OTPC is a regional project, prior consent should have been taken by OTPC/ONGC to reduce the availability of the beneficiaries.

The matter was discussed in the last two OCC meeting held in the month of December, 2015 and January, 2016. But no concrete solution came out to remove this problem. So, the matter is forwarded to the honourable TCC/RPC to resolve the issue and to restore power supply from both the units of OPTC at an early date to remove the shortage of power availability in NER as Kopili power project is going to take shut down for two months from 20th February, 2016.

Deliberation of the TCC

MD OTPC impressed upon the house that NERPC forum should strongly approach MOP to consider the gas shortage of Palatana seriously as all NER states has major shares from Palatana which is also one of the cheapest power station in the region.

All the beneficiaries expressed that Palatana GBPP should be run to its full capacity since it is one of the cheapest plants in the region.

After detail deliberation, TCC forum agreed to adopt the following resolution:

1. The house unanimously decided to take up the matter with Ministry of Power and Ministry of Petroleum/OTPC to ensure that sufficient gas should be made available as per contracted quantum of gas to Palatana, Monarchak, Baramura & Rokhia GBPP.

2. Till the full quantum of gas can be supplied to all the above GBPPs, sufficient supply of gas to run both units of Regional project like Palatana and shared projects like Baramura & Rokhia should be given high priority.

The forum requested Member Secretary, NERPC to take up the matter with Ministry of Petroleum and also with Ministry of Power so that sufficient gas should be made available to all the gas based power plants in Tripura.

Adviser (Power), NEC stated that NEC Secretariat will also help NERPC to take up the matter with Ministry of Petroleum & Ministry of Power so that sufficient gas is made available at the earliest to above gas based power plants.

Deliberation of the RPC

MD, OTPC opined that NERLDC/NERPC should ensure merit order operation of thermal power plants in the region.

Principal Secretary (Power), Tripura mentioned that the term contracted quantum of gas may be replaced with required quantum of gas.

Chairman, APDCL/APGCL/AEGCL mentioned that Pallatana should be given first priority since all the NER constituents are having share from Pallatana and the same should be spelt out clearly in the minutes.

After detail deliberation, NERPC forum agreed to adopt the following resolution with minor modifications:

1. The house unanimously decided that NERPC should take up the matter with Ministry of Power and Ministry of Petroleum to ensure that sufficient gas should be made available as per required quantum of gas to Palatana, Monarchak, Baramura & Rokhia GBPP.
2. Till the full quantum of gas can be supplied to all the above GBPPs, required quantum of gas should be given to Regional project of Palatana to run both the units.

The RPC noted as above.

A.4	:	APPRAISAL ON REVIEW PETITION OF APDCL ON PoC - APDCL AGENDA REF. ITEM NO. A.8
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As advised in the 15TH NERPC Meeting APDCL has filed a review petition in the matter

of exorbitant hike of POC Charges following implementation of CERC Sharing Regulations (3RD Amendment). The Commission in its hearing dated 19.11.2015 admitted the Petition for further hearing and also directed the technical staff of the Commission to convene a meeting with APDCL to discuss the related issues. Accordingly the Commission staff arranged a meeting on 11TH December, 2015 with representative of APDCL, NERPC and NLDC. As per direction of the Commission in its ROP dated 19.11.2015 the Petitioner also filed a rejoinder submission to the Commission on 19TH January' 2016.

As a part of 'Action taken Report' a brief presentation is attached at **Annexure – A.4**.

Deliberation of the TCC

After detailed presentation by GM (Comm.), APDCL the forum is of the opinion that the matter be taken up with CERC to consider different scenarios of operation in the grid.

Deliberation of the RPC

Chairman, APDCL/APGCL/AEGCL mentioned that new PoC charges implemented by Hon'ble CERC has put great financial constraints not only to Assam but also to all other NER States and requested the forum to give a suggestion in this matter.

After detailed deliberation, the forum suggested Assam to give the same presentation to Hon'ble CERC and the view of NERPC forum can also be highlighted to CERC. The forum also requested NERPC to seek an appointment with Hon'ble CERC for pre-meeting so that the view of Assam and NERPC can be presented to CERC before the hearing on 18.01.2016.

The RPC noted as above.

A.5	:	UPCOMING GENERATING STATIONS IN NER UNDER JV/IPP MODE - APDCL - AGENDA REF. ITEM NO. A.9
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Numbers of big Hydro projects are coming up/ proposed to be set up in NER under JV/IPP Mode. For planning of Associated Transmission System of such projects MOP involves itself through CEA and Transmission Service Provider(s). Already such a thermal project OTPC is commissioned as regional project in NER. In the same way for early harnessing of zero fuel cost (water energy), the Forum may perhaps take up the issue with MOP to evolve a tentative share allocation formula on regional/national basis depending on the size of the project on the basis of state wise Yearly Central

Plan Assistance divided by Total Yearly Central Plan Assistance to all the states of the country who need such power.

Deliberation of the TCC

After detailed deliberation it was agreed that for private projects/JV some guidelines has to be adopted by Ministry of Power for power allocation. The forum requested NERPC to take up the matter with CEA & Ministry of Power accordingly.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

A.6	: NON - PARTICIPATION BY CONSTITUENTS IN SUB- COMMITTEE MEETINGS OF NERPC - NERPC - AGENDA REF. ITEM NO. A.12
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It has been observed that constituent States viz. Ar. Pradesh, Mizoram, Nagaland and of late Tripura were not attending the Sub-committee meetings except OCC of NERPC on many occasions despite the same is being conducted at Guwahati in line with the earlier decision of NERPC for more participation. As a result many important issues often cannot be discussed and resolves in stipulated time frame.

Deliberation of the TCC

Member Secretary, NERPC impressed upon the house to send officials for all Sub-Committee meetings of NERPC. He specially requested Tripura to send participants regularly in all Sub-committee Committee Meetings of NERPC.

TCC recommended to inform to NERPC

Deliberation of the RPC

Principal Secretary (Power), Tripura informed that he will instruct the respective divisions and assured that regular participants will be sent for all Sub-committee meetings of NERPC. The same was echoed and assured by Engineer-in-Chief, Dept. of Power, Government of Mizoram.

The RPC noted and directed that all constituents should attend all the Sub-committee meetings of NERPC regularly.

A.7	: STATUS OF IMPLEMENTATION OF R&M OF PSDF: - NERPC - AGENDA REF. ITEM NO. A.14
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The status of progress of R&M under PSDF is being monitored every month by NERPC and the Sub-committee requested all constituents to complete the proactive actions

like taking Board's approval, floating of NITs, selection of bidders etc., as directed by the Hon'ble CERC.

NERPC Secretariat was in constant touch with all the NER States for expediting the process, however, the progress is very slow.

During the meeting held on 11.12.2015 at CEA, New Delhi, the forum expressed concern about delay in disbursement of fund and execution of R&M Projects.

The NER States may kindly update the status of following:

1. Signing of Tripartite Agreement.
2. Status of award of contract (awarded cost in Rs lakhs)
 - a. upto Q3 - 2015-16
 - b. Q4 - 2015-16
 - c. Q1 – 2016-17
 - d. Q2 – 2016-17
 - e. Q3 – 2016-17
 - f. Q4 – 2016-17
3. Funds Requirement for above "a" to "f"

Deliberation of the TCC

The status as intimated by the constituents:

ASSAM	LOA of quantum of Rs.50 Cr. would be issued after signing of Tripartite Agreement.
MANIPUR	Revised DPR has been submitted and all the queries raised by CEA have been addressed.
MEGHALAYA	Rs 3.39 Cr. Package LOA issued & Rs. 5.3 Cr. LOA in Feb'16. Tripartite Agreement in one week.
MIZORAM	Approval of concerned authority is expected by one week. -LOA of Rs. 3 Crore (Approx) will be done within FY 2015-16
NAGALAND	By Feb'16 all LOA for all the packages would be completed.
TRIPURA	Clearance from concerned authority has been received. NIT will be floated soon.

Deliberation of the RPC

The RPC noted and directed all concerned authorities to complete the formalities so that Tripartite Agreement can be signed at the earliest.

A.8 : UCC MEETING – NERPC - AGENDA REF. ITEM NO. B.2

During 111st OCC meeting, all the constituents agreed that UCC meeting, presently coordinated by NERLDC, should be a part of Sub-committee meeting of NERPC and necessary amendment of Conduct of Business Rules (CBR) of NERPC in this regard may be endorsed. This is in line with the practice followed in Northern Region.

NERPC informed that as agreed during the 1st TeST meeting, NERPC has to finalize the CBR and get the endorsement for amendment of Conduct of Business Rules (CBR) of NERPC in the next NERPC Board Meeting. The composition of members of TeST and also the various functions of this sub-committee was discussed in 1st TeST meeting and during the 1st TeST meeting, it was agreed that constituents would be represented by officials of the rank of Superintending Engineer/GM/Head of Communication & Logistics. The convener of meetings would be Superintending Engineer of NERPC.

Functions:

TeST Sub-Committee shall carry out the following works:

- a) To coordinate and resolve issues related to Planning, Commissioning and Maintenance of SCADA, EMS and PMU related applications.
- b) Planning, Monitoring and Maintenance of Telecommunication System for data and speech
- c) SCADA & Operation & Maintenance
- d) RTUs and PMUs
- e) Telemetry
- f) Any other issues assigned by NERPC.

Meetings:

As and when required and as decided by the Convener.

The forum unanimously approved the above naming of NETeST Sub-committee, its functions and meeting and requested NERPC to get endorsed in the next TCC/NERPC Meetings.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

A.9	:	UP-GRADATION OF 220/132KV SALAKATI SUB-STATION FROM CONVENTIONAL TO SAS ON COMPLETION OF 25 YEARS AGE AND CAPITALIZATION DURING TARIFF BLOCK (2014-2019) – NERPC – ADDITIONAL AGENDA
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During 113th OCC Meeting, POWERGRID informed that the 220/132kV Salakati Sub Station was commissioned in the year 1987 and thus, completed more than 25 Years which is the life of a Sub Station. At present, the condition of various equipment / items like LTAC, DCDB, Battery Banks, Power & Control Cable, CT, CVT, Isolator, Bus Post Insulators, String insulators, C&R Panels etc. have deteriorated considerably and requires replacement for further extension of Substation life. Meanwhile, only obsolete ABCBs are replaced with SF6CBs.

The issue was deliberated during the meeting and the members agreed to the *proposal* of POWERGRID to replace all the above mentioned obsolete equipment / items and up-grade the Substation from conventional to SAS on completion of 25 Years under PoC Mechanism. The tentative expenditure will be around Rs 10.00 to 12.00 Crores.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the proposal.

A.10	:	UP-GRADATION OF 132KV HALFLONG, 132KV JIRIBAM, 132KV KUMARGHAT AND 132KV AIZAWL SUB-STATION ON COMPLETION OF 25 YEARS AGE AND CAPITALIZATION DURING TARIFF BLOCK (2014-2019) – NERPC – ADDITIONAL AGENDA
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During 15th TCC & NERPC Meeting approval has been accorded for up-gradation of Haflong, Jiribam, Kumarghat and Aizawl sub stations on completion of 25 Years from AIS to GIS/Hybrid with incorporation of Double Bus Bar Arrangement, Bus Bar

Protection and LBB Scheme in SAS configuration to enhance reliability / continuity of power supply under PoC Mechanism at tentative cost of Rs. 30.00 Crores. Accordingly, a committee of POWERGRID representatives from Region and Corporate Engineering & AM Department visited 132kV Halflong, 132kV Jiribam, 132kV Kumarghat and 132kV Aizawl Sub-station to explore the possibility of up-gradation from AIS to GIS/Hybrid without interruption of power flow during upgradation works. After detailed study it is found that conversion to GIS (SAS) will be preferable compared to Hybrid under following consideration:

- (a) Up-gradation to GIS will have minimum outage compared to Hybrid. In case of GIS outage will be only during changeover of primary connection. However, in case of Hybrid, the outage will be during installation as well as changeover of Primary and secondary connection.
- (b) Up-gradation to GIS will generate more space for future expansion which is non-existing in case of Hybrid. Further, due to space saving in case of GIS one transformer 132/33kV can be installed additionally for dedicated station supply.

In view of above, the issue was deliberated in 113th OCC Meeting and the members agreed to the proposal of POWERGRID for up-gradation of 132kV Halflong, 132kV Jiribam, 132kV Kumarghat and 132kV Aizawl Sub-station from AIS to GIS (SAS) in line with the approval during 15th NERPC Meeting. The tentative cost for Up-gradation will be Rs. 20.00 – Rs. 22.00 Crores for each station.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the proposal.

A.11	:	UPGRADATION AND CAPACITY ENHANCEMENT OF 220/132KV DIMAPUR SUB STATION ON COMPLETION OF 25 YEARS AGE & CAPITALISATION DURING TARIFF BLOCK (2014-2019) – NERPC – ADDITIONAL AGENDA
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At present transformation capacity of the 220/132kV Dimapur Substation is 2x100MVA. One of the transformer unit is having 4x33.33 MVA, 220/132kV Single phase unit and about to complete 25 years of age which is the life of the transformer.

The load requirement of Nagaland is expected to be 150MW at Dimapur and 30 MW at Kohima along with 80 MW for Assam at Bokajan. All these locations are catered through existing 220/132kV Dimapur Substation.

In view of completion of 25 years of Dimapur Substation and anticipating enhancement of load in near future, the issue was deliberated in 116th OCC Meeting to upgrade the Substation from AIS to GIS (SAS) with capacity enhancement as below:

- (a) Replacement of existing 4 x 33.33MVA, 220/132kV Single phase unit transformers by 2x160 MVA, 220/132kV 3 phase Unit for capacity enhancement.
- (b) Conversion of 132kV Bus Bar Scheme from Single Main and Transfer to Double Main GIS along with future provision.
- (c) Conversion of 220kV Switchyard from AIS to GIS to accommodate additional transformer and also creation of
- (d) space for future provision.

Note: The above works will be carried out by POWERGRID under regulated tariff Mechanism and tentative expenditure will be around Rs. 90.00 to 100.00 Crores.

The Sub-committee unanimously agreed and requested to get it endorsed in the next TCC/NERPC Meetings.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the proposal.

A.12	:	INCLUSION OF NPC OFFICERS IN NERPC – NERPC – ADDITIONAL AGENDA
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In the 4th NPC meeting, it was decided to include Chief engineer, NPC as member of TCC and Director, NPC as member of OCC/CC/PCC respectively in all RPCs.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

**A.13 : SETTING-UP/UP-GRADATION OF SLDCs IN NER - NERPC - AGENDA
REF. ITEM NO. A.13**

Setting up of SLDCs in NER was agreed in 14th TCC/NERPC Meeting. Accordingly, job has been taken up by POWERGRID and the present status (as per 2nd NETeST meeting) is as below:

UPGRADATION OF SLDCs

SN	State	Completion Target
1	Assam	15.02.2016
2	Tripura	31.03.2016
3	Meghalaya	31.03.2016
4	NERLDC	28.02.2016

NEW SLDCs

SN	State	Completion Target
5	Manipur	30.09.2016
6	Nagaland	30.09.2016
7	Mizoram	30.09.2016
8	Arunachal	30.09.2016

GPRS connectivity (under SLDC up gradation project cost) for RTU-SLDC: SCADA:

Further as suggested by Different utilities, POWERGRID may explore connectivity of different RTU locations of different states through GPRS connectivity. Tentative Cost Estimate as intimated by POWERGRID is **Rs 1.0 Crore (Approx)**. Put up for approval.

Deliberation of the TCC

The forum discussed and reiterated that implementation of SLDCs is of prime importance and Arunachal Pradesh, Mizoram & Nagaland were requested to complete their part of work (building, partitioning, cable trench, earthing, Air Conditioning etc.) and hand over the same for SLDC set up work to meet up the targets above. Further states were requested to sort out issues like power supply problem, trench readiness (e.g. Tripura) so that RTU installation can be completed at the earliest possible.

Further, POWERGRID intimated that there has been some technological advancement in case of Servers meant for Manipur, Mizoram, Nagaland and NERLDC backup and some delay was attributed. Forum opined that all concern may take necessary action so as to complete SLDC upgradation at the earliest possible.

TCC forum approved Rs 1.0 cr (without AMC) for GPRS connectivity and this is placed for approval of RPC. Project Cost is proposed to be booked under SLDC up gradation project.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

A.14	:	PSDF FUNDING FOR STUDY PROGRAM.- NERPC - ADDITIONAL AGENDA
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NERPC informed that sanction of Rs 6.45 Cr was given from PSDF to NRPC for organizing study program on integration of renewable energy resources. Officers from SLDCs, NRLDC, STUs & DISCOMS, NRPC secretariat, CEA, MoP are the identified beneficiaries.

Forum may adopt resolution along similar line in case of NER also.

Deliberation of the TCC

NERPC highlighted that Renewable Energy generation, particularly solar and wind based generation has increased substantially during past few years. It is no longer marginal generation. Further, there is an ambitious programme for substantial increase of such Renewable Generation capacity. Recently, Govt. of India has declared 1, 75,000 MW of Renewable power target by the year 2022. Therefore, there is a need to enhance capability of personnel involved in system operation to manage grid with large penetration of RES. European countries are pioneer in Solar and Wind Generations projects. Their share of Renewable Energy in the total generation is high. It is therefore felt that NER constituents can be benefited from their experiences by undergo training at those European countries i.e. Spain, Denmark, Germany etc.

TCC members appreciated NERPC for taking the initiative for continue support to help constituents for arranging training at different places in India and abroad during the last few years. TCC members were also of the opinion that since 132kV system exist in NER, utilities having 132kV and above may be considered. Further, forum is of the opinion that CTU & Generators may also be included for the program as they are part of the study group for power sector planning in NER. The forum requested NERPC to take up the matter at the earliest for the benefit of NER constituents.

TCC recommended for approval of RPC.

Deliberation of the RPC

Trader members of NERPC also requested to include their officers in the group of NER constituents above and informed that the expenditure for above training will be borne by them.

The RPC noted and approved the recommendation of TCC.

CATEGORY – B	:	ITEMS INFORMED TO / NOTED BY THE COMMITTEE
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B.1	:	VIDEO CONFERENCING (VC) IN NERPC SECRETARIAT – NERPC – NERPC – AGENDA REF. ITEM NO. B.1
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The issue of setting up of VC in NERPC was discussed with POWERGRID and they intimated that supply & installation of VC for NERPC will be carried out by them. As per information from POWERGRID one set of VC with MCU is kept for NERPC under NERLDC SLDC SCADA EMS gradation LOA. But the same is yet not dispatched to NERPC.

During 1st TeSt meeting it was agreed that:

- 1) In line with ERPC, NRPC-other region, one no. VC system with MCU under SLDC upgradation project is to be provided by NERLDC to NERPC for smooth functioning of NERPC for grid monitoring purpose, SD arrangement, meeting etc. Target-December, 2015.
- 2) POWERGRID would provide two links, one for SCADA and other for VC from NERLDC main to NERPC within 30/11/2015. Links may be taken from POWERTEL as required.

Further POWERGRID requested that one no. 3x2 VPS is proposed to be procured for CTU (under SLDC SCADA Project- new item under new heading) for assisting for grid management purpose which will be provided to POWERGRID CPCC for better coordination of system operation as an support coordination to RLDC/SLDC for managing POWERGRID station from a common center. Forum agreed in principle and requested to submit the cost.

After detailed deliberation, it was agreed that the VC, SCADA & PMU links will be completed by 25.01.2016 and the same link with consoles will be commissioned by February, 2016. NERLDC will take necessary action to install the VC unit and PDC/SCADA client in NERPC accordingly. Regarding Internet link, Manager (AM), POWERGRID informed that the work will be taken up separately soon.

Further the cost of VPS for POWERGRID as consented in 1st NETeST to be procured under SLDC Upgradation scheme (with a new heading under central sector scope) is Rs. 73 lakhs (approx).

Deliberation of the TCC

POWERGRID informed that VPS is not required by them.

Deliberation of the RPC

The RPC noted as above.

B.2	:	IMPLEMENTATION OF AUTOMATIC DEMAND MANAGEMENT SCHEME (ADMS) - NERLDC - AGENDA REF. ITEM NO. C.3
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Hon'ble CERC directed vide order 5/SM/2014 to submit PERT charts & action plans for Implementation of Automatic Demand Management Scheme (ADMS) by SLDCs of NER and to implement ADMS by 30.06.16. Hon'ble CERC directed RLDCs to submit the report of status of implementation of Automatic Demand Management Scheme (ADMS) by SLDCs of NER by 31.08.16.

SLDCs of NER are requested to furnish monthly report of status of implementation of Automatic Demand Management Scheme (ADMS).

Deliberation of the TCC

TCC members requested all the SLDCs of NER to furnish the status of Implementation of ADMS at the earliest.

Deliberation of the RPC

The RPC noted as above.

B.3	:	ASSESSMENT OF TOTAL TRANSFER CAPABILITY (TTC), TRANSMISSION RELIABILITY MARGIN (TRM) AND AVAILABLE TRANSFER CAPABILITY (ATC) BY SLDC ON RESPECTIVE INTER-STATE TRANSMISSION CORRIDOR - NERLDC - AGENDA REF. ITEM NO. C.4
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SLDCs of NER are required to assess the above on monthly basis, 5 months in advance (e.g. TTC/TRM/ATC for the month of May to be calculated by 15th of January), for further assessment of TTC, ATC and TRM of NER-ER corridor, group of control areas, individual control areas within the region and state-control-area to state-control-area by NERLDC, if required. The same has been discussed in various OCC, PCC & System Study meetings. But as on date no figures/ cases has been furnished to NERLDC. All the SLDCs of NER are requested again to calculate the TTC, ATC & TRM figures and furnish the same to NERLDC every month latest by 15th.

Deliberation of the TCC

NERLDC informed that till date they have been carried out the study on behalf of the NER States, they requested the States to carry out the study on their own. NER States agreed that they will look into the matter.

Deliberation of the RPC

The RPC noted as above.

B.4	: COMPLETIONS OF ACTIVITIES WITHIN SPECIFIED TIME AS PER DIRECTIVES OF CERC VIDE ORDER IN PETITION NO. 113/MP/2014 - NERLDC - AGENDA REF. ITEM NO. C.5
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As per order in Petition No. 113/MP/2014 of CERC, CERC, inter alia, has directed, to NERLDC/NERPC to submit report to CERC regarding operation of UFR & df/dt relays below the setting, if any, and adequate relief to be made available by concerned states / utilities.

Deliberation of the TCC

NERLDC informed about the status of Petition No. 113/MP/2014 of CERC above and mentioned that CERC has directed NERLDC/NERPC to submit the report of protection list as mentioned in the order. They requested that constituents should look into the matter and intimate the status to NERLDC/NERPC at the earliest for necessary action.

Deliberation of the RPC

The RPC noted as above.

B.5	: ISSUES RELATED TO 100MW POWER SUPPLY TO BANGLADESH FROM TRIPURA (TSECL) – NERLDC - AGENDA REF. ITEM NO. A.10
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a. Overloading of 400/132 kV, 125 MVA ICT at Palatana:

A system study has been carried out by NERLDC for checking the load flow in Tripura system as well as NER Grid when 100 MW of Power will be exported to Bangladesh. It has been observed that during peak hours loading of 400/132 kV, 125 MVA ICT at Palatana will increase when there is high generation of Palatana / low generation of Monarchak /outage of 132 kV Silchar – P K Bari D/C lines / low generation of AGTPP / Monarchak or a combination of above. Further it is observed that the overloading is best tackle by reducing the drawal by TSECL. System Studies are attached at **Annexure -A.10**

To address the above issue and fulfill N-1 criteria, it is required to expedite commissioning of 2nd 400/132 kV, 125 MVA ICT at Palatana, 400 kV Silchar- Melriat D/C (charged at 132 kV) & its downstream system & completion of 3rd 132 kV line bay at Palatana.

Deliberation of the TCC

MD, OTPC suggested that PLC based tripping of some Tripura lines may be done when loading of ICT greater than 90MW.

GM, NERLDC suggested that SPS schemes may be explored to avoid overloading of ICT.

After detailed deliberation, the forum decided that in case of any overloading of ICT load-shedding has to be done by Tripura until protection system is in place.

Deliberation of the RPC

The RPC noted as above.

b. Protection System in TSECL for reliable power supply to Bangladesh:

As on date, no main protection system is in place in many of important lines of Tripura system and any delayed tripping in their system may affect the power supply to Bangladesh.

The issue was discussed in several PCC meeting & it was requested to TSECL to provide the status of protection system in their substations for providing reliable power supply to Bangladesh. But no positive response is forthcoming from TSECL side.

It may please be noted that in absence of adequate protection system, power supply to Bangladesh as well as Southern part of NER Grid may be affected.

Deliberation of the TCC

Director (Tech), TSECL informed that for 132kV Palatana-Surjamninar-South Comilla (Bangladesh) protection system already in place. After PSDF & World Bank funding etc. are received outstanding issues regarding protection system in Tripura grid would be resolved. The forum requested TSECL to submit status of all existing protection details in Tripura grid specifically for lines emanating from Surjamaninagar at the earliest. Tripura agreed and assured the forum that protection system would be in place before commencement of power supply to Bangladesh.

Deliberation of the RPC

The RPC noted as above.

B.6 : SIGNING OF POWER PURCHASE AGREEMENT (PPA) IN RESPECT OF TAWANG - I & II HE PROJECT (1400MW) IN AR. PRADESH - NHPC - AGENDA REF. ITEM NO. A.11

Drafts PPA have been sent to Assam, Manipur, Tripura, & Mizoram on 24.09.2014 for early signing of PPA in respect of Tawang-I & II H.E.Projects, in Arunachal Pradesh.

All concerned beneficiaries are requested to give consent for signing of PPA at the earliest.

Deliberation of the TCC

Concerned representative(s) informed the following:

Assam:

Accepted draft PPA and it may be signed at a mutually agreeable date.

Manipur:

MD, MSPCL informed that he would intimate about the issue to MSPDCL.

Mizoram:

EnC informed that action has been initiated for signing of PPA with concerned authority.

Tripura:

Yet to be decided as to whether they would enter into an agreement for purchase of power from Tawang HEP.

Deliberation of the RPC

The RPC noted as above.

B.7 : UP GRADATION OF 2X50 MVA, 132/33 KV IMPHAL (PG) S/S TO 7 X105 MVA, 400 KV SUB-STATION - MSPCL -AGENDA REF. ITEM NO. A.15

It may be recalled that in the 4th Meeting of Standing Committee on Power System Planning of North Eastern Region held on 13th December 2014 at Guwahati the issue of up-gradation of Silchar-Imphal 400 kV D/C line to its rated voltage was discussed and this invariably requires up-gradation of 132 kV Imphal(PG) sub-station to a 400 kV sub-station. Manipur also informed in the Committee Meeting that the State has

taken up construction of 400 kV sub-station at Thoubal and it was decided to upgrade 2x50 MVA, 132/33 kV Imphal(PG) sub-station to 400 kV sub-station with the following scope of work:

- a) Up gradation of 2x50 MVA 132/33 kV Imphal (PG) S/S to 400 kV by addition of 7x105 MVA 400/132 kV single phase transformers (one spare)
- b) 2 nos. 400 kV GIS bays at Silchar (PG)
- c) 2 nos. 400kV bays at Imphal (PG)
- d) 80 MVAR bus reactor at Imphal (PG)
- e) Adequate space for future 400 kV and 132 kV bays at Imphal (PG).

Further, in the 5th Meeting of Standing Committee on Power System Planning of North Eastern Region held on 8th August, 2015 at Imphal it was agreed to provide space for the 2 no. 400 kV line bays at Imphal (PG) and the bays would be built by MSPCL.

The Central Electricity Authority, Govt. of India, while vetting DPR for 400 kV sub-station at Thoubal advised to charge the sub-station at 400 kV since by the time the project is implemented 400 kV sub-station at Imphal (PG) would be available with a view that construction of 400 kV sub-station at Imphal (PG) along with operation of Silchar–Imphal 400 kV D/C line at its rated voltage has been agreed in the 4th Standing Committee Meeting of NER on Power System Planning held at Guwahati.

Now, the construction of 4x105 MVA (Single-phase) (with one spare), 400/132 KV sub-station at Thoubal is in good progress and Government desires to commission it by June, 2016. However, without a matching 400 KV sub-station at Imphal (PG), the efforts of the State Government is futile.

PGCI may kindly expedite the construction of 400 kV sub-station at Imphal (PG) at the earliest to match with the completion of the 400 kV sub-station at Thoubal.

Deliberation of the TCC

POWERGRID informed that the project is in NIT stage and it will take 24 months to complete the scheme. Considering the urgency of Manipur for early completion POWERGRID will look into the matter for any contingency arrangement, if possible, and revert back to Manipur soon.

After detailed deliberation, the forum requested PGCIL and Manipur to resolve the issue bilaterally.

Deliberation of the RPC

The RPC noted as above.

B.8 : AVAILABILITY OF RTU/REDUNDANT CHANNEL FOR ALL CENTRAL SECTOR RTUs – NERLDC -AGENDA REF. ITEM NO. A.17

Most of the CS RTUs are reporting on single link which is not as per design and reduces the reliability of data communication. List of the existing links are as below:

- 1) 800 KV HVDC_BNC (Only one channel)
- 2) 400 KV MISA (2 channels made but only 1 available)
- 3) 400 KV BONGAIGAON (Only one channel)
- 4) 400 KV SILCHAR (Only channel)
- 5) 220 KV DIMAPUR (One channel)
- 6) 220 KV SALAKATI (Only one channel)
- 7) 220 KV MARIANI (only one channel)
- 8) 220 KV MOKOKCHUNG (Only one channel)
- 7) 132 KV IMPHAL (2 channels but only 1 available)
- 8) 132 KV JIRIBAM (2 channels made but only 1 available)
- 9) 132 KV BADARPUR (2 channels made but only 1 available)
- 10) 132 KV AIZAWL (2 channels made but only 1 available)
- 11) 132 KV KOLASIB_PG (2 Channels but both out)
- 12) 132 KV KUMARGHAT (2 channels made but only 1 available)
- 13) KOPEX_PG (only one channel)
- 14) 132 KV ITANAGAR (Only one channel)
- 15) ZIRO_PG (only one channel)
- 16) RANGANADI-ISGS (Only one channel)
- 17) KATHALGURI, ISGS (only one channel)
- 18) KOPILI-ISGS (only one channel)
- 19) KHANDONG, ISGS (2 channels made but only 1 available)
- 20) DOYANG, ISGS (only one channel)
- 21) LOKTAK ISGS (2 channels made but only 1 available)
- 22) PALATANA, ISGS (Only one channel)

NON-REPORTING OF RTUs

SN	Constituents / Organization	Non-Reporting RTUs
1	NEEPCO	<ul style="list-style-type: none"> • Doyang HEP out from 24.01.2015 • Kopili HEP out from 09.05.2015. • Ranganadi HEP out from 31.08.2015 to 19.10.2015 but unstable. • Kathalguri RTU out from 16.10.2015.
2	AEGCL	<ul style="list-style-type: none"> • In new system 12-16 RTUs are reporting against 56 RTUs.
3	MePTCL/MeECL	<ul style="list-style-type: none"> • Generating Stations; LESHKA (84 MW) • Sub-Stations: 400 KV Byrnihat S/S, 220 KV Killing S/S
4	TSECL	<ul style="list-style-type: none"> • 7-8 RTUs are reporting out of 15 RTUs.
5	Manipur	<ul style="list-style-type: none"> • 4 RTUs
6	Nagaland	<ul style="list-style-type: none"> • 3 RTUs
7	Mizoram	<ul style="list-style-type: none"> • 1 RTU

Most of the RTUs are likely to report once the ULDC2 scheme is fully implemented; but dual channel reporting, physical route diversity of the communication channel need to be planned and implemented along with ULDC2.

Deliberation of the TCC

GM,NERLDC emphasized all RTUs should have redundant connectivity and requested all utility to take care of the same as soon as possible during commissioning stage of SLDCs themselves. It was also suggested by NERLDC to complete necessary works at the earliest possible so as to get redundant connectivity.

It was intimated by POWERGRID that with new multiplexers (SDH, PDH package-under Expansion scheme), new PDH will be installed in ULDC nodes and the same is going to be awarded by 2nd week of March'16. Further ICCP link of NTAMC system, as redundant source of telemetered data from POWERGRID stations, will start rendering back up (redundant) connectivity (NTAMC-NERLDC ICCP). NERLDC & POWERGRID are requested to jointly take up the same for early completion.

For other ISGS stations (last mile connectivity) up to wide band locations & RTU replacement (if same old/obsolete) has to be taken care of by respective owners as per relevant norms. All utility/ state/ISGS are requested to revive PLCC links (for data & speech path) which were in place during ULDC or installed under other scheme (state or central) as possible in line with responsibility as per IEGC/CERC regulations norms etc.

Deliberation of the RPC

The RPC noted as above.

B.9	: AMC OF OLD SCADA/EMS PACKAGE IN RESPECT OF ASSAM, MEGHALAYA, TRIPURA & NERLDC WEF 16.06.2013 TO 15.06.2015 - NERLDC -AGENDA REF. ITEM NO. C.7
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As per recommendation of TCC & approved by RPC in the 13th NERPC meeting held at Faridabad, two(2) years extension of AMC for SCADA/EMS Package with M/S ALSTOM was accorded after getting approved by competent authorities and was made effective from **16.06.2013 to 15.06.2015** in respect of Assam, Meghalaya and Tripura old SCADA system. As the contract is already expired, contract closing activities are in process. However for a small pending amount of Rs 3,60,935/- from AEGCL against off shore for Quarter 16-12-08 to 15-03-09 contract closing activities is delayed .

In addition, an amount of Rs 950883/-is also receivable from AEGCL in the form of overhead charges.

Deliberation of the TCC

The forum requested AEGCL to liquidate the above outstanding dues at the earliest. AEGCL agreed to clear soon.

Deliberation of the RPC

The RPC noted as above.

B.10	: PERFORMANCE OF PMUS IN NER INSTALLED UNDER "SYNCHROPHASOR PILOT PROJECT OF NER"- NERLDC -AGENDA REF. ITEM NO. C.8
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As approved in the 11th NERPC meeting held at Kolkota, the Pilot project on Phasor Measurement Unit (PMU) in NER for installation of 6 Nos of PMUs was implemented with PMUs installed at Sarusajai (Assam), NEHU (Meghalaya), Agartala (Tripura) and

in 3 substations of POWERGRID namely Imphal, Balipara and Bongaigaon. The PMUs are in service for almost three years and the data available are valuable in all aspect of system operation such as analysis of oscillation, protection malfunction, disturbance analysis etc.

For kind information only

Deliberation of the TCC

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.11	: GRID DISTURBANCES IN NER AS PER GRID STANDARDS REGULATION OF CEA W.E.F 01ST JULY, 2015 TO 31ST DECEMBER, 2015 - NERLDC -AGENDA REF. ITEM NO. C.6
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1. Category	GD - 1	GD - 2	GD - 3	GD - 4	GD - 5	Total
2. No. of Disturbances	150	0	1	1	0	152

The major disturbance is briefly as under:

a. Grid Disturbance of Category -III on 08.08.15

There was a major grid disturbance of Category-III in North-Eastern Region that occurred at 00:19 Hrs on 08.08.15, due to simultaneous tripping of 400 kV Silchar – Byrnihat and 400 kV Silchar – Azara lines. Due to the tripping of above two 400 kV lines, the power evacuation from southern part of NER grid shifted to 132 kV Khandong – Kopili D/C and 132 kV Dimapur - Imphal lines. At that time, Meghalaya was injecting around 100 MW to the grid at Khliehriat (PG) due to high generation at Leshka HPP. Due to evacuation of entire power from southern part of the grid through 132 kV Kopili - Khandong D/C and 132 kV Dimapur - Imphal lines, the lines tripped on over-current resulting in islanding of southern part of NER grid comprising of Tripura, Mizoram, Manipur, South Assam, AGTPP, Loktak, Khandong and Palatana systems from rest of the main grid of NER. The frequency of the islanded system shot upto 53.4 Hz (as reported by TSECL) resulting in immediate tripping of STG II of Palatana, running machines of AGTPP and TSECL. Subsequently, during the process

of restoration, Palatana GTG II tripped causing frequency dip to 47 Hz of the isolated system and isolated system collapsed due to load –generation mismatch at 00:31:32.800 Hrs on 08.08.15.

b. Grid Disturbance of Category –IV on 24.09.15

There was a major grid disturbance of Category-IV in North-Eastern Region that occurred at 22:35 Hrs on 24.09.15, due to simultaneous tripping of 400 kV Silchar – Byrnihat and 400 kV Silchar – Azara lines. Due to the tripping of these 400 kV lines, entire power flow between southern part of NER grid and rest of NER Grid shifted to 132 kV Kopili – Khandong I & II lines. Due to high evacuation of power from Southern part of the grid, 132 kV Kopili - Khandong lines I & II lines tripped on over-loading resulting in isolation of southern part of NER grid comprising of Tripura, Mizoram, Manipur, South Assam, part of Meghalaya system along with AGTPP, Loktak and Palatana generation from rest of the main grid of NER. The frequency of the isolated system shot up to around 51.16 Hz resulting tripping of Palatana and AGTPP generation. After that the system frequency of the island started declining very sharply and finally collapsed due to load – generation mismatch.

Root Cause Analysis by sub group members at the meeting held at NERPC on 29.09.15:

- 1) After thorough investigation, it was arrived at after discussion amongst NERPC, NERLDC, POWERGRID, MePTCL that the fault may have occurred on account of lightning.
- 2) On 08.08.15, Autoreclose failed to operate at either of Silchar (PG), Azara (AEGCL) or Byrnihat (MePTCL) ends, and in the case of 24.09.15, although Auto-reclose operated successfully at Silchar end for both the lines, the same failed to operate at Azara (AEGCL) and Byrnihat (MePTCL) ends. Successful operation of Auto-reclose at both ends of lines could have saved at least one line and prevented the system isolation, considering faults due to lightning are transient in nature.
- 3) In both cases, SPS-3 did not operate which could have backed down Palatana generation in the isolated system and prevented overloading of critical 132 kV lines and allow the system operator to take appropriate action.

- 4) In both the cases of 08.08.15 and 24.09.15, the islanding of AGTPP (NEEPCO) generation with loads & generation in Tripura system failed to occur successfully.

Remedial Measures suggested by sub group members at the meeting held at NERPC on 29.09.15

- 1) The autoreclose schemes at Azara (AEGCL) and Byrnihat (MePTCL) are to be checked at the earliest so as to prevent tripping of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines in case of transient fault.
- 2) It was decided that till restoration of Autoreclosure at Azara and Byrnihat ends of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines, the Autoreclosure at Silchar ends are to be kept in non-Auto mode so that tripping signal to SPS-3 related to generation reduction of Palatana upon tripping of 400 kV Silchar – Byrnihat and 400 kV Silchar – Azara lines is generated in case of such events.
- 3) It was decided that tower footing resistance of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines are to be brought within permissible limits at around 10 towers on either side close to location of faults and Tower top patrolling around 10 towers on either side close to the location of faults are to be carried out.
- 4) The islanding scheme of AGTPP with Tripura system is to be reviewed so as to ensure successful islanding in such cases of isolation in NER Grid.

Deliberation in the 38th PCC Meeting:

The Sub-Committee decided that in addition to the recommendations of the sub-group the following should be implemented ASAP:

- 1) Modification to SPS-1 at Palatana: Unit-I and II to be put in AND logic so that SPS-1 would operate.
- 2) 400 kV Silchar-P.K.Bari D/C lines (charged at 132 kV) to be added to Islanding Scheme-2 for UFR based load shedding at 48.8 Hz.

Deliberation in the 39th PCC Meeting:

POWERGRID informed that Auto-reclosures at Azara and Byrnihat have already been implemented by them.

It was decided that tower footing resistance of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines are to be checked for 10 towers on either side close to fault location including Tower top patrolling by POWERGRID.

- 1) Modification to SPS-1 at Palatana: Unit-I and II to be put in AND logic so that SPS-1 would operate. **OTPC informed that the work has already been completed.**
- 2) 400 kV Silchar-P.K.Bari D/C lines (charged at 132 kV) to be added to Islanding Scheme-2 for UFR based load shedding at 48.8 Hz. **POWERGRID informed that they had implemented the scheme.**

Deliberation in the 40th PCC Meeting:

DGM (AM), POWERGRID informed that that tower footing resistance of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines around 10 towers on either side has been carried out and the resistance was found to be in the range of 2-3 ohms, except in few locations where is it less than 10 ohms which is in normal range.

For kind information only

Deliberation of the TCC

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

Further there was nos. of trippings of Grid Lines of NER due to non clearance of downstream faults mainly in Manipur and Meghalaya system.

SN	Control Area	Disturbances	
		w.e.f 01.01.15 to 30.06.15	w.e.f 01.07.15 to 31.12.15
1	Manipur	40 Nos.	31 Nos.
2	Meghalaya	25 nos.	28 Nos.

Deliberation of the TCC

CE, MePTCL informed that tripping in Khliehriat is due to earthing and necessary action has been initiated and the problem will be solved within March, 2016.

MD, MSPCL informed that R&M works is under progress and the same will be completed within the time frame given by CERC.

Deliberation of the RPC

The RPC noted as above.

B.12 : SYNCHRONIZATION OF AGTPP EXTENSION (2 x 25MW) -AGENDA REF. ITEM NO. C.1

The status of CoD of AGTPP Extension (2 x 25 MW) of NEEPCO is given below:

- (a) STG – I : Commissioned on 29.07.2015
- (b) STG – II : Commissioned on 01.09.2015

For kind information only

Deliberation of the TCC

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.13 : COMMISSIONING SCHEDULE OF GENERATION PROJECTS IN NER - NERPC - AGENDA REF. ITEM NO. C.2

The proposed dates of commissioning of various Generating Projects in NER are as below:

SN	AGENCY	PROJECT	COMMISSIONING SCHEDULE
1	NHPC	Lower Subansiri	13 th Plan, 2020-21
2	NEEPCO	Kameng HEP	U#I June'16 & U#II- November, 2016 & U# 3&4 -March, 2017
3	NTPC	Bongaigaon TPS	U#1: 03/16, U#2: 9/16, U#3: 12/17
5	NEEPCO	Tuirial HEP	2017-2018
6	NEEPCO	Pare HEP	2016-2017

For kind information only

Deliberation of the TCC

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

The Sub-committee also reviewed the status of commissioning of various ongoing projects in NER during OCC Meetings. The status as on last 117th OCC Meeting and which was reviewed during 16th TCC meeting is as below:

Deliberation of the TCC

SN	Items	Ant./ Act.
1	Trial operation and CoD of Unit -I of Bongaigoan TPS of NTPC	March, 2016
2	400/220kV, 2x315 MVA ICT of NTPC at Bongaigaon	March, 2016
3	Trial operation and CoD of Monarchak GBPP of NEEPCO	March, 2016
6	400 kV D/C Silchar - Melriat line of PGCIL	September, 2016
7	220kV Rangia - Salakati of AEGCL	June, 2016
8	132kV Monarchak – Surjamaninagar D/C of TSECL	March, 2016
9	400/132 kV, 2nd 125 MVA ICT at Palatana	June, 2016
10	132kV Pasighat – Aalong of Ar. Pradesh	March, 2016
12	132kV Doyang– Wokha	-
13	220 kV, 20 MVAR Bus Reactor at AGBPP	February, 2016
14	132 kV, Surjamaninagar Bay at OTPC	June, 2016
15	63 MVAR Bus Reactor at Byrnihat	MeECL informed Board of Directors approval not received.
16	132kV Kameng-Balipara	July'16

For kind information only

Deliberation of the TCC

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.14 : OUTSTANDING DUES OF POWERGRID AGAINST NER CONSTITUENTS – POWERGRID - AGENDA REF. ITEM NO. A.18

The total outstanding dues of POWERGRID's from NER beneficiaries as on 31.12.15 is as under-

SN	CONSTITUENTS	Total Outstanding (Including Surcharge)	Outstanding more than 60 days	(Surcharge)
1	Ar. Pradesh	4.36	0.00	0.00
2	ASEB (Assam)	127.11	60.60	0.91
3	Manipur	5.39	0.00	0.00
4	MeECL (Meghalaya)	34.27	19.18	0.00
5	Mizoram	12.12	5.88	0.00
6	Nagaland	-0.03	0.00	0.00
7	TSECL (Tripura)	-0.80	0.00	0.00
TOTAL =		182.42	85.66	0.91

The total outstanding as on 31/12/2015 is Rs. **182.42** Crore. Out of total outstanding, it may be seen that outstanding against AEGCL & MeECL are on much higher side amounting to Rs 127.11 Crores and Rs. 34.27 Crores which is almost 06 months receivable. AEGCL & MeECL are requested to liquidate the outstanding.

Deliberation of the TCC

Forum requested all concerned utilities to liquidate outstanding dues at the earliest. All constituents agreed to clear the outstanding dues soon.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.15 : STATUS OF LETTER OF CREDIT: POWERGRID - AGENDA REF. ITEM NO. A.19

POWERGRID informed that MeECL has not opened/Renewed/Enhanced Letter of

Credit since 10.12.2013 & TSECL has not enhanced LC amount as per requirement:
Constituents are requested to enhance and open immediately.

Deliberation of the TCC

Forum requested all concerned utilities to open/renew/enhance Letter of Credit at the earliest.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.16	: DEVIATION CHARGES OUTSTANDING - NERLDC - AGENDA REF. ITEM NO. A.20
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Status of Deviation charges outstanding as on 15.01.2016 is attached (**Annexure-A.20**). From the same it can be seen that Assam (Rs. 24.7 Crores), Ar. Pradesh (Rs. 7.4 Crores), Manipur (Rs. 4.5 Crores) and Nagaland (Rs. 3.3 Crores) are major defaulters.

Assam and Manipur has outstanding of more than 13 weeks (90 days).

CERC in order dated 02.09.2015 in **Petition No: 142/MP/2012 with I.A. 7/2013** has stipulated denial of Open Access in case of default in payment of UI/deviation charges, transmission charges, reactive energy charges, congestion charges and RLDC fees and charges for more than 90 days.

All are requested to take note of above and clear outstanding to avoid regulatory measures.

Deliberation of the TCC

DGM (MO), NERLDC informed that of late Assam & Manipur are clearing dues after long intervals. He once again reiterated the possibility of Open Assess (OA) curtailment. Forum requested all concerned utilities to liquidate outstanding dues at the earliest.

All constituents agreed to clear the outstanding dues soon.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.17 : NON PAYMENT OF NERLDC FEES AND CHARGES BILLS - NERLDC - AGENDA REF. ITEM NO. A.21

NERLDC is raising the bills on monthly basis on the 1st working day of every month in Terms of the CERC (fees and charges of RLDC and other related matters) Regulation, 2015.

The status of latest outstanding is as below:

Mizoram : Rs. 16.77 lacs (4 months charges due)

Mizoram is requested to streamline the system of payment.

Deliberation of the TCC

Mizoram was requested to clear NERLDC Fees & Charges Bill as soon as possible.

Mizoram agreed to clear soon

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.18 : OPENING OF LC AGAINST DEVIATION CHARGES LIABILITY - NERLDC - AGENDA REF. ITEM NO. A.22

As per DSM charges and related matters Regulations, 2014 of CERC, following are the LC amounts pertaining to NER entities and they are required to open LC accordingly:

SN	NER Entities	LC Amt (in Lakhs)
1	AP	89.13
2	ASSAM	438.07
3	MANIPUR	46.68
4	MeECL	13.57
5	MIZORAM	59.38
6	NAGALAND	96.33
7	TRIPURA	211.74

Till date none have opened LC.

It is requested to open LC to adhere to CERC stipulation.

Deliberation of the TCC

Forum requested all concerned utilities to open Letter of Credit at the earliest.

All constituents agreed to open the LC soon.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.19	: OUTSTANDING DUES OF NHPC AGAINST MeECL FOR MORE THAN 60 DAYS - NHPC - AGENDA REF. ITEM NO. A.23
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MeECL, Meghalaya: - As on date, total amount of **₹27.62 Crs** (Including surcharge of **₹6.45 Crs up to 31.12.2015**) is due against MeECL, Meghalaya. Meghalaya is not liquidating the total dues inspite of our regular follow-up. During 27th CCM held on 1st Dec' 2015, MeECL had assured that they will liquidate some of their outstanding dues of NHPC at the earliest. But no payment has been released by Meghalaya till date.

As such, amount outstanding beyond a period of 60 days shall continue to attract late payment surcharge at the rate of 1.50% per month as per CERC (Terms & Conditions of Tariff) Regulations, 2014.

MeECL, Meghalaya may be impressed upon to liquidate their total dues.

Deliberation of the TCC

MeECL was requested to clear Outstanding Dues as soon as possible.

MeECL agreed to look into the matter at the earliest.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.20	: OPENING / MAINTAINING OF LETTER OF CREDIT (LC) - NHPC - AGENDA REF. ITEM NO. A.24
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Manipur: - In view of enhancement of share allocation including the unallocated quota of power from Loktak Power Station Manipur has to provide 'Letter of Credit' amounting to **₹4.87 Crs** in place of existing L.C. of **₹3.05 Crs**. Last reminder sent to MSPDCL on 29 .12.2015 for the same.

Manipur may be requested to furnish the 'Letter of Credit (LC)' of requisite amount on top priority.

Deliberation of the TCC

Forum requested Manipur to open Letter of Credit at the earliest.

Manipur agreed to look into the matter at the earliest.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.21 : OUTSTANDING DUES OF OTPC AGAINST NER BENEFICIARIES - OTPC - AGENDA REF. ITEM NO. A.25

The current total outstanding dues of OTPC against the NER beneficiary states (as on 22-01-2016) are as under:

Amount in Rs Crores

SN	Beneficiary	Outstanding Dues (>60 Days)	Total Outstanding
1	Arunachal Pradesh	-	4.870
2	Assam	-	20.885
3	Manipur	-	9.103
4	Meghalaya	15.443	33.624
5	Mizoram	-	5.160
6	Nagaland	-	0
7	Tripura	65.822	111.997
Total		81.265	185.64

The total outstanding dues as on 22-01-2016 are Rs 185.64 Crores out of which outstanding beyond 60 days is Rs 81.265 Crores. Constituents are requested to clear at least the outstanding dues over 60 days, at the earliest.

Deliberation of the TCC

Forum requested all concerned utilities to clear the outstanding dues at the earliest.

All constituents agreed to clear the same soon.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

B.22	:	STATUS OF PAYMENT SECURITY MECHANISM OF THE BENEFICIARIES REQUIRED AGAINST MONTHLY ENERGY BILLING AS PER POWER PURCHASE AGREEMENT AND CERC REGULATIONS - OTPC - AGENDA REF. ITEM NO. A.26
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SN	Beneficiary	Letter of Credit (LC) required as per PPA (Rs Crore)	LC amount status (Rs Crore)	Valid Upto	Remarks
1	Ar. Pradesh	11.62	11.62	31.03.16	Kindly renew in time
2	Assam	40	40	31.12.15	Yet to be renewed
3	Manipur	16.519	3.7	11.06.15	Yet to be renewed even after constant persuasion
4	Meghalaya	29.78	-	-	Meghalaya has never provided the LC even after continuous persuasion
5	Mizoram	7.5	5.81	07.05.15	Yet to be renewed
6	Nagaland	14.26	14.26	20.03.16	Kindly renew in time
7	Tripura	46.53	18	19.03.16	Kindly enhance the LC and renew in time

Deliberation of the TCC

Forum requested all concerned utilities to open/renew/enhance Letter of Credit at the earliest.

All constituents agreed.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

CATEGORY – C	:	ITEMS DEFERRED / REFERRED TO STANDING COMMITTEE
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C.1	:	T-CONNECTION AT BHALUKPONG SUB-STATION – NERPC - AGENDA REF. ITEM NO. A.1
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The T-connection at Bhalukpong remains pending since long.

Arunachal may inform Action Plan.

Deliberation of the TCC

As representative from Ar. Pradesh was not present the issue has been deferred to next meeting.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

C.2	:	FREQUENT TRIPPING OF 33 KV SYSTEM OF DOP, ARUNACHAL PRADESH AT NIRJULI AND ZIRO – NERPC - AGENDA REF. ITEM NO. A.2
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The frequent tripping of 33kV system of DoP, Ar. Pradesh is matter of concern. The issue was discussed since 9th TCC meetings. The present status of tripping of 33kV Feeders at Nirjuli and Ziro Sub Station is as below:

(a) No. of Trippings of 33kV Feeders at Ziro

SN	Feeder	Jan'10 - Jul'15		Aug'15 - Dec'15	
		Total	per Month	Total	per Month
1	Kurung- Kamey	1200	18	88	18
2	Old Ziro Feeder	716	11	31	6
3	Kimin Feeder	2123	32	134	27
Grand Total =		4039	61	253	51

(b) No. of Trippings of 33kV Feeders at Nirjuli

SN	Feeder	Jan'10 - Jul'15		Aug'15 - Dec'15	
		Total	per Month	Total	per Month
1	AP - 1	344	5	16	3
2	AP - 2	742	11	6	1
3	AP - 4	280	4	45	9
Grand Total =		1366	20	67	13

Necessary action is required to be taken on priority to reduce the no. of faults in 33kV downstream feeders to avoid frequent failure of transformers at Nirjuli and Ziro Sub Stations.

Corrective measures by Arunachal to reduce Tripping / failure of Transformers may please be intimated.

Deliberation of the TCC

POWERGRID stated that the issue is being discussed since last six years without any response from DoP, AP and meanwhile two transformers at Nirjuli got completely damaged. POWERGRID requested forum to take up the issue with highest authority of Arunachal for early rectification.

The forum requested NERPC to take up the matter with DoP, Ar. Pradesh and also it was decided to defer to the next TCC meeting.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

C.3 : COMPLETION OF ATS OF PALLATANA IN AP - POWERGRID - AGENDA REF. ITEM NO. A.3

ATS of Palatana in Arunachal Pradesh is scheduled for commissioning as follows:

SN	Transmission System	Schedule Commissioning
1	132KV D/C Pasighat-Roing line including associated line bays at Pasighat and 132/33KV Roing Sub Station	March, 2016
2	132KV D/C Roing-Tezu line including 132/33KV Tezu Sub Station	May, 2016
3	132KV D/C Tezu-Namsai line including 132/33KV Namsai Sub Station	July, 2016

Arunachal Pradesh is requested to complete 132KV Along-Pasighat line as well 33KV downstream system at Roing, Tezu & Namsai matching with the above schedule. Ar. Pradesh may update the progress and tentative completion of 132kV Along – Pasighat line.

Deliberation of the TCC

As representative from Ar. Pradesh was not present the issue has been deferred to next meeting.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

C.4 : SIGNING OF POWER PURCHASE AGREEMENT (PPA) IN RESPECT OF SUBANSIRI LOWER HE PROJECT (2000MW) IN AR. PRADESH - NHPC - AGENDA REF. ITEM NO. A.4

As per the request of Govt. of Arunachal Pradesh, NHPC modified clause No. 11 (Free Power) & revised draft PPA sent on 23.06.2015. During 27th CCM, Arunachal Pradesh requested NERPC to enlighten Arunachal as to how NERPC can help in the energy accounting. NERPC deliberated that matter is bilateral and both NHPC and Ar. Pradesh should take up with MOP since allocation of power including free power is to be done by the Ministry of Power.

Arunachal Pradesh is requested to sign PPA in respect of Subansiri Lower H.E. Project (2000 MW) and modalities of recovery of advance along with the interest may be signed later on.

Both the parties will separately discuss the issues on modalities of recovery of loan from surrendered 50% free power.

Ar. Pradesh may update the action plan.

Deliberation of the TCC

As representative from Ar. Pradesh was not present the issue has been deferred to next meeting.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

C.5	: ALTERNATE INTER-REGIONAL TRANSMISSION CORRIDOR - TRIPURA - ADDITIONAL AGENDA
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Alternative line through Bangladesh from Tripura to West Bengal may be constructed to strengthen the inter-regional transmission network and for establishment of connectivity with national grid which will not only provide upgraded connectivity in transmission system but will also reduce the line length of about 500 Km and will also pass through plain land without any hilly terrain and any forest related issue. This will facilitate NER states to have stable and reliable grid connection.

Deliberation of the TCC

The forum decided that the matter may be referred to the next Standing Committee Meeting.

Deliberation of the RPC

The RPC noted as above.

C.6	: CONSTRUCTION OF 2X12.5 MVA 132 KV SUB-STATION AT TIPAIMUKH BY LOOPING-IN AND LOOPING-OUT OF EXISTING 132 KV TRANSMISSION LINE FROM JIRIBAM TO AIZAWL (OWNED BY PGCIL) - MSPCL - AGENDA REF. ITEM NO. A.16
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Presently, there is no high voltage sub-station in Tipaimukh area of Churachandpur District, Manipur. The area of Tipaimukh is presently fed through long 11kV feeder, 120 km away from 33/11 kV sub-station at Thanlon which is again 150 km away from the nearest feeding 132/33 kV sub-station at Churachandpur.

The electrified villages in this Sub-Division get very low voltage though the load requirement of the area is around 5 MW. Therefore, it has become imperative to establish a 132 kV sub-station at Tipaimukh to provide 24x7 quality power to the surrounding villages.

Meanwhile, a 132 kV transmission line from Jiribam to Aizawl (owned by PGCI) passes through Tipaimukh area. During the recent visit of MD, MSPCL to Jiribam, it has been noted that the maximum recorded loading on the line is around 20 MW.

It is also understood that Silchar- Melriat 400 kV D/C line is under construction as an Associated Transmission System of Pallatana and Bongaigaon Power Plant and the loading on the above line is expected to be reduced. Taking up another 132 kV line either from Churachandpur or Jiribam may face ROW issues and Forest & Environmental Clearance issues. Hence the best option available is connection to the Grid by loop-in and loop-out on the existing 132 kV transmission line from Jiribam to Aizawl (owned by PGCI). As the expected loading in this upcoming substation will be about 5 MW, there may not be any system corruption.

PGCIL is requested to permit the construction of the sub-station with LI-LO on the above line

TCC may kindly deliberate and approve the proposal of MSPCL for connection to the Grid by loop-in and loop-out of existing 132 kV transmission line from Jiribam to Aizawl (owned by PGCI).

Deliberation of the TCC

The issue was discussed in detail and POWERGRID informed that 132kV Jiribam-Aizawl line is ISTS Line and LILO of the line at Tipaimukh requires approval of CEA through Standing Committee. Further, POWERGRID in principle agreed to the proposal subject to approval of Standing Committee.

The TCC noted as above

Deliberation of the RPC

The RPC noted as above.

CATEGORY – D : RESOLUTIONS TAKEN DURING THE 16TH RPC MEETING

The North Eastern Regional Power Committee (NERPC) unanimously resolved in the 16th NERPC meeting held on 30th January, 2016 at Guwahati as follows:

That this Committee strongly urges upon Ministries of Government of India concerned for the following:

D.1 : SHARING OF TRANSMISSION CHARGE OF BISHWANATH CHARIALI TO AGRA HVDC LINK /COMMISSIONING OF ± 800kV BISHWANATH CHARIALI -AGRA HVDC LINK

- (a) NERPC appreciates the benefits of Biswanath Chariali-Agra HVDC line and agrees with the view of CERC that the line is of National importance.
- (b) Cost as well as benefit needs to be socialized and shared by all five Regions. Sharing should be in proportion to approved withdrawal.
- (c) PSDF funding as one time grant should be explored by POWERGRID as first option.
- (d) As Bongaigaon and Salakati are metering points for ER-NER exchange as per IEGC(NER end of ER-NER), BNC end should continue to be metering point for BNC-Agra in view of bidirectional flow nature, more so considering size of NER power system in comparison with NR system (NER system is about 4.5% of NR system).
- (e) Power flow over BNC-Agra is to be regulated by NLDC considering National priority, but there should be flow of information up to SLDC level regarding change of power order. In general, SLDCs should be aware of the events.
- (f) Inclusion of flow over the HVDC line in PoC computation should be done after due approval of validation committee.
- (g) POWERGRID should organise a workshop on HVDC to explain advantages like Power Oscillation Damping controller, frequency controller and other features.

Regarding tariff of HVDC BNC Agra line, PGCIL stated that CERC has already allowed the tariff vide order dated 08.01.2016. However, the sharing mechanism among DICs shall be decided by CERC after next hearing.

D.2 : REDUCTION OF GAS SUPPLY TO PALLATANA GBPP

- (a) The house unanimously decided that NERPC should take up the matter with Ministry of Power and Ministry of Petroleum/OTPC to ensure that sufficient gas should be made available as per required quantum of gas to Palatana, Monarchak, Baramura & Rokhia GBPP.
- (b) Till the full quantum of gas can be supplied to all the above GBPPs, required quantum of gas should be given to Regional project of Palatana to run both the units.

D.3 : APPRAISAL ON REVIEW PETITION OF APDCL – AGENDA REF. ITEM NO. A.8

- (a) NERPC appreciated the difficulty faced by APDCL in view of sudden rise in transmission charges billing under PoC regime and felt that such sudden quantum jump is undesirable.
- (b) The proposal of APDCL regarding load flow study in peak-off peak to arrive at PoC charges need to be considered by CERC.

DATE & VENUE OF THE NEXT MEETING

The next meeting of TCC & NERPC is proposed to be held in July/August, 2016. The exact date & venue will be intimated later.

The meeting ended with vote of thanks to the Chair



ANNEXURES

LIST OF PARTICIPANT IN 16TH TCC MEETING

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION
1	ASSAM	R.L. Barua	TCC Chairman & MD, APGCL
2		J.K. Sarma	CGM, AEGCL
3		Manoj Kr Bordoloi	CGM, SLDC, AEGCL
4		J.K. Das	GM (HQ), AEGCL
5		M.K. Adhikary	GM (TRC), APDCL
6		S. Goswami	OSD, Power Dept.
7		K. Goswami	DGM, APDCL
8		Karuna Sarma	AGM, AEGCL
9		J.K. Baishya	AGM, SLDC
10	MANIPUR	N. Sarat Singh	MD, MSPCL
11		Ng. Subha Ch. Singh	GM
12		H. Shanti kumar Singh	GM(SLDC
13		Ng. Birjit Singh	OSD(Trans)
14	MEGHALAYA	E.W. Nongrum	CE (Trans.)
15		A. Kharpran	ACE (Comml.)
16		R. Syiem	SE (T&T)
17		M. Marbaniang	SE (T&T)
18		F.E. Kharshiing	SE, SLDC
19		R. Majaw	SE (EM)
20		H.F. Shangpliang	EE (MRT), MePTCL
21	MIZORAM	L. Pachuau	Engineer-in-Chief
22		Lalramliana	CE (RE)
23		Vanlalrema	SE, SLDC
24	NAGALAND	Rokozhalie Angami	ACE (T&G)
25		Atoko Jakhalu	EE (Trans)
26	TRIPURA	M.K. Choudhury	Director (Tech.)
27		M. Debbarma	Addl. GM (C&SO), TSECL
28		Debabrata Pal	Sr. Manager
29	NEEPCO	Pradeep Kr. Singha	Executive Director (Com)
30		M.S. Jyrwa	Executive Director (O&M)

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION
31		Paresh Ch. Barman	General Manager
32		Bhaskar Goswami	Sr. Manager
33	NHPC	Ajay Kr Yadav	Sr. Manager (Coml)
34		T.S. Singh	GM
35		R. Sutradhar	DGM (MO)
36	NERLDC	A. Mallick	DGM (SO-II)
37		Ejaz Ahmed	Asst. GM
38		S.C De	CM
39		P.N. Dixit	ED (CC), AM
40		A. Patir	GM (AM), POWERGRID
41	POWERGRID	Prasanta Kanungo	DGM (AM), POWERGRID
42		Ramchandra	DGM (CC), CTU
43		Supriya Paul	Manager (AM), POWERGRID
44		Arvind Kumar	Regional ED, (ER-2)
45		K.K. Sinha	GM (Coml)
46	NTPC	Apurba Kr. Das	GM (O&M)
47		G.K. Kundu	AGM, (EEMG), BgTPP
48		Raktim Borgohain	AGM (Comml.)
49	NVVN	Anurag Gupta	AGM, (SO)
50		Satyajit Ganguly	MD
51	OTPC	Arup Ch. Sarma	DGM
52	PTC	Harish Saran	Executive Director
53	KISPL	Rajesh Mahajan	Vice President
54		P.K. Mishra	MS
55	NERPC	B. Lyngkhoi	Director/SE
56		S.M. Aimol	DD/EE
57		S. Mukherjee	AD-I
58	SPECIAL INVITEE	P.H.P Singh	Adviser Power, NEC

NOTE: NO REPRESENTATIVES FROM AUNACHAL PRADESH

ANNEXURE - II

LIST OF PARTICIPANT IN 16th NERPC MEETING

- | | |
|----------------------|--|
| 1. Sh. R. Hussain | Hon'ble Power Minister, Govt. of Assam |
| 2. Sh. Manik. Dey | Hon'ble Power Minister, Govt. of Tripura |
| 3. Sh. V.B. Pyarelal | Addl. Chief Secretary (Power), Assam |
| 4. Sh. Ram Muivah | Secretary, NEC |
| 5. Sh. K.V. Eapen | Chairman, APDCL/APGCL/AEGCL |
| 6. Sh. S.K. Rakesh | Principal Secretary, Tripura |
| 7. P.C. Pankaj | CMD, NEEPCO |

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22	MEGHALAYA	C. Kharkrang	Director (Distribution)
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24		A. Kharpran	ACE (Comml.)
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48		Ejaz Ahmed	Asst. GM
49		S.C De	CM
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51		A. Patir	GM (AM), POWERGRID
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69	SPECIAL INVITEE	P.H.P Singh	Adviser Power, NEC

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ANNEXURE-III

**KEYNOTE ADDRESS OF SHRI P. K. MISHRA, IES (CPES)
MEMBER SECRETARY, NERPC ON THE OCCASION OF
THE 16th TCC MEETING OF
THE NORTH EASTERN REGIONAL POWER COMMITTEE
HELD ON 29TH JANUARY, 2016 IN GUWAHATI**

Chairman of TCC & Managing Director, APGCL, Shri R. L. Barua, Shri PHP Singh, Adviser (Power), NEC, Shri L. Pachua, Engineer-in-Chief, DoP, Mizoram, Shri Sarat Singh, MD, MSPCL, Shri M.K. Chodhury, Director (Tech), TSECL, Shri S. Ganguly, MD, OTPC, Shri T. S. Singh, GM, NERLDC, Shri Arvind Kumar, RED, NTPC, My colleagues from NERPC, Officers from NE states, central Utilities, other distinguished guests and Ladies and gentlemen.

On behalf of NERPC Secretariat, I sincerely extend a very warm welcome to all of you and convey my deep gratitude and thanks for sparing your valuable time for attending the 16th TCC meeting of NERPC. I would also like to take this opportunity to convey my sincere thanks to AEGCL, APGCL & APDCL of Assam for hosting the 16th TCC & 16th NERPC meetings and for making excellent arrangement and providing a comfortable stay for the delegates in this beautiful hotel at Guwahati.

I have completed one year of my tenure in NER and during this time I have seen many improvements with regard to power sector in spite of many challenges due to unfavorable geographical terrain, poor connectivity, communication and transportation problems. Nevertheless, with cooperation from all constituents, NERPC, as a forum, has been able to resolve and bring to consensus various common issues and difficulties faced in the region. I am very happy that TCC & NERPC meetings are being conducted regularly now and I hope this trend will continue for the benefit of the region.

During the last few months, another unit of 25.1 MW of AGTPP of NEEPCO has been added to the grid. Unit #1 of Bongaigoan TPP of capacity of 250 MW was under trial run recently and the same is likely to be commissioned and declare CoD within March, 2016. Commissioning of ± 800kV Bishwanath Chariali – Agra line along with associated bays, LILO of 400kV Ranganadi – Balipara at Bishwanath Chariali have removed many bottlenecks in the region. This has helped in

improving the generation and availability of power in NER. I once again urged upon the constituent states extending of power to remote parts of the states are not adequate due to distribution constraints. States should look into the matter seriously so that power is made available to downstream level which is one of the key goals of National Electricity Policy.

We are happy to mention that POWERGRID has completed the transmission line on Indian side for evacuation of power to South Comilla, Bangladesh from S.M. Nagar, Tripura. Since Tripura will now be connected with neighboring countries and the quantum of power supply to Bangladesh is more likely to increase in future. Therefore, it is very important to have a system that is safe, secured, redundant and reliable. However, the Protection system in Tripura is not adequate and the Sub-committee of NERPC has expressed concerned and the same has been discussed in Protection Sub-committee every month. I would impress upon Tripura to look into the matter so that any exigency on their system should not interrupt power supply to all other NER constituents. I would like to put in record that Tripura has never send any representative for protection sub-committee and the issue pertaining to above could not be addressed.

I would like to inform that these are number of items which were discussed in the Sub-committee and forwarded to the Standing Committee of CEA before endorsement of NERPC Forum. I assure you that Standing Committee of NER will also be requested to CEA to conduct regularly.

Telecommunication, SCADA & Telemetry are other important aspects for smooth functioning of the power system. As decided in the last NERPC that earlier UCC meeting which was conducted by NERLDC has now been entrusted with NERPC and the UCC has now been re-named as NETeST i.e North Eastern Telecommunication, SCADA & Telemetry Sub-committee. I would be happy to intimate that this forum is one of the most participate forum and many important issue pertaining to SLDCs, OPGW, SDH, PDH, RTUs etc. are being monitored regularly. I hope that within March, 2016 all the new SLDCs will be operationalized in NER.

I once again like to inform that that participation in various subcommittee meetings of NERPC has not been satisfactory due to the absence of members from the states


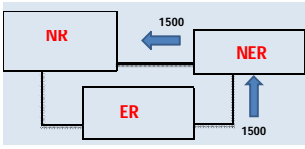
except OCC & NETeST Sub-committee meetings. I take this opportunity to bring to the notice of the competent authority present here today to look into the matter and to request all of you to send members from your organizations positively so that all the subcommittee meetings of NERPC would bear fruitful outcome.

I would request all the TCC Members to kindly note the yeoman service of Shri R.L. Barua, TCC Chairman, NERPC & Managing Director, APGCL during the tenure. NERPC will place in record that under his dynamic Chairmanship we have had two TCC & NERPC meetings and many issues were resolved under his guidance. He is due to retire tomorrow i.e. 30.01.2016 and we wish him success and bright future ahead.

I hope and wish that we will have a fruitful deliberation for the benefit of our region in particular and the nation in general.

With these few words, I request all the participants to actively participate in the discussion for fruitful outcome of the meeting.

Thank you very much.

	<p>Coverage :</p> <ul style="list-style-type: none"> ❑ Biswanath Chariali – Agra HVDC ; issues ❑ Outstanding Deviation charges – denial of Open Access 																																																																																																							
<p><u>Biswanath Chariali – Agra HVDC</u></p> <ul style="list-style-type: none"> ➤ Impact of Loop flow on NER Regional pool loss ➤ Loss in the HVDC line ➤ PoC computation and impact on NER ➤ Power Flow order in HVDC line 	<p><u>Biswanath Chariali – Agra ; Impact on pool loss</u></p> <p>1500 MW Flow over HVDC Biswanath Chariali-Agra on 30.10.2015 (Export to NR from NER)</p> <p>Import from Eastern Region and export to Northern Region – wheeling of Power</p> 																																																																																																							
<p><u>Biswanath Chariali – Agra ; Impact on pool loss</u></p> <table border="1" data-bbox="250 1094 737 1434"> <thead> <tr> <th>Date:</th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td>30-10-2015</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Time</th> <th>Tot NER Inj</th> <th>Tot NER Drawal</th> <th>Injection by ER</th> <th>Drawal by NR</th> </tr> </thead> <tbody> <tr><td>20:30</td><td>2960.22</td><td>-2894.60</td><td>1388.50</td><td>1274.76</td></tr> <tr><td>20:45</td><td>2979.60</td><td>-2959.52</td><td>1424.49</td><td>1392.87</td></tr> <tr><td>21:00</td><td>3025.48</td><td>-3003.29</td><td>1496.83</td><td>1481.31</td></tr> <tr><td>21:15</td><td>3053.02</td><td>-2965.11</td><td>1524.41</td><td>1509.24</td></tr> <tr><td>21:30</td><td>3025.03</td><td>-2945.50</td><td>1493.14</td><td>1507.49</td></tr> <tr><td>21:45</td><td>3016.95</td><td>-2937.36</td><td>1524.28</td><td>1510.40</td></tr> <tr><td>22:00</td><td>2898.89</td><td>-2853.76</td><td>1506.70</td><td>1505.75</td></tr> <tr><td>22:15</td><td>2921.19</td><td>-2822.84</td><td>1546.97</td><td>1509.24</td></tr> <tr><td>22:30</td><td>2809.23</td><td>-2757.73</td><td>1528.11</td><td>1494.11</td></tr> <tr><td>22:45</td><td>2753.70</td><td>-2627.90</td><td>1497.55</td><td>1404.51</td></tr> <tr><td>23:00</td><td>2584.71</td><td>-2458.34</td><td>1421.44</td><td>1280.00</td></tr> <tr><td>23:15</td><td>2406.65</td><td>-2250.44</td><td>1273.50</td><td>1140.95</td></tr> <tr><td>23:30</td><td>2266.77</td><td>-2186.85</td><td>1133.82</td><td>1104.87</td></tr> <tr><td>23:45</td><td>2256.01</td><td>-2183.90</td><td>1119.12</td><td>1108.36</td></tr> </tbody> </table> <p>Import of 1500 + MW from ER and export of same to NR</p>	Date:					30-10-2015					Time	Tot NER Inj	Tot NER Drawal	Injection by ER	Drawal by NR	20:30	2960.22	-2894.60	1388.50	1274.76	20:45	2979.60	-2959.52	1424.49	1392.87	21:00	3025.48	-3003.29	1496.83	1481.31	21:15	3053.02	-2965.11	1524.41	1509.24	21:30	3025.03	-2945.50	1493.14	1507.49	21:45	3016.95	-2937.36	1524.28	1510.40	22:00	2898.89	-2853.76	1506.70	1505.75	22:15	2921.19	-2822.84	1546.97	1509.24	22:30	2809.23	-2757.73	1528.11	1494.11	22:45	2753.70	-2627.90	1497.55	1404.51	23:00	2584.71	-2458.34	1421.44	1280.00	23:15	2406.65	-2250.44	1273.50	1140.95	23:30	2266.77	-2186.85	1133.82	1104.87	23:45	2256.01	-2183.90	1119.12	1108.36	<p><u>Biswanath Chariali – Agra ; Impact on pool loss</u></p> <p><u>Regional pool loss in case of wheeling of Power</u></p> <p style="text-align: center;">Injection / Drawal figures in Mwh</p> <table border="1" data-bbox="880 1234 1360 1381"> <thead> <tr> <th>Date</th> <th>Injection</th> <th>Drawal</th> <th>Loss %</th> <th>NR Exp</th> <th>ER Imp</th> </tr> </thead> <tbody> <tr> <td>29.10.15</td> <td>37267</td> <td>36283</td> <td>2.75</td> <td>21475</td> <td>23345</td> </tr> <tr> <td>30.10.15</td> <td>52603</td> <td>51268</td> <td>2.55</td> <td>6030</td> <td>7120</td> </tr> </tbody> </table>	Date	Injection	Drawal	Loss %	NR Exp	ER Imp	29.10.15	37267	36283	2.75	21475	23345	30.10.15	52603	51268	2.55	6030	7120
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22:30	2809.23	-2757.73	1528.11	1494.11																																																																																																				
22:45	2753.70	-2627.90	1497.55	1404.51																																																																																																				
23:00	2584.71	-2458.34	1421.44	1280.00																																																																																																				
23:15	2406.65	-2250.44	1273.50	1140.95																																																																																																				
23:30	2266.77	-2186.85	1133.82	1104.87																																																																																																				
23:45	2256.01	-2183.90	1119.12	1108.36																																																																																																				
Date	Injection	Drawal	Loss %	NR Exp	ER Imp																																																																																																			
29.10.15	37267	36283	2.75	21475	23345																																																																																																			
30.10.15	52603	51268	2.55	6030	7120																																																																																																			
<p><u>Biswanath Chariali – Agra ; Impact on pool loss</u></p> <p><u>Scheduling Loss Percentage for NER Transmission System</u></p> <table border="1" data-bbox="263 1575 704 1875"> <thead> <tr> <th>Week</th> <th>FROM DATE</th> <th>TO DATE</th> <th>Web Upload Date</th> <th>SEM LOSS %</th> </tr> </thead> <tbody> <tr><td>29</td><td>12 10 2015</td><td>18 10 2015</td><td>09 10 2015</td><td>2.50</td></tr> <tr><td>30</td><td>19 10 2015</td><td>25 10 2015</td><td>16 10 2015</td><td>2.80</td></tr> <tr><td>31</td><td>26 10 2015</td><td>01 11 2015</td><td>22 10 2015</td><td>3.10</td></tr> <tr><td>32</td><td>02 11 2015</td><td>08 11 2015</td><td>30 10 2015</td><td>3.30</td></tr> <tr><td>33</td><td>09 11 2015</td><td>15 11 2015</td><td>06 11 2015</td><td>3.00</td></tr> <tr><td>34</td><td>16 11 2015</td><td>22 11 2015</td><td>13 11 2015</td><td>2.90</td></tr> <tr><td>35</td><td>23 11 2015</td><td>29 11 2015</td><td>20 11 2015</td><td>2.60</td></tr> <tr><td>36</td><td>30 11 2015</td><td>06 12 2015</td><td>27 11 2015</td><td>2.70</td></tr> <tr><td>37</td><td>07 12 2015</td><td>13 12 2015</td><td>03 12 2015</td><td>2.60</td></tr> <tr><td>38</td><td>14 12 2015</td><td>20 12 2015</td><td>10 12 2015</td><td>2.90</td></tr> <tr><td>39</td><td>21 12 2015</td><td>27 12 2015</td><td>16 12 2015</td><td>2.90</td></tr> <tr><td>40</td><td>28 12 2015</td><td>03 01 2016</td><td>23 12 2015</td><td>2.80</td></tr> <tr><td>41</td><td>04 01 2016</td><td>10 01 2016</td><td>01 01 2016</td><td>2.60</td></tr> <tr><td>42</td><td>11 01 2016</td><td>17 01 2016</td><td>07 01 2016</td><td>2.90</td></tr> <tr><td>43</td><td>18 01 2016</td><td>24 01 2016</td><td>15 01 2016</td><td>2.80</td></tr> <tr><td>44</td><td>25 01 2016</td><td>31 01 2016</td><td>22 01 2016</td><td>2.80</td></tr> </tbody> </table>	Week	FROM DATE	TO DATE	Web Upload Date	SEM LOSS %	29	12 10 2015	18 10 2015	09 10 2015	2.50	30	19 10 2015	25 10 2015	16 10 2015	2.80	31	26 10 2015	01 11 2015	22 10 2015	3.10	32	02 11 2015	08 11 2015	30 10 2015	3.30	33	09 11 2015	15 11 2015	06 11 2015	3.00	34	16 11 2015	22 11 2015	13 11 2015	2.90	35	23 11 2015	29 11 2015	20 11 2015	2.60	36	30 11 2015	06 12 2015	27 11 2015	2.70	37	07 12 2015	13 12 2015	03 12 2015	2.60	38	14 12 2015	20 12 2015	10 12 2015	2.90	39	21 12 2015	27 12 2015	16 12 2015	2.90	40	28 12 2015	03 01 2016	23 12 2015	2.80	41	04 01 2016	10 01 2016	01 01 2016	2.60	42	11 01 2016	17 01 2016	07 01 2016	2.90	43	18 01 2016	24 01 2016	15 01 2016	2.80	44	25 01 2016	31 01 2016	22 01 2016	2.80	<p><u>Biswanath Chariali – Agra ; Impact on pool loss</u></p> <p style="text-align: center;">Wheeling over HVDC does not impact weekly pool loss.</p>																		
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<p><u>Treatment of Loss over the HVDC link</u></p> <p>Presently metering point is Biswanath Chariali end of the HVDC line in line with the spirit in clause 16 IEGC Complimentary Commercial Mechanism.</p>	<p><u>PoC charges - HVDC</u></p> <p>Regulatory provisions</p>																																																																																																																																																																																				
<p><u>PoC charges</u></p> <p><u>PoC 3rd. Amendment ; HVDC charge</u></p> <p>10% of Monthly Transmission Charges of HVDC transmission system shall form part of Reliability Support Charges and the balance shall be billed as detailed below:</p> <p>Transmission charges for HVDC system created to supply power to specific regions shall be borne by DICs of such regions. The HVDC Charge shall be payable by DICs of the Region in proportion to their Approved Withdrawal. In case of Injection DICs having Long Term Access to target region, it shall also be payable in proportion to their Approved Injection.</p>	<p><u>PoC charges</u></p> <p><u>PoC 3rd. Amendment ; HVDC charge</u></p> <p>HVDC system also helps in controlling voltages and power flow in inter-regional lines and some benefits accrue to all DICs by virtue of HVDC system. Accordingly, 10 % of the MTC of these systems be recovered through Reliability Support Charges.</p>																																																																																																																																																																																				
<p><u>PoC charges : BNC-Agra</u></p> <p><u>CERC order dated 08.01.2016 in Petition No. 67/TT/2015</u></p> <p>28. Since the transmission assets are of strategic and national importance whose benefits shall be derived by the entire country, we are of the view that the charges for the HVDC assets covered in the present petition should be shared by all the regions of the Country.</p>	<p><u>PoC charges : BNC-Agra</u></p> <p><u>CERC order dated 08.01.2016 in Petition No. 67/TT/2015</u></p> <p>29. The Commission feels that there is a strong necessity to share the burden of capital cost of transmission scheme by way of assistance from the Power System Development Fund (PSDF) by way of one time grant. Accordingly, we direct the petitioner to take up the matter with the Monitoring Committee of the PSDF for assistance in the form of one time grant from the PSDF and with Ministry of Power for grant to reduce the burden of transmission charges on the DICs.</p>																																																																																																																																																																																				

Outstanding Deviation charges

Issues :

- > Outstanding > 13 weeks
- > Denial of Open Access under 25A of STOA Regulations

Outstanding Deviation charges

CERC has issued order dated 02.09.2015 in **Petition No: 142/MP/2012** with I.A. 7/2013 :

In our view, default in payment for a period of 90 days from the due date of payment of UI/deviation charges, transmission charges, reactive energy charges, congestion charges and RLDC fees and charges shall be considered as trigger point for invocation of Regulation 25A of Open Access Regulations to deny short term open access to the defaulting entity. However, where a transmission licensee resorts to regulation of power supply, denial of open access under Regulation 25A of Open Access Regulations shall be triggered from the date of commencement of regulation of power supply under RPS Regulations. As regards the second issue as to whether NLDC/RLDCs will be required to approach the Commission for invoking Regulation 25A of Open Access Regulations on case to case basis, it is clarified that NLDC/RLDCs shall be guided by the principle of default trigger date as clarified above and shall not be required to approach the Commission for specific directions in this regard on case to case basis.

पूर्वाञ्चल क्षेत्र के वित्तीय वर्ष 2015-16 के विचलन बकाया की स्थिति (पिछले साल सहित)
Deviation Outstanding status of NER for FY-2015-16(including Last years O/S)

Type/Constituents	अपूर्वाञ्चल क्षेत्र (15-16)		पूर्वाञ्चल क्षेत्र (15-16)		अपूर्वाञ्चल क्षेत्र (15-16)		O/S PAYABLE >13 WEEKS
	कुल O/S देय / Payable to Pool	कुल O/S / Receivable from Pool	कुल O/S देय / Payable to Pool	कुल O/S / Received	O/S Payable to Pool	O/S Receivable from Pool	
अपूर्वाञ्चल क्षेत्र / Ar. Pradesh	6223.57	270.88	5488.83	270.89	730.94	0.00	0.00
असम / Assam	15842.24	127.26	13375.45	127.53	2466.80	0.13	656.54
मणिपुर / Manipur	1470.24	480.51	1018.03	480.27	452.21	0.24	250.71
मिजोरम / Mizoram	1054.86	1453.38	1054.86	1422.37	0.00	31.01	0.00
नेपाल / Nepal	2579.82	47.92	2296.23	47.89	283.59	0.03	0.00
उत्तराखण्ड / Uttarakhand	3325.30	100.22	2992.41	100.22	332.88	0.00	0.00
त्रिपुरा / Tripura	5744.92	159.44	5472.41	159.27	272.51	0.17	0.00
अरुणाचल प्रदेश / Arunachal Pradesh	53.92	210.68	58.12	208.16	-4.20	2.52	0.00
अण्डमान और निकोबार / Andaman & Nicobar	965.58	3799.77	983.99	3785.63	-18.43	14.14	0.00
ए.एन.डी.ए. / A.N.D.A.	12210.98	26813.75	9933.19	20872.34	2277.80	-38.59	0.00
अपूर्वाञ्चल क्षेत्र (विद्युत) / Arunachal Pradesh (Electricity)	1413.52	4251.91	1413.52	4252.57	0.00	-0.66	0.00
उत्तराखण्ड / NTPC	253.80	0.00	212.26	0.00	41.54	0.00	0.00
उत्तराखण्ड / NER	1503.17	11112.92	1331.44	8724.42	171.74	2388.51	0.00
अण्डमान और निकोबार / NPSDF	0.00	0.00	0.00	5134.39	0.00	0.00	0.00
ए.एन.डी.ए. / TOTAL	52641.92	42868.64	45625.55	45625.55	7016.38	2377.59	917.25

Assam and Manipur are in danger zone. Immediate action needed.

Advantages of BNC-Agra HVDC

CERC order dated 08.01.2016 in **Petition No. 67/TT/2015**

27. POSOCO has rightly pointed out that this link would provide the

- flexibility in power transfer
 - function as a pseudo phase-shifter
 - help in mitigating oscillations in inter-area mode by Power Oscillation Damping (POD) controller
 - the frequency controllers at BNC would help in operation of NER system, if it were to get islanded for any reason
- Additionally :
- Double in fee for NER. NER-ER remains floating in case of import from NR enhancing reliability.

Power flow over HVDC

BNC-Agra HVDC

Flow order to be decided from time to time.

Link is of National Importance, decision about power flow by NLDC based on National priority.

Need of total Transparency.

Free flow of information.

All stakeholders should be aware.

PX curtailment

Nov'15 and Jan'16

PX curtailment in Nov'15 and Jan'16

1145 hrs to 2400 hrs on **13th November, 2015** on account of emergency shutdown of Bhadravati Pole-1.

0700 hrs to 2400 hrs on **22nd November, 2015** on account of shutdown of 765 kV Raichur Bus-2.

1200 hrs to 2100 hrs on **27th November, 2015** on account of shutdown of Bhadravati Pole-2

14-01-2016: Import of SR curtailed from 01-96 TB due to delay in restoration of Talcher-Kolar

14-01-2016: Import of NR (Block 41-96) due to tripping of Agra-Gwalior

15-01-2016: Import of NR FROM 05-96 due to tripping of 765 kV Agra-Gwalior both ckt

21.01.2016: Emergency shutdown of HVDC Talcher-Kolar Pole: Import of SR Curtailed w.e.f 12:30 till 24 hrs.

Summary of discussions on BNC-Agra HVDC

1. Benefits of BNC-Agra HVDC – Line of National importance
2. Cost as well as benefit sharing by all five Regions / exploration of PSDF funding as one time grant
4. BNC end as metering point for HVDC
5. Power flow over BNC-Agra is to be regulated by considering National priority - flow of information up to SLDC level to be ensured about power order change
6. Inclusion of flow over the HVDC line in PoC computation
7. PX curtailment due to other reasons, not linked to BNC-Agra
8. Need of Awareness on HVDC to explain advantages like POD, frequency controller etc.

Outstanding Deviation charges

Issues :

- > Outstanding > 13 weeks
- > Denial of Open Access under 25A of STOA Regulations

Outstanding Deviation charges

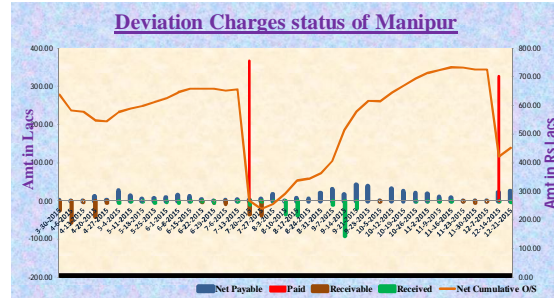
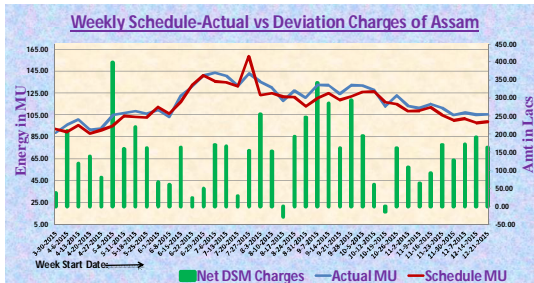
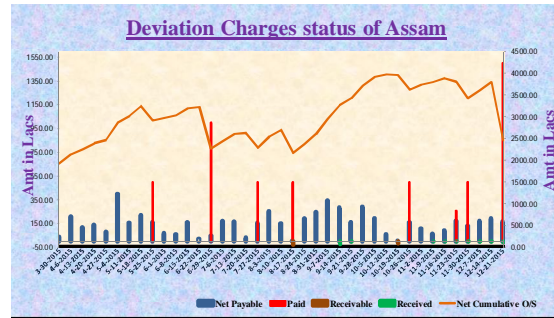
CERC has issued order dated 02.09.2015 in Petition No: 142/MP/2012 with I.A. 7/2013 :

In our view, default in payment for a period of 90 days from the due date of payment of UI/deviation charges, transmission charges, reactive energy charges, congestion charges and RLDC fees and charges shall be considered as trigger point for invocation of Regulation 25A of Open Access Regulations to deny short term open access to the defaulting entity. However, where a transmission licensee resorts to regulation of power supply, denial of open access under Regulation 25A of Open Access Regulations shall be triggered from the date of commencement of regulation of power supply under RPS Regulations. As regards the second issue as to whether NLDC/RLDCs will be required to approach the Commission for invoking Regulation 25A of Open Access Regulations on case to case basis, it is clarified that NLDC/RLDCs shall be guided by the principle of default trigger date as clarified above and shall not be required to approach the Commission for specific directions in this regard on case to case basis.

प्रवाह क्षेत्र के वित्तीय वर्ष 2015-16 के विचलन बकाया की स्थिति (पिछले साल सहित)
Deviation Outstanding status of NER for FY-2015-16 (including Last years O/S)

Type/Constituents	2014-15 (15.06.15-15.06.16)		2015-16 (15.06.15-15.06.16)		2015-16 (15.06.15-15.06.16)		O/S PAYABLE >13 WEEKS
	Net Payable to Pool	Net Receivable from Pool	Net Payable to Pool	Net Receivable from Pool	Net Payable to Pool	Net Receivable from Pool	
अंतर क्षेत्र / Int. Pradesh	6223.57	270.88	5488.83	270.89	730.34	0.00	0.00
असम / Assam	15842.24	127.26	13375.45	127.53	2468.80	0.13	656.54
मणिपुर / Manipur	1470.24	480.51	1018.03	480.27	452.21	0.24	250.71
मिझोर / Mizoram	1054.86	1453.38	1054.86	1422.37	0.00	31.61	0.00
त्रिपुरा / Tripura	2579.82	47.92	2296.23	47.89	281.59	0.03	0.00
जम्मू & कश्मीर / J&K	3325.30	100.22	2992.41	100.22	332.88	0.00	0.00
पंजाब / Punjab	5744.92	159.44	5472.41	159.27	272.51	0.17	0.00
हरियाणा / Haryana	53.92	210.68	58.12	208.16	-4.20	2.52	0.00
गुजरात / Gujarat	965.56	3799.77	983.99	3785.63	-18.43	14.14	0.00
राजस्थान / Rajasthan	12210.98	20813.75	9933.19	20872.34	2277.80	-59.59	0.00
महाराष्ट्र / Maharashtra	1413.52	4251.91	1413.52	4252.57	0.00	-0.66	0.00
उत्तर प्रदेश / UP	253.80	0.00	212.26	0.00	41.54	0.00	0.00
बिहार / Bihar	1503.17	11112.92	1331.44	8724.42	171.74	2388.51	0.00
आंध्र प्रदेश / AP	0.00	0.00	0.00	5134.39	0.00	0.00	0.00
दिल्ली / TOTAL	52641.92	42868.64	45625.85	45625.85	7016.38	2377.50	917.32

Assam and Manipur are in danger zone. Immediate action needed.



<p style="text-align: center;">Presentation on impact of CERC (Sharing of Inter State Transmission Charges and Losses) (Third Amendment) Regulations, 2015 on Assam</p> <p style="text-align: right;">Presented by:- M.K. Adhikary GM(TRC), APDCL</p>	<p>Background:</p> <ul style="list-style-type: none"> PoC mechanism for realization of transmission charges was introduced by CERC with effect from 01.07.2011 replacing the earlier regional mode of sharing (postage stamp method). The Regulation has been amended subsequently number of times depending on the system requirements. Three subsequent amendments till now are depicted below: <ol style="list-style-type: none"> The CERC (Sharing of Inter State Transmission Charges and Losses) (First Amendment) Regulations, 2011. The CERC (Sharing of Inter State Transmission Charges and Losses) (Second Amendment) Regulations, 2012. The CERC (Sharing of Inter State Transmission Charges and Losses) (Third Amendment) Regulations, 2015. Accordingly the POC charges and losses are also being revised on the basis of amendments on the Principal Regulations from time to time followed by billing on the basis of revised rates. 																																																																													
<p>Pattern of Poc Charges & Losses For Assam So Far.....</p> <ul style="list-style-type: none"> Initially for the period of 2011-12, the Hon'ble Commission allowed a single scenario for determination of POC charges on the basis of generation and demand data published by the CEA for both injection and demand POC charges and losses with the following three slabs of Rates of POC: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Item</th> <th>POC Slab Rates (Rs/MW/Month)</th> </tr> </thead> <tbody> <tr> <td>Maximum Slab</td> <td>100000</td> </tr> <tr> <td>Middle Slab</td> <td>85000</td> </tr> <tr> <td>Lowest Slab</td> <td>70000</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The POC rates applicable for ASSAM were <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Item</th> <th>POC Rate (Rs/MW/Month)</th> <th>Short Term Slab Rate (Paise/Unit)</th> </tr> </thead> <tbody> <tr> <td>ASSAM Withdrawal</td> <td>85000</td> <td>12</td> </tr> <tr> <td>ASSAM Injection</td> <td>85000</td> <td>12</td> </tr> </tbody> </table>	Item	POC Slab Rates (Rs/MW/Month)	Maximum Slab	100000	Middle Slab	85000	Lowest Slab	70000	Item	POC Rate (Rs/MW/Month)	Short Term Slab Rate (Paise/Unit)	ASSAM Withdrawal	85000	12	ASSAM Injection	85000	12	<p>Pattern of Poc Charges & Losses For Assam So Far.....</p> <p>The rates applicable for ASSAM were summarised below:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Item</th> <th>POC Rate (Rs/MW/Month)</th> <th>Short Term Slab Rate (Paise/Unit)</th> <th>% Increase in POC Rate over the previous one</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">POC Rate for Apr - Sept'2012</td> </tr> <tr> <td>Withdrawal</td> <td>95000</td> <td>13</td> <td>11.76 %</td> </tr> <tr> <td>Injection</td> <td>80000</td> <td>11</td> <td>-5.88 %</td> </tr> <tr> <td colspan="4" style="text-align: center;">POC Rate for Oct - March'2013</td> </tr> <tr> <td>Withdrawal</td> <td>109968</td> <td>15.19</td> <td>15.76 %</td> </tr> <tr> <td>Injection</td> <td>79968</td> <td>11.19</td> <td>0.04 %</td> </tr> </tbody> </table>	Item	POC Rate (Rs/MW/Month)	Short Term Slab Rate (Paise/Unit)	% Increase in POC Rate over the previous one	POC Rate for Apr - Sept'2012				Withdrawal	95000	13	11.76 %	Injection	80000	11	-5.88 %	POC Rate for Oct - March'2013				Withdrawal	109968	15.19	15.76 %	Injection	79968	11.19	0.04 %																																
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Pattern of PoC Charges & Losses For Assam So Far.....

Applicable rate for Assam are depicted below:

Item	POC Rates (Rs/MW/Month)	Short Term Slab Rate (Paise/Unit)	% Increase in PoC Rate over the previous one
POC Rates for Apr - Jun'2014			
Withdrawal	114425	15.81	-3.26 %
Injection	99425	13.81	12.62 %
POC Rates for Jul - Sep'2014			
Withdrawal	117165	16.19	2.39 %
Injection	87165	12.19	-12.33 %
POC Rates for Oct - Dec'2014			
Withdrawal	118067	16.31	0.77 %
Injection	88067	12.31	1.03 %
POC Rates for Jan - Mar'2015			
Withdrawal	122173	16.89	3.48 %
Injection	92173	12.89	4.66 %

Pattern of PoC Charges & Losses For Assam So Far.....

- CERC further extended the rates of POC Charges and Losses applicable for 01.01.2015 to 31.03.2015 for April' 2015.
- Thereafter CERC also approved the POC Charges and Losses for May' 2015 and June' 2015 on the basis of Third Amendment of Sharing Regulations' 2015 vide Notification dated 14.07.2015.
- Apart from other new things like **Reliability Support Charge** and **HVDC Charge**, CERC has brought in this new Regulations nine slab rates for POC charges and losses and STOA as against the earlier three slabs.

Pattern of PoC Charges & Losses For Assam So Far.....

Nine slabs are as under:

POC Slab	POC Charges (Rs/MW/Month)	STOA Charges (Paisa/unit)	% Losses
Slab - I (Max)	305438	23.23	V+1.00%
Slab - II	272649	20.56	V+0.75%
Slab - III	239859	17.90	V+0.50%
Slab - IV	207069	15.24	V+0.25%
Slab - V	174279	12.58	V
Slab - VI	141489	9.91	V-0.25%
Slab - VII	108699	7.25	V-0.50%
Slab - VIII	75909	4.59	V-0.75%
Slab - IX (Lowest)	43119	1.93	V-1.00%

Pattern of PoC Charges & Losses For Assam So Far.....

▪ **Impact of the latest revision:**

Financial burden on monthly PoC charges increases by around 63%.

Typical comparison of monthly PoC bill amount of ASSAM for June' 2015 and July' 2015 is presented below:

Bill Item	June' 2015	July' 2015	Increase
POC Charges, NER	181490868	316051248	107686927
POC Charges, ER	26873453		(+51.68%)
Reliability Support	-	23456694	-
Total	208364321	339507942	131143621
			(+62.94%)
Approved Withdrawal Quantum	921.43 MW	1034.75 MW	113.32 MW
			(+12.3%)

Pattern of PoC Charges & Losses For Assam So Far.....

Principal reason for such exorbitant increment are:

- ❖ Consideration of Peak withdrawal in place Average withdrawal
- ❖ Consideration of only ideal scenarios of availability of all ISGS and Transmission Lines and Generators during the Period of consideration (quarterly)
- ❖ Dispensation of the Uniform Charges.
- ❖ Modified Slab Rates. etc.

Follow up action.....

- ASSAM has raised the matter in 15TH TCC and Committee Meeting of NERPC dated 20TH and 21ST August' 2015 respectively expressing its concern about the unbearable financial burden on it.
- It also informed in the said TCC and Committee meeting that ASSAM is preparing to approach the CERC for review of the issue and till CERC hears and decides on the matter, ASSAM be allowed to continue payment of bills on the basis of earlier principle followed till March' 2015.
- The NERPC Forum also noted the submission of ASSAM and advised to approach who is the competent authority in this regard.

Follow up action.....

- Accordingly Assam has filed a petition (Petition No. 239/MP/2015) before CERC.
- CERC on 19th November, 2015 has admitted the petition after preliminary hearing.
- On 11th December, 2015; a meeting was convened by CERC to brief about various factors governing such increase.
- The meeting was very detailed and fruitful in assessing various nitty gritty of the matter.

Some of major issues are highlighted

(a) Consideration of Peak withdrawal in place Average withdrawal previously:

So far Assam is concerned it has mostly domestic consumers. Peak period is mainly evening peak of lighting load which exists for around 5 hours within the period of 24 hours. This means peak period is around 20% out of 24 hours. The ratio of peak and off-peak load of Assam is around 1.5:1.0. It is seen that for 20% time of peak drawl Assam requires to pay around 63% more PoC charge than that under average withdrawal conditions.

Some of major issues are highlighted

(b) Consideration of only ideal scenarios of availability of all ISGS and Transmission Lines and Generators during the

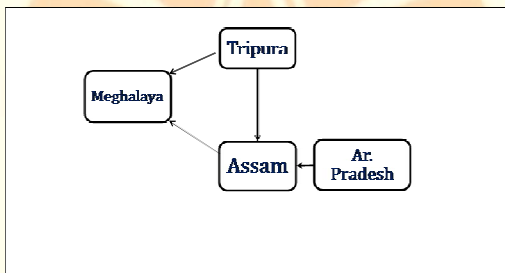
Period of consideration (quarterly):

- In its calculation the Commission has considered a best possible standard scenario of availability of Inter-state Generators. It may not be out of place to mention that, in transmission planning, system availability of networks is always considered on N-1 basis.
- Unlike that, in PoC mechanism, availability of ISGS units is considered on N-0 basis, implying all generating stations would always remain in grid during peak hours as ideal condition. But in practical case any units may tripped and remain out from grid at any moment due to any reasons. Under such a scenario the load flow pattern and thereby the usage of network profile would change.

Ideal case as considered in the 3rd amendment

Tripura	Assam	Arunachal Pradesh	Meghalaya
ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity
a. O.TPC 726 MW	a. Khandong 50 MW	a. Ranjanadi 405 MW	
b. AGTTP 120 MW	b. Kopuli 200 MW		
	c. Kopuli-II 25 MW		
	b. Kathalgar 291 MW		
Total 846 MW	Total 566 MW	Total 405 MW	Total 0 MW
State Generator 30 MW	State Generator 377 MW	State Generator 30 MW	State Generator 282 MW
Peak Demand met 269 MW	Peak Demand met 1491 MW	Peak Demand met 125 MW	Peak Demand met 322 MW
As the demand is mitigated with the sources within the state, it is presumed that no ISTS support is required and hence not allocated to the demand zone.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.	As the demand is mitigated with the sources within the state, it is presumed that no ISTS support is required and hence not allocated to the demand zone.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.

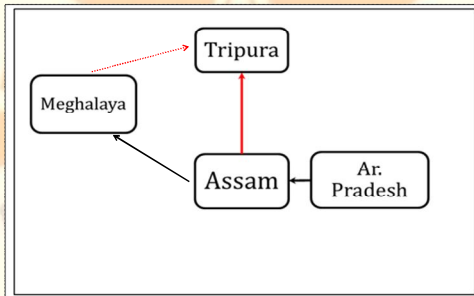
Typical load flow under



n-1 Condition (with outage of highest capacity ISGS within the zone) [Case I: Outage of 726.6 MW O.TPC]:

Tripura	Assam	Arunachal Pradesh	Meghalaya
ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity
a. O.TPC 0 MW	a. Khandong 50 MW	a. Ranjanadi 405 MW	
b. AGTTP 120 MW	b. Kopuli 200 MW		
	c. Kopuli-II 25 MW		
	b. Kathalgar 291 MW		
Total 120 MW	Total 566 MW	Total 405 MW	Total 0 MW
State Generator 30 MW	State Generator 377 MW	State Generator 30 MW	State Generator 282 MW
Peak Demand met 269 MW	Peak Demand met 1491 MW	Peak Demand met 125 MW	Peak Demand met 322 MW
Associated ISTS support is required to be used to mitigate the demand.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.	As the demand is mitigated with the sources within the state, it is presumed that no ISTS support is required and hence not allocated to the demand zone.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.

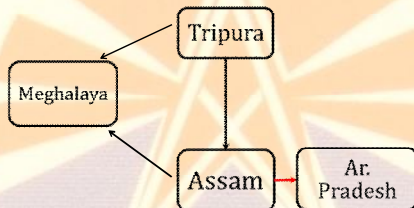
Typical load flow under this scenario



n-1 Condition (with outage of highest capacity ISGS within the zone) [Outage of 405 MW RHEP]:

Tripura	Assam	Arunachal Pradesh	Meghalaya
ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity	ISGS Installed Capacity
a. O.TPC 726 MW	a. Khandong 50 MW	a. Ranjanadi 0 MW	
b. AGTTP 120 MW	b. Kopuli 200 MW		
	c. Kopuli-II 25 MW		
	b. Kathalgar 291 MW		
Total 835 MW	Total 566 MW	Total 0 MW	Total 0 MW
State Generator 30 MW	State Generator 377 MW	State Generator 30 MW	State Generator 282 MW
Peak Demand met 269 MW	Peak Demand met 1491 MW	Peak Demand met 125 MW	Peak Demand met 322 MW
As the demand is mitigated with the sources within the state, it is presumed that no ISTS support is required and hence not allocated to the demand zone.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.	Associated ISTS support is required to be used to mitigate the demand.	As more power is to be brought from other Zones with surplus Generation, associated ISTS support is presumed to be used for drawal of power and hence allocated to the demand zone.

Typical load flow under this scenario



Some of major issues are highlighted

(c) Availability of Transmission Networks in the interest of future need:

- Arunachal Pradesh in particular and the entire NER in general being the power potential hub, the transmission network of the region is being designed in such a way that excess power can be evacuated from this region to the other regions of the country. Because of inter-connectivity of all such transmission systems number of Loop in Loop out (LILLO) lines are added within the state of Assam. As such because of availability of network connectivity, power flows through all such lines and as result the usage of Assam has gone up by virtue of power flow principle.
- It is also a fact that all these inter-state lines meant for evacuation of excess/surplus power from the region has run through Assam for which Assam has offered its fertile lands in the national interest.

Reasons for review

- It is amply clear that the zones with deemed surplus generation in only ideal situation are in constant requirement of services of the ISTS associated with adjacent demand zones to mitigate the demand in N-1 scenario. As such, the associated ISTS are needed for demand zones as well as for generation zones, may be at variant extent.
- Load flow of peak hours only has totally ignored the aspect of load in off peak hours for generating zones predominantly dependent on RoR hydro projects like Arunachal Pradesh etc. Such states are in constant need of associated ISTS to mitigate it's off peak demand (even peak demand in case of low hydro season or outage) from thermal sources of adjacent zones.

Reasons for review

- The existing regulation has not captured this dynamic scenario which is most common in an integrated network. The Petitioner is of the opinion that all injection nodes of the network should be examined taking into consideration of outage of highest generating unit keeping the demand intact of the DIC. After find out the utilisation of assets by DICs in both scenario sharing should be made in 50 : 50 to the DIC.

ANNEXURE-VI

**KEYNOTE ADDRESS OF SHRI P.K. MISHRA, IES (CPES)
MEMBER SECRETARY, NERPC
ON THE OCCASION OF THE 16th MEETING
OF
THE NORTH EASTER REGIONAL POWER COMMITTEE
HELD ON 30th JANUARY, 2016 AT GUWAHATI.**

Respected Chairman, NERPC & Hon'ble Power Minister, Govt. of Assam, Shri Hussain Ji, Hon'ble Power Minister, Govt. of Tripura, Shri Dey Ji, Secretary, North Eastern Council, Shri Ram Muivah, Addl Chief Secretary, Govt. of Assam, Shri V.B Pyarelal Chairman, APDCL/APGCL/AEGCL, Shri K.V. Eapen, and all the Senior officers from NE States, Central Utilities, Traders, Special Invitees, ladies and gentlemen.

On behalf of NERPC Secretariat, let me first extend a very warm welcome to all the dignitaries and the senior most officers from all the utilities to the 16th NERPC meeting. I would also like to express my humble gratitude to all of you for sparing your valuable time to attend this very important NERPC meeting today. I hope you have a pleasant stay in Guwahati. I am pleased to mention that under the dynamic leadership of Shri Hussain Ji, Chairman, NERPC & Hon'ble Power Minister of Assam, the NERPC Board meeting is being held regularly and many important decisions were resolved which benefited our N.E. Region.

It gives me great pleasure in appreciating the efforts taken by all the three power utilities of Assam i.e. APDCL, APGCL & AEGCL in hosting this meeting at this beautiful city of Guwahati. I, on behalf of NERPC would like to convey our heartfelt gratitude to Shri R.L Barua, Chairman, NERPC & MD (APGCL), then to Shri G.K. Das, MD, AEGCL, Shri Gujulbarua, MD, APDCL and especially their teams for helping NERPC in convening the meeting in Guwahati. The way you have taken care of us and making comfortable arrangement is highly appreciated by all of us.

Since time is very short, I will not prolong my address, but I would like to highlight the major activities/achievements by NERPC during the last few months.

- As mentioned in the last NERPC Meeting, NERPC Secretariat had shifted to its own office-cum-residential complex at Lapalang, Shillong adjacent to

POWERGRID, POWERGRID & NERLDC Complex w.e.f. November, 2015 and the office is well furnished with support from all the constituents. I would like to inform that Installation of EPABX, LAN, Video Conferencing, SCADA, State of Art Conference Hall, Audio System, CCTV etc. are under progress and being executed by NERLDC & NEEPCO respectively on behalf of NERPC, and we are hopeful that by May-June, 2016 we would be able to inaugurate and NERPC Secretariat is likely to operate in full fledge condition. We may need your support again in case of any shortage of fund for above works.

- With sincere effort and continuous efforts from NERPC, the funding sought from PSDF funding for R&M in NER has been approved by Ministry of Power for 5 States in NER except Ar. Pradesh & Manipur and hopefully these two States will also get the approval soon. As directed by CERC to monitor the progress of the scheme, the issue was monitored in sub-committee meetings of NERPC being held every month and I am pleased to inform that Assam, Meghalaya & Nagaland are almost complete the NIT and once these R&M works are completed, it is expected that power system in the region will improve accordingly. I urge upon all the NER constituents to complete all the formalities as advised by CERC along with signing of Tripartite Agreement, Placing of LOA and disbursement of funds at the earliest.
- Further, as per the Enquiry Committee constituted by Ministry of Power, Govt. of India - after the major Grid disturbances of July, 2012 - to look into the causes of these grid failures and to avoid such failures in future, NERPC has also constituted another Sub-committee to analyze the grid incidences every month before the Protection Sub-committee and most of the problem have been resolved. However in some cases viz. Khliehriat of MePTCL, Manipur, Ar. Pradesh & Tripura system there are some concern and hopefully the same will be discussed in this meeting.
- Setting up of new SLDCs in four states i.e. Ar. Pradesh, Manipur, Mizoram and Nagaland is in fast progress and they are on the verge of commissioning and this is one of the biggest achievements for our region.
- Commissioning of AGTPP STG – II (25.1MW) of NEEPCO was successfully achieved on 01.09.2015 & test synchronization oof one unit (250MW) of Bongaigoan, NTPC was successfully carried out during this month and

hopefully the same will be declare CoD within March, 2016. With the addition of above units, power system in the region will be in comfortable position.

- Commissioning of ± 800 kV HVDC Bishwanath Chariali – Agra, LILO of 400kV D/C Ranganadi – Balipara at Bishwanath Chariali, 220kV Sonabil – Balipara, LILO of Agia-Nangalbibra at Mendipathar LILO of NEHU – Khiehriat at Mustem etc. were added to the grid and hence the congestion problems have been greatly addressed in the region.
- The Annual Report of NERPC could not be published during the last three years are now back on the track and hopefully the trend will continue so that constituents are aware of the power development in the region.
- There were so many goals achieved during the last few months which I cannot mention all of them. Finally my sincere request is that all the constituents should try earnestly to liquidate their outstanding dues to the affected party so that both the parties can grow together. Unless financial transactions are happening and dues are cleared, it would be difficult to survive as utilities.

On behalf of NERPC, I extend my heartiest greetings to all the participants and look forward to meaningful deliberation.

I once again wish APDCL, APGCL & AEGCL well and the plenary a grand success.

Thank you very much.

ANNEXURE-VII

**SPEECH BY SHRI RAKIBUL HUSSAIN
HON'BLE POWER MINISTER, GOVT. OF ASSAM
ON THE OCCASION OF THE 16th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE
HELD ON 30th JANUARY 2016 AT GUWAHATI**

My Colleagues from other North Eastern States, officials of Central and States Government as well as other Central and State organizations, ladies and gentlemen.

It is indeed a great pleasure for me to be in this august gathering on the occasion of the 16th NERPC meeting and I hope that this particular meeting addresses many of the nagging issues affecting the power sector of the region.

Power Scenario:

As you are aware Assam was one of the first states to implement the power reform programme in 2004 and since then the reforms have gone a long way in improving the power scenario of the state .It is important to note that with the implementation of various schemes like RAPDRP and also with the programme to implement the ERP in our companies combined with various innovations, we are quiet hopeful that situations will definitely improve further.

Though the requirement of power in the state has increased by a huge percentage, we have been able to meet it with proper planning and innovation barring the pockets where the load had to be restricted due to system constraints. We have announced that we shall try to provide 24x7 power supply to all consumers all over the state from January this year and we have been successful in many major towns. However, overall the State of Assam is still a power deficit State. Though all allocation from the Central sector generating Stations (CSGS) along with our own generation should have been sufficient to meet the power demand of the State, the actual generation from the CSGS is around 60 percent of the allocation. This has resulted in shortfall of around 200 MW during off-peak hours in the summer months The Assam power Distribution Company Limited (APDCL) has tried to meet this shortfall by purchasing Power through the Exchange and through Bilateral Trading .as you are aware, short term power procurement involves huge financial

outlay and this has affected the financial health of the APDCL. Further, power purchase costs from the existing stations are increasing day by day due to increase in fuel cost. With the implementation of the rural electrification projects and with the extension of the rural LT network, the demand for power has increased manifold.

Generation

The commission of the two units of the OTPC at Palatana in Tripura has been helpful in meeting the demand for power. However, of late, only one unit of Palatana is in operation and it is learnt that a sizeable quantum of gas is being diverted for generating power from the newly commissioned unit of Monarchak of NEEPCO. This aspect is required to be looked into –we should not be deprived of power in the state in favors of export of power to other countries

The National Thermal Power Corporation (NTPC) is implementing the Bongaigaon Thermal Power Project (BTTP). It is a matter of concern that the project has already slipped by more than two years though there are indications that one unit is likely to be commissioned soon as the trial run of the first unit has already been carried out. My point is that the ministry of Power should ensure that commissioning targets are rigidly maintained.

I once again take this opportunity to request the members of the NERPC to collectively take up with hydro carbon producers i.e. OIL/ONGC to increase and accelerate gas supply to the power generating stations of our region. Further, I re-iterate the proposal for monitoring of the gas pressure online through the existing SCADA so as to obtain valid information on the availability of gas from time to time to ascertain the quantum of power Kathalguri is able to generate and also to take corrective measures, if any.

With expansion of delivery system including completion of village electrification under RGGVY, now Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY, quick capacity adding in generation is the only way out to deal with the power shortages .as already requested the Central and State Government should explore all possibilities to harness the still untapped resources of the region either directly by themselves or by inviting public or private sector agencies who have expertise in

generation sector. However we need to be careful in exploiting these natural resources. The Central Electricity Authority has identified potential for as many as 163 Hydel power projects in the upper reaches of the Brahmaputra basin, all in the Arunachal Pradesh. Though most of these projects are slated to be Run-of-the River (ROR) schemes without any shortage or flood moderation component, they are all being put up on the river that flows through the territory of Assam. However, Assam is not a party to the process of decision making. Assam does not know what would be the cumulative impact of these projects in the downstream areas when they are all commissioned in the future.

New Projects

We have taken up with the Central Government for giving us coal linkage for setting up the 660 MW Super Critical Margherita Thermal Project. We hope that Ministry of power /Ministry of Coal will take all necessary steps to allot the coal linkage. Necessary TOR has already been issued by the Ministry of Forest & Environment, Govt. of India. Assam has applied for 1.83 MMT of coal linkage from North Eastern Coal Fields (NECL) for this project. With the assurance with the cold linkage, the project can be initiated without further delay. Similarly, the Central Government has also been moved to arrange coal linkages of 0.4 MMT per year for the 60 MW Chandrapur Thermal Power Station which will run in PPP mode. Allocation of coal linkage is urgently needed for speedy implementation for these projects.

So far as Central sector is concerned NHPC and NEEPCO should try to commission their projects in NER within the scheduled commissioning time. In this connection the Kameng HEP (600MW) of NEEPCO and Subansari HEP (2000MW) of NHPC are crucial for this region as well as for the nation to meet the future load growth.

I would request this August gathering to deliberate on this agenda so as to evolve at a common consensus.

Transmission

The rapid load growth projected for coming years require unrelenting efforts towards up-gradation of system capacity and create redundancy. It is a matter of pride, that the transmission system, with fund both from Asian Development Bank and also from States own resources, is consistently maintained at an availability of

above 98% which is at par with the national standard. The NERPSIP (North Eastern Region Power Sector Investment Programmed) Project with funding from the World Bank will go a long way in easing the transmission bottleneck of the region. However, here too implementation concerns will have to be carefully addressed.

Sharing of Transmission Charge of Bishwanath Chariali to Agra HVDC Link

The HVDC transmission system associated with North East Region connecting the Northern and Western Interconnector is understood to be commissioned connecting the NE Region directly with Northern and Western Region with the aim of evacuation of surplus power from Subansari Lower HEP and Kameng HEP and other such Hydro Projects of NER to other regions of the country.

Power Grid has already filed tariff petition of this transmission network before the CERC. As the associated ISGS units are not yet commissioned, APDCL feels that the tariff of the HVDC Transmission systems may be considered as deferred revenue on utilization. We have already taken it up with the Ministry of Power and we expect a positive result.

Distribution: Most of the states in the North Eastern region here very weak sub-transmission and distribution network. As a result the power demand is highly suppressed and all the states are yet to supply power in all areas. We through this forum request the Ministry of Power to formulate a special scheme for the North East region to build additional sub-transmission and distribution lines along with Distribution Sub-station. This is also applicable for the Deen Dayal Upadhya Gram Jyoti Yojana scheme as our villages are spread out and are in difficult and very remote areas. There are also some constraints in the Reconstructed Accelerated Power Development and Reforms Programme (RAPDRP) including the timely release of funds from the Centre and disturbances in the links provided by BSNL. I would once again like to mention that to achieve the target of 24x7 powers for all by 2019 we would require more funds as only 50 percent of our households are electrified.

We also feel that the Electricity (Amendment) Bill, 2014 proposing separation of carriage and content emphasizing primarily on shifting of financial burden of DISCOMs to incumbent supply licensee (Government Company) should be

amended only after taking into confidence all the stakeholders. It is apprehended that the proposal of multiple supply company in a distribution licensee will lead to further deterioration of financial health of the incumbent Government Supply Company thereby leading the access of private players in supply business. NERPC forum is requested to take up the matter with Government of India for optimum resolution in consultation with respective State Government so as to safeguard the interest of ultimate consumers in every aspect.

I hope the deliberations in this meeting will be fruitful in achieving the desired result in the power sector of the region.

At the end my special thanks to the NERPC Secretariat for taking the initiative for convening the meeting. I further hope that your stay here in Guwahati has been comfortable and there have been no shortcomings whatsoever in hosting and there have been no shortcomings whatsoever in hosting the meeting by the companies of AEGCL, APGCL and APDCL. I wish you all a great success in this meeting.

JAI HIND

ANNEXURE-VIII

**SPEECH BY SHRI MANIK DEY
HON'BLE POWER MINISTER, RD (PANCHAYAT), TRANSPORT & RURAL
DEVELOPMENT ETC. GOVT. OF TRIPURA
ON THE OCCASION OF THE 16th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE
HELD ON 30th JANUARY 2016 AT GUWAHATI**

Hon'ble Minister of Power, Assam and Chairman of NERPC Officers of State Power departments/ State Power Utilities, Central Power Utilities, Senior Officers of Central and State Government, Distinguished Guests & Special Invitees, Ladies and Gentlemen.

I like to sincerely thank the AEGCL/APGCL/APDCL for the excellent arrangements they have made for organizing this meeting. I would like to thank both NERPC and NERLDC for providing continued assistance for maintaining smooth NER Power System Operation and Management benefiting all NER States.

We are all aware that NERPC is working relentlessly for making NER power system operation reliable, efficient and economic since its formation. I hope outcome of today's deliberation will significantly contribute towards efficient and reliable grid operation of this region in coming days. This is essential for meeting our common objective of providing 24x7 Power for all at affordable price.

The weak financial health of distribution power utilities has become a matter of concern. This is primarily due to increasing gap between supply cost and cost realized. Distribution utilities are finding it difficult to recover their cost of power purchase, fuel, wheeling charges etc. Investment reconstructing for power projects to reduce the tariff has become essential. Government of India should formulate suitable guideline to reduce the cost of power purchase, fuel and wheeling etc to meet 27x7 power supplies to all consumers.

The proposals of the draft Electricity (Amendment) Bill, 2014 does not address the above issues rather the proposal for separation of carrier & content emphasizes on privatization of power supply to the consumers. This will lead to free access and control

of the private supply licensee in power supply business and spoil the electricity system of the country.

This bill will cease the rights and power of the State Government and the state will not have any role to provide cross subsidy directly or indirectly to the consumers. The public in general will be badly affected due to such amendment of Electricity Act.

NERPC forum is therefore requested to strongly protest the bill and take up with Government of India for immediate withdrawal of this bill.

Government of India has changed the funding patterns of Smart Grid Pilot Project at 50:50 followed by (30:70) for upcoming projects under Smart Grid Mission instead of 90:10 (Grant: Loan). The NER states are affected for above change in funding pattern. It is therefore urged to Ministry of Power, Government of India to review the funding pattern and consider 100% grant for special category states

The Ministry of Power, Government of India has deprived the NER states while sanctioning centrally sponsored schemes like IPDS & DDUGJY. About 10 to 15% of the DPR value only has been sanctioned, As a result the objective of IPDS & DDUGJY Schemes for providing 24x7 power supply to the consumers to urban & rural areas will be defeated. Ministry of Power, Government of India is requested to provide full sanction of DPR value to achieve the objective of the schemes.

The distribution utilities are heavily burdened with accumulated outstanding dues to the CPSUs and other generating companies due to continuous hike of power purchase cost. The Government of India may provide one time interest free loan to the states to square up the outstanding dues.

Recently, the Government of India launched UDAY Scheme to provide loan to the states at reduced interest to settle the outstanding debts of distribution utilities. Ministry of Power, Government of India is requested to provide interest free loan under UDAY Scheme for one time settle of outstanding dues against power purchase with full waiver of surcharges amount.

Due to sudden increase (117% above) of price of natural gas effective from 01-06-2010, the consumers of the state have got heavy tariff shock as about 93% energy supplied to the consumers are from gas based power projects. At present, the effective impact of

hike with respect to May' 2010 price is 255.69% due to linkage of gas price with dollar exchange variations and subsequent price not allow any further increase in price of gas used for power projects to avoid tariff hike.

Besides the above, Government of India is also requested to delink the domestic gas price from dollar exchange rate as gas purchased by State power utilities from GAIL/ONGC is exclusively from local gas reserve fields.

Balancing of demand & supply variation during Monsoon & winter cannot be done being gas based power plants are must run due to MGO (Minimum Guaranteed Off take) clause (90% gas off take). MGO clause of gas contract should be withdrawn for resource optimization. Otherwise burning of costlier gas is taking place in spite of power is available in the market at cheaper price.

800 KV HVDC from Agra to Biswanath Chariali has been commissioned in Sept' 2015 but up-stream projects like Subansari HE Projects and other projects has not yet been commissioned and getting delayed resulting likely tariff burden to the beneficiaries. Since this line is being constructed as national asset for benefit of all states across the country, capital grant may be provided from Power System Development Fund (PSDF) so that burden can be reduced.

Alternative line through Bangladesh from Tripura to West Bengal may be constructed to strengthen the inter-regional transmission network and for establishment of connectivity with national grid which will not only provide upgraded connectivity in transmission system but will also reduce the line length of about 500 km and will also pass through plain land without any hilly terrain and any forest related issue. This will facilitate NE states to have stable and reliable grid connection.

Early commissioning of 2nd ICT (125 MVA) at Pallatana and construction of 400 KV Double Circuit Transmission Line from Purba Kanchan Bari to Surjainagar is needed for ensuring stable grid operation. OTPC and PGCIL may be requested to take necessary action to expedite the process.

Enabling IT System for Distribution System has been implemented under R-APDRP Scheme in urban areas in the state with an objective of improving utility functioning as well as providing better services to consumers. Now, consumers not covered under the above facility are demanding similar services across the state. Accordingly, extension of

the enabling IT System is required to cover entire state irrespective of rural urban divide. Since, this facility has been established through a Common Data Centre at Guwahati and Common DR Centre at Agartala, immediate up-gradation/capacity augmentation of both Data Centre & DR Centre is required. As both DC & DR is a common resource for all the NER States, Government of India may consider required funding support for this.

As per policy, 10% of Government of India plan budget is to be marked for NER states which are not being followed at present. Hence, Government of India is requested to maintain the above policy in true spirit.

Finally, I look forward to participating in future deliberation and hope that discussion today would benefit the NE Region.

THANK YOU

ANNEXURE-IX

**SPEECH OF SHRI O.IBOBI SINGH,
HON'BLE CHIEF MINISTER & I/C OF POWER,
GOVT. OF MANIPUR
ON THE OCCASION OF THE 16th NERPC MEETING
HELD ON 30TH JANUARY 2016 AT GUWAHATI.**

Hon'ble Chairman of NERPC, Power Ministers from North Eastern States, NERPC Members, Central and State Government officials and distinguished Guests & Special Invitees, Ladies and Gentlemen.

It is a great privilege for me to be present in the 16th Meeting of the North Eastern Regional Power Committee. I express my sincere thanks to the organizers for bringing us together to exchange our views to sort out specific problems and Regional issues. I am sure the deliberation on various issues will be helpful in solving the infrastructure constraints, poor transmission and sub-transmission system, inadequate distribution network and problems in generation projects. In other words the deliberations made here would help in removing the hurdles faced in supplying electricity to the consumers in the region.

Geographical isolation of this region has made many issues region specific in nature and we have many challenging tasks ahead to tackle and overcome them. I hope we shall be able to sort out important issues amicably which require special attention of the Government of India for the states of the NER.

Manipur depends entirely on Central Sector Stations for the supply of power. With the commissioning of the ATS 400 D/C line from Silchar to Imphal, the Inter-State transmission constraints have been removed.

I also wish to point out that tremendous load growth is projected for the state of Manipur. To transmit the load higher transmission system voltage of 400 KV is being adopted. A new 400 KV sub-station is coming up the Thoubal. Works for construction of this sub-station are in good progress and we wish to commission it by June, 2016. However, without a matching 400 KV sub-station at Imphal (PG) for extending power to this new 400 KV sub-station, the efforts of Manipur would be

futile. We are thankful to PGCIL for their readiness to provide space for the construction of two extra sending end 400 KV bays at their 400 KV sub-station at Imphal (PG).

I do hope that PGCI would expedite the construction of 400 KV sub-station at Imphal (PG) at the earliest to match with the completion of the 400 KV sub-station at Thoubal.

Electrified villages in Tipaimukh area of Churachandpur District in Manipur bordering Mizoram get very low voltage. The area is presently fed through long 11KV feeder, 120 km away from 33/11 KV sub-station at Churachandpur. The load requirement of the area is around 5 MW. It has become imperative to establish a 132 KV sub-station to provide 24x7 quality power to the villages in the area. However, taking up another 132 KV line either from Churachandpur or Jiribam may face ROW problem and Forest & Environmental Clearance issues.

Fortunately, a 132 KV transmission line from Jiribam to Aizawl (owned by PGCI) passes through Tipaimukh area. It is learnt that the present peak loading on the line is around 20 MW. The loading on this 132 KV line is expected to be reduced when Silchar-Melriat 400 KV D/C line under construction as an Associated Transmission System of Pallatana and Bongaigaon Power Plant is complete. This line will be able to easily transmit the additional load of around 5 MW for supplying power to the villages on Tipaimukh area without affecting power supply to Mizoram.

It will prove to be a boon to Manipur if PGCI allows the proposed 132 KV sub-station at Tipaimukh to be connected to the Grid by loop-in and loop-out on the existing 132 KV transmission line from Jiribam to Aizawl.

In case of generation sector, we have been trying hard to develop the hydro power potential available in the state. State Government along with NHPC have formed a Joint Venture Company few years back to implement the 66 MW Loktak Downstream HE Project. Meanwhile, NEEPCO has been also entrusted Survey and Investigation including formulation of DPRs of four other Hydro projects. However, progresses made so far by both the CPSUs have not been very encouraging.

Renovation and modernization of the existing 132 KV sub-stations in Manipur to improve the reliability of the supply system are going on in full swing. This

facilitates early clearance of faults and brings down Grid Disturbance due to non clearance of downstream faults in the state.

With these few words I extend my warm wishes to all participants here and once again thank the organizers for the excellent arrangement made for this meeting.
