



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

मेघालया स्टेट हाउसिंग फिनांस को-ऑपरेटिव सोसायटी लि. बिल्डिंग

Meghalaya State Housing Finance Co-Operative Society Ltd. Building

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No.: NERPC/COM/CC\_Min/2010/ 2045-81

Dated: 20<sup>th</sup> July 2010

To

1. Member (Tech), Assam State Electricity Board, Bijuli Bhawan, Paltan Bazar, Guwahati-781 001
2. Member (Tech), MeSEB, Lumjingshai, Short Round Road, Shillong - 793 001
3. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Khatla, Aizawl - 796 001
4. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
5. Chief Engineer (EE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Chief Engineer (P&E), Department of Power, Govt. of Nagaland, Kohima - 797 001
7. Chief Engineer (P), Electricity Department, Govt. of Manipur, Keishampat, Imphal - 795 001
8. General Manager, TSECL, Agartala - 799 001
9. General Manager, NERLDC, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
10. ED (O&M), NERTS, PGCIL, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
11. GM (LD&C), PGCIL, "Saudamini" Plot No. 2, Sector - 29, Gurgaon, Haryana - 122 001
12. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
13. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
14. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
15. ED (Commercial), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
16. Vice President, PTCIL, 2<sup>nd</sup> Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi - 110066
17. AGM (BD), NVVN, Core 5, 3<sup>rd</sup> floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
18. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
19. Chief Engineer, GM Division, CEA, Sewa Bhawan, R.K. Puram, New Delhi - 110066

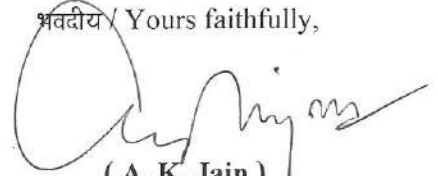
Sub: Minutes of the 13<sup>th</sup> CC meeting held on 14/07/2010 at NERTS Conference Hall, Shillong.

Sir,

Please find enclosed herewith the minutes of 13<sup>th</sup> Commercial Committee Meeting held at NERTS Conference Hall, Shillong on 14<sup>th</sup> July 2010 for your kind information and further necessary action please.

Encl.: As above

भवदीय / Yours faithfully,

  
( A. K. Jain )  
S.E (Commercial)

Copy to:

1. SA to Member(GO&D), CEA, Sewa Bhawan, R.K. Puram, New Delhi - 110066
2. Chief Engineer, AEGCL, Bijuli Bhawan, Guwahati - 781001
3. Chief Engineer, APGCL, Bijuli Bhawan, Guwahati - 781001
4. MD, CA DISCOM, Bijuli Bhawan, Guwahati - 781001
5. MD, UA DISCOM, Bijuli Bhawan, Guwahati - 781001
6. MD, LA DISCOM, Bijuli Bhawan, Guwahati - 781001
7. Chief General Manager, SLDC Complex, AEGCL, Kahilipara, Guwahati - 781019
8. S.E. (Trans. & Dist), MeSEB Lumjingshai, Short Round Road, Shillong - 793 001
9. Head of SLDC, MeSEB, Lumjingshai, Short Round Road, Shillong - 793 001
10. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
11. A.C.E. (Gen & Trans), Department of Power, Govt. of Nagaland, Kohima - 797 001
12. Head of SLDC, Department of Power, Dimapur, Nagaland
13. A.C.E. (Power-I), Electricity Department, Govt. of Manipur, Keishampat, Imphal - 795 001
14. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal - 795 001
15. S.E. (Commercial), Department of Power, Govt. of Mizoram, Khatla, Aizawl - 796 001
16. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl - 796 001
17. Head of SLDC, TSECL, Agartala - 799 001
18. Chief Engineer, Loktak HEP, Vidyut Vihar, Komkeirap, P.O. Loktak, Manipur - 795 124

## **North Eastern Regional Power Committee**

### **Minutes of the 13th Commercial Committee Meeting**

**Date: 14/07/2010**

**Venue: NERTS Conference Hall, Shillong**

The 13th Commercial Committee meeting of the NERPC was held in the NERTS Conference Hall, Shillong on 14.07.2010. The list of participants is given at **Annexure-I**.

Superintending Engineer (Comml) welcomed all the participants and requested Member Secretary, NERPC for his opening remarks to set the meeting up.

At the very outset, Member Secretary brought in focus the complex commercial issues in the backdrop of some of recent orders issued by the CERC on ISTS charges, congestion management. Pointing out some of the intricacies of these orders, such as **point of connection charges, restrictions on under / over drawal, advance planning of generation, forecasting of demand by the utilities**, he stressed upon the enhanced role that SLDCs would now be required to play. He urged upon all the constituents **to get their SLDCs well geared up** for the challenges. He requested all the participants to take note of the recent changes for better commercial performance of the organizations.

Then the agenda items were taken up.

#### **1. Confirmation of the minutes of 11th CC Meeting held on 16th June, 2009**

The minutes of the 12<sup>th</sup> CC Meeting held at Shillong on the 12<sup>th</sup> February 2010 were circulated, vide no. NERPC/COM/CC\_Min/2010/5727-63 dated 24<sup>th</sup> February 2010. No comments were received. The minutes of the 12th Commercial Committee Meeting were confirmed.

#### **2. Presentation by NERLDC on commercial issues of 2010-11.**

EE (Comml), NERPC requested NERLDC to give a presentation highlighting the “**Sharing of Inter State Transmission Charges and Losses Regulations, 2010**”. A copy of the presentation is at **Annexure-II**.

The members appreciated the presentation given by the NERLDC. Since the presentation was highlighting the most important issues only, it was felt that a separate seminar for better understanding is required to be organized by the NERLDC covering:

- 1) Sharing of Inter State Transmission Charges and Losses Regulations, 2010
- 2) IEGC, 2010
- 3) UI (Amendment) Regulations, 2010.

***It was agreed that a seminar would be organized by the NERLDC on above topics. Date and venue of the seminar will be intimated to all, once finalized.***

### **3. Agenda items from NHPC.**

#### **3.1 Delays in Issue of REA for NE Region:**

NHPC mentioned that at present, the REA in NE Region is issued invariably in the 2<sup>nd</sup>-3<sup>rd</sup> week of the month due to which the issue of energy bills to the beneficiaries is delayed. CAG in its recent audit report has given adverse remarks to NHPC due to delay in presentation of energy bills to the beneficiaries. NHPC proposed that possibility be explored to issue provisional REA in the 1<sup>st</sup> week of the month as is being issued in other regions and final REA in the 3<sup>rd</sup> week of the month.

It was brought to the notice that if provisional REA is issued by the 1<sup>st</sup> week and the final REA by the 3<sup>rd</sup> week of every month then supplementary bills would have to be raised for every month which is not advisable as an LC can be en-cashed only once in a month. Therefore, it was agreed that the present system of issuing REA would continue as already decided during the 11<sup>th</sup> Commercial Committee Meeting i.e. ***one final REA will be issued for each month as early as possible upon receipt of necessary SEMs' data from the NERLDC.***

#### **3.2 Refund of transmission charges on UI:**

NHPC mentioned that out of the total refundable amount of Rs. 71.68 lakhs, the PGCIL has refunded an amount of Rs. 65.56 lakhs only to the NHPC on account of "Refund of transmission charges on UI". The balance amount is still to be refunded by the PGCIL to the NHPC. The PGCIL be requested to refund the balance transmission charges to the NHPC.

AGM NERTS informed the members that the balance amount of the transmission charges on UI that has not been refunded to the NHPC is the de-pooled portion to the constituents. ***He informed that all the constituents, except Manipur, have had refunded the de-pooled amount of transmission charges on UI and the balance amount would be refunded to the NHPC within the current month.***

#### **3.3 Inclusion of up-to-month PAFM, Entitlements, Scheduled Energy etc. in the monthly REA:**

NHPC requested to provide the cumulative monthly figures of PAFM, Entitlements, and Scheduled Energy etc. in the monthly REA. This will enable them to avoid raising of supplementary bills in each occasion whenever there is any change in any of the above parameters during the month.

EE (Comml), NERPC, informed that **cumulative figure of PAFM** has been included in the monthly REA from the month of April 2010 and those of **entitlements, scheduled energy** etc. are also already included in the present REA format.

***It was agreed that the present format of REA should be continued.***

#### **4. Agenda items from APDCL.**

##### **4.1 Generation of AGBPP, Kathalguri:**

##### **A brief of the issue:**

AGBPP, Kathalguri station of NEEPCO has always been operating below the satisfactory level. Against its installed capacity of 291 MW, the station is generating around 150-200 MW on sustained basis almost from the date of commissioning of the project. Though on few occasions it operates in between 200-220 MW, but the sustained support from this station during the period of need is not at all reliable. Further, frequent change of schedule by AGBPP owing to its internal problems makes load management extremely difficult. State Utilities are getting all the blames for unscheduled power cuts. NEEPCO ascribes its failure to generate in Kathalguri up to the installed/ optimum capacity to alleged less availability of gas from Oil India Limited (OIL). On enquiry by Assam with the OIL, it is however, informed that OIL is supplying gas of quality and quantity to Kathalguri as per agreement. OIL said that on occasions there may be problems at OIL end but OIL is claiming to have provided gas to Kathalguri for last more than two years at higher level of contract quantity almost on regular basis. Even then NEEPCO could not increase its generation beyond 200 MW on sustained basis. AS per OIL, the reason of failure of NEEPCO to generate at optimum level, in spite of having adequate gas, is its compressor booster station. Copies of letter from OIL are enclosed.

From our experience also, the view of OIL seems to be believable. Out of four compressors, only two are in working conditions. Because of this, only two modules of Kathalguri generators can run generating maximum up to around 200 MW. On top of this, the power station is generating at the rate of 150 – 170 MW during more than last three months although the Generator is repeatedly assuring in OCC forums to increase the availability above 200 MW.

The onus of establishing real constraints of Kathalguri now lies with NEEPCO. As all Beneficiary States are already paying the cost of additional gas at market rates, so NEEPCO should establish by arranging additional gas at market prices that there is no constraints on the machineries of NEEPCO.

##### **Deliberations**

Representative from the NEEPCO informed that **due to low supply** of gas on average basis, the station could not generate up to the Installed Capacity. Normally 1.2 – 1.3 MMSCUMD is received while contract signed is for 1.4 MMSCUMD and at least 1.4 MMSCUMD are required for operating 2 modules. Insufficient supply of gas has hampered the performance of the station and, therefore, affecting the beneficiaries. He requested that higher authorities in the ONGC may be approached by the NERPC to increase supply of gas.

It was also felt necessary by the members that NEEPCO may demonstrate the capability of the station to generate to a level of 220-230 MW if the contracted amount of gas was received.

***It was agreed that the NEEPCO would arrange for a demonstration in co-ordination with the NERLDC to test the Capability achievable by the station if the contracted amount of gas was received. Representative from Meghalaya may witness the test on behalf of beneficiaries.***

#### **4.2 Annual Design Energy of KHEP (4 x 50MW) for 2004-2009:**

##### **A brief of the issue:**

CERC, vide its order dated 19.02.2008 in Petition No. 76/ 2007, has approved the tariff of KHEP for the period of 2004-2009. While approving the tariff, the Commission also approved the annual design energy of the project as 1186.14 MU. This design energy was enhanced by 216.26 MU on account of commissioning of KHEP Stage-II. But the NERPC secretariat has been releasing monthly REA for 2004-2009 on the basis of 969.88 MU. From APDCL side an Agenda to this effect was placed in the 12<sup>TH</sup> Commercial Committee Meeting wherein it was decided that the NERPC Secretariat would take up this matter with CERC for necessary clarification. From the contents of Para 87 of said CERC order, APDCL is of the opinion that for considering enhanced design energy there is no need for further clarification from CERC.

##### **Deliberations**

NERPC informed the members that there is no decision in the 12<sup>th</sup> CC Meeting that the “NERPC Secretariat would take up this matter with the CERC for necessary clarification”. Rather, it was decided that “the monthly REAs for the relevant period would be revised immediately after receipt of approval the CEA for the design energy of the generating station”. He requested NEEPCO to inform the status of approval of design energy from CEA.

Representative from the NEEPCO informed that the approval of the CEA for the design energy was awaited and that the NEEPCO was pursuing the matter with the CEA. Representatives from NEEPCO also agreed that REAs issued during the relevant period would be revised once the CEA approves the design energy.

***It was agreed that the NEEPCO will pursue the issue with the CEA to get the design energy of 1186.14 MU approved by August 31, 2010. The NERPC Secretariat will revise the REAs for the relevant period thereafter.***

#### **4.3 New UI Regulations declared by the CERC:**

As per new UI regulations effective from May'10, among other things, the CERC has put restriction on trading by the Beneficiary States through UI by under drawl. As a result, the NE Region, which is hydro dominant, has suffered a lot. The biggest hydro station, RHEP, being the ROR and because of frequent changing of schedule, intra day trading is also not possible. In the original draft Regulation, there was no proposal of restriction of such UI under drawl. The Commission had proposed the ceiling of 20% under drawl only in the draft regulation and ultimately finalized at 10%. This will definitely affect commercially all the NE-states. Apprehending this, Chairman ASEB has made a plea to the CERC for review and for some relaxation in ceiling norms of UI under drawl. The Forum is also requested to make a plea before the CERC in this respect.

***Members appreciated the initiative taken by the ASEB regarding new UI regulation of the CERC. The difficulties in daily intra and inter regional exchange of power were expressed. It was decided that individual state should approach the CERC for removal of such difficulties, preferably accompanied by data from real-time operation.***

#### **4.4 Receivables of ASEB from NER States:**

ASEB is to receive following outstanding amounts from NER states on account of drawl of ER/NTPC energy out of deemed drawl of ASEB from ER/NTPC. It is worth mentioning that during the lean period of 1992 to 1998 NER states did over drawl of power from NER grid. It was decided in NEREB forum then that those over drawl would be treated as deemed drawl of ER/NTPC energy out of drawl of ASEB from ER/NTPC under their bilateral arrangement. Accordingly, ASEB was directed to raise bill at ER/NTPC tariff with addition of 5% additional charge on transmission and wheeling loss. The state-wise outstanding on account of above are:

<b>State</b>	<b>Principal</b>	<b>Surcharge</b>	<b>Total</b>
A. P.	0	4,68,28,102.00	4,68,28,102.00
Manipur	0	3,18,01,053.00	3,18,01,053.00
Mizoram	0	0	0
Nagaland	2,15,85,629.00	4,57,80,165.00	6,73,65,794.00
Tripura	0	62,68,195.00	62,68,195.00
<b>Total</b>	<b>2,15, 85,629.00</b>	<b>13,06,77,515.00</b>	<b>13,06,77,515.00</b>

All NER states, except Nagaland, have already cleared the principal portion of the outstanding. As ASEB is under the process of reforms, all Member States are requested to immediately release the outstanding dues.

*Since Nagaland was not represented, it was agreed that the APDCL should pursue the issue with the Govt. of Nagaland for payment of the same.*

#### **5. Agenda items from NEEPCO.**

##### **5.1 Development of Gas Booster System for AGBP by M/s Assam Gas Company Limited:**

##### **A brief of the issue:**

291MW Assam Gas Based Power Plant (AGBP) was executed by NEEPCO and the Units were commissioned in phases during 1995-98. The Power Station consists of three modules. Each Module comprises 2 no. of Gas Turbine Units, 2 no. of WHRBs and 1 no. of Steam Turbine Unit.

The Assam Gas Company Limited (AGCL), a Govt. of Assam undertaking, has been entrusted to transport the required gas for AGBP. The gas from M/S OIL's off take point, located nearly 7km away from the Plant, is transported through a pipeline laid, owned and maintained by AGCL and supplied at 4kg/cm<sup>2</sup> at the Plant.

The gas, thus received, is compressed to 21kg/cm<sup>2</sup> through four nos. of gas engine driven compressors built, owned and operated by NEEPCO. The gas compressor units, installed in the Gas Booster Station, are of Dresser Rand, USA make and Gas Engines are of Waukesha, USA make.

The 291MW AGBP was conceived and designed to operate for 6000 hours annually (i.e. PLF of 68.49%) at base load. Accordingly, all associated auxiliaries/ facilities etc. were built as per the requirements of the designed level of generation. The gas booster station was also designed to handle gas according to its designed PLF only. Out of four compressors, three were considered at the time of its conception to be adequate to meet the design requirement for maintaining the design PLF of 68.49 %. One gas compressor was meant to provide redundancy.

However, during the initial period of operation of this power Plant, AGBP had to run at fractured PLF with as low as 35-45% against stipulated designed criteria primarily due to inadequacy of distribution and sub-distribution system.

Thereafter, with the advent of ABT, the Plant was required to maintain at least 80% availability (subsequently revised to 72 % w.e.f 2009-10) whereas the infrastructure was developed for maintaining PLF of 68.49% only as designed and conceived. Further, the quality of fuel gas, including its calorific value, supplied by M/S OIL has progressively deteriorated over the years. As a result, the volume of gas required to maintain the normative plant availability has increased substantially. These cumulative factors have resulted in the gas compressors having to operate under stressed conditions, practically without the required redundancy. Further, as intimated from time to time, poor quality of gas with contamination at times caused more damage to the units.

Further, gas boosting facility of this Plant is an integral component which had to be developed due to the prevalent site condition during conceptual stage. In normal case, gas boosting facility is not developed by the Generating Agency and such facility is, generally, provided by the gas supplier/ transporter. It would be pertinent to mention here that the maintenance of such facility requires huge inventory, expertise, redundancy and flexibility etc. In fact, it is a separate domain for which competency is required to be developed exclusively to handle such system.

As things stand today, NEEPCO would, therefore, like to review on the matter as proposed below:-

- (1) The gas booster station is more than 15 years old and requires replacement. NEEPCO intends to replace the entire system through M/S Assam Gas Company Limited (AGCL), who is the transporter of fuel for the Plant.
- (2) As per preliminary discussion held with M/S AGCL, they showed their inclination to build such facility for NEEPCO.
- (3) It is envisaged that AGCL being in the business of developing and handling such system, they will be in a better position to supply quality fuel at desired pressure for the Plant.
- (4) Preliminary Feasibility Report has already been submitted. The indicative project cost will be around 110 – 120 Crs.

### **Proposal**

NEEPCO would like to build the gas boosting facility through M/S AGCL. The matter is placed for deliberation and decision so that inprinciple clearance can be given to M/S AGCL to go ahead for establishing the gas boosting facility for AGBP.



**Deliberations:**

*Members were of the opinion that NEEPCO should provide details of useful life of present compressors, impact on tariff and price recovery mechanism before taking decision.*

*It was agreed that NEEPCO should submit a self-contained detailed document, including:*

- *The increase in performance level of gas station,*
- *“Useful life of existing compressors / improved performance by R&M”, “cost-impact of the proposed facilities” &*
- *“Mechanism to recover the cost” etc before finalizing the scheme.*

*The complete proposal, including above details, may be reviewed in the next Commercial Committee Meeting before submitting the same to the TCC/ RPC for approval.*

**5.2 Modification of Design Energy of hydro Electric Plants for calculation of ECR as per CERC (Terms and Conditions of Tariff) Regulations 2009:**

As per the CERC (Terms and Conditions of Tariff) Regulations 2009, low generation of the plants due to reasons attributable to NEEPCO and as per clause no. 22 (6) (i) & (ii) of chapter 3 of the regulation, the generating station can modify their Design Energy for the purpose of calculation of ECR to recover the shortfall of energy charge.

The following Hydro Electric Plants of NEEPCO could not achieve DE during 2009-2010 due to reasons not entirely attributable to NEEPCO.

Sl. No	Name of plant	Design Energy (DE)	COD
1.	Khandong HEP	277.61	4 <sup>th</sup> May, 1984
2.	Kopili HEP	1186.14	12 <sup>th</sup> July, 1997
3.	Doyang HEP	227.24	8 <sup>th</sup> July, 2000
4.	Ranganadi HEP	1509.69	12 <sup>th</sup> April, 2002
5.	Kopili Stage II HEP	86.3	26 <sup>th</sup> july, 2004

As per the details shown above, the plants at Sl. 1 & 2 fall above 10 years of their commercial operation and the rest are below ten years criteria. As such, as per aforementioned clause of Tariff Regulations, ECR of the generating plants, namely Doyang HEP, Ranganadi HEP and Kopili-II HEP need to be computed with the modified DE, which shall be considered as equal to the actual energy generated during the year of the shortfall.

Members were of the opinion that clarification is required from CERC on ‘reasons not attributable to NEEPCO and calculation of shortfall in energy thereof’.

*Members advised the NEEPCO to approach the CERC for necessary certifications. NEEPCO agreed.*



## **6. Agenda items from POWERGRID.**

### **6.1 Payment of UCPTT arrears in installment:**

As per the CERC's order dated 30.09.08 in Petition No. 38/2008, constituents in the NER have to pay UCPTT share revision for the period from 01.02.2000 to 31.03.2004 in 8 equal quarterly installments, the last being by the 31.12.2010.

Nagaland, Tripura & ASEB have cleared up to 6<sup>th</sup> installment (due on 30.06.2010)

MeECL has cleared up to 5<sup>th</sup> installment and 6<sup>th</sup> installment is still pending. MeECL is requested to clear 6<sup>th</sup> installment of Rs. 0.31 Crore (due on 30.06.2010) at the earliest.

Manipur has cleared up to 4<sup>th</sup> installment and paid only Rs. 0.25 Crore against 5<sup>th</sup> installment of Rs. 0.84 Crore. Manipur is requested to release the payment of Rs. 1.43 Crore against balance of 5<sup>th</sup> installment and 6<sup>th</sup> installment.

All constituents are also requested to clear the subsequent two installments due on 30.09.10 & 31.12.10) on due dates.

Representative from MeECL informed that the approval is pending from their Management. NERTS shall approach Manipur again to clear the outstanding dues.

*Members noted as above.*

### **6.2 Outstanding due against constituents and LC requirement:**

#### **A brief of the issue:**

The respective outstanding as on 05.07.2010 and LC requirement from April '10 to Sept. '10 vis-à-vis availability are enclosed at Annexure – 6.2. Outstanding against most constituents have gone to alarming level. Only Arunachal Pradesh, Tripura and Mizoram have cleared 3 installments of arrears on account of switchover from UCPTT to Tariff as per norms. 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> installments were billed on 26.02.10, 01.04.10 & 03.05.10 respectively. Constituents are requested to liquidate their outstanding at the earliest as more than 90 days have passed since the billing of 1<sup>st</sup> installment.

MeECL is maintaining LC at the level of Rs. 2.50 Crore against the requirement of Rs. 2.62 Crore. Gross monthly bill of MeECL has gone up to Rs. 2.93 Crore. MeECL is requested to enhance the LC for Rs. 3.00 Crore.

*Members agreed to clear the outstanding dues at the earliest.*

## **7. Agenda items from NERLDC.**

### **7.1 UI outstanding:**

Status of UI outstanding as on 02.07.2010 is attached (**Annexure - 7.1**). Meghalaya and Nagaland are the largest defaulters with outstanding of Rs. 20.94 Crores and Rs.12.52 Crores respectively. Such payment default is creating serious constraint in timely settlement of UI pool account.

***MeECL agreed to pay the outstanding. Since Nagaland was not represented, NERLDC may take up with Nagaland for their early payment of the outstanding.***

### **7.2 Payment security for UI charges:**

#### **A brief of the issue:**

As per clause 10(4) of CERC(UI charges and related matters)(Amendment) Regulations, 2010, “All Regional entities which had at any time during the previous financial year failed to make payment of *Unscheduled Interchange charges including additional unscheduled interchange charges by the time specified in these Regulations shall be required to open a Letter of Credit (LC) equal to 110% of its average payable weekly UI liability in the previous financial year, in favour of the concerned RLDC within a fortnight from the date these Regulations come into force*”.

Accordingly, NERLDC worked out the amount for which LC is to be opened and same was intimated to all concerned. Subsequently, reminder for the same was also given. But, no Regional entity has opened LC till date.

***NEEPCO has already opened LC of required amount on 9<sup>th</sup> July 2010 for payment security of UI charges.***

***All other members were requested to open LC for payment security of UI charges as directed by Hon’ble CERC.***

### **7.3 Replacement of all Secure make SEMs by L&T make SEMs in NER:**

NERLDC, vide letter dated 08.06.2010, had advised POWERGRID, NERTS to replace all existing Secure make Special Energy Meters by L&T make meters at the earliest as most of the Secure make meters have completed 10 years period. NERTS may intimate status of replacement of the meters.

***AGM NERTS informed the members that the remaining meters (53) would be replaced within 26<sup>th</sup> July – 14<sup>th</sup> August. A copy of the plan will be given to NERLDC and NERPC.***

#### **7.4 Downloading of SEM data through RS-485 scheme:**

It was intimated by POWERGRID, NERTS in 12<sup>th</sup> Commercial Committee meeting that commissioning of RS-485 scheme in NER would commence in March, 2010. POWERGRID, NERTS may intimate latest status of the activity.

***AGM NERTS informed the members that 8 stations out of 20 stations have been completed. The remaining stations were expected to be completed by October 2010.***

***It was also agreed that two meters recently installed in Umtru station should also be covered under the scheme and NERTS will procure necessary equipments for the same.***

#### **7.5 PC with Windows XP operating system at KHEP and AGTPP:**

RS-485 scheme has been commissioned in KHEP and AGTPP stations of NEEPCO. But due to non-availability of any PC with Windows-XP operating system, RS-485 is non-functional in these locations. Matter has already been taken up with NEEPCO vide letter dated 05.07.2010. NEEPCO may look into the matter and arrange for PC with Windows-XP to enable SEM data downloading through RS-485 scheme.

***Representative from NEEPCO informed the members that PC with Windows-XP to enable SEM data downloading through RS-485 scheme had already been provided in the above stations. Similarly, RS-485 scheme may also be implemented in the above stations.***

#### **7.6 Inter-State meter reading connecting Assam and Ar. Pradesh/Nagaland through 33 KV and 11 KV feeders:**

##### **A brief of the issue:**

Monthly readings of energy flow through 33 KV and 11 KV feeders connecting Assam and Ar. Pradesh/Nagaland as sent by Assam are used in energy accounting. In the last Commercial Committee meeting, it was highlighted that the readings were not being received from Assam since August, 2008. Although APDCL representative assured to look into the matter, no further readings have been received till date. Ar. Pradesh has been sending reading of few feeders recently (Namsai, Santipur, Sunpura, Seijussa). We have advised Ar. Pradesh, vide letter dated 12.05.2010, to send comprehensive monthly reading in prescribed format. Similar practice can be followed by Nagaland as well for the 33 KV and 11 KV feeders between Assam-Nagaland. APDCL is once again requested to send latest readings at the earliest. In the absence of APDCL readings, figures sent by AP or Nagaland can also be included in accounting. **As accounting is prepared by the NERPC Secretariat, monthly readings may directly be sent to NERPC Secretariat.**

Representative from APDCL informed that they were streamlining the procedure and the readings from the above feeders would be sent regularly. He suggested that Arunachal Pradesh and Nagaland should also send the readings pertaining to their respective states.

##### **Deliberations:**

***It was agreed that the concerned state should send the readings of feeders within geographical boundary of respective state to NERLDC.***

### **7.7 Registration fee for users of NERLDC:**

As per clause 24 of CERC (Fees and charges of Regional Load Despatch Centre and other related matters) Regulations 2009 issued vide notification dated 18.09.2009;

#### **QUOTE**

**Registration fees :** - (1) All users whose scheduling, metering and energy accounting is to be coordinated by Regional Load Despatch Centre shall register themselves with the Regional Load Despatch Centre concerned by filing application in the format prescribed as **Appendix-IV** to the regulations.

(2) The application for registration shall be accompanied by a one time fees of Rs 10 lakh.

(3) The existing users shall register themselves with the Regional Load Despatch Centre concerned by filing an application along with the fees of Rs 10 lakh within a month of coming into force of these regulations.

#### **UNQUOTE**

In NER, there are 16 users comprising of seven States, eight ISGS generating Stations (seven Power Stations of NEEPCO and one Station of NHPC) and POWERGRID.

Till date Assam, Meghalaya, Tripura, Mizoram, NHPC, NEEPCO (Rs. 10 lakhs only against Rs. 70 lakhs for seven Stations) and POWERGRID got themselves registered. Ar. Pradesh, Manipur and Nagaland are yet to get themselves registered by paying one- time fee of Rs. 10 lakhs. NEEPCO also has to pay balance Rs. 60 lacs.

Ar. Pradesh, Manipur, Nagaland and NEEPCO are requested to do the needful at the earliest.

*Representative from the NEEPCO informed that the NLDC was seeking clarification from the CERC regarding user definition. Once the CERC clarifies the definition, the NEEPCO will clear the balance payment, if required.*

*Since Arunachal Pradesh, Manipur and Nagaland were not represented, the NERLDC may intimate the same for payment of user registration fee.*

## **8. Agenda items from NERPC.**

### **8.1 Auditing of UI Account and Reactive Pool Account:**

As per the IEGC dated 28th April 2010, the RLDC shall table the complete statement of the regional UI account and the regional Reactive Energy pool account in the RPC's Commercial Committee meeting, on a quarterly basis, for audit by the latter.

A copy of the statement of Regional UI Pool Account and Regional Reactive Pool Account was circulated amongst the members. All the members were requested to check and reconcile the same. Observations, if any, may be communicated to NERPC Secretariat within 1 week and if no observations were received, the same will be treated as final. It was also agreed that the normal process of re-conciliation followed by the NERLDC will also continue.

## **8.2 Book of accounts for UI and Additional UI charges to be maintained by NERPC:**

As directed by the Hon'ble CERC in Unscheduled Interchange Charges and Related Matters (Amendment) Regulations 2010 dated 28<sup>th</sup> April 2010, NERPC Secretariat is to maintain separate books of accounts for principal and interest component of Unscheduled Interchange charges and Additional Unscheduled Interchange charges.

*It was agreed that all the constituents of NER should intimate the NERPC Secretariat the details of UI payments w.e.f 03.05.2010.*

## **8.3 Payment of Capacity Charge of Loktak HEP, NHPC for the period from April 2008 till May 2010:**

The NERPC was informed that the NHPC has had been realizing the capacity charges for Loktak HEP from the beneficiaries using Capacity Indexes corresponding to Installed Capacity of 90 MW for the period from April 2008 till May 2010. As directed by Hon'ble CERC in its order dated 04.10.2006 in petition no. 171/2004, payment of capacity charges should be done based on Installed Capacity of 105 MW w.e.f 1<sup>st</sup> April 2008. The NERPC clarified the issue vide letter no. NERPC/COM/REA\_Corr/2010/1680-89 dated 28<sup>th</sup> June 2010 (Annexure – 8.3) for rectification of the bills raised by the NHPC to the beneficiaries during the period from April 2008 till May 2010. The NHPC is requested to raise revised bills for realization of capacity charges of Loktak HEP considering Capacity Indexes corresponding to 105 MW already published in the REAs issued.

*Members noted the above and agreed that the NHPC should raise revised bill from April 2008 till May 2010.*

## **9.1 Agenda items from APDCL.**

### **9.1.1 CSGS Generation Loss due to:**

- a) **Long Shut down period of Kopili & Khandong HEP and**
- b) **Non-Availability of CTU Network**

During the current year 2010-11 there is a very good monsoon season in NER starting from April' 2010. Though there is heavy rainfall maximizing the generation potential of Hydro stations of NER, the Beneficiaries of NER could not reap the full commercial benefit of Hydro generation on account of following two main reasons:

#### ***a) Long shut down of Kopili and Khandong Generators of NEEPCO***

Item (a) was discussed in the 51st OCC Meeting held at Kopili HE Project in June 2010 and dropped from agenda.

***b) Non-Availability of CTU Network during the Hydro period.***

From April'2010 onwards the CSGS generation of NER suffers twice for non availability of CTU networks belonging to other regions. As a result of this non availability of CTU network the beneficiary states again had to bear the brunt. Power Grid did not suffer nor the Generators. They get their due shares on the basis of their declared availability and therefore need not suffer any loss due to transmission constraints. The only sufferers are the Beneficiary States who has to pay both the Generators and the Transmission Licensee without getting their service. Apart from this, the wastage of energy in the national context is a matter of great concern of all who are sincerely devoted in this sector.

In this context it is to be noted that the same Transmission Utility i.e. the Power Grid operates in both the regions and their performance should be taken as a whole in allowing its dues to meet the ends of justice. There is logic in allowing dues to generators but the CTU should not get the dues, the reason for which is not worth debating.

The Forum may deliberate the issues and take pragmatic decisions as may be required.

- (i) To bind all players of power sector to perform their duties and responsibilities entrusted to them as per Act'2003.
- (ii) To evolve ways and means to share the losses under such contingent situation.

***Members noted the above and requested NERLDC to take up the matter with other RLDCs.***

**9.1.2 News Item Published by NEEPCO in Assam Tribune on 28.06.2010:**

***An agenda item based on press is not to be taken up at CCM forum.***

**9.1.3 Drawl of APDCL (ASEB) from Meghalaya at Garo Hills:**

Assam has been drawing energy from Meghalaya side in Dhubri District from the days when both MeSEB and ASEB were together as single Board. When Power Grid has come into the picture and Regional Energy Accounting system is introduced in the region, other states have requested ASEB through NEREB (NERPC) to treat their drawl through 11 KV & 33 KV distribution lines of ASEB as deemed drawl of their CS energy share from NER CSGS. As a good gesture ASEB also agreed to that. Even MeSEB is also availing that benefit in case of its drawl through 132 KV Kahilipara-Umtru feeder. As the existing tariff of MeSEB at that time was at par with the CS energy ASEB continued with the prevailing system.

Observing the present tariff hike of MeSEB, now APDCL (ASEB) requests the Forum to treat its drawl from MeSEB system under Dhubri District as deemed drawl of CSGS share of APDCL from CSGS of NER and direct accordingly to all concerned.

***It was agreed that the issue should be settled bi-laterally by the APDCL and the MeECL. If there are unsettled issues, the committee may deliberate.***

## **9.2 Agenda items from TSECL.**

### **9.2.1 Non-allocation of share in favour of Tripura from Kopili & RHEP.**

#### **A brief of the issue:**

Tripura was deprived of receiving its legitimate share from Kopili Generation on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> July and from RHEP Generation on 5<sup>th</sup> July 2010. It may be noted that Kopili Project generated 90 MW (+) RTC on the aforementioned dates. But, surprisingly Tripura was not allocated any share on 1<sup>st</sup> July 2010 rather de-allocated some power against Kopili Generation during 00:00 to 01:00 Hrs. We have noted this occurrence seriously. Apart from the above, on 2<sup>nd</sup> and 3<sup>rd</sup> July 2010, Tripura was allocated share on reduced generation (almost half of the actual generation) during the entire off-peak period.

Further, on 5<sup>th</sup> July 2010, similar situation happened in case of RHEP generation while Tripura was not allocated any share during 04:00 Hrs to 11:45 Hrs in spite of 130 MW generation made by the RHEP Project during this period. The above instances of repeated denial of share allocation to Tripura had badly jeopardized the interest of Tripura. Over and above, Tripura being a beneficiary of these projects is bearing the costs (as per entitled share %) of these projects in line with the prevailing CERC Tariff norms.

Hence, any denial of share from the power generated by these projects is a gross violation of the norms laid down by the MOP, GOI/ CERC as well as scheduling procedures mandated in the IEGC. In this context, we would also like to know about the status of the non-allocated portion of Tripura power from these projects during aforementioned dates.

In addition, 4<sup>th</sup> day scheduling of generation from Kopili and RHEP towards compensation with reference to the generation of aforementioned dates vis-à-vis allocation made to Tripura as per procedure laid down in the IEGC sub-Clause (9) of Clause 6.5 (Scheduling and Dispatch procedure for long term access, Medium term and Short-term open access) has also been violated.

Members may like to deliberate the issue so that beneficiaries can receive their legitimate share allocation as per entitlement.

#### **Deliberations:**

The peculiar situations of schedules in the aforementioned dates were explained in detail by the NERLDC in their presentation. It was found that the peculiarities arose on account of backing down of generation on 28<sup>th</sup> July 2010 due to non-availability of transmission corridor. The illustration is reproduced below:

#### **CERC (Indian Electricity Grid Code) Regulations, 2010.**

##### **PART-6 Scheduling and Dispatch Code**

##### **Clause 6.5.13**

The schedule finalized by the concerned load dispatch centre for hydro generating station, shall normally be such that the scheduled energy for a day equals the total energy (ex-bus) expected to be available on that day, as declared by the generating station, based on foreseen/planned water availability/release. It is also expected that the total net energy actually supplied by the generating station on that day would equal the declared total energy, in order that the water release requirement is met.



While the 15-minute wise, deviations from schedule would be accounted for as Unscheduled Interchange (UI), the net energy deviation for the whole day, if any, shall be additionally accounted for as shown in the illustration.

○ **Illustration**

Suppose the foreseen/expected total energy (ex-bus) for Day-1 is E1, the scheduled energy is S1; actual net energy (metered) is A1, all in ex-bus MWh.

Suppose the expected energy availability for Day 4, as declared by the generator, is E4. Then, the schedule for day4 shall be drawn up such that the scheduled energy for Day 4, shall be

$$S4=E4+ (A1-(E1-)),$$

Similarly,

$$S5= E5+ (A2-(E2-)),$$

$$S6=E6+ (A3-(E3-)), S7=E7+ (A4-(E4-)), \text{ and so on.}''$$

However, draft IEGC 2010 had the provision for transmission constraint as illustrated below:

○ **Illustration**

Suppose the foreseen/expected total energy (ex-bus) for Day-1 is E1, the scheduled energy is S1, actual net energy (metered) is A1 and energy that could not be despatched due to transmission constraint is C1, all in ex-bus MWh. Suppose the expected energy availability for Day 4, as declared by the generator, is E4. Then, the schedule for day4 shall be drawn up such that the scheduled energy for Day 4, shall be

$$S4=E4+ (A1-(E1-C1)),$$

Similarly,

$$S5= E5+ (A2-(E2-C2)),$$

$$S6=E6+ (A3-(E3-C3)), S7=E7+ (A4-(E4-C4)), \text{ and so on.}''$$

**Real-time case for Kopili**

Day 1 (28<sup>th</sup> Jun'10)

$$E1 \text{ (DC)} = 2.964 \text{ MU}$$

$$S1 \text{ (Sch)} = 2.83977 \text{ MU}$$

$$S1 \text{ (RevSch)} = 0.53050 \text{ MU}$$

$$C1 \text{ (Txm cnstrnt)} = 2.83977 - 0.53050 = 2.30927 \text{ MU}$$

$$A1 \text{ (Act)} = 0.54077 \text{ MU}$$

(No significant UI impact on Kopili)

Day 4 (1<sup>st</sup> Jul'10)

$$E4 \text{ (DC)} = 2.376 \text{ MU}$$

$$S4 = E4 + A1 - (E1 - C1) \quad (\text{as per draft IEGC 2010})$$

$$= 2.376 + 0.54077 - 2.964 + 2.30927$$

$$= 2.26204 \text{ MU}$$

(Approach would have been logical and implementable)

However, as per IEGC 2010 in force, with E4 (DC) = 2.376 MU,

$$\begin{aligned} S4 &= E4 + A1 - E1 \\ &= 2.376 + 0.54077 - 2.964 \\ &= - 0.04723 \text{ MU} \end{aligned}$$

Resulting block wise schedule for Kopili as illustrated below:

Blk No.	Sch	Avail	
1	-49	99	
2	-49	99	
3	-49	99	- Kopili receives UI
4	-41.94	99	
5 to 96	0.00	99	
	-0.04723	2.376	

Impact being Kopili receives UI though no UI was paid during D1 operation

- POSOCO has taken up the matter with CERC to revise the clause in IEGC pertaining to Hydro Scheduling on Day4.
- Constituents may also take up the matter appropriately.

***Members took note of the above illustration. It was agreed that the IEGC pertaining to Hydro Scheduling on Day 4 needs to be amended and members may approach CERC for the same. It was also agreed that schedule of beneficiaries on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> of July 2010 may be revised to avoid negative schedule.***

#### **10. Date and venue of next Commercial Committee Meeting.**

It was agreed that the next Commercial Committee Meeting would be held in the first week of September 2010. Exact date and venue will be intimated in due course.

Member Secretary, NERPC thanked all the members for an effective participation in the meeting and also thanked the POWERGRID for hosting the meeting.

The meeting ended with vote of thanks to the Chair.

**Annexure – I**List of participants in the 13th Commercial Committee meeting of the NERPC

SN	NAME OF PARTICIPANT	DESIGNATION
<b>ARUNACHAL PRADESH</b>		
	Not represented	
<b>ASEB</b>		
1	M.K.Adhikary	D.G.M (Com), APDCL
2	K.Goswami	Sr. Manager (Com), APDCL
3	J.P.Choudhury	Sr. Manager (Com), APDCL
<b>MANIPUR</b>		
	Not represented	
<b>MEGHALAYA</b>		
1	F.E.Kharshiing	E.E. (SLDC)
2	S.S.Kharmih	E.E. (SM)
<b>MIZORAM</b>		
	Not represented	
<b>NAGALAND</b>		
	Not represented	
<b>TRIPURA</b>		
1	Arup Gan Chaudhuri	DGM (T&C)
2	Debabrata Pal	Sr. Manager (Com)
<b>NEEPCO</b>		
1	P.C.Barman	DGM (E)
2	Rana Bose	Sr. Manager (Fin)
3	D.C.Das	Sr. Manager (E)
<b>NERLDC</b>		
1	T.S.Singh	Addl. General Manager
2	R.Sutradhar	Chief Manager (Comml & OS)
3	M.Hussain	Chief Manager
4	S.K.Saha	Manager
<b>NERTS (PGCIL)</b>		
1	Ajoy Patir	A.G.M (Comml)
2	Ishrat Ali	Engineer (Comml)
3	Rashmi Boro	Sr. Asst. Engineer (Comml)
<b>NHPC</b>		
1	S.Balaji	Asst. Manager (Fin)
<b>Trading Companies</b>		
	Not represented	
<b>NERPC</b>		
1	B.K.Jain	Member Secretary
2	A.K.Jain	S.E. (Commercial)
3	P.D.Siwal	S.E. (Operation)
4	Lalrinsanga	E.E. (Commercial)
5	D.K.Bauri	A.E.E

Annexure - II

# **Presentation by NERLDC in 13<sup>th</sup>. Commercial Committee meeting of NERPC**

14.07.2010

## Coverage of presentation

- Basics of Point of Connection transmission Tariff to be implemented from Jan, 2011.
- ISGS backing down in NER on 28-06-10
- Day-4 scheduling of Hydro ISGS

## Present transmission tariff vis-à-vis PoC tariff

### Illustration :

POWERGRID AFC (NER) : Rs. 200 Crores/year (A)

ISGS Installed Capacity : 1235 MW (B)

Postage tariff : (A) / (B) = Rs. 16 lacs/MW/year

Considering 5500 MU ISGS gen/year : 36 paise/unit.

We have five postage tariff in five Regions now.

We shall move away to different Rs./MW/year rates for different states based on distance/direction sensitivity.

## “Sharing of Inter State Transmission Charges and Losses”

CERC Regulations issued on  
15.06.2010

## Scope

ISTS Charges and Losses shall be shared amongst the following categories of DICs:

- (a) Power Station / Generating station which are regional entities as per IEGC.
- (b) State Electricity Boards / State Transmission Utilities connected with ISTS (on behalf of distribution companies, generators and other bulk customers connected to the transmission system owned by the SEB/STU/intrastate transmission licensee)
- (c) Any bulk consumer directly connected with the ISTS.
- (d) Any designated entity representing a physically connected entity as per clauses(a), (b) and (c) above.

## Principles of sharing of ISTS charges and Losses

Point of Connection charges and Loss Allocation Factors for DICs – to be determined by Implementing Agency (IA) ,based on YTC of ISTS transmission licensees and transmission losses in the ISTS network:

- (i) Using load-flow based methods
- (ii) Based on the Point of Connection Charging method.

## Data for Load Flow Study

### 1. Commercial data containing Line-wise YTC

Data to be submitted by:

- (a) ISTS licensees
- (b) Owners of deemed ISTS
- (c) Non-ISTS licensees with assets certified by RPCs as being used for inter State transmission

## Data for Load Flow Study

### 2. Existing Network data for load flow (for the first year and subsequently for the networks added during the year)

Data to be submitted by:

- (a) ISTS licensees
- (b) Owners of deemed ISTS
- (c) Non-ISTS licensees with assets certified by RPCs as being used for inter State transmission



## Data for Load Flow Study

### **3.Nodal generation information and forecast withdrawal data** (MW & MVAR Data at various nodes or a group of nodes) **along with details of Long Term & Medium Term contracts**

#### **Data to be submitted by:**

#### **(a) DICs**

### Data from DICs

#### **Peak and other than peak conditions data:**

- (i) January 15 (for the block Dec to Feb),
- (ii) March 15 (for the month of Mar),
- (iii) May 15 (for the block Apr to Jun),
- (iv) August 31 (for the block Jul to Sep),
- (v) October 30 (for the block Oct to Nov),

## Data from DICs

**In case any of the stipulated dates fall on a Weekend/Public Holiday, data would be submitted for working day(s) immediately after the date(s) indicated.**

## Information Procedure

- Provision of Information by DICs & other Constituents

On or before 4<sup>th</sup> week of Nov every year for the next financial year.

## Data submission

- **In the first year of the implementation of these regulations, the DICs and Transmission Licensees shall submit the Injection / Demand data, network data and Yearly Transmission Charge data to the IA not later than 60 days of the notification of these regulations in formats provided by IA**

### Approved injection / withdrawal

- o **Implementing agency will approve forecasted nodal generation and withdrawal for each DIC's based on the historic generation and demand. The approved nodal generation and withdrawal will be made available on the website of Implementing Agency in the second week of December**

### Determination of PoC charges in Rs./MW/month

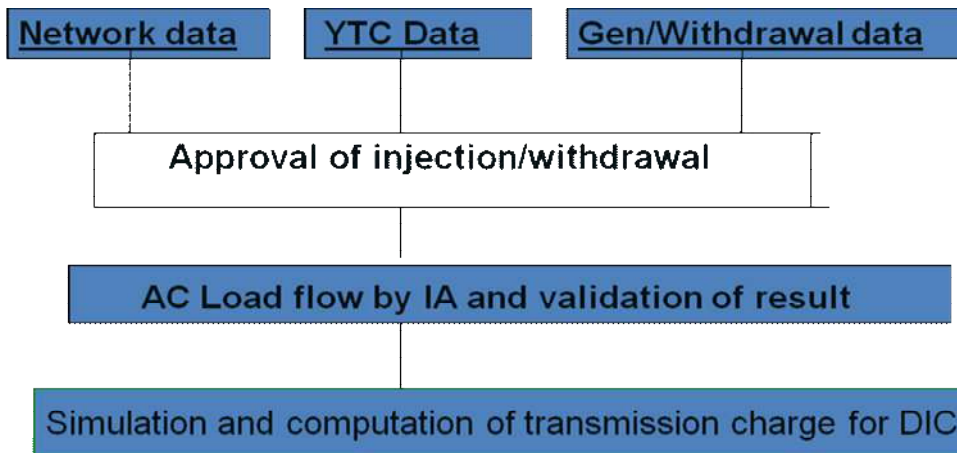
**IA to run AC load flow of entire system.**

Basic Network, nodal generation, nodal demand and the load flow results for the subsequent application period for each grid condition will be validated by the Validation committee.

Allocation of annual average YTC of each line to each agent in proportion to change in flow in network branch affected by the agent.

PoC charges in Rs./MW/month and Rs./MW/hour (STOA) at each node in each season will be computed.

## Process flowchart



## Important Features

**There shall be no differentiation in Point of Connection charges between the long term, medium term and short term Designated ISTS Customers of the transmission system**

For the first two years computation of charges and losses for ISTS network will be based on both:

- Point of Connection Method
- Uniform Charge Sharing Mechanism (postage stamp method)

*50% weightage will be accorded to each method.*

*After 2yrs the Commission will consider gradual shifting towards the PoC Method by reducing the proportion of postage stamp component.*

## Important Features

- Deviation from approved quantum will attract additional charges payable by the DIC.
- Beyond 20% deviation in any time block, the DIC to pay additional transmission charges 25% above the zonal Point of Connection charges.
- No penalty in case of rescheduling of the planned maintenance program beyond the control of the generator and certified to be so by RPC.
- Any payment on account of additional charges for deviation by the generator shall not be charged to its long term customer and shall be payable by the generator

## Important Features

Approved quantum =

(Approved Injection + Approved Additional Medium Term Injection + Approved Short Term Injection)  
**for generators.**

= (Approved Withdrawal + Approved Additional Medium Term Withdrawal + Approved Short Term Withdrawal)  
**for demand customers.**

### Important Features

- Accounts of ISTS charges to be collected from each DIC – to be maintained by RPCs.
  
- Raising of transmission bills, collection and disbursement of transmission charges to other transmission licensees – CTU responsible.

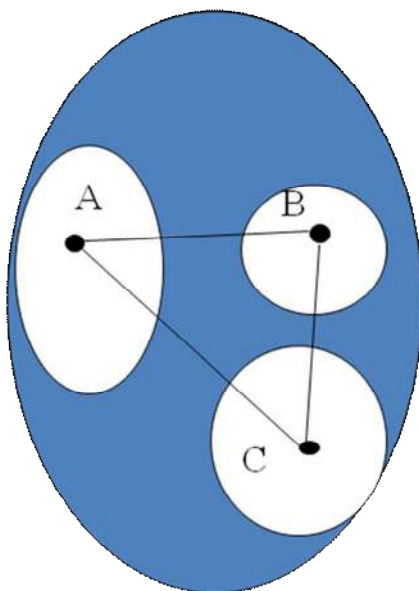
Designated ISTS Customers (DICs): Users of any segments / elements of the ISTS and shall include all generators or load serving entities connected to the ISTS including generating stations, distribution licensees, State Electricity Boards (SEB), State Transmission Utility (STU). Bulk Consumer and any other entity / person.



Implementing Agency (IA): Agency designated by the Commission to undertake the estimation of allocation of transmission charges and transmission losses at the various nodes/zones for the *application period*.

Application period: Period of application of the charges determined as per the regulations and shall ordinarily be 12 months coinciding with the FY, which shall further be divided into multiple blocks representing the seasonal conditions and peak and other than peak conditions.

## Point of connection tariff



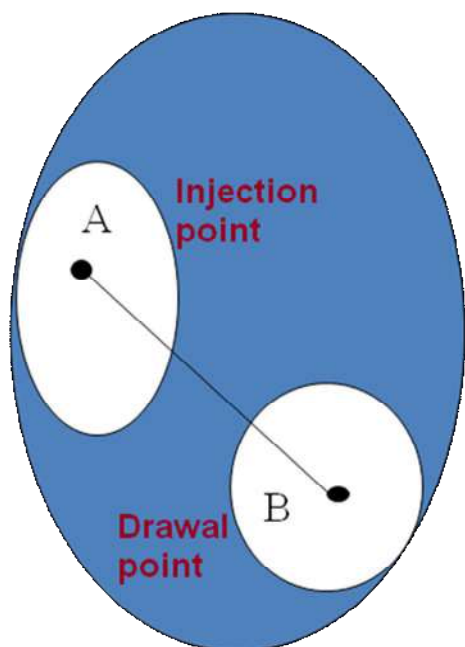
The tariff is calculated for input and output in each node

The price is expressed in a price formula (Rs./MW/month) and is independent of the power "path".

The pricing is transparent



## Point of connection tariff



**Transmission tariff for  
Power Exchange  
transaction in India**

- Transmission charge for use of inter state transmission system @ Rs. 100 / MWh payable to NLDC.



# Thank You