भारत सरकार Government of India
विधुत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विधुत समिति North Eastern Regional Power Committee
मेघालया स्टेट हाउसिगं फिनंस को-आपरेटिव सोसायटी लि. बिल्डिगं
Meghalaya State Housing Finance Co-Operative Society Ltd. Building
नांग्रिम हिल्स, शिलोंग - 793003
Nongrim Hills, Shillong – 793003.

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No.: NERPC/COM/CC_Min/2014/ 2330-54 October 1, 2014

To

1. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Dist.), MeECL, Lumjingshai, Short Round Road,Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Electricity Complex, Keishampat, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
10. Chief Engineer (WE Zone),Department of Power,Govt. of Arunachal Pradesh,Itanagar- 791 111
11. Chief Engineer (EE Zone),Department of Power,Govt. of Arunachal Pradesh,Itanagar- 791 111
12. Chief Engineer (P&E), Department of Power, Govt. of Nagaland, Kohima – 797 001
13. General Manager, TSECL, Agartala – 799 001
14. General Manager, NERLDC, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
15. ED, NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
16. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
17. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
18. ED (Commercial), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
19. RED (East-II), NTPC Limited, ER-II HQ, Plot No. N-17/2, Third Floor, Naya Palli, Bhubaneswar-751012
20. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi - 110066
21. AGM (BD), NVVN, Core 5, 3rd floor, Scope Complex, 7 Institutional Area, Lodhi Rd., N. Delhi-3
22. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
23. Chief Engineer, GM Division, CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066
24. General Manager, OTPC, Palatana, Kakraban, Gomati District, Tripura – 799 116
25. Dy. General Manager (Comml), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110 019.

Sub: Minutes of the 22nd CC meeting held on 12/09/2014 at "Hotel Classic", Imphal.

Sir,

Please find enclosed herewith the minutes of 22nd Commercial Committee Meeting held at "Hotel Classic", Imphal on 12/09/2014 for your kind information and further necessary action.

Encl.: As above

भवदीय / Yours faithfully,

बी. लिंगखोइ

(बि. लिंगखोइ / B. Lyngkhoi)
अधीक्षण अभियंता / **Superintending Engineer**
प्रचालन / **Operation**

North Eastern Regional Power Committee

Minutes of the 22nd Commercial Coordination Committee Meeting

Date : 12th September 2014
Venue: Hotel Classic, Imphal

The 22nd Commercial Committee meeting of NERPC was held on 12th September 2014 at Hotel Classic, Imphal. The meeting was hosted by MSPDCL. The list of participants is given at **Annexure - A.**

Shri B. Lyngkhoi, Director/SE (O), NERPC welcomed all the participants of the CC meeting on behalf of NERPC. He thanked MSPDCL for hosting the meeting and for making excellent arrangement and comfortable stay of the delegates. He emphasized the importance of commercial committee meeting and requested all constituents especially the beneficiary states to attend the meeting regularly so that fruitful decision on important issues could be taken on time.

Shri R. Sudhan (IAS), MD, MSPDCL welcomed all the delegates and expressed gratitude to NERPC for giving the opportunity to host the 22nd CC meeting at Imphal. In his brief speech, Shri Sudhan stated that commercial committee meeting and other sub- committee meeting(s) of NERPC have created platform for interaction and this platform should be utilized for maximum benefit. He assured that MSPDCL and MSPCL would send participants regularly in all subcommittee meetings of NERPC in future.

There were presentations on

(1) IEGC 2014 amendment; Deviation settlement mechanism 2014 by DGM, NERLDC.
(2) CERC Tariff Regulation and Billing procedures of NEEPCO by Sr Manager (Fin.), NEEPCO.
(3) Transmission Availability Certification by Assistant Secretary, NERPC.

Details of the presentations are enclosed at **Annexure – B, C & D respectively.**

Then, the agenda items were taken up.

1. *Confirmation of the minutes of 21st CC meeting held on 11/06/2014 at Hotel Nandan, Guwahati.*

Minutes of the 21st CC Meeting held at Hotel Nandan, Guwahati on the 11th June 2014 were circulated vide No.: NERPC/COM/CC_Min/2014/689-727 dated 16th June 2014.

NERTS has requested for modification of minutes under item no. 10 (Any other item) as given below:

Minutes as recorded by NERPC:

"10.1 Energy exchanges between APDCL and NERTS:

Representative from NERTS informed that there are energy exchanges between APDCL and NERTS from Balipara, Bongaigaon, Misa and Silchar sub-stations. In the former 3 sub-stations, the power consumed by NERTS is treated as bulk consumer whereas in Silchar, the power consumed by NERTS is treated as HT consumer and therefore at a much higher rate. He requested APDCL to look into the issue so that same rate may also be applied to energy consumed at Silchar sub-station.

APDCL agreed to look into the issue and requested NERTS to write a letter to CGM (Comml-T) stating the facts. NERTS should submit the joint meter reading of Silchar sub-station to NERPC Secretariat on monthly basis so that same can be included in the monthly REA from June 2014 onwards."

Minutes to be modified as proposed by NERTS:

"10.1 Drawl of Aux. Power supply from tertiary and consumer category thereof:

DGM (OS), POWERGRID informed that in NER there are 4 nos. of 400 kV substations viz. Misa, Balipara, Bongaigaon & Silchar where provision of drawing aux. power supply from tertiary for colony and substation load exists. All the said stations are located in the state of Assam. Now, so far as categorization of consumer is concern APDCL categorized Misa, Balipara & Bongaigaon sub stations as BULK OTHERS due to combination of commercial & domestic load above 25 kVA. However, in case of Silchar it has been categorized as HT COMMERCIAL having higher tariff. Since the nature of load in Silchar is similar like other said stations, POWERGRID requested APDCL to covert the consumer category of Silchar from "HT COMMERCIAL" to "BULK OTHERS".

APDCL requested POWERGRID to give a formal request to CGM for necessary conversion of category."

Deliberations in the Meeting

Since no observations/comments were received from the constituents, the minutes of 21st CC meeting were confirmed with modification as stated above.

2. *Agenda items from NERPC*

2.1 *Tabulation of revenue earned through regulation of power to beneficiary states of NER:*

As agreed in the 19th CCM and 20th CCM, constituents will submit detail information month-wise beginning from the financial year 2011-12 onwards. The constituents have agreed to submit the information for the financial year 2011-12 & 2012-13 in the next CC Meeting (i.e 21st CCM).

Financial Year : e.g. 2012 - 2013									
Regulating Entity: Regulated Entity:	Generating station from where regulation is done	Quantum of regulated power (in MWH)	Mode of sale of regulated power (through exchange or through traders or UI etc)	Total revenue earned from sale of regulated power (In Rs.)	Detail of expenditure incurred towards (a)adjustment of energy charges (b)registration fee for exchanges or traders' fee etc (c) Any other incidental expenses with detail (In Rs.)			Amount of outstanding dues of the Regulated Entity. (In Rs.)	Amount adjusted against the outstanding dues of the Regulated Entity (In Rs.)	Remaining amount, if any, to be passed on to the Regulated Entity (In Rs.)
(1)	(2)	(3)	(4)	(5)	(6)			(7)	(8)	(9)=(5)-(6)-(8)
					(a)	(b)	(c)			

NOTE: If (9) is negative, then it indicates that outstanding due has not been recovered fully.

POWERGRID, NEEPCO, NHPC and TSECL are requested to submit the details of revenue earned through regulation of power during the financial year 2011-2012, 2012-2013, 2013-2014 & 2014-2015 in the format given above on monthly basis.

Deliberations in the Meeting

All concerned have submitted required information up to the latest regulation period. The details submitted by NHPC and NEEPCO are attached at ***Annexure- 2.1***

Sr. Manager, TSECL had informed the members that even though regulation of power was done for Mizoram, the detail is not available with them as the regulated power is not sold.

All concerned organizations i.e, NEEPCO, NHPC, PGCIL, TSECL etc are requested to submit details as and when regulation is done as per format given above.

2.2 ***Requisition based scheduling:***

The issue was discussed in earlier OCC and CC meetings. In the 21st CC meeting, the requisition of Hydro generating stations was specifically discussed. Referring to Clause 6.5.12 of IEGC & 6.5.13 of IEGC NERLDC clarified that in case of hydro, water available in the reservoir would have to be optimally utilized and reduced requisition resulting in sub-optimal utilization would not be possible as it would violate IEGC provisions. In case of ROR and spilling reservoir based hydro, water would have to be fully used and scheduling would have to be done accordingly. But in case of no spilling, there can be appropriate water management/planning in OCC as per requirement of beneficiaries which would effectively result in requisition based scheduling.

Commercial Committee advised that in such cases when there is no spilling, OCC may plan MU/day for each reservoir hydro for a period till next OCC. This would help beneficiaries to decide their action plan. Based on the broad planning in OCC, RLDC would prepare entitlement/schedule in MW in day ahead basis taking into account demand profile of States/Region.

Regarding sudden change in ROR schedule, it was felt that such variation would have to be absorbed by beneficiaries by regulating own generation and reducing requisition from gas thermal up to technical minimum. It was also felt that continuous trading in PX once implemented would come to the rescue of beneficiaries.

The status of implementation with the problems faced during real time implementation and its commercial impact may be deliberated further by the members.

Deliberations in the Meeting

No issues have been raised by the constituents regarding the real time implementation of the requisition based scheduling. Concerned beneficiaries and generators were requested to cooperate with NERLDC for successful implementation of requisition based scheduling as per procedures and norms of CERC regulations.

3. ***Agenda items from APDCL (ASEB)***

3.1 Energy supply to Arunachal and Nagaland through 33 KV/ 11 KV network of Assam (APDCL):

Arunachal and Nagaland have been drawing their central sector energy share through 33 KV/ 11 KV network of Assam since pre UCPTT period. With the implementation of Regional Energy Accounting the status quo was maintained with the condition that the importing states would develop their intra state distribution network on priority basis. Accordingly Nagaland has developed considerable amount of its distribution net

work, but Arunachal Pradesh seems to do nothing in this regard. Now with the implementation of Point of Connection (PoC) system of transmission charges, continuation of existing supply mechanism is commercially not possible for APDCL. The only solution for continuation of existing system is that such transaction should be bilateral on Inter State transaction basis.

APDCL therefore is putting Agenda in this respect in CC Meetings since long back asking Nagaland and Arunachal either to agree for bilateral arrangement of purchase from time to time on the basis of regulatory norms or stop drawl of such energy under the existing arrangement.

Arunachal and Nagaland are requested through this forum to submit their opinion.

Deliberations in the Meeting

After detailed deliberation, the forum advised APDCL to pursue with Arunachal Pradesh and Nagaland and settle the issue bilaterally.

3.2 Anomalies of Inter State Meter Reading of 11 KV Bordumsa- Ketetong Feeder and billing thereof.

In pursuance of earlier NERPC meetings, APDCL submitted an agenda item on anomalies in the meter readings submitted to NERLDC against 11 KV Bordumsa- Ketetong Feeder for the period from August' 2008 to July' 2010 due to consideration of wrong MF.

The matter was put up in the 10TH NERPC meeting and the said meeting advised to both Assam and Arunachal Pradesh (AP) to settle the issue bilaterally. Accordingly AP has accepted the difference of readings vide its Letter No. 2024-26 dated 25.08.2011. The difference of meter reading under-recorded during the period was 5, 97,180 KWH. The 19TH CC Meeting decided that billing for the period be settled at average monthly UI rates instead of revising REAs for the entire period and accordingly in 20TH CC Meeting, NERPC intimated the monthly UI rates to be billed to AP.

Thereafter, APDCL raised a bill of Rs 27, 69,714.00 to AP on 29.11.2013 for the above period as per the rates fixed by NERPC Secretariat. AP has not yet released the payment to APDCL.

Deliberations in the Meeting

Members noted the concern of APDCL. However, since representative of Arunachal Pradesh was not present, the forum advised APDCL to pursue with Arunachal Pradesh and settle the issue bilaterally.

3.3 Anomalies of Inter State Meter Reading of 11 KV Rowing (Santipur) Feeder.

Similar anomalies of meter reading occurred in the supply point to Arunachal Pradesh through 11 KV Santipur Feeder due to malfunctioning of energy meter for the period from April' 2009 to July' 2011. The meter was replaced with a new one by APDCL in July' 2011. After replacement of the meter the monthly consumption pattern of the feeder are as follows:

August' 2011	340400 Kwh
September' 2011	178140 Kwh
October' 2011	178610 Kwh
November' 2011	186360 Kwh
December' 2011	187770 Kwh
January' 2012	199200 Kwh

The matter was informed to the Chief Engineer (Power), AP with copy to the MS, NERPC and also to the GM, NERLDC vide this office Letter No. 31 dated 06.05.2013 for information and necessary action. Copy of the joint meter reading sheet is enclosed herewith for ready reference as ***Annexure - 3.3***

Normally under such type of meter stop period, the anomaly during the stop period is regularized on the basis of average consumption of either preceding three months or succeeding three months whichever is higher. From records it is found that the prior period consumption was on lower sides which are shown below:

November' 2008	190840 Kwh
December' 2008	170600 Kwh
January' 2009	169000 Kwh
February' 2009	161020 Kwh
March' 2009	158360 Kwh

APDCL now requests the AP representative and the CC forum to look into the matter and take decision on following:

i) Ratification of average consumption for the meter stop period (April' 2009 to July' 2011) on the basis as suggested by APDCL or on any basis as the Forum deems fit.

ii) Finalize the tariff applicable for the entire stop period either on the basis of average UI Rate or any tariff as the Forum deems fit.

Deliberations in the Meeting

Members noted the concern of APDCL. However, since representative of Arunachal Pradesh was not present, the forum advised APDCL to pursue with Arunachal Pradesh and settle the issue bilaterally. It was also decided that NERPC will intimate the average monthly UI rates for the relevant period in next CC meeting.

3.4 Information of transfer of Central Sector (CS) Energy through Assam grid during POC Regime:

During pre-ABT period, the details of energy quantum transferred through Assam grid to neighboring states of Arunachal and Nagaland were being shown in monthly REAs and simultaneously those quanta were also deducted from the total drawl of Assam. But with the implementation of ABT w.e.f. November' 2003, such detailed transactions are no more reflected in REAs. As a result Beneficiaries are deprived from details of power evacuated to these states.

APDCL now requests the NERPC/ NERLDC:

i) To enlighten Beneficiaries how such transaction are being taken care of in absence of arrival of those 33/ 11 KV meter readings.

ii) Whether Assam (APDCL) has been getting due credit of such drawl by other states from its total actual drawl.

iii) To provide feeder-wise details of total delivery of CS Energy by Assam to AP and Nagaland from Assam off-take points in a separate Table in every monthly REAs.

iv) To suggest Beneficiaries whether such existing mechanism be continued or not.

Deliberations in the Meeting

The issue was deliberated and point wise decision is given below: -

i) To enlighten Beneficiaries how such transaction are being taken care of in absence of arrival of those 33/ 11 KV meter readings.

In the absence of 33/ 11 KV meter readings, earlier month readings are considered in energy accounting till arrival of new readings.

ii) Whether Assam (APDCL) has been getting due credit of such drawl by other states from its total actual drawl.

APDCL is getting due credit in the actual drawal by considering wheeling loss of 3% .

iii) To provide feeder-wise details of total delivery of CS Energy by Assam to AP and Nagaland from Assam off-take points in a separate Table in every monthly REAs.

It was clarified that APDCL was submitting the monthly readings and same was duly accounted in weekly Deviation Accounting.

iv) To suggest Beneficiaries whether such existing mechanism be continued or not.

It was agreed that the existing mechanism may be discontinued and the energy exchanges through 33 kV / 11 kV may be depicted in monthly REAs for billing by APDCL to concerned states, at the rates specified by AERC.

3.5 Difference between the monthly Implemented Schedule MU and REA MU:

It is observed from long back that there is always difference of MU figures between the final implemented schedule and monthly REA figures. For your ready reference we have furnished the figures of last four months from April'2014 onwards as Annexure ***- 3.5***

Deliberations in the Meeting

Assistant Secretary, NERPC informed that the issue has been clarified with a presentation in the 21st CC meeting. However, for benefit of OCC members, NERPC will give presentation again in the next OCC meeting.

4. *Agenda items from NERLDC.*

4.1 *Deviation charges outstanding:*

Status of Deviation charges outstanding as on 26.08.2014 is attached (**Annex.-4.1**). From the same it can be seen that all States are defaulters. Such payment default is creating serious constraint in timely settlement of pool account. NER pool is to pay huge amount to ER and NERLDC has been receiving reminders from ERLDC.

All concerned may liquidate outstanding dues at the earliest.

Deliberations in the Meeting

DGM (MO), NERLDC reiterated that payment default to deviation charges is creating serious constraint in timely settlement of pool account. All the states were requested to settle their outstanding dues at the earliest. It was explained that huge outstanding of Assam (more than Rs. 50 crores) and Tripura (more than Rs. 18 crores) was creating serious problem in pool settlement and NERLDC was not able to release payment to ER pool as well as NER receivable utilities. It was decided that if outstanding was not cleared at the earliest, petition would have to be filed to CERC against defaulter utilities.

4.2 ***Non-payment of NERLDC fees and charges bills:***

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, 2009. The status of latest outstanding is as below :

Meghalaya : Rs. 34.3 lacs
Manipur : Rs. 28.3 lacs
Mizoram : Rs. 31.4 lacs

Deliberations in the Meeting

All constituents were reminded to clear their outstanding dues at the earliest.

4.3 ***Outstanding dues for AMC of SCADA-EMS:***

Outstanding dues are as below:

	Overhead charges	Supplementary FERV	AMC
AEGCL	2073145/-	54946/-	1724805/-
MeECL	2003309/-	53478/-	3454415/-
TSECL	134276/-	52556/-	1678437/-

AEGCL, MeECL and TSECL may liquidate the outstanding dues at the earliest.

Deliberations in the Meeting

All concerned constituents agreed to clear the outstanding dues at the earliest.

4.4 ***Non-submission of weekly SEM readings by Tinsukia (Assam), Deomali (Ar.Pradesh), Nangalbibra (Meghalaya), Mokokchang (Nagaland) & Rengpang (Manipur).***

Statuses still same in spite of discussion in several meetings.

SEM at Mokokchang end of 132 kV Doyang-Mokokchang feeder (Meter no. NP-4208-A of secure make) need to be replaced.

Assam / Manipur /Meghalaya / Nagaland /CTU / Ar. Pradesh need to take action.

Deliberations in the Meeting

All representatives were requested to submit meter reading in time. NERPC representative stated that all meter reading is to be sent by respective utilities (in whose premise meter is installed) to NERLDC as per IEGC. Specific training of concerned officers in the substation will be done by NERTS if required. It was clarified that once DCDs are handed over to the utility, the responsibility of sending SEM Data lies with the concerned utility.

Further, it was agreed that each utility may nominate coordinator for meter related issues for smooth functioning. As requested by the members, NERPC agreed to write to concern higher authority of each utility before next OCC meeting to nominate meter coordinator. For any other technical issue of interfacing meters, concern utility may contact nearest Designated O&M station of POWERGRID NERTS for necessary actions. Metering Coordinator may then contact CTU counterpart.

Regarding sending meter reading data in time, all utilities agreed to pursue with concerned officers except TSECL representative who intimated that they would try to comply with the requirement after 3 months (for P.K.Bari / Dharmanagar) and requested POWERGRID to continue sending of SEM Data on behalf of TSECL for another 3 months. Manipur representative also confirmed that the matter would be pursued and if required representative may be sent to Yerumbam / Imphal PG substation for needful training etc.

The forum requested NERTS to extend help to TSECL for another 3 months and once the nodal officers are nominated they should train them accordingly. NERTS agreed.

4.5 ***Status of Procurement of SEMs / Spare availability:***

As per minutes of 21st. CCM, NERTS was to submit details to NERPC Secretariat. NERPC may update the status.

Deliberations in the Meeting

1. As per status submitted by NERTS to NERPC, following may be observed: -

Procurement of 250 Nos. Energy meter & 40 Nos. DCD/Laptop (20nos. laptops/notepads & 20nos. DCDs) is under process. The laptops/notepads will be provided with necessary serial port/converters but without CD ROM. NERTS informed that delay in procurement occurred as no response has been received from any party regarding the suggested Technical Specification till July'14.

Notice Inviting Tender: 15.11.14, Award: 31.01.15.

The new Technical Specification incorporates DLMS & COSEM as per requirement of NERLDC and future technical requirements. The Technical Specification is enclosed at ***Annexure - 4.5*** for kind perusal by all utilities in NER and needful comment by utilities within 30 days. NERTS will go ahead with the Technical Specification if no comment is received from utilities.

2. NERTS informed that initially each meter coordinator of each state utility / CS station will be provided one number of notepad and later, based on performance, further purchase would be done.

3. Further, to meet up any urgent situation / requirement, 35nos. meters of Elster make Energy meters & 10nos. DCDs will be procured.

LOA by 30.09.14. Supply by 15.12.14.

Committee noted as above.

4.6 *Meter Time Drift:*

NERLDC is not receiving time drift status except from Khandong and Kopili. It is very important that all locations should furnish the status in prescribed format along with weekly SEM data.

NERTS may intimate the status regarding replacement of 62 faulty L&T meters which were malfunctioning on getting time correction command.

Deliberations in the Meeting

DGM, NERLDC requested all concerned constituents to submit time drift status as per the format enclosed in 21st CCM so that corrective action could be taken by CTU.

NERTS informed that 35 Nos. faulty L&T meters have already been replaced (List enclosed at ***Annexure - 4.6***). Some could not be replaced as new problems / defects were detected in the meters other than those in the original list of L&T make meters approved to be replaced. The pending meters will be replaced shortly.

4.7 *Installation of Check Meters in all ISGS of NER / Installation of SEM in both ends of all ISTS:*

In NER there are 38 no. of Main Meters connected on the outgoing feeders of Generating Stations. For each of these 38 Main Meters corresponding Check Meters are to be installed in compliance of clause 7 of "CEA Regulation on Installation & Operation of Meters" which states that Check Meters are to be installed on all outgoing feeders of Generating Stations. Matter was highlighted vide NERLDC letter dated 24.07.2012.

NERTS was also requested to connect meters at both ends of all ISTS which is very much necessary considering error in various meters.

Deliberations in the Meeting

NERTS informed that as per IOM from GM, NERLDC dtd.27.11.2013, 16 Nos Energy Meter have already been installed (out of 20 Nos.) in both end of the lines. The remaining is likely to be installed by Dec 2014.

Regarding check meters, quantity of check meters are already considered under new procurement proposal as discussed earlier under item 4.5

4.8 *Malfunctioning of DCD at Tura*

MePTCL has informed that the DCD at Nangalbibra S/S is not functioning since Nov'13. In view of this, there is no standby meter reading available in case of inter-State 132 KV Agia-Nangalbibra feeder. Matter has been taken-up with NERTS who has acknowledged the fact and advised that respective utilities should make efforts as advised by CTU to keep DCDs in healthy condition.

All entities may act accordingly to keep DCDs healthy and inform promptly to CTU (NERTS) in case of malfunctioning.

NERTS and MePTCL may intimate status of Nangalbibra DCD.

Deliberations in the Meeting

NERTS informed that the matter was taken up with Resident Engineer, Nangalbibra and they requested to send the DCD to Bongaigaon substation (nearest PG station) for needful checking and repair. As confirmed by Resident Engineer, Nangalbibra, DCD will be sent within a week to Bongaigaon. The matter was also communicated to Resident Engineer, Tura and Superintending Engineer, SLDC.

4.9 *Collection of weekly SEM data – DCD – LAPTOP - AMR*

Weekly reading is collected from SEM through Data Collecting Device (DCD). In some locations, RS-485 scheme has been implemented for downloading reading of all meters in the location to a local PC without DCD. NERLDC has been receiving information regarding malfunctioning of DCD in various locations and it has been reported that such instances are mainly due to improper handling of DCD. It is desired that DCDs are handled carefully and instructions given by CTU while installation is followed to avoid unwanted breakdown.

In future, to do away with DCDs, following are possible:

a. RS-485 commissioning in more locations
b. LAPTOP procurement in place of DCD
c. Implementation of Automated meter reading (AMR) scheme

Commercial Committee may discuss the options and may take a decision regarding AMR scheme which is long pending and under discussion for quite some time.

Deliberations in the Meeting

Representative from NERTS informed that certain equipments viz. communication system networks, converters, PCs, cables, DCDs, Laptops, etc are associated with meter reading. Up-keeping, up-gradation and maintenance of the same is the responsibility of concerned utility. All utilities are requested to ensure proper healthiness of the above equipments for smooth data collection and energy accounting. Nominated meter coordinator may monitor the same and any help required may be intimated to CTU. However, maintenance of SEMs is the responsibility of CTU.

Regarding laptops and DCDs, the same has been discussed in item 4.5

Implementation of AMR scheme was discussed in detail. The same responsibility will be with concerned utilities for ensuring healthiness of the equipments associated with AMR scheme. SE (O), NERPC requested the forum to agree to the proposal to go ahead with AMR scheme. He stated that commercial sharing methodology could be finalized at a later date.

NERTS was requested to give detail presentation including financial implication to constituents in next CC meeting.

4.10 *Non-availability of meter reading pertaining to crucial Inter-utility lines*

a. 220 KV Kopili-Misa III : Meter error in Kopili end
b. 132 KV Loktak-Imphal(PG) : Meter not installed at Imphal(PG)
c. 132 KV Imphal(PG) – Yurembam line : Meter not installed at Imphal(PG)
d. 132 KV Imphal(PG)-Ningthoukhong line : Meter not installed at Ningthoukhong
e. 132 KV Balipara-Gohpur line : Meter error in Balipara end

Matter being taken-up with NERTS for quite some time but no action taken till now.

NERTS may give timeframe for addressing the issues.

Deliberations in the Meeting

NERTS representative informed the action taken as below:

Name of Tr. Line	Status
a. 220 KV Kopili-Misa III : Meter error in Kopili end	To be Attended by CTU by 30.09.14
b. 132 KV Loktak-Imphal(PG) : Meter not installed at Imphal(PG)	Target given by CTU by 30.09.14
c. 132 KV Imphal(PG) – Yurembam line : Meter not installed at Imphal(PG)	Target given by CTU by 30.09.14
d. 132 KV Imphal(PG)-Ningthoukhong line : Meter not installed at Ningthoukhong	Manipur will facilitate/cooperate for installation. NERTS assured to complete the SEM installation by 30.09.14.
e. 132 KV Balipara-Gohpur line : Meter error in Balipara end	As the bay pertains to AEGCL. It is requested that a joint checking may be made at Balipara as wiring of PT & CT cannot be rectified/altered without permission of AEGCL.

4.11 ***Non Availability verification of transmission system***

Subsequent to notification of CERC (Terms and conditions of Tariff) Regulations 2014, the procedure as per enclosed letters (**Annex.-4.11**) addressed to Member Secretary, NERPC and MD-NETC is being followed in NER.

Deliberations in the Meeting

Asst. Secretary, NERPC highlighted in the presentation the decisions / suggestions of OCC / PCC as below: -

Planned Outages: -

1) In all cases of outages, RLDC will certify the actual outage period. The outage period will be cross-checked with the approved outage period in OCC forum. All planned outages should be availed by the executing agency as approved in the OCC forum.

2) Any deferment from approved outage hours and approved outage days may be intimated by the agency to NERPC with a copy to NERLDC, justifying the reason of deferment. The deferred hours/ days without proper justification will be deducted from the availability period.

Emergency Outages: -

1) Outages beyond the control of the agency when RPC nor RLDC could not be informed earlier and immediate remedial actions are required.

2) Outages planned in OCC forum but are of emergency in nature like tower in danger, CBs need immediate replacement, etc. However, the agency has to intimate RPC with a copy to RLDC.

3) Outages that cannot be delayed till next OCC forum for proper approval.

4) However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Transient Outages: -

1) Outages that are of transient in nature due to lightning, mal-operation of relays, etc.

2) Transient Earth Fault, Auto-reclosure, phase-to-phase fault, etc.

3) Outages due to infringements.

4) However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Outages due to others: -

1) Outages due to fault in the downstream protection.

2) Outages as per direction of RLDC for desired system condition.

3) Outages due force majeure/ Acts of God.

4) However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Force Majeure: -

1) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or

2) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or

3) Industry wide strikes and labour disturbances having a nationwide impact in India;

4) However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Conditions given in SoR: -

1) Only 2 trippings per annum allowed for each AC system, additional 12 hours may be added for each tripping in case of trippings more than 2 in a year.

2) Further in case of outage of a transmission element affecting evacuation of power from a generating station outage hours shall be multiplied by a factor of 2.

Further suggestions of PCC/ OCC: -

1) In case of force majeure due to lightning, the agency may send DR waveform to RLDC/ RPC for further studies.

2) Option of installing lightning mapping was suggested.

3) NERTS was requested to give presentation in next OCC to highlight the DR waveform nature so that same can be used for certification.

4) Two trippings per year is allowed for each AC system.

5) In case of trippings attributable to other agency, system study group may find out the cause of tripping, only tripping attributable to the concerned agency may be considered for 2 trippings per annum.

6) In case of trippings affecting evacuation of power from a generating station, the same may be reviewed in next OCC/ PCC to finalize: -

a) whether lines directly connected to the station should be considered? or

b) lines not directly connected to the station but also affecting the generation should also be considered?

Further, sub-committee discussed the issue for understanding of trippings of line due to lightening.

DGM, POWERGRID informed that the lightening phenomenon can be understood by some of the methods below:

(a) DR Record

(b) Installation of Lightning mapping equipment

(c) Enquiring whether condition of particular locality.

The sub-committee requested POWERGRID to give presentation in next OCC of lightning phenomenon and also to have better understanding of all the issues before finalization. POWERGRID agreed.

Committee agreed to the suggestions of PCC/ OCC forum and further decided that: -

1) Outages certified by NERLDC till finalization of the procedure may be treated as provisional and same will be revised once the certification procedure is finalized.

2) Certificates issued by NERPC are provisional only and final certificate will be issued after due verification from NERLDC as per the procedures finalized. NETC may approach NERPC for provisional certification till the same is finalized.

3) Agencies will make necessary adjustments in the bills once final certificate is issued by NERPC.

4.12 ***Depicting shortfall by some States while there is under-requisition from ISGS***

It is seen that there are instances when a State is under-requisitioning from ISGS or selling through STOA, PX etc, but at the same time showing shortfall while reporting. For example, Tripura had under-requisitioned from NER Gas thermal ISGS (AGBPP, AGTPP and Palatana) but still reported shortfall of 0.256 MU, 0.225 MU and 0.448 MU on 14.08.14, 18.08.14 and 20.08.14 respectively. Also, in some cases, import is not being done from market although ATC margin exists. In such case also, shortfall is depicted on some occasions. From these, we need to arrive at a conclusion regarding reason of such shortfall which appears to be due to commercial reasons and not due to lack of availability of power.

Deliberations in the Meeting

Assistant Secretary, NERPC briefed the members about the discussion in the last OCC meeting at Guwahati on 10/09/14; that concerned beneficiaries, while sending daily reports to NERLDC, may intimate the reasons of shortfall if any. Different categories for shortfall may be made so that proper justification is made while depicting shortfall in the state since under-requisition, over-drawal, etc are also observed in the same time. The reasons of shortfall maybe due to transmission constraint in the downstream evacuation, etc.

After deliberation, it was agreed that concerned beneficiaries, while sending daily reports to NERLDC, may intimate the reasons of shortfall if any. Different categories for shortfall may be made so that proper justification is made while depicting shortfall in the state since under-requisition, over-drawal, etc are also

observed in the same time. The reasons of shortfall maybe due to transmission constraint in the downstream evacuation, commercial reasons, etc.

Committee agreed and noted as above.

4.13 ***Elster make SEMs in NER***

CTU has procured ELSTER make SEMs and DCDs which are being installed in different locations of NER. NERLDC has checked accuracy of meter readings by comparing with L&T make meters and there is no problem regarding accuracy.

However, there are several problems which are being encountered in connection with ELSTER meters.

a. Date and Time are found to be incorrect on many occasions. During 1st. week of Sept'14, reading of the meter connected at 50 MVA transformer-2 of Imphal was collected for the first time and it was showing date of June'14 (reading attached at **Annex.-4.13**). This is a very serious issue which has taken place on number of occasions.

b. Time correction procedure for SEMs is as below as per technical specs :
Each meter shall have a built-in calendar and clock, having an accuracy of 30 seconds per month or better. The calendar and clock shall be correctly set at the manufacturer's works. The date (year-month-day) and time (hour-min.-sec.) shall be displayed on the meter front (when VT supply has been connected), on demand. Only limited clock adjustment shall be possible at site, using the DCD. When an advance or retard command is given, six subsequent time blocks shall be contracted or elongated by ten seconds each. The meter shall not accept another clock correction command for seven days. All clock corrections shall be registered in the meter's memory and suitably shown on print out of collected data.

But in ELSTER meters, date and time correction can be done without any restriction (as demonstrated by ELSTER in Kopili) which is serious violation of Technical specs.

In view of this, it is necessary to take a decision regarding ELSTER meters and also regarding future procurement of SEMs.

Deliberations in the Meeting

DGM (MO), NERLDC stated that all necessary pre-installation checks should be done by NERTS before installation of new meters in absence of which number of problems are being encountered after receiving readings. Moreover, number of manufacturers has come up in the market and NERPC forum may try to identify those suppliers who will be able to supply effective and reliable meters. He also suggested that NERPC may chalk out some guidelines for manufacturers apart from technical specification requirements so as to minimize various problems being encountered.

NERTS representative informed that ELSTER meters with time drift beyond allowable limit will be replaced. He also informed that NERTS have asked for extension of warranty of meters from the manufacturer. He also informed that Elster meters were procured with recommendation from joint technical committee of NERTS & NERLDC. During initial demonstration all compliances were found correct. However, subsequently different problems like time drift etc. were encountered and same were sorted out by the party from time to time. Provision of time correction beyond some limit may be done by NERTS in consultation with NERLDC. CTU

agreed to sort out all issues by inviting the party to visit NERLDC and sites. For future procurements, new Technical Specification is enclosed at ***Annexure - 4.5*** which may be checked and commented by all utilities.

After detail deliberation, forum agreed to form a committee comprising of members from NER utilities, NERPC Secretariat, NERLDC to finalize the technical specifications and shortlist manufacturers. Names of representatives may be sent to NERPC Secretariat by 10th Oct'14 so that the committee may have first discussion during next OCC meeting.

4.14 ***Tabling quarterly figures of Deviation and Reactive Pool Account in Commercial Committee:***

The quarterly figures were circulated to the constituents in the meeting. Observations, if any may be sent within 15 days to NERLDC. If no observation is received, the accounts as circulated will be taken as final.

5. ***Agenda items from TSECL***

5.1 Till date Mizoram has not open the LC which was expired on Aug 12 & as on date outstanding amount is approx 10 crores.

Deliberations in the Meeting

Members noted the concern of TSECL. However, since Mizoram representative was not present members advised TSECL to pursue with Govt. of Mizoram.

5.2 PoC bill raised by PGCIL is not understandable by us as well as audit also. It is requested to bring transparency in this matter.

Deliberations in the Meeting

Sr Manager, TSECL requested PGCIL to explain the details of the PoC bill raised on them as TSECL could not understand the bill in totality. PGCIL agreed to discuss the details of the POC bills if desired by the beneficiaries. The forum requested PGCIL to give presentation on PoC bills and discuss mutually to solve the ambiguity as felt by TSECL.

PGCIL was also requested to give detail procedure of raising PoC bill in next CC meeting.

5.3 Claim of CPU's with retrospective effect putting huge burden on Beneficiaries.

It has been observed that CPU's are regularly raising bills in order to recover past expenses (like add: O&M, Income tax, publication expenses, security expense, maintenance of school expense etc.) against order of appropriate commission/ amended regulation. Some time, it is also fund that the dues are more than 8 years old. The beneficiary like Tripura is facing difficulties to clear such kind of old arrears even after meeting monthly regular bills on account of fixed charges & energy charges.

As per mandate and legislation of Electricity Act, 2003, it is not permissible to recover any dues from retrospective effect. The intention of said legislation is not to burden any prospective consumers whereas it is the duty of Generation, Transmission and Distribution Company to submit the tariff petition on regular basis. In case of Tripura, the ARR for past year & current year has already been approved by Regulator and therefore

such arrear dues payable from retrospective effect will result in excess of approved ARR and therefore there would be no scope to recover the expenditure from prospective consumer. The above act will not only burden the beneficiary but will lead to suffer huge loss in the coming year.

In view of the above, it is now essential to deliberate on the issue and to take suitable action so that burden is less and beneficiary can service their esteemed consumer at reasonable & affordable cost.

The same issue was raised on last CC meeting, but no fruitful solution has come in effect.

Deliberations in the Meeting

Assistant Secretary, NERPC stated that the issue has been highlighted in several occasions including CERC seminar organized in Shillong. NERPC Secretariat had also communicated to CERC vide No. NERPC/CC/2013/ dated September 23, 2013 highlighting the grievances faced by the beneficiaries. However, no changes are being introduced in the new tariff regulation for the period from 2014-2019***.***

Members felt that unless petition is filed before Hon'ble Commission or Appellate Tribunal, the forum cannot make any decision outside its jurisdiction.

The forum advised TSECL or any other beneficiary states to file petition before Hon'ble Commission or Appellate Tribunal.

6. *Agenda items from NEEPCO*

6.1 *Construction power for AGTP Combined Cycle Extension Project–inclusion in REA reg.*:

Construction power for the AGTP Combined Cycle Extension Project is being met from TSECL's share from AGTP through a bilateral PPA. As agreed between NEEPCO and TSECL, and as decided at the 19th CC meeting held at Guwahati on 26th March 2013, a SEM (Make: L&T; Sr. No. NP-8379-A; Type: ER 300P) has been installed and used for recording the energy drawn by NEEPCO. Prior to installation of this meter the energy drawal was recorded by NEEPCO's meter (Make: Secure; Sr. No. WBB 03352; Type: E3M021). It was also agreed at the said 19th CC meeting that the readings from this meter will be booked against Tripura drawal and reflected in the monthly REAs.

However, the readings are yet to be reflected in the REAs, due to which NEEPCO has been unable to raise bills on TSECL and vice versa for this quantum of power.

Therefore, it is proposed that the construction power drawal by NEEPCO as recorded by the above mentioned SEM be incorporated in the REAs. The meter readings as recorded by NEEPCO since commencement of drawal in April 2013 will be made available to NERPC / NERLDC.

Deliberations in the Meeting

The forum decided that henceforth the meter installed at AGTPP will be considered as CTU installed meter and SEM reading should be sent regularly to NERLDC. As decided, the reading will be reflected in the monthly REA for settlement of bills. The meter reading be depicted w.e.f REA of October, 2014.

6.2 *Commissioning of separate 33 KV Delivery Line from Khandong PH to APDCL substation at Umrongsoo:*

In order to settle the issue of segregation of supply to NEEPCO Colony at Umrongso and to APDCL's Umrongsoo sub-station from the Khandong PH, which is catered to by NEEPCO's PS 1 feeder at present, it was agreed that APDCL would construct a separate dedicated 33 KV feeder from Khandong PH to their Umrongso sub-station. Accordingly, APDCL completed and commissioned the feeder in December 2012.

However, further necessary actions to facilitate power supply through this line viz. obtaining statutory clearance from RIO and joint relay setting are yet to be taken.

The energy injected through this line is required to be reflected in the REAs. Therefore, NEEPCO submits the following proposals:

i) APDCL to complete the balance necessary formalities as mentioned above to facilitate commencement of supply through the new 33 KV feeder and disconnection of the existing tap off from NEEPCO Colony supply feeder PS 1 without further delay; Entire load of APDCL to be transferred immediately to this line.

ii) Reflection of the energy injected through the new feeder from Khandong PH to APDCL's Umrongso sub-station in the REAs after commencement of supply

Deliberations in the Meeting

Assam representative informed that the new 33 kV feeder from Khandong PS (NEEPCO) to Umrangsoo S/S (Assam) would be ready soon and entire load of APDCL from Khandong station to Umrangsoo S/S will be transferred to this line. Regarding the energy drawn by APDCL through this line, it was decided that NEEPCO and APDCL should discuss and finalize the commercial mechanism to settle the billing issues bilaterally.

6.3 ***Liquidation of outstanding dues:***

Beneficiary wise outstanding status as on 31.08.2014 is as follows:

Rs in lakhs

Beneficiary	Monthly energy bills (incl. supp. Bills)	Arrear bills (incl. Interest thereon)	Others (Reimbursement bills – NERLDC fees & Charges, CERC Appl. Fee, MAT etc)	Total dues (excl. "Late payment surcharge")	"Late payment surcharge" due till 30.06.2014	Total dues (incl. "Late payment surcharge")
Ar. Pradesh	738.83	0.00	7.25	746.08	0.00	746.08
APDCL	42086.82	0.00	2073.41	44160.23	18888.99	63049.22
Manipur	271.51	2291.53	268.43	2831.47	2790.41	5621.88
MeECL	18015.68	6570.05	501.21	25086.94	9333.52	34420.46
Mizoram	4484.62	0.00	372.68	4857.30	934.35	5791.65
Nagaland	154.84	0.00	3.09	157.93	523.84	681.77
TSECL	2241.06	2292.78	329.00	4862.84	1260.57	6123.41
Total	67993.36	11154.36	3555.07	82702.79	33731.68	116434.47

Out of the above outstanding amount, dues more than 60 days old and 90 days old are as follows:

Rs in lakhs

Beneficiary	Dues more than 60 days old	Dues more than 90 days old
Ar. Pradesh	0.00	0.00
APDCL	49698.12	44226.49
Manipur	5232.59	5232.59
MeECL	32684.33	32544.36
Mizoram	4337.61	3723.36
Nagaland	732.06	732.06
TSECL	5188.65	5093.71
Total	97873.36	91552.57

From the above outstanding status, it is clear that all beneficiaries except Arunachal Pradesh and Nagaland have accrued huge outstanding dues payable to NEEPCO on account of purchase of electricity. In fact, the outstanding dues have gone up for APDCL, Mizoram and TSECL during the period of Jun'14 to Aug'14 in comparison to their outstanding status as on 31.05.2014 presented during the 21st C.C. meeting. No payment have been made during the financial year till date by Manipur, TSECL and MeECL on account of arrear bills raised on them on due to revision of AFC for 2009-14. Further, accrual of "Late payment surcharge" is increasing for APDCL, Manipur, MeECL, Mizoram and TSECL.

NEEPCO is facing acute financial crunch due to enhancement of operational expenses for its generating stations and at the same time non- payment of dues by the beneficiaries. Continuation of delay in settlement of dues resulting in financial crunch for NEEPCO is likely to have negative impact on its operating efficiency of Plants.

The above is for deliberation to the defaulting beneficiaries requesting them to clear their outstanding dues immediately as well as to regular settlement of current dues billed henceforth.

Deliberations in the Meeting

Sr Manager (Fin.), NEEPCO informed that all beneficiaries except Arunachal Pradesh and Nagaland have accrued huge outstanding dues payable to NEEPCO. He requested all beneficiaries to clear their outstanding dues at the earliest.

SE (O), NERPC stated that huge outstanding dues of NEEPCO is a serious matter and all defaulting constituents should try to clear it as soon as possible as such huge outstanding dues will have negative impact on the financial health of any organization.

6.4 ***Reconciliation of accounts:***

While finalizing the accounts (quarterly as well as yearly), it is desirable to reconcile accounts between the NEEPCO and its beneficiaries for all the financial transactions made during the said periods.

NEEPCO have sent to all the beneficiaries vide letters dated 16.05.2014 the statements furnishing all the transactions relating to the financial year 2013-14 and closing balances as on 31.03.2014 for necessary verification/reconciliation at their end and to confirm the same for record. But till date confirmation have been received only from three beneficiaries, namely, Mizoram, Nagaland and MeECL.

Since the said reconciliation of accounts between NEEPCO and its beneficiaries are essential for closing of accounts as well as to initiate appropriate action against disputed transactions, if any. It is suggested that the same should be done henceforth on quarterly basis.

Deliberations in the Meeting

APDCL, TSECL and MSPDCL agreed to look into the issue immediately and confirm the transaction details for proper reconciliation of accounts.

7. *Agenda items from NHPC*

7.1 *Signing of PPA & BPSA:*

i) Signing of PPA with Arunachal Pradesh in respect of Subansiri Lower HE project (2000 MW) in Arunachal Pradesh:-

Arunachal Pradesh: - This agenda was included for deliberation in 21st CC meeting but representative from Deptt. of Power, Govt. of Arunachal Pradesh was absent and Superintending Engineer (O), NERPC suggested to put up this agenda point in next RPC so that proper decision can be made.

ii) Signing of BPSA in respect of Loktak Power Station with APDCL, Assam:-
APDCL, Assam:-

As per deliberation in the meeting of 21st CCM, representative of APDCL, Assam informed that APDCL is in the process of signing the BPSA in respect of Loktak HEP. He assured that APDCL will sign the BPSA as early as possible after getting clearance from accounts division.

Deliberations in the Meeting

Signing of PPA with Arunachal Pradesh in respect of Subansiri Lower HE project (2000 MW) in Arunachal Pradesh could not be discussed as representative of Arunachal was not present.

Representative from APDCL informed that Signing of BPSA in respect of Loktak Power Station is under active consideration by Govt of Assam. He assured that APDCL will sign the BPSA as early as possible after clearance from accounts division.

7.2 *Opening/maintaining of Letter of Credit (LC):*

Deptt. of Power, Govt. of Arunachal Pradesh: - Deptt. of Power, Govt. of Arunachal Pradesh has provide Letter of Credit (LC) only for Rs 33.50 Lacs against requisite amount of Rs 62 Lacs. Representative from Deptt. of Power, Govt. of Arunachal Pradesh was not present in the last CCM meeting wherein this agenda was included.

Manipur State Power Distribution Company Limited:-After closing the Letter of Credit of Rs2.96 Crs by Electricity Department, Govt. of Manipur due to restructuring, we are regularly pursuing with Manipur State Power Distribution Company Limited (MSPDCL) for opening of fresh Letter of Credit of requisite amount. In the last CCM representative from MSPDCL deliberated that agreement has been signed with SBI, the LC of requisite amount will be issued soon.

Deptt. of Power, Govt. of Arunachal Pradesh and Manipur State Power Distribution Company Limited may be requested to furnish the Letter of Credit (LC) of requisite amount incorporating our comments on top priority.

Deliberations in the Meeting

Sl No.	Organisation	Action taken
1	MSPDCL	Under process. LC of requisite amount will be issued soon.
2	Arunachal Pradesh	No representative present. Status could not be obtained.

7.3 ***Outstanding dues of NHPC for more than 60 days:***

APDCL, Assam: An amount of **Rs 1.48 Crs** including surcharge is outstanding for more than 60 days. In the last CCM representative from APDCL, Assam was requested to clear the outstanding dues at the earliest. **APDCL may be requested to clear outstanding dues on top priority.**

Deliberations in the Meeting

APDCL was requested to clear the outstanding dues at the earliest.

7.4 ***Payment of Deviation and Additional Deviation charges:***

1) ***As per deliberation of the MOM of 21st CCM of NERPC "After detailed discussion, members agreed that the present method of accounting / settlement indicating weekly payable and receivables separately would continue as agreed in the 11th Commercial Committee Meeting of NERPC".***

Action required from NERPC:- In this regard, it is brought to your kind notice that NHPC has raised the issue of payment of deviation and additional deviation charges after clubbing the receivables and payables i.e. net impact of receivables and payables through a single payment mechanism, in the 21st CCM of NERPC held on 11.06.2014 at Guwahati. As deliberated in the last meeting by NHPC, it is reiterated that the accounting /settlement of indicating weekly payables and receivables should be made through a single payable / receivable formulae.

Northern and Eastern Regions are adopting the formulae of net effect of receivables and payables of Deviation and Additional Deviation Charges. Therefore, NERPC is also requested to follow the similar methodology as being followed by ERPC & NRPC.

2) Following points may also be incorporated in UI/Deviation settlement:-

In the statement of Deviation charges issued by NERPC, due date of payment may be indicated on the face of statement of account as is being indicated by NRPC.

(i) At the time of issue of revision for particular week, differential amount may be indicated through separate table for which payment is to be received or released. Further this differential amount may be taken date wise (whenever it is issued) as a separate line in reconciliation statement.

(ii) NHPC is releasing the payment immediately after receiving the statement. Hence amount payable to NHPC may be released at the earliest.

In view of above, it is requested to follow the same practice as followed by other Region.

Deliberations in the Meeting

Assistant Secretary, NERPC clarified that in DSM accounts, weekly payables and receivables are shown separately as disbursement to receivables is done only after payment is received from the payables. Moreover, in NER payable to ER is usually high which is settled first before payment can be made to the receiving constituents within the region. Hence weekly payables and receivables cannot be made through single receipt as suggested by NHPC.

He further stated that last date of payment of Deviation charges are indicated in the front page (Covering letter) which is within 10 days of the issue date of the accounts.

All payable constituents were requested to pay deviation charges on timely manner so that receivables can be paid immediately.

8. *Agenda items from NERTS/PGCIL*

8.1 *Outstanding dues*

The total outstanding of POWERGID's NER beneficiaries is as under-

Total Outstanding of POWERGRID's NER beneficiaries (including surcharge) as on 02/09/2014

CONSTITUENTS	Outstanding against Non PoC bills	Outstanding against PoC bills	Outstanding more than 60 days	Total Outstanding (including surcharge)
Ar. Pradesh	-0.52	2.20	0.00	1.68
ASEB (Assam)	0.12	3.96	0.00	4.99
MSPDCL (Manipur)	-3.01	2.20	0.00	1.40
MeECL (Meghalaya)	0.30	15.74	15.98	17.02
Mizoram	-0.09	3.20	0.12	3.11
Nagaland	-0.02	0.00	0.00	-0.02
TSECL (Tripura)	-0.01	0.00	0.00	-0.01
Generators/NETC	0.31	0.00	0.06	0.31
TOTAL	-2.92	27.29	16.16	28.48

The total outstanding as on 02/09/2014 is Rs **28.48** Crore. Out of total outstanding, **16.16** Crore is beyond 60 days. It may be seen that outstanding against MeECL is in much higher side. MeECL is requested to liquidate the outstanding specially the sixty days outstanding in order to avoid Regulation of Power to MeECL.

Constituents are requested to clear the outstanding dues in time to avail attractive graded rebate offered by POWERGRID.

Deliberations in the Meeting

All defaulting constituents were requested to clear the outstanding dues at the earliest.

8.2 ***LC requirement against PoC billing as per Cl. No. 3.6 of BCD (Billing Collection and Disbursement) Procedures of CERC order No. L-1/44/2010-CERC, Dtd. 29.04.11***

Cl. No. 3.6 of BCD states that, The Letter of Credit shall have a term of twelve (12) Months and shall be for an amount equal to one point zero five (1.05) times the average of the First Bill Amount for different months of the Application Period, as computed by the Implementing Agency (IA) for the DIC, where tripartite agreement for securitization on account of arrears against the transmission charges with the Government of India exist.

STATUS OF LC AS ON DATE (02.09.14) OF NER BENEFICIARIES

Sl	Beneficiary	LC required (Avg. first bill amount X MF 1.05) (in Lakh) TPA exists	LC AVAIL ABLE (Rs in Lakh)	VALIDITY UPTO	Balance to be enhanced/ renewed annually (Rs in Lakh)	Tota LC Amount to be renewed including enhanced value (Rs in Lakh)
1	Arunachal Pradesh	247.80	252.00	**31.03.15**	0.00	
2	AEGCL (Assam)	1591.80	1591.80	**26.03.15**	0.00	
3	MSPDCL (Manipur)	220.50	213.13	31.03.15	7.37	7.37
4	MeECL	412.65	344.00	27.06.14	412.65	412.65
5	Mizoram	152.25	152.25	**04.05.15**	0.00	
6	Nagaland	185.85	192.15	**21.03.15**	0.00	
7	TSECL(Tripura)	184.80	183.00	**14.02.15**	1.80	1.80
		2995.65	2834.33			

Note – **1.** LC shall be operated as laid down procedures of CERC order. **2.** Tripartite agreement (TPA) for securitization on account of arrears against the transmission charges with the Government of India exists for all the constituents.

LC of MeECL has already expired on 27/06/2014. MeECL has taken up with bank for renewal. However the LC is yet to be renewed, which may kindly be expedited at the earliest. MSPDCL & TSECL may kindly enhance the LC value as required

Deliberations in the Meeting

The concerned constituents were requested to enhance/renew the requisite amount of LC as per CERC regulation.

8.3 Replacement of Optical Terminal Equipment& Multiplexers of ULDC scheme:

a) SDH Part:

As recommended in UCC meeting forums (e.g.18TH UCC MOM, S.N.2-d), it is proposed to replace the existing terminal equipment i.e. SDH nodes of ULDC scheme/optical network. As discussed in various UCC meetings, the reasons for replacement are as follows:

a) Present SDH equipment of M/s Siemens are giving trouble which could not be repaired as there is no OEM support.
b) The spares have been consumed mostly.
c) Already some nodes are not accessible.

The Detail list of ULDC SDH nodes with BOQ for SDH replacement (along with mandatory spare)as found during preliminary survey is attached herewith as **Annex.-8.3**.

b) PDH/Multiplexers Part:

Further, it is also found that PDH Multiplexers are equally old and repairing cost of cards from ABB Switzerland is quite high and don't have repairing service support in India. In 20th UCC, the matter was also emphasized by all representatives.

CTU proposes to do the needful in any ensuing OPGW/communication project like NER expansion project or so.

Proposed for approval by forum and onward taking up at RPC level for (a) & (b) above.

Deliberations in the Meeting

Committee did not discuss technical requirement as the same was discussed in UCC/OCC. However NERTS was requested to highlight cost implication and other details like procedure of recovery, etc in next OCC/PCC/CC forum before taking financial approval from TCC/ RPC forum. Further, the forum opined that communication & related node equipments (RTU/SDH/Multiplexers etc.) as required for SCADA telemetry are the inherent part of protection and so UCC agenda/meeting should be a part of PCC Meeting under NERPC forum.

SE(O) stated that as requested by the forum, the same will be discussed with NERLDC and status will be intimated in the next PCC/OCC meetings for needful solution.

8.4 Replacement of RTU-SIC system:

It is proposed that RTU-SICs installed in POWERGRID substations will be replaced in line with recommendation/ minutes of 18th UCC meeting,(18TH UCC MOM, S.N.5) where it is mentioned that "…. the forum felt the need for replacement of RTUs in POWERGRID and ISGS in view of obsoleteness and non-support for OEM and it was proposed that the same would be taken up by respective agencies which will be as per the guide lines of CERC. The forum agreed in principle the technical proposal however the commercial issues would be taken up by the appropriate forum"

In line with requirement, POWERGRID has already taken up replacement of RTUs in POWERGRID stations (List of RTU-SICs (location wise-PG station) is attached as **Annex.-8.4**) &the work being done in on-going NTAMC project.

Proposed for approval by forum and onward taking up at RPC level.

Deliberations in the Meeting

Same as 8.3

8.5 Coordinator for different Metering Issues-Utility wise

It is requested that a common coordinator from each utility may be designated to monitor healthiness/ nos. of meters installed in the premise of that utility. He will confirm healthiness of DCD and would take minimum trouble shooting measures. The coordinator will be responsible for keep records of all DCDs/MRI received/handed over/installed meters. Whenever, any DCD is found defective the coordinator of the respective utility will arrange to send the defective DCDs/Meter to designated/nearest POWERGRID station for needful checking and co-operate for needful solution by discussing with CTU. A monthly report/communication from each coordinator may be sent to CTU in this regard.

Forum may agree.

Deliberations in the Meeting

Discussed in item 4.4. NERPC will pursue with concerned utility accordingly.

8.6 Sending Weekly meter reading Data directly to NERLDC by utility:

It is found that weekly meter reading data of some utilities are not being sent by themselves directly to NERLDC for meters installed in the respective utility's premise. It is again requested that data may be sent in line with relevant grid code compliance. Representative of all constituents (coordinator as per agenda 8.5) may confirm the same. List of stations will be provided during meeting. If required, representative of respective stations may visit nearest PG station for acquaintance with DCD/MRI handling.

Assurance of Compliance from all utilities as applicable may be recorded by forum.

Deliberations in the Meeting

Discussed at item no. 4.4

Members agreed and noted that all utility would confirm compliance of the same to NERPC by 3 months and till then, existing / prevailing process may be continued and CTU may continue sending of data. NERPC will pursue with concerned utility accordingly.

8.7 Replacement of L&T make Energy Meters by Elster make at Pallatana-OTPC

Under urgency, meters of L&T make were installed in Pallatana station by borrowing from other region/ERTS-2. Now the same lot is to be returned to ERTS-2 as NERTS have purchased requisite nos. of meters . The L&T make meters at Pallatana are to be replaced by newEslter make meters in Pallatana. POWERGRID/CTU representatives have visited Pallatana station but the same could not be done as was not allowed from OTPC authority.

OTPC may co-operate with CTU & Forum may comment for compliance.

Deliberations in the Meeting

OTPC agreed for compliance/co-operation as per norms and requested that representative of PGCIL may be sent to Palatana for needful at the earliest. The matter would be sorted out jointly by PGCIL and OTPC.

9. *Agenda item(s) from OTPC*

9.1 *Tariff of Unit – II of Palatana Project after Commercial Operation:*

The Unit No. 2 of Palatana Gas Based Combined Cycle Power Project is expected to start its Commercial Operation from end October / early November, 2014. After successful commissioning of the Unit, the Beneficiaries will get power from Unit – II as per their share.

The final tariff order in respect of Unit Nos. 1 & 2 of Palatana from CERC as per Tariff Regulations, 2014 is not expected by the time (October / November 2014), COD of Palatana Unit No. 2 is declared. Under the situation, the beneficiaries of NE Region are requested to pay the energy bills for Unit No. 2 (post COD) at CERC determined provisional AFC of Unit No. 1, till issuance of final Tariff Order by CERC for both the Units.

Deliberations in the Meeting

Till issuance of final tariff Order by CERC for both the Units of Palatana, members agreed to pay the energy bills for Unit No. 2 (post COD) at the same rate as per CERC determined provisional tariff of Unit No. 1.

10. *Any other item with permission of the Chair*

10.1 *Contribution to the Board Fund of NERPC:*

Board Fund contribution by constituents of NERPC is required to be reconciled. Over the past three years, proper reconciliation could not take place due to electronic transfer of fund to Board Fund account of NERPC by the constituents. while NERPC appreciates the contribution made by the constituents through electronic transfer or any other mode of payment, all constituents are earnestly requested to furnish the details of transfer of money viz, Amount, Date, UTR No. or any other details(References) for easier reconciliation for the past three years.

Deliberations in the Meeting

All constituents agreed to furnish to NERPC Secretariat, the details of transfer of money viz, Amount, Date, UTR No. or any other details (References) for easier reconciliation of payment made by constituents to NERPC Board Fund.

10.2 *Deferred shutdown of Palatana from OCC approved schedule causing commercial losses as per DSM.*

100th OCCM approved the shutdown of Palatana from 00:00 Hrs of 20.08.2014. However, NERLDC gave the clearance from 11:30 Hrs only. This deferment of Shutdown timing causes commercial losses to beneficiaries as given below:

	(Approx.)
AP	Rs 20,000/-
Assam	Rs 4, 90,000/-
Manipur	Rs 14,000/-
MeECL	Rs 7, 00,000/-
Mizoram	Rs 45,000/-

Nagaland	Rs 11, 00,000/-
TSECL	Rs 7, 80,000/-

Members may like to discuss.

Deliberations in the Meeting

Shutdown of Palatana Unit-I was approved by 100th OCC from 00:00 Hrs of 20.08.14 for combustion inspection as stipulated by the manufacturer. The shutdown was very critical as GE gas turbine needs to be inspected after completing 8000 EOH. The shutdown has been delayed for many months as hydro generations in the region was minimized due to low rainfall till August 2014. The shutdown is finally approved with minimum period for inspection from 00:00 Hrs of 20.08.14 till 00:00 Hrs of 04.09.14 (18 days only). The approved shutdown was then uploaded in the website of NERPC http://www.nerpc.nic.in under Operational Activities/OCC Approved shutdown. However, while availing shutdown in real time, NERLDC delayed the approved shutdown till 11:45 hrs of 20.08.14, causing financial losses.

The information regarding deferment of shutdown was sent to SLDCs but all the beneficiary states have already committed to buy power from Exchange to meet the shortfall during Palatana shutdown from 00:00 hrs. As the exchange commitment cannot be cancelled, this delay in shutdown caused huge loss to the beneficiaries; and the beneficiary states, without any lapse from their part, has to bear financial loss due to Deviation Settlement Mechanism, due to reduction in own generation, etc. The losses highlighted are only cappings due to under drawal more than 12 % of schedule.

It was decided that such incidents should not be repeated in future and NERLDC may safeguard the interest of beneficiaries at all times. Any deferment from approved shutdown timing may be communicated to all constituents concerned, well in time so that such financial losses may be prevented in future.

10.3 APDCL enquired about the status of the issue of re-import of Kuricchhu energy by Bhutan from Assam grid which has been unaccounted in the REAs of ERPC since 2003.

SE (O) informed that as noted and endorsed by CC members of NERPC in the 21st CCM, NERPC secretariat has taken up with ERPC for early settlement of the issue.

11. *The next Commercial Coordination Sub-Committee meeting will be held in the month of Dec' 2014. As per roster, OTPC has* ***agreed to host the next meeting. The date and venue will be intimated separately.***

The meeting ended with thanks to the chair.

Annexure - A

List of participants in the 22nd Commercial Committee meeting of the NERPC

SN	NAME OF PARTICIPANT	DESIGNATION	e-mail/ Mobile/ Fax
	ARUNACHAL PRADESH	**Not represented**	
		ASSAM	
1	S. K. Baishya	DGM (Comml), APDCL	09435081870
2	K. Goswami	AGM (Comml), APDCL	09864020019
		MANIPUR	
1	L. Priyokumar	ED (T), MSPDCL	pk.laishram@yahoo.com /09436033197
2	Ng. Sarat Singh	ED (T), MSPCL	ngsarat@rediffmail.com /09436020929
3	K. Jila Singh	GM (Com-I)	jskonsam@gmail.com /09612950028
4	Pamching Lungleng	GM (Com-II)	
5	Th. Aton Singh	GM (EC-II)	aton.sekmai@gmail.com /09612152948
6	Th. Nandakishore	GM (Civil)	09436027272
7	S. Chandradhaja Singh	DGM (Comml)	09862296029
8	H. Shantikumar Singh	DGM, SSD-I	ee_sk@yahoo.co.in /09436022381
9	P. Birendra Singh	DGM (Project)	09436893926
10	S. Joykumar	OSD (Tech), SLDC	09612950771
	MEGHALAYA	**Not represented**	
	MIZORAM	**Not represented**	
	NAGALAND	**Not represented**	
		TRIPURA	
1	U. Debbarma	DGM (E), SLDC	09436462842
2	Debabrata Pal	Sr. Manager	d_pal1966@rediffmail.com /9436500244/0381-2325345
		NEEPCO	
1	P. C. Barman	GM (Comml)	09435144141
2	Rana Bose	Sr. Manager (Fin.)	rana_09@rediffmail.com /9436632123/ 0364-2225035
		NHPC	
1	Parag Saxena	CE (Comml)	parags@nhpc.nic.in /0852756377/0129-2256035
2	C. L. Khayuingam	Dy Mgr (E)	loktakphem@gmail.com /09402880207/03879-261237
	NTPC	**Not represented**	

Annexure - A

SN	NAME OF PARTICIPANT	DESIGNATION	e-mail/ Mobile/ Fax
OTPC			
1	Arup Ch. Sarmah	DGM (Comml)	Arupc.sarmah@otpcindia.in/09871839502
NERTS (Powergrid)			
1	P. C. Bhagawati	Chief Mgr	bhagawati1956@gmail.com /9436302809
2	S. M. Singh	Chief Mgr	Smsingh_60@rediffmail.com/09436035171
3	Supriya Paul	Dy. Mgr (OS)	supriyapaul@yahoo.com/09436302995
NERLDC			
1	T. S. Singh	GM	
2	R. Sutradhar	DGM	rajib_shg@hotmail.com/rajib_1965@yahoo.com /9436302714
NETC			
1	N. Chakraborty	Asst. Mgr	narottamchakraborty@netcindia.in/07896022335
NERPC			
1	B. Lyngkhoi	Dir./SE	b_lyngkhoi@yahoo.com /+919436163419
2	Lalrinsanga	Asst. Secretary	lhrengsa@yahoo.com /+919436161886 /0364-2520030
3	S. M. Aimol	Ex. Engineer (C)	shialloa@yahoo.com /+918974002106

Presentation in 22nd. CCM at Imphal

Power System Operation Corporation Ltd
North Eastern Regional Load Despatch Centre
Shillong

Coverage

- IEGC 2014 amendment
- Deviation settlement mechanism 2014
- Tariff Regulations 2014-19

- New stipulations for integration of new element / generator and COD
- Drawal of start-up Power by generator

- Metering Issues
- Exchange between Assam-AP/Nagaland in 33,11 KV

Instances in NER

- First integration of new element under these provisions : 400 KV Silchar-Azara line of NETC.
- First expected COD of generator : Palatana U-II
- Drawal of start-up Power / construction Power : Palatana U-II, AGTPP combined cycle extension

The Regulations / Procedures

- Provisions in Tariff Regulations 2014-19
- Procedures – integration of new element and drawal of start-up power

AGTPP combined cycle case

- Need of Procedure – AGTPP combined cycle extension case

- Discussion in 19th. CCM (26.03.2013)

- **NEEPCO has requested TSECL to provide construction power to R.C.Nagar combine cycle plant from their auxiliary station supply. The site has been visited by TSECL and observed that a meter ABT (compliant) is to be arranged for recording the energy consumption. Since the sale of power to NEEPCO will take place from the station auxiliary supply, so it has to be accounted and reflected in REA. Therefore POWERGRID may be requested to install a meter in consultation with NEEPCO so that energy consumption is recorded for billing purpose. After discussion, it was decided that TSECL will install the SEM and the reading will be booked against Tripura drawal and the same will be reflected in monthly REA.**

AGTPP combined cycle case

- Agenda in 22nd. CCM (After one and half years)

Construction power for the AGTP Combined Cycle extension Project is being met from TSECL's share from AGTP through a bilateral PPA. As agreed between NEEPCO and TSECL, and as decided at the 19th CC meeting held at Guwahati on 26th March 2013, a SEM (Make: L&T; Sr. No. NP-8379-A; Type: ER 300P) has been installed and used for recording the energy drawn by NEEPCO. Prior to installation of this meter the energy drawal was recorded by NEEPCO's meter (Make: Secure; Sr. No. WBB 03352; Type: E3M021). It was also agreed at the said 19th CC meeting that the readings from this meter will be booked against Tripura drawal and reflected in the monthly REAs. However, the readings are yet to be reflected in the REAs, due to which NEEPCO has been unable to raise bills on TSECL and vice versa for this quantum of power. Therefore, it is proposed that the construction power drawal by NEEPCO as recorded by the above mentioned SEM be incorporated in the REAs. The meter readings as recorded by NEEPCO since commencement of drawal in April 2013 will be made available to NERPC / NERLDC.

AGTPP combined cycle case

- Issues in the case :

- **No intimation regarding commencement of drawal**

- **No SEM installation report**

- **SEM readings not being sent on weekly basis although readings of other meters from AGTPP is being received regularly**

AGTPP combined cycle case

- Probable implications :

- **Drawal taking place through aux. consumption for one and half years**
- **Quantum should have been booked to Tripura drawal and AGTPP injection in deviation calculation**
- **Now it is additional auxiliary consumption of AGTPP.**
- **Less ex-PP injection**
- **Less DC by AGTPP? Less schedule to beneficiaries?**

CCM may discuss

Assam export to AP/Nagaland – 33 & 11 KV

- Procedure being followed:

- **SEM not installed in most locations**
- **Monthly energy readings are being sent by APDCL**
- **NERLDC works out corresponding peak and off-peak MW from the monthly readings**
- **Same is used in subsequent period till receipt of next monthly reading**

- **Quantum MW added to AP,Nagaland and deducted from Assam drawal in deviation calculation**

Statement of Inter- State Meter Reading for the Month of July' 2014.

	FEEDERS	M.F.	E/I	IS METER READING.		EXCHANGE, Mwh		NET EXCHANGE Mwh
				01.07.2014	01.08.2014	Export	Import	
	Exchange with AP							
	D'DOOMA NAMSAI (33 KV AP feeder)	0.06	E	3383853.00	3460918.00	4523.900		
1	Santipur	1	E	3214.99	3214.99	0.000		
2	Sunpura	6	I	231.46			78.800	4545.100
3	LIPANJAYRAMPUR	6	E	4584.98	4838.66	1522.080	0	
5	GOHPUR BALIJAN	0.3	E	22579.59	22579.59	0.000	0	
6	DHALAIBIL SIZUSSA	0.5	E	15582.05	15793.16	105.555	0	
7	S'KATHANI KANUBAR	4	E	0.00		700.003	0	
8	M'RITA CHENGLENG	3	E	8379.43	8481.45	306.060	0	
9	DIGBOI- BORDUMSHA	2	E	2074.40	2102.77	56.740	0	
10	B'KUND - SALIMUKH	0.5	E	7473.20	7505.44	16.120	0	
11	LIKABALI - S'PATHAR	1	E	9611.68	9683.53	71.850	0	
12	RUKSIN JONAI	6	E	1362.63	1509.3	880.020	0	
13	DIPABASTI	2	E	898.39	903.97	11.160	0	
14	Total to AP					5293.485	78.800	8214.685

Assam export to AP/Nagaland – 33 & 11 KV

3% credit is given to Assam as wheeling loss.

NAG drawal via 33,11 KV feeders

Enter this :	2216.52	w.e.f 21.07.14	
y==2x			Calculation
18x +6y =	71.501		
18x +12x	71.501		
30x	71.501		
x =	2.383	2.4	Off Peak MW
y =	4.767	4.8	Peak MW
Daily	71.501		
Monthly	2216.520		

Jul-14	31	DAYS

AP drawal via 33,11 LV feeders

Enter this :	8214.685	w.e.f 21.07.14	
y==2x			Calculation
18x +6y =	264.990		
18x +12x	264.990		
30x	264.990		
x =	8.833	8.8	Off Peak MW
y =	17.666	17.7	Peak MW
Daily	264.990		
Monthly	8214.685		

This system needs to be gradually phased out.

Metering issues

- Clause 6.4.21 of IEGC :

The CTU shall install special energy meters on all inter connections between the regional entities and other identified points for recording of actual net MWh interchanges and MVArh drawals. The installation, operation and maintenance of special energy meters shall be in accordance with Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006. All concerned entities (in whose premises the special energy meters are installed) shall take weekly meter readings and transmit them to the RLDC by Tuesday noon The SLDC must ensure that the meter data from all installations within their control area are transmitted to the RLDC within the above schedule.

Metering issues

- Locations in NER where CTU collects weekly readings on behalf of States:

  Ningthoukhong, Karong, Yurembam **Manipur**

  Samaguri, BTPS, Haflong, Badarpur, Dullavcherra **Assam**

  PK Bari **Tripura**

  Khliehriat, Lumshnong **Meghalaya**

  Khupi **Ar. Pradesh**

  Bokajan, Dimapur, Kohima **Nagaland**

- **Target for switch-over? To be finalised in CCM**
- **States may outsource the activity – was done in ER**

Metering issues

- Metering co-ordinator for each utility, CTU, RLDC.
- Regular exchange of information regarding status of meter, DCD.
- Addressing problems in time bound manner
- ***Huge monetary involvement – utilities need to be vigilant***
- **Co-ordinators to be finalised in CCM.**

Metering issues

- No weekly meter reading from

- ***Tinsukia (Assam),***
- ***Deomali (Ar.Pradesh),***
- ***Nangalbibra (Meghalaya) – DCD to be replaced - CTU***
- ***Mokokchang (Nagaland)***
- ***Rengpang (Manipur).***

States should take action ; action plan in CCM

Please spell out if anything is to be done by CTU???

Metering issues

- Problems in inter-utility feeders :

- 220 KV Kopili-Misa III : Meter error in Kopili end
- 132 KV Loktak-Imphal(PG) : Meter not installed at Imphal(PG)
- 132 KV Imphal(PG) – Yurembam line : Meter not installed at Imphal(PG)
- 132 KV Imphal(PG)-Ningthoukhong line : Meter not installed at Ningthoukhong
- 132 KV Balipara-Gohpur line : Meter error in Balipara end
- 132 KV Karong-Kohima : Joint check needed at both ends

CTU to take action ; time bound action plan in CCM

Metering issues

- Time drift in Special Energy Meter
- Extremely important to minimise time mismatch
- Large mismatch in Kopili, Khandong during April, May. Financial implication about Rs. 45 lacs. Accounts revised.
- NERLDC is not receiving time drift status except from Khandong and Kopili.
- **All locations must send time drift status of SEM. Respective co-ordinators should be responsible.**

Metering issues

- ELSTER make meters :

- Frequent problems
- Meters not as per Technical specs
- Whenever new meter installed from Store by CTU, some problem arises

- **CTU to test and ensure correctness before installation!!**
- **Course of action by CTU about ELSTER meters?**
- **New procurement – ensuring quality?**

Metering issues

- Weekly collection of meter reading
- Doing away with Data Collection Device (DCD)
- **LAPTOP**
- **RS-485**
- **Automated Meter Reading (AMR) scheme**

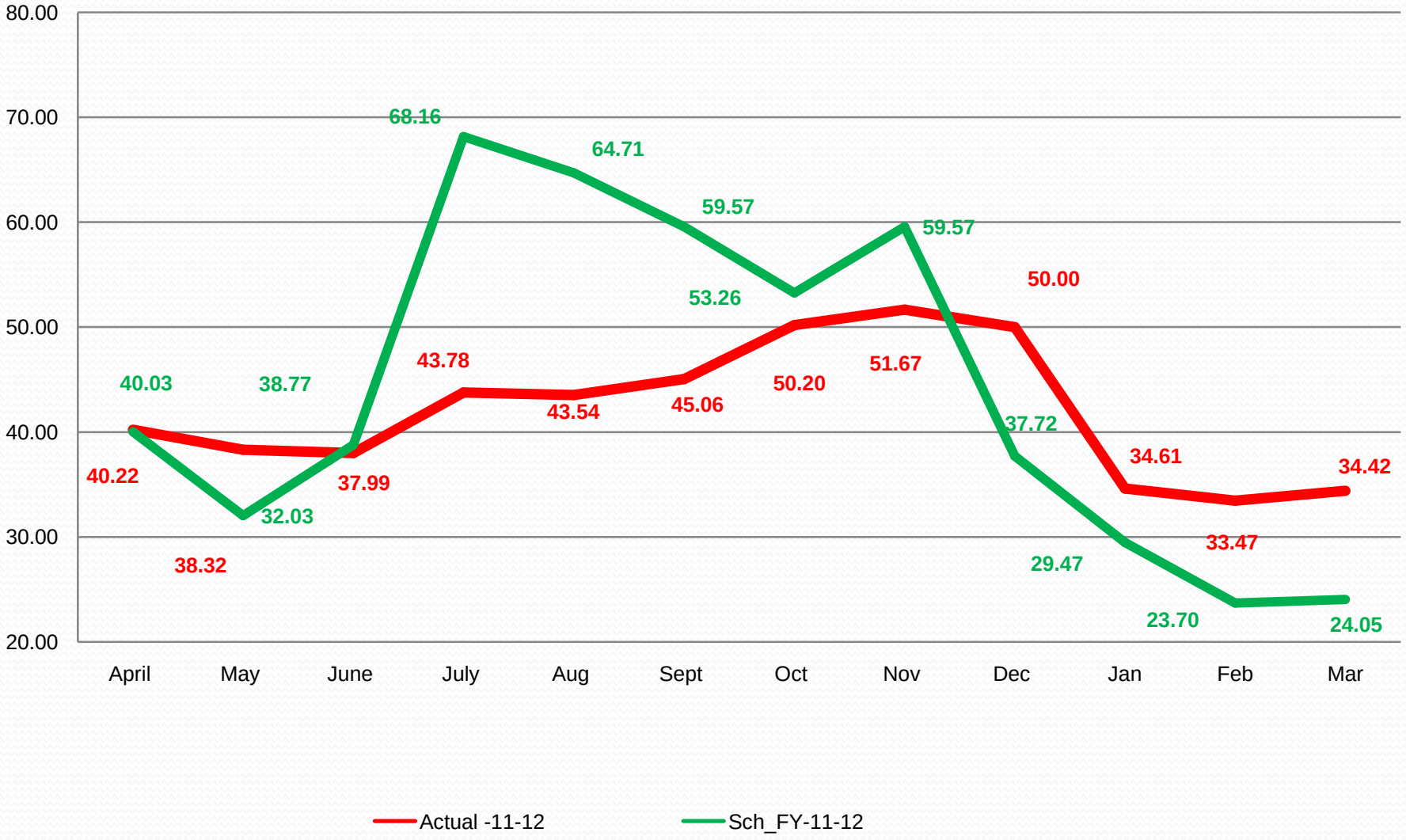
Decision needs to be taken in CCM

AMR may be approved and go ahead to CTU

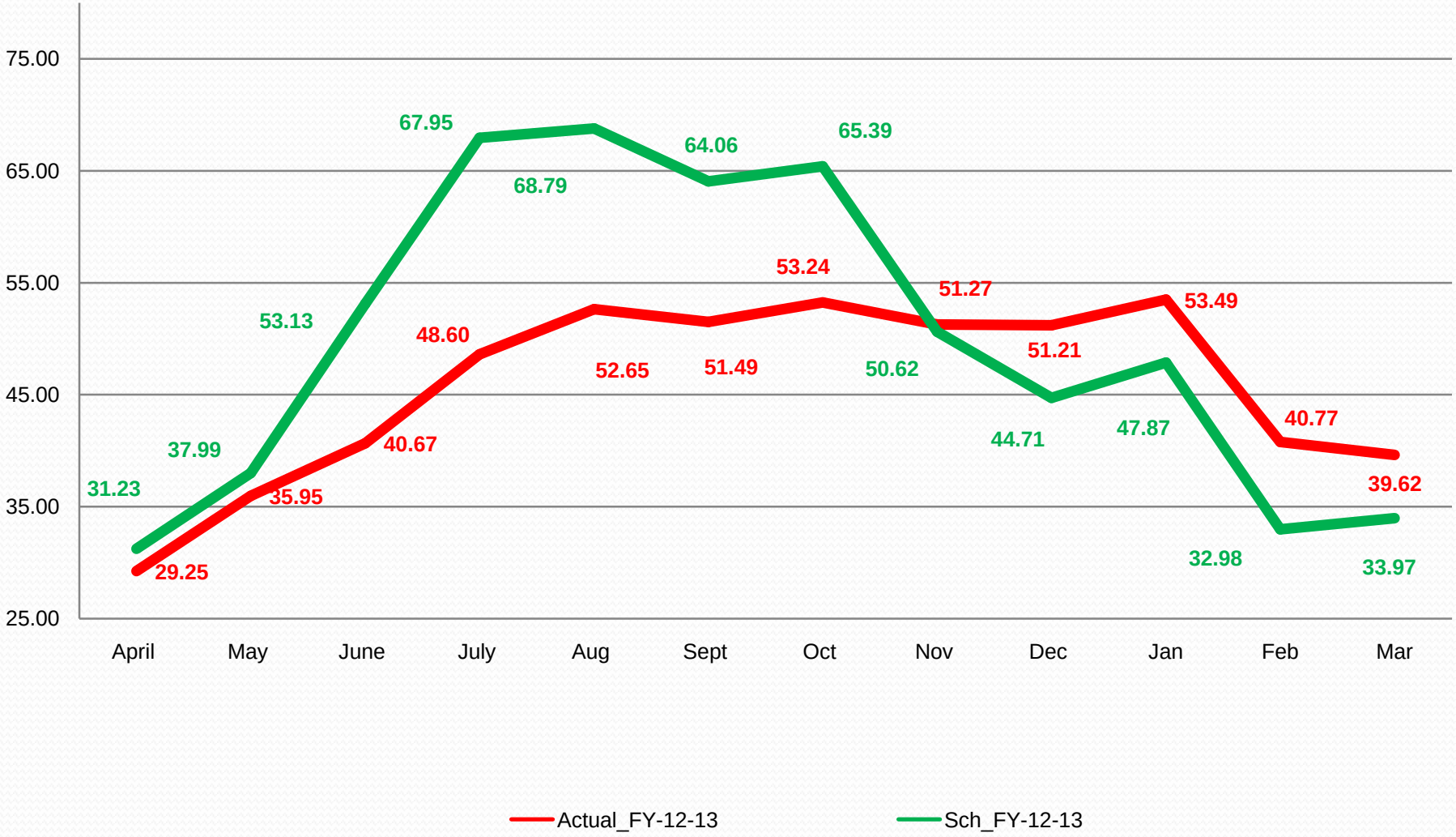
Manipur example

continual improvement

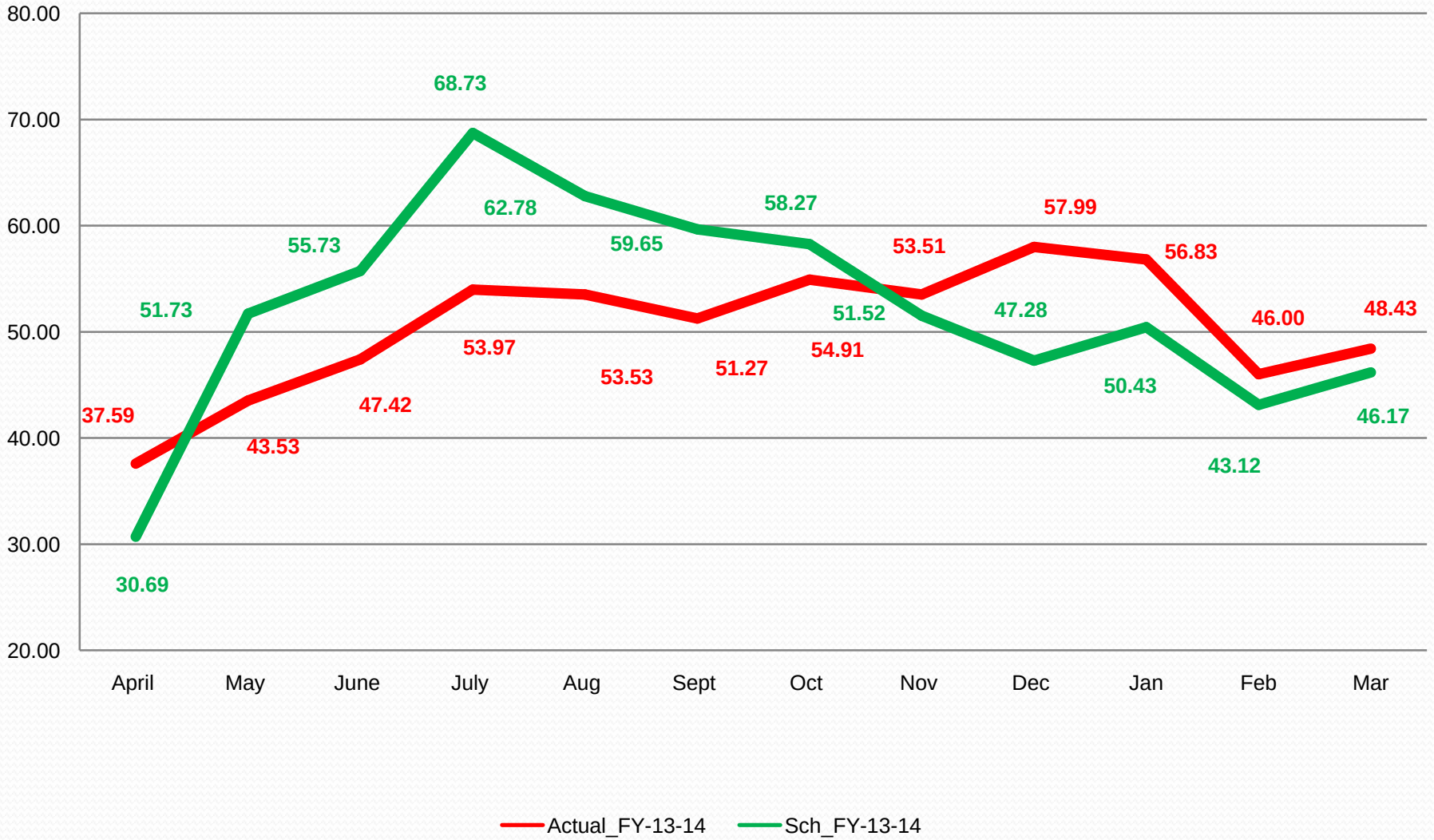
Manipur Schedule-Actual for FY-11-12 (MU)



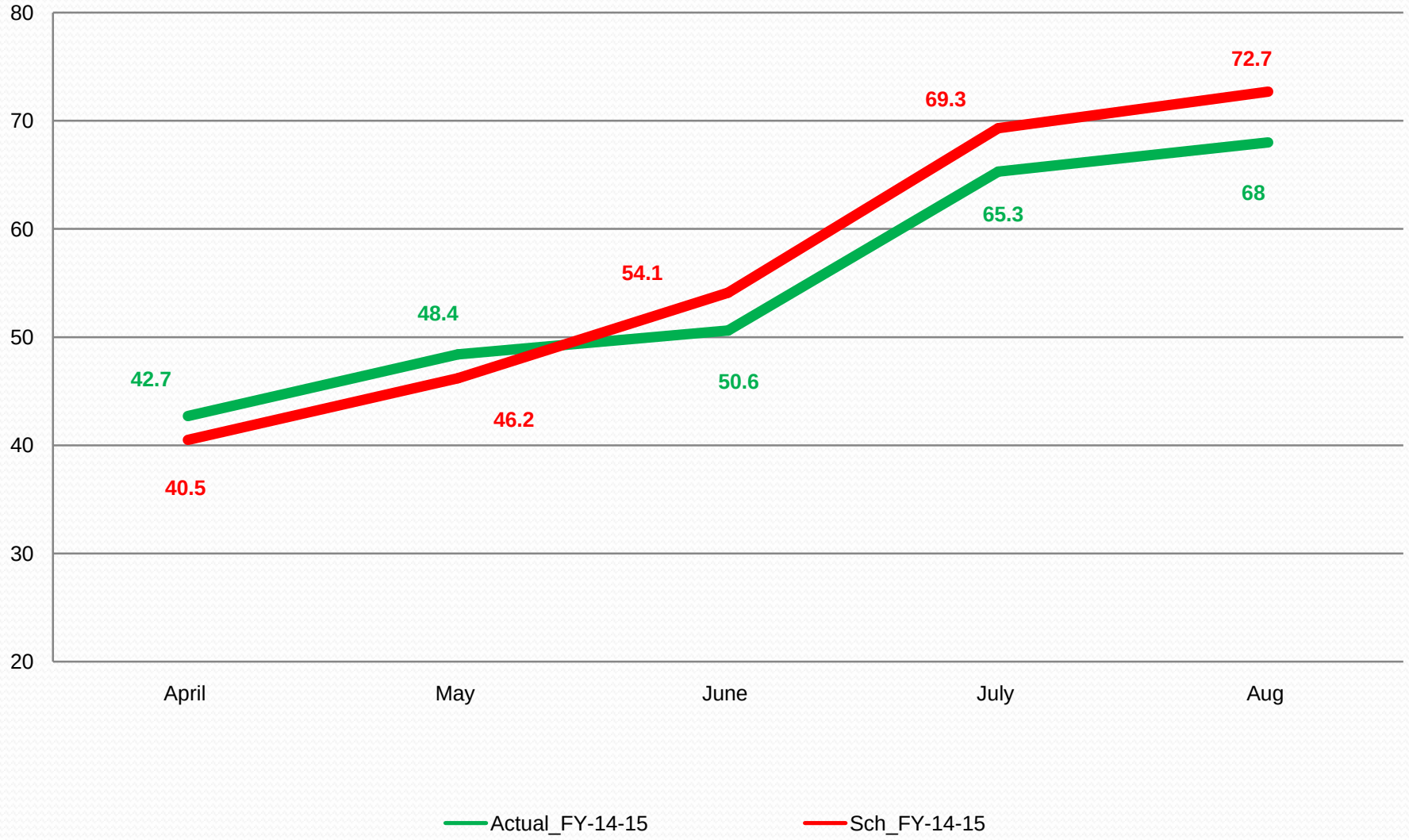
Manipur Schedule-Actual for FY-12-13 (MU)



Manipur Schedule-Actual for FY-13-14 (MU)



Manipur Schedule-Actual for FY-14-15 (MU)



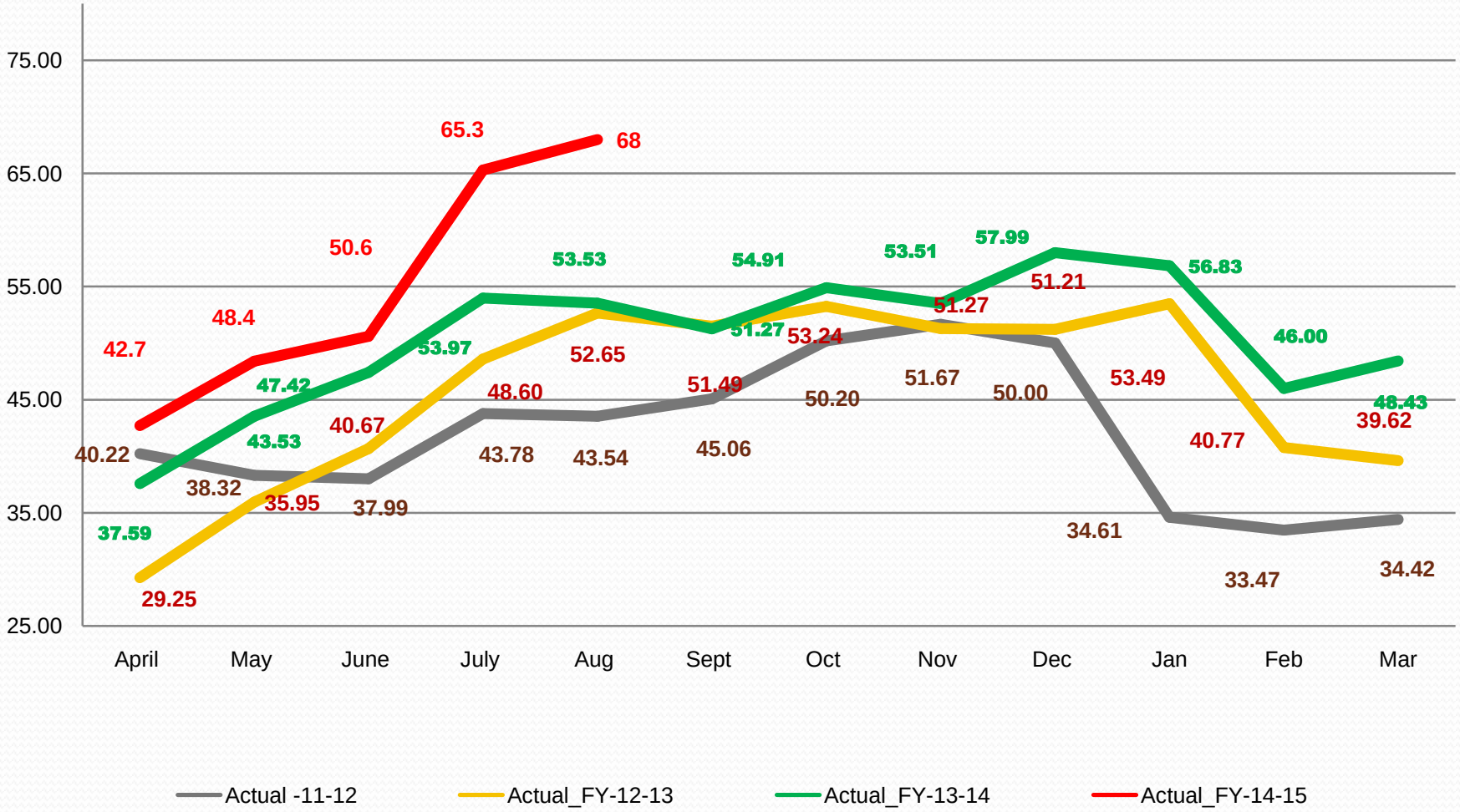
UI Balance Sheet in NER

Figures in Crores

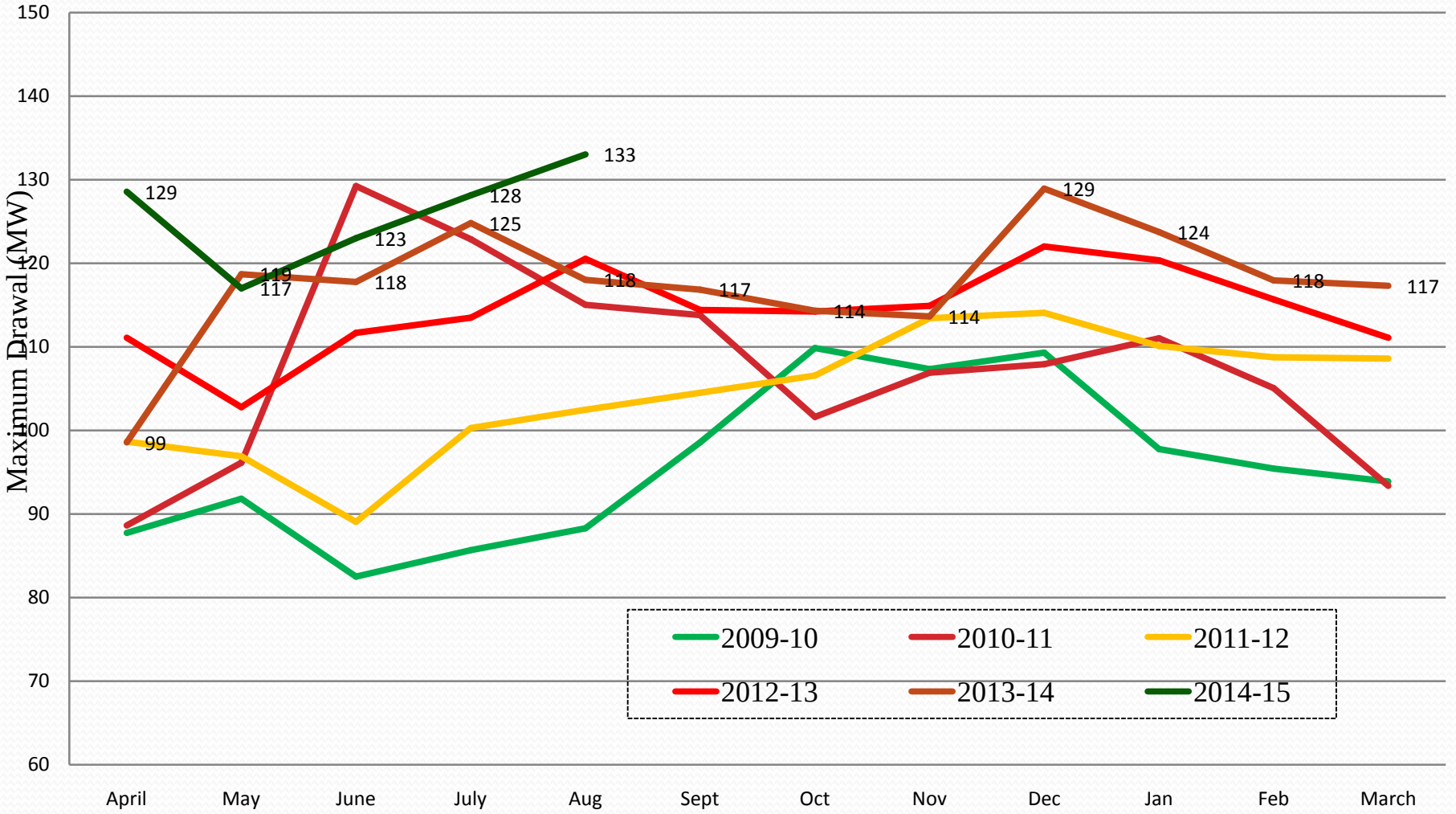
Constituent	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Ar. Pradesh	-11.2	-17.1	4.0	4.4	-31.7	-5.0	-13.2
Assam	317.9	244.0	61.0	73.7	-17.8	-9.0	-38.8
Manipur	42.2	60.0	20.0	21.3	17.3	11.1	-0.9
Meghalaya	12.8	38.4	-4.0	-11.9	-37.5	1.1	-6.8
Mizoram	28.8	27.0	-1.1	-5.9	-21.4	0.7	-7.0
Nagaland	0.4	-1.1	-19.7	-20.6	-25.9	-13.7	-6.3
Tripura	22.5	24.3	19.9	16.6	8.3	4.8	-5.4
Loktak	2.0	1.1	1.3	3.7	2.2	4.0	1.5
NEEPCo	14.3	8.6	11.5	10.3	6.8	10.8	3.5
ER	-434.1	-396.4	-103.6	-115.0	71.2	-48.3	16.3

Net Payment : (+) receivable from pool / (-) payable to pool.

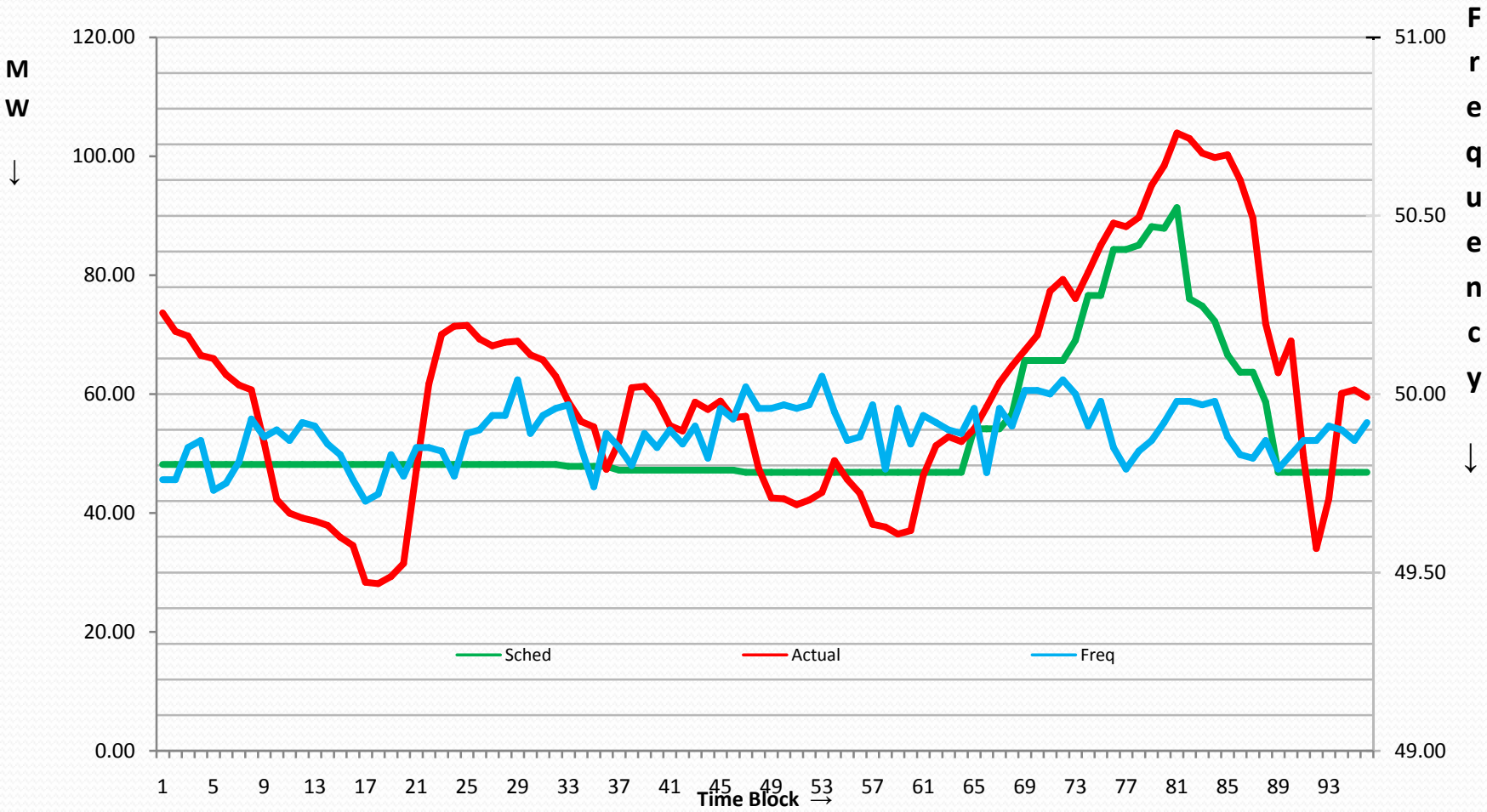
Manipur Actual drawal in MU



Manipur maximum drawal



Schedule-Actual : Manipur 24/04/2014



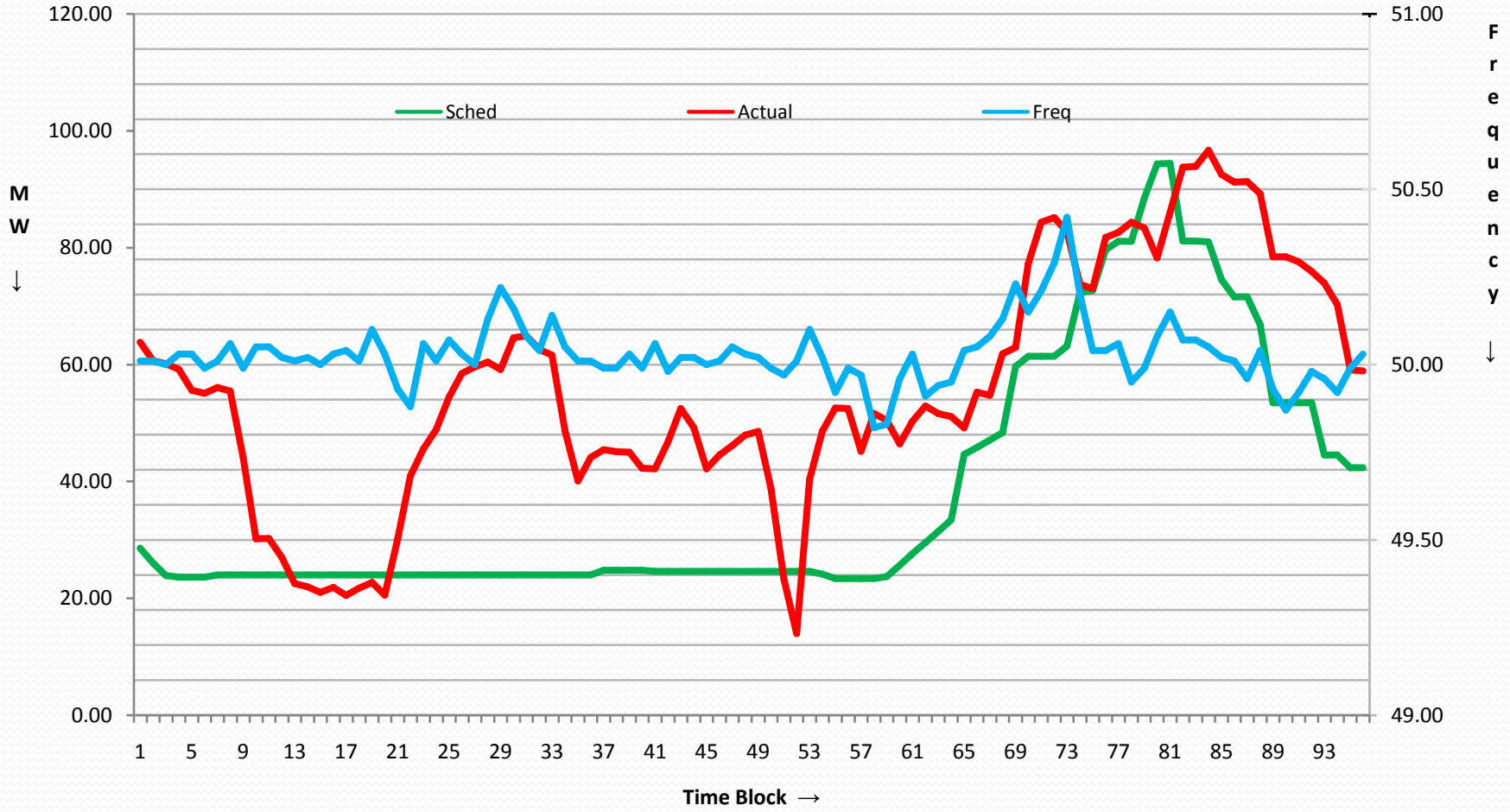
Sch 1281 Mwh Dev (167 Mwh)

Act 1448 Mwh Net Dev in Rs (8.28 L)

Manipur Drawal Sch on 24.04.14

TIME Block No.	TIME From Hrs	TIME To Hrs	Total From ISGS	POWER EXCHANGE	LTOA ER-ISGS	INTER REGION	INTRA REGION	Shared Project	Net Bilateral	24-Apr-14 Net Drawal (SEB Periphery)
1	00:00	00:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
2	00:15	00:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
3	00:30	00:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
4	00:45	01:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
5	01:00	01:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
6	01:15	01:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
7	01:30	01:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
8	01:45	02:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
9	02:00	02:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
10	02:15	02:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
11	02:30	02:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
12	02:45	03:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
13	03:00	03:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
14	03:15	03:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
15	03:30	03:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
16	03:45	04:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
17	04:00	04:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
18	04:15	04:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
19	04:30	04:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
20	04:45	05:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
21	05:00	05:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
22	05:15	05:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
23	05:30	05:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
24	05:45	06:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
25	06:00	06:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
26	06:15	06:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
27	06:30	06:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
28	06:45	07:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
29	07:00	07:15	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
30	07:15	07:30	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
31	07:30	07:45	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
32	07:45	08:00	38.96	0.00	0.00	0.00	0.00	9.21	0.00	48.17
33	08:00	08:15	38.64	0.00	0.00	0.00	0.00	9.21	0.00	47.85
34	08:15	08:30	38.64	0.00	0.00	0.00	0.00	9.21	0.00	47.85
35	08:30	08:45	38.64	0.00	0.00	0.00	0.00	9.21	0.00	47.85
36	08:45	09:00	38.64	0.00	0.00	0.00	0.00	9.21	0.00	47.85
37	09:00	09:15	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
38	09:15	09:30	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
39	09:30	09:45	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
40	09:45	10:00	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
41	10:00	10:15	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
42	10:15	10:30	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
43	10:30	10:45	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
44	10:45	11:00	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
45	11:00	11:15	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
46	11:15	11:30	38.01	0.00	0.00	0.00	0.00	9.21	0.00	47.22
47	11:30	11:45	37.62	0.00	0.00	0.00	0.00	9.21	0.00	46.83
48	11:45	12:00	37.62	0.00	0.00	0.00	0.00	9.21	0.00	46.83

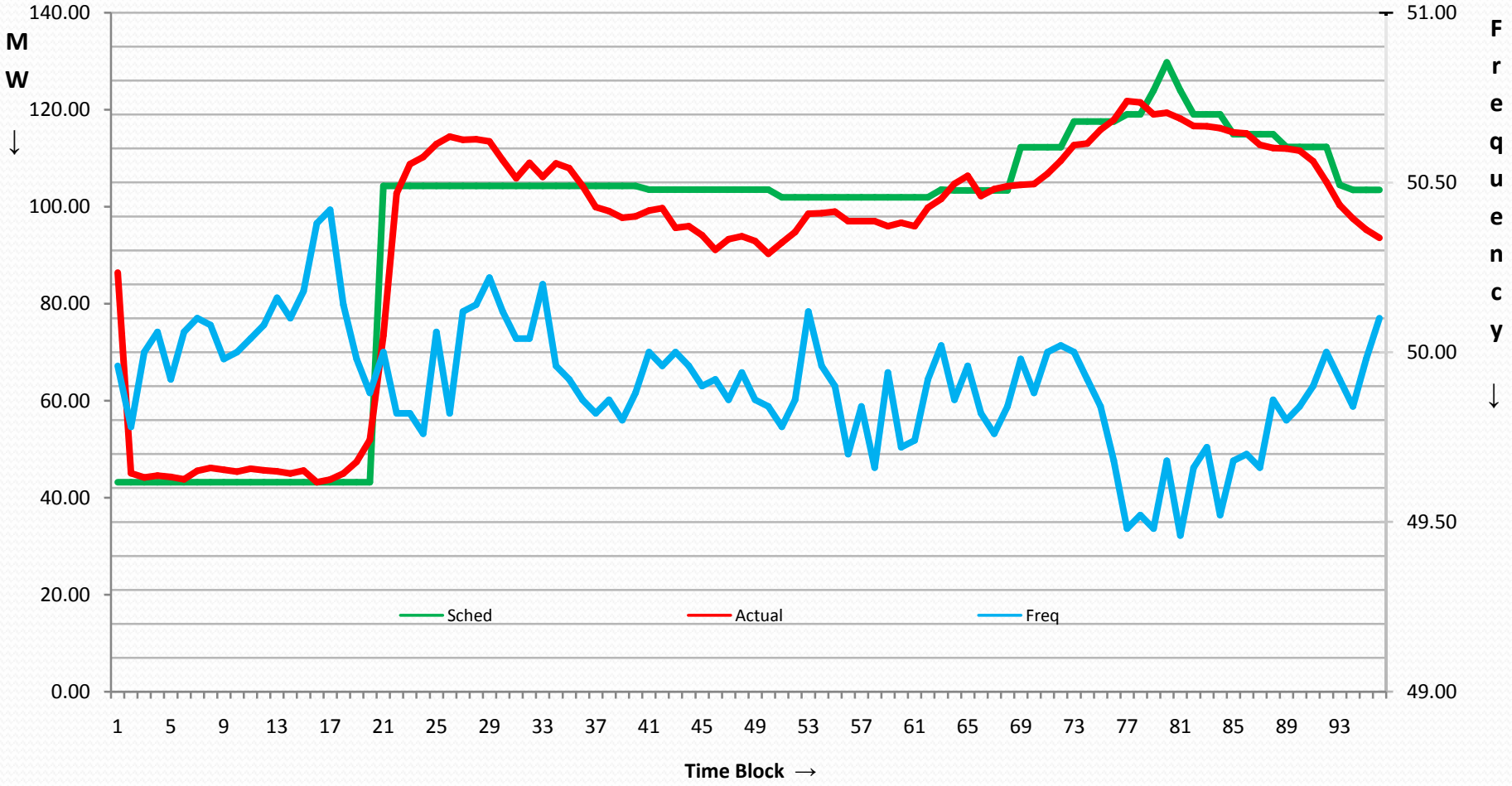
Schedule-Actual : Manipur 02/05/2014



Sch 913 MWh Dev (427 MWh)

Act 1340 MWh Net Dev in Rs (6.8 L)

Schedule-Actual : Manipur 30/07/2014



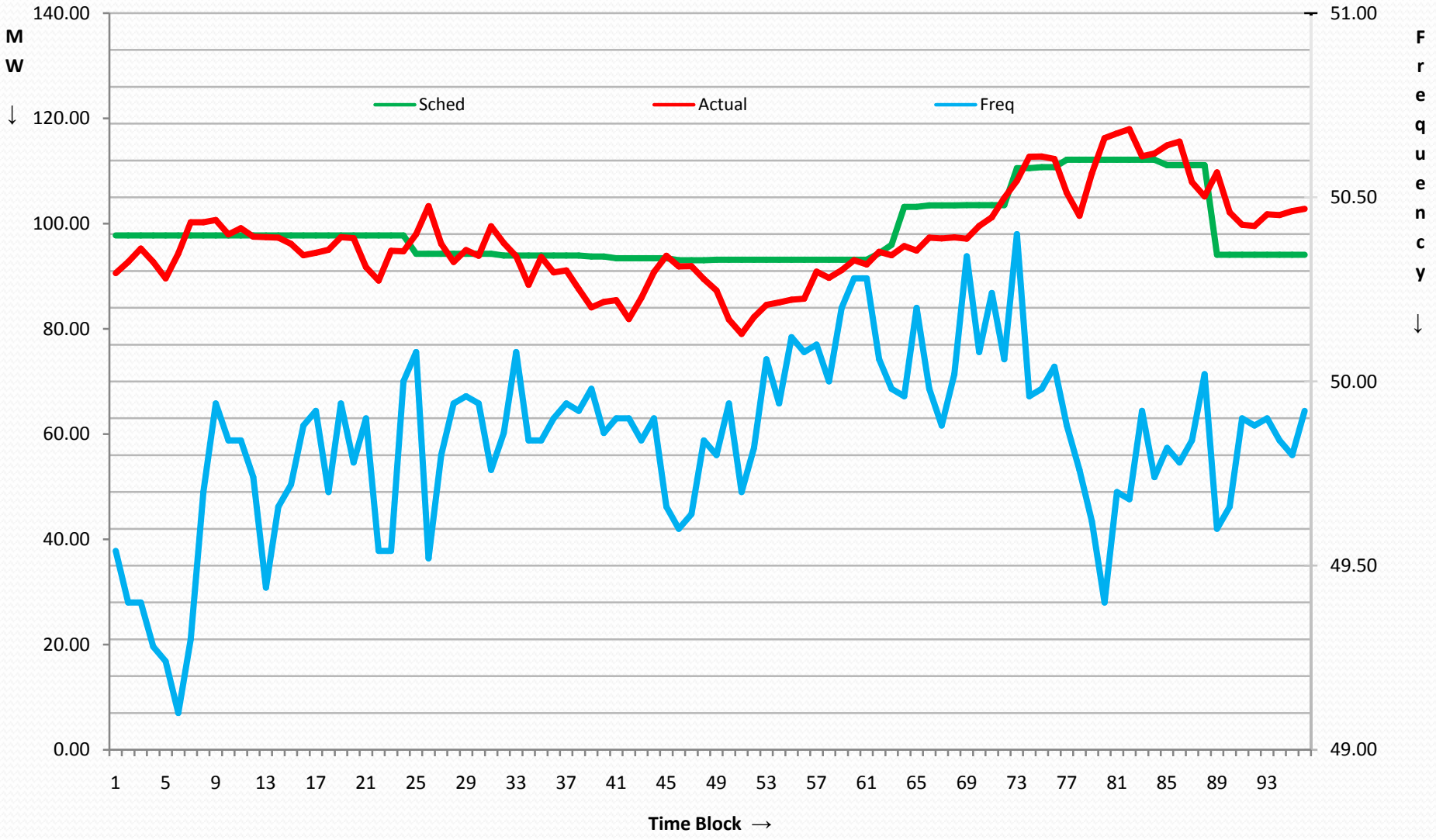
Sch 2227 MWh Dev (-34 MWh)

Act 2261 MWh Net Dev in Rs (-1.37 L)

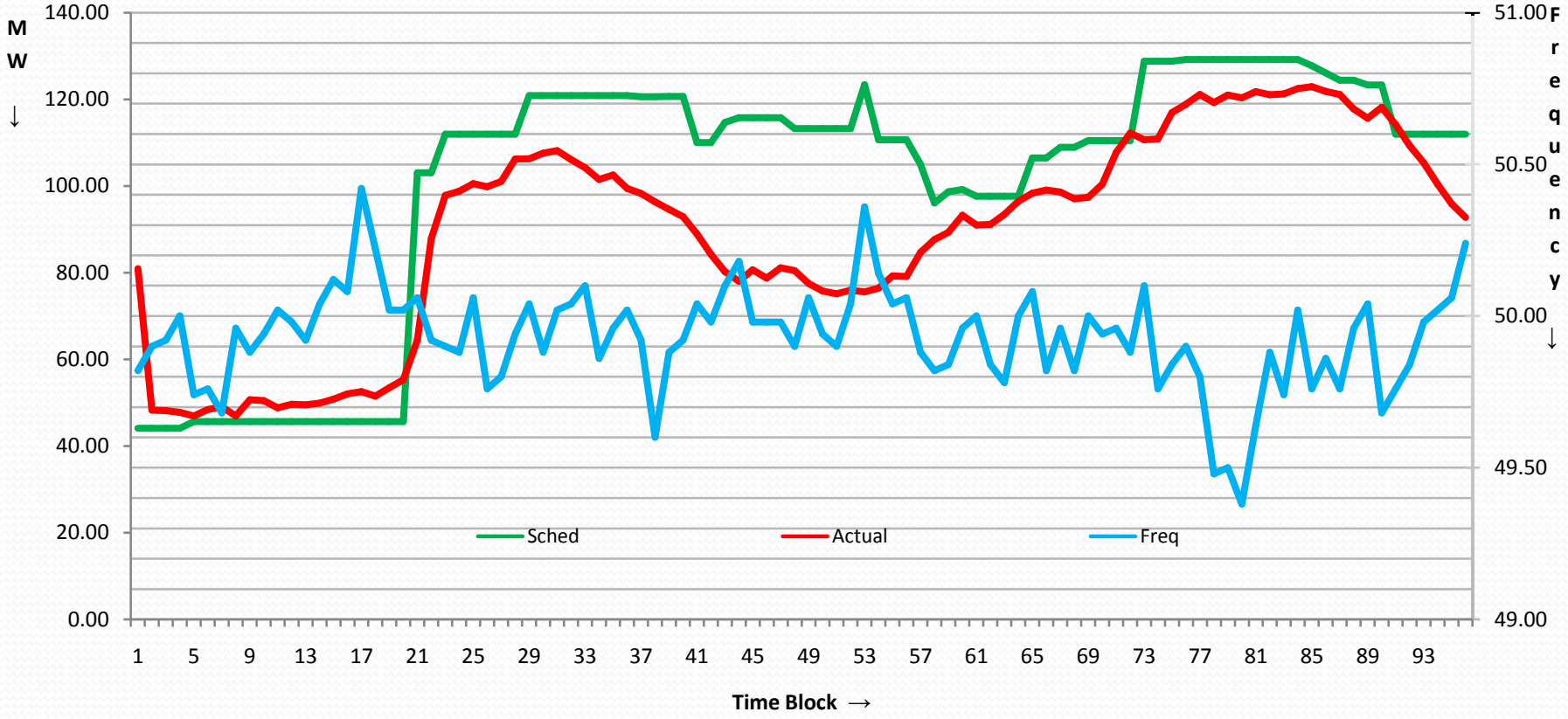
Manipur Drawal Sch on 30.07.14

TIME Block No.	TIME From Hrs	TIME To Hrs	Total From ISGS		POWER EXCHANGE	LTOA ER-ISGS	INTER REGION	INTRA REGION	Shared Project	Net Bilateral	30-Jul-14 Net Drawal (SEB Periphery)
1	00:00	00:15	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
2	00:15	00:30	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
3	00:30	00:45	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
4	00:45	01:00	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
5	01:00	01:15	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
6	01:15	01:30	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
7	01:30	01:45	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
8	01:45	02:00	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
9	02:00	02:15	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
10	02:15	02:30	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
11	02:30	02:45	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
12	02:45	03:00	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
13	03:00	03:15	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
14	03:15	03:30	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
15	03:30	03:45	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
16	03:45	04:00	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
17	04:00	04:15	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
18	04:15	04:30	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
19	04:30	04:45	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
20	04:45	05:00	95.10	0.00	-20.36	0.00	-40.71	0.00	9.17	-61.07	43.20
21	05:00	05:15	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
22	05:15	05:30	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
23	05:30	05:45	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
24	05:45	06:00	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
25	06:00	06:15	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
26	06:15	06:30	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
27	06:30	06:45	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
28	06:45	07:00	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
29	07:00	07:15	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
30	07:15	07:30	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
31	07:30	07:45	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
32	07:45	08:00	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
33	08:00	08:15	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
34	08:15	08:30	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
35	08:30	08:45	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
36	08:45	09:00	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
37	09:00	09:15	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
38	09:15	09:30	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
39	09:30	09:45	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
40	09:45	10:00	95.10	0.00	0.00	0.00	0.00	0.00	9.17	0.00	104.27
41	10:00	10:15	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
42	10:15	10:30	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
43	10:30	10:45	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
44	10:45	11:00	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
45	11:00	11:15	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
46	11:15	11:30	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
47	11:30	11:45	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54
48	11:45	12:00	94.37	0.00	0.00	0.00	0.00	0.00	9.17	0.00	103.54

Schedule-Actual : Manipur 13/07/2014



Schedule-Actual : Manipur 05/08/2014



Sch 2421 MWh Dev (-279 MWh)

Act 2142 MWh Net Dev in Rs (-3.49 L)

MARCH-2014 SUMMARY_Manipur

SCHEDULE MWH	46,174	
ACTUAL MWH	48,372	
DEVIATION MWH	2,198	
OD>12% (f>=49.7Hz.)	1,619	
OD>20% (f>=49.7Hz.)	396	
OD (12-15)% (f>=49.7Hz.)	593	
OD (15-20)% (f>=49.7Hz.)	630	
OD (f<49.7Hz.)	0	
UD>12% Sch	2,938	63,67,948
UD (f>=50.1 Hz.)	462	8,22,205

Basic Deviation Charge (Rs)	1,03,06,986
Additional Deviation Charge (Rs)	22,99,801
Total Deviation Charge (Rs)	1,26,06,787
(+) Payable to Pool	
(-) Receivable From Pool	

APRIL-2014 SUMMARY_Manipur

SCHEDULE MWH	40,461	
ACTUAL MWH	42,696	
DEVIATION MWH	2,235	
OD>12% (f>=49.7Hz.)	860	
OD>20% (f>=49.7Hz.)	110	
OD (12-15)% (f>=49.7Hz.)	429	
OD (15-20)% (f>=49.7Hz.)	321	
OD (f<49.7Hz.)	35	
UD>12% Sch	2,516	87,49,019
UD (f>=50.1 Hz.)	76	1,35,317

Basic Deviation Charge (Rs)	1,30,48,521
Additional Deviation Charge (Rs)	14,27,211
Total Deviation Charge (Rs)	1,44,75,732
(+) Payable to Pool	
(-) Receivable From Pool	

MAY-2014 SUMMARY_Manipur

SCHEDULE MWH	40,144	
ACTUAL MWH	40,860	
DEVIATION MWH	716	
OD>12% (f>=49.7Hz.)	725	
OD>20% (f>=49.7Hz.)	62	
OD (12-15)% (f>=49.7Hz.)	403	
OD (15-20)% (f>=49.7Hz.)	260	
OD (f<49.7Hz.)	17	
UD>12% Sch	2,697	54,40,800
UD (f>=50.1 Hz.)	406	7,22,470

Basic Deviation Charge (Rs)	98,22,808
Additional Deviation Charge (Rs)	15,72,645
Total Deviation Charge (Rs)	1,13,95,453
(+) Payable to Pool	
(-) Receivable From Pool	

JUNE-2014 SUMMARY_Manipur

SCHEDULE MWH	54,079	
ACTUAL MWH	50,583	
DEVIATION MWH	-3,496	
OD>12% (f>=49.7Hz.)	20	
OD>20% (f>=49.7Hz.)	1	
OD (12-15)% (f>=49.7Hz.)	12	
OD (15-20)% (f>=49.7Hz.)	7	
OD (f<49.7Hz.)	86	
UD>12% Sch	1,935	55,05,546 (+) Payable to Pool
UD (f>=50.1 Hz.)	221	3,93,744 (-) Receivable From Pool

Basic Deviation Charge (Rs)	-25,00,132
Additional Deviation Charge (Rs)	11,34,331
Total Deviation Charge (Rs)	-13,65,801

JULY-2014 SUMMARY_Manipur

SCHEDULE MWH	69,254		
ACTUAL MWH	65,330		
DEVIATION MWH	-3,924		
OD>12% (f>=49.7Hz.)	92		
OD>20% (f>=49.7Hz.)	30		
OD (12-15)% (f>=49.7Hz.)	32		
OD (15-20)% (f>=49.7Hz.)	30		
OD (f<49.7Hz.)	37		
UD>12% Sch	1,415	45,37,208	(+) Payable to Pool
UD (f>=50.1 Hz.)	183	3,24,900	(-) Receivable From Pool

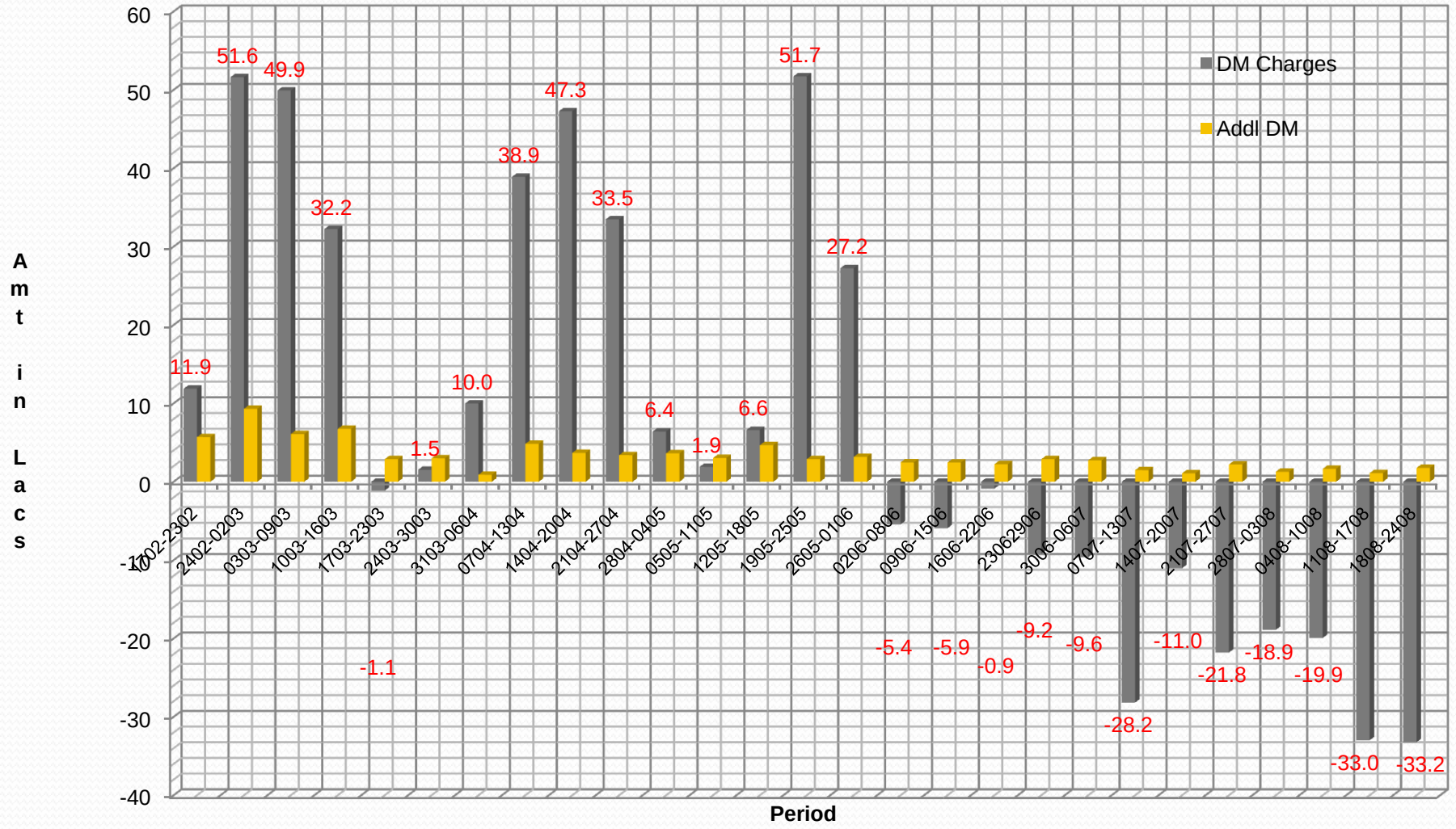
Basic Deviation Charge (Rs)	-70,36,267
Additional Deviation Charge (Rs)	9,14,406
Total Deviation Charge (Rs)	-61,21,861

AUG-2014 SUMMARY_Manipur

SCHEDULE MWH	72,657	
ACTUAL MWH	68,004	
DEVIATION MWH	-4,653	
OD>12% (f>=49.7Hz.)	130	
OD>20% (f>=49.7Hz.)	33	
OD (12-15)% (f>=49.7Hz.)	52	
OD (15-20)% (f>=49.7Hz.)	45	
OD (f<49.7Hz.)	21	
UD>12% Sch	1,673	52,36,321
UD (f>=50.1 Hz.)	134	2,38,518

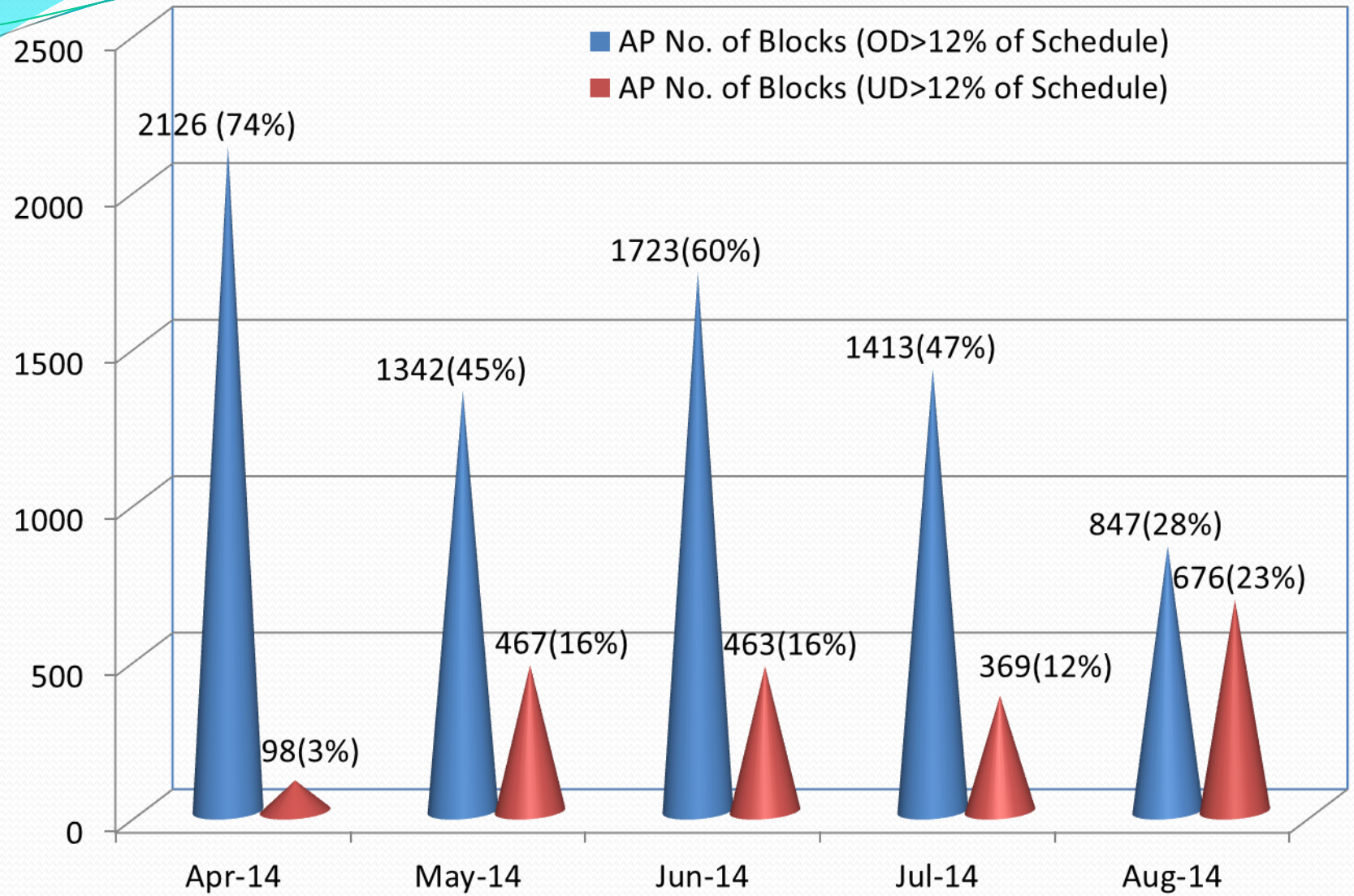
Basic Deviation Charge (Rs)	-1,02,52,496
Additional Deviation Charge (Rs)	6,58,054
Total Deviation Charge (Rs)	-95,94,442
(+) Payable to Pool	
(-) Receivable From Pool	

Deviation Charges Payable By Manipur

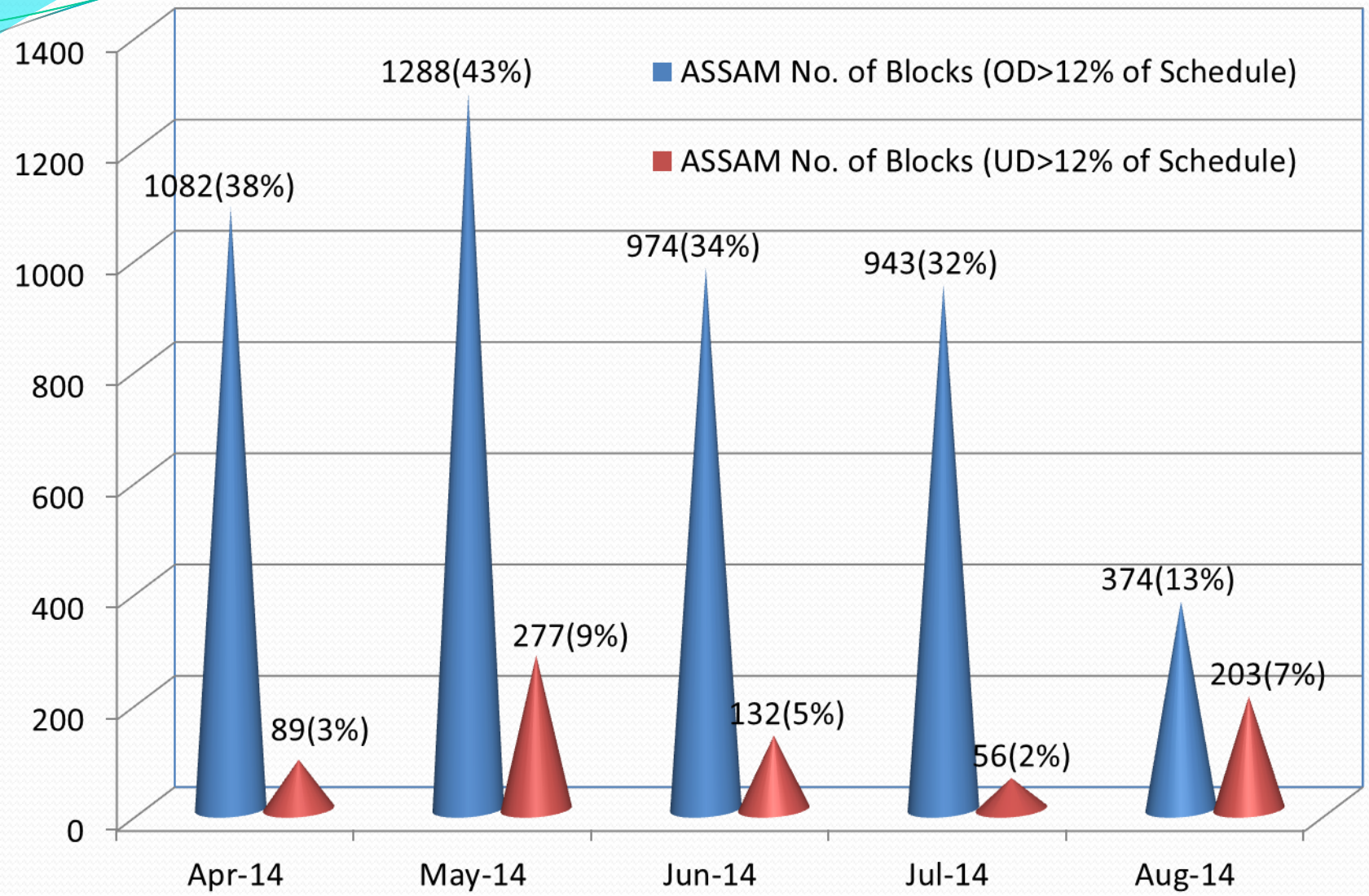


Violation of IEGC, DSM Regulations

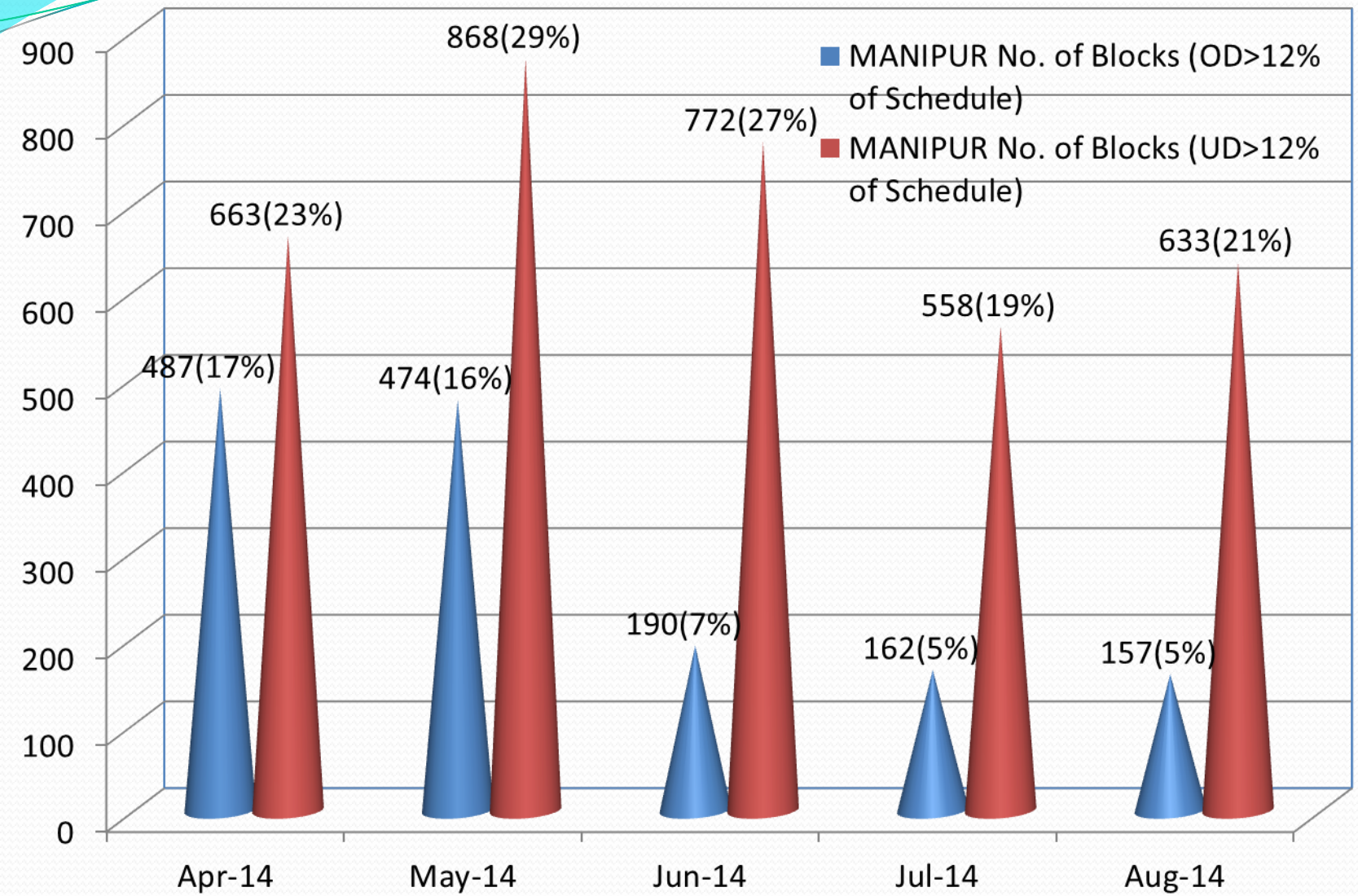
Violation beyond 12% - Ar. Pradesh



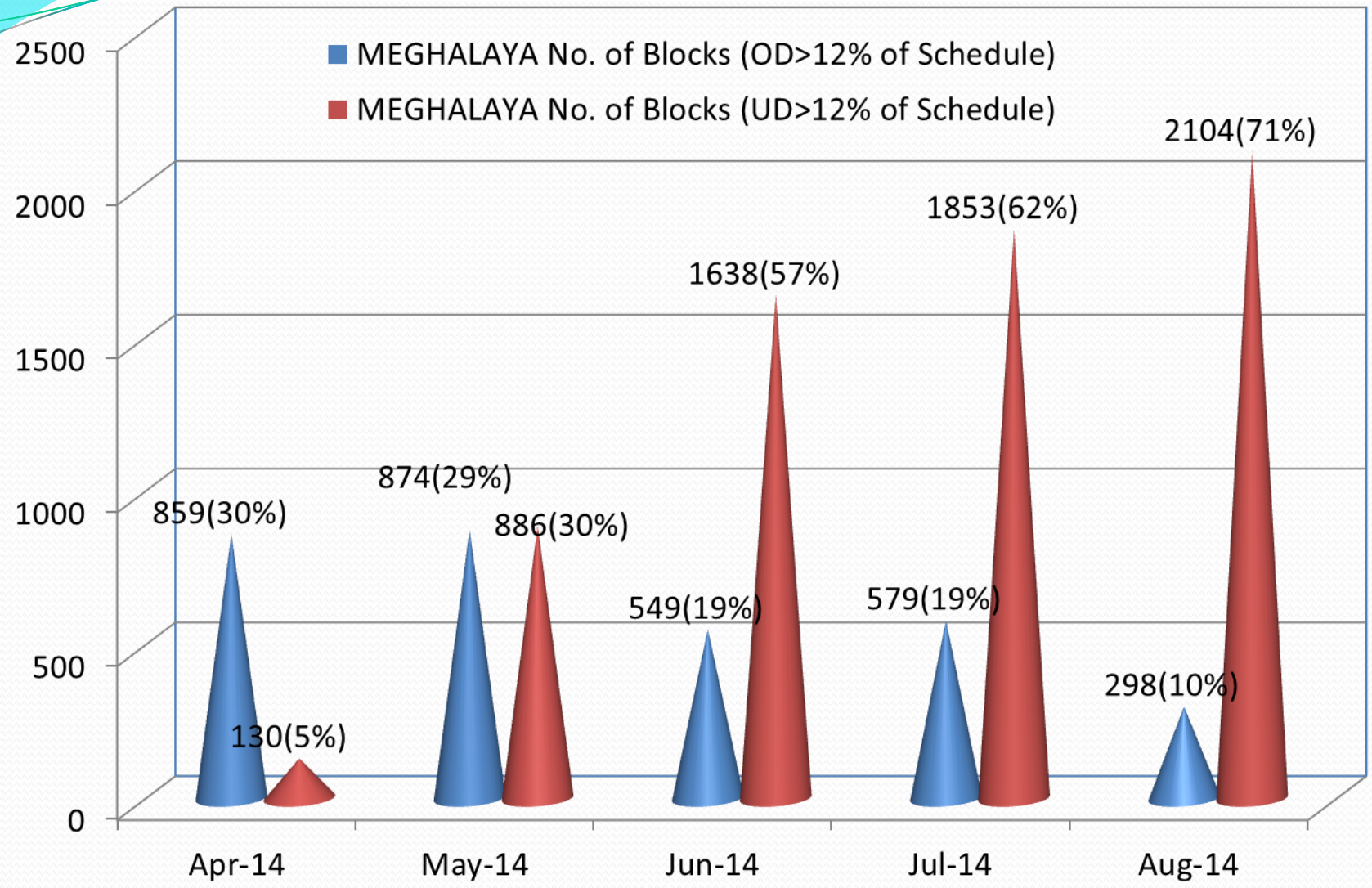
Violation beyond 12% - Assam



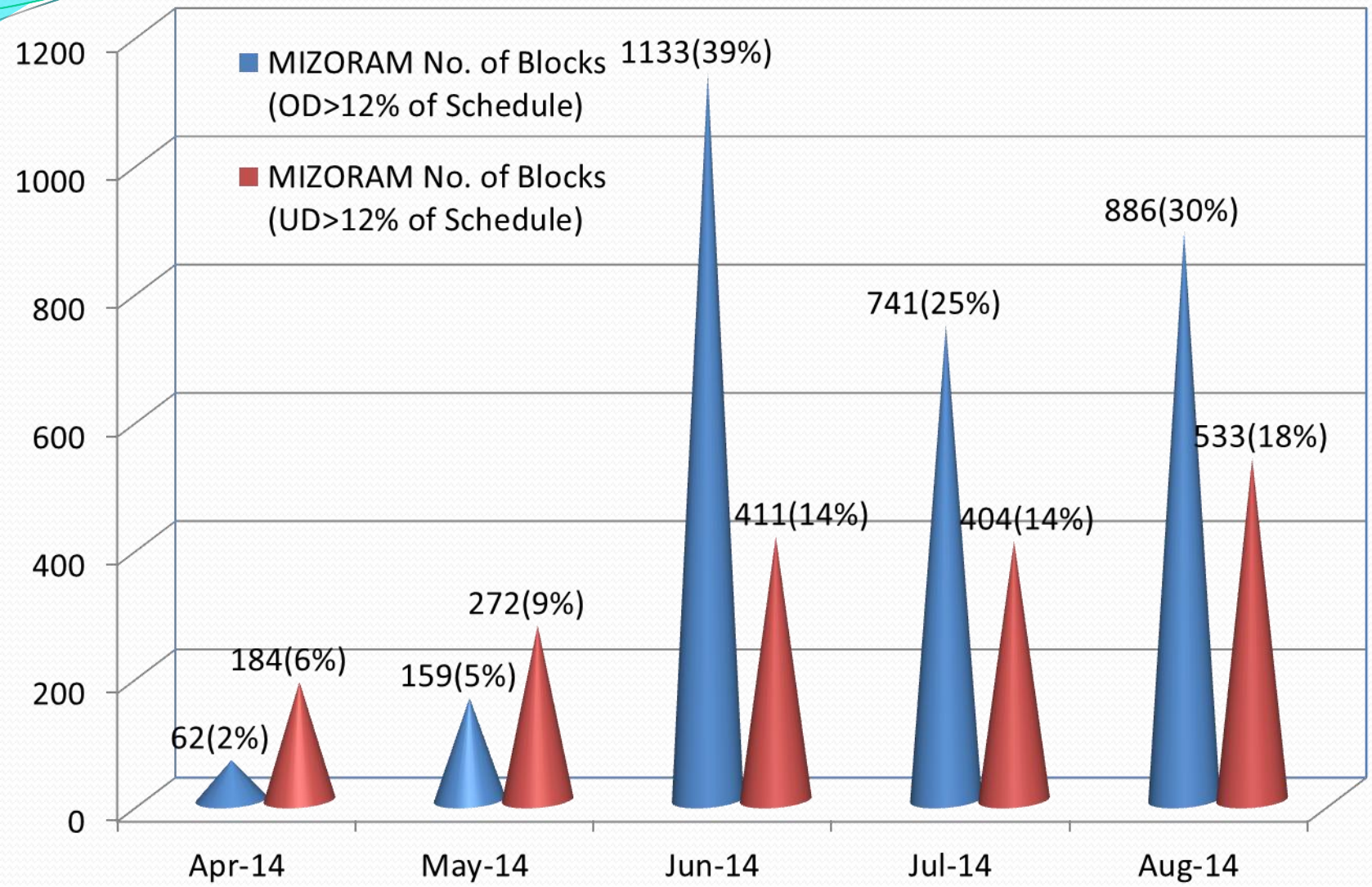
Violation beyond 12% - Manipur



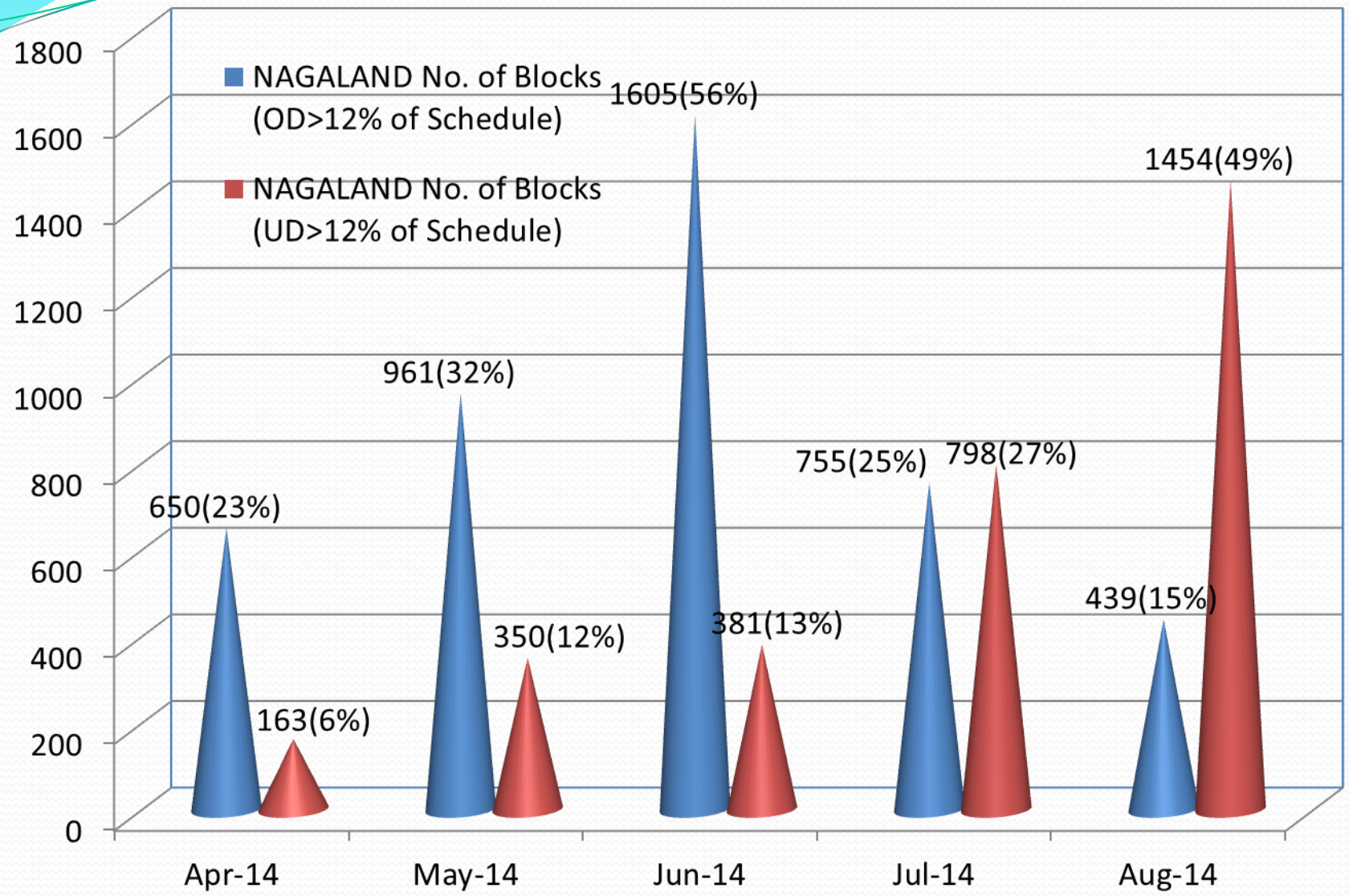
Violation beyond 12% - Meghalaya



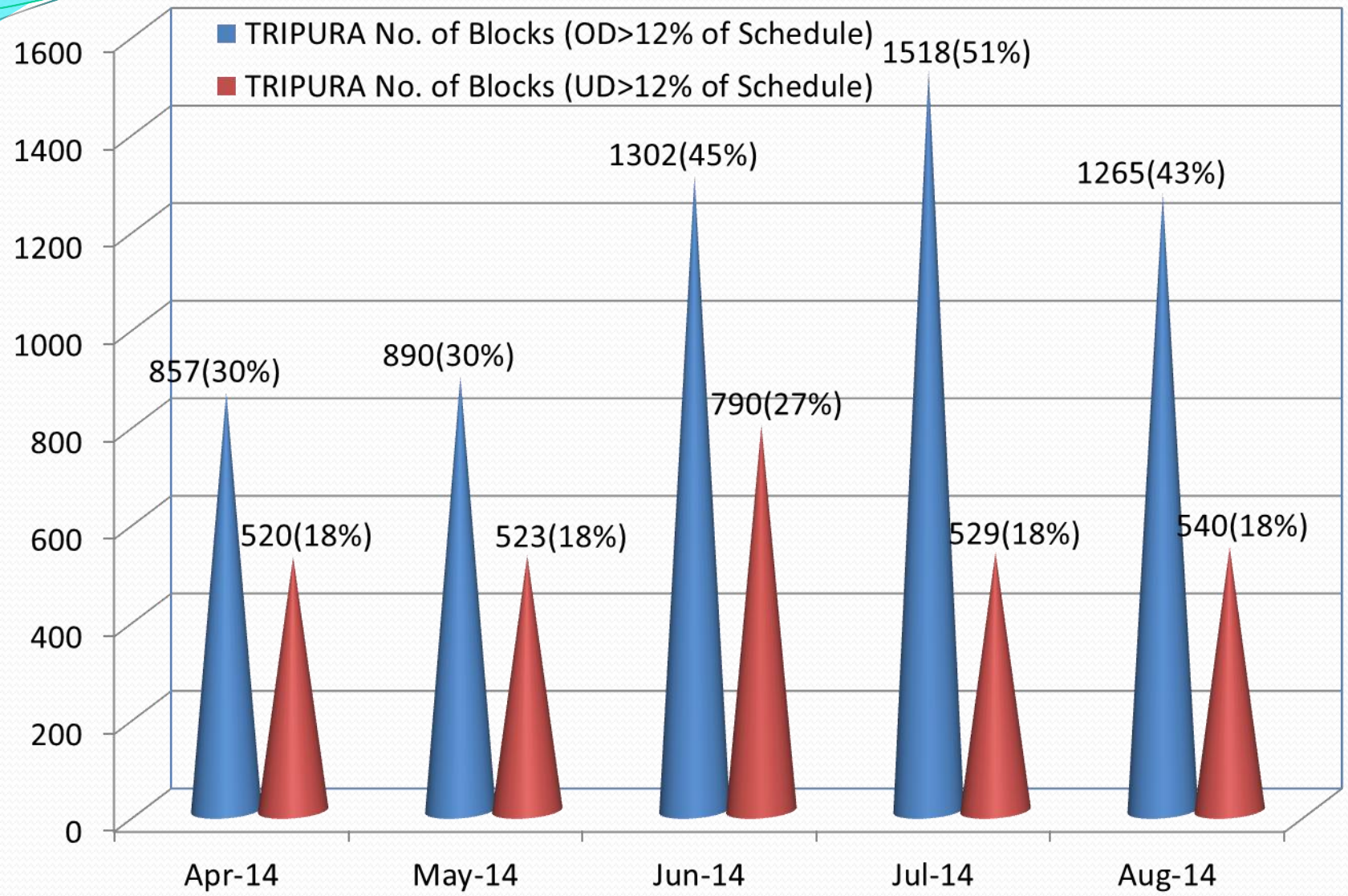
Violation beyond 12% - Mizoram



Violation beyond 12% - Nagaland



Violation beyond 12% - Tripura



Deviation Outstanding status of NER

As on 10/09/2014

Constituents	TOTAL (till wk-21 of FY14-15)		TOTAL (Disb. Till wk-8)Part		TOTAL	
	Payable to Pool	Receivable from Pool	Paid	Recived	O/S Payable to Pool	O/S Receivable from Pool
Ar. Pradesh	212603299	1992352	178286089	0	34317210	1992352
Assam	578605013	6391296	61630006	50322	516975007	6340974
Manipur	45798743	19827425	32400000	0	13398743	19827425
Meghalaya	89018628	10616600	320952	0	88697676	10616600
Mizoram	55578560	0	30007763	0	25570797	0
Nagaland	97507041	6778385	81864146	0	15642895	6778385
Tripura	207033126	458434	18282779	0	188750347	458434
Loktak	3278856	5589548	3278858	742306	-2	4847242
NEEPCo	45171146	60772370	42216405	4961991	2954768	55810379
ER	78597835	830525125	0	404679972	78597835	425845153
OTPC(with u-2)	53754469	8624931	53487967	960640	266502	7664291
Addl. To PSDF				90379735		
TOTAL	1466946716	951576466	501774965	501774965	965171778	540181236

LC for Deviation

- LC is required to be opened as per CERC stipulation in Deviation Regulations 2014. Letter indicating calculation and all details have been sent to all concerned.

- **Ar. Pradesh : 2.4 Crores**
- **Assam : 7.2 Crores**
- **Manipur : 0.6 Crores**
- **Meghalaya : 1.4 Crores**
- **Mizoram : 0.62Crores**
- **Nagaland : 1.5 Crores**
- **Tripura : 2.2 Crores**
- **OTPC : 1.3 Crores**

Thank You

CERC (Terms and Conditions of Tariff) Regulations,2014

Significant provisions and computation of AFC, CC and EC

COMMERCIAL DEPARTMENT : NEEPCO

SALIENT FEATURES OF THE TARIFF REGULATIONS,2014

- These regulations shall come into force on 1.4.2014, and unless reviewed earlier or extended by the Commission, shall remain in force for a period of five years from 1.4.2014 to 31.3.2019
- These regulations shall apply in all cases where tariff for a generating station or a unit thereof ---------- is required to be determined by the Commission under section 62 of the Act read with section 79 thereof.

SALIENT FEATURES ----- Contd…

- Tightening of operational efficiency norms by by lowering the normative station heat rate, secondary fuel consumption norms and auxiliary consumption for existing as well as upcoming coal/lignite/gas based thermal power projects.

SALIENT FEATURES ----- Contd…

- Linking of incentive to actual PLF for thermal generating stations. The incentive is at the rate of Rs. 0.50 per unit for excess energy delivered beyond the normative annual PLF.
- Grossing up of ROE with effective income tax rate trued up at the end of the financial year
- Lower fuel stock allowed for normative Working Capital for coal/lignite stock

SALIENT FEATURES ----- Contd…

- Addl. 20% loading on Bank rate for calculating interest while refunding excess billed amount to the beneficiaries, incase actual allowable add cap is less than the projection made by more than 5% by any generating co. or transmission licensee.
- In reverse case, applicable rate is 0.80 time of the Bank rate for the purpose of recovery from the beneficiaries.

SALIENT FEATURES ----- Contd…

- Controllable and Uncontrollable parameters for the purpose of truing up have been clearly defined.
- Sharing of financial gain (formula Net gain : (ECR normative – ECR actual)from Controllable parameters between generating stations and beneficiaries in the ration of 60:40
- Mandatory filing for interim truing up of capital expenditure incl. addl. capital expenditure during the FY 2016-17.

COMPUTATION OF ANNUAL FIXED COST

- Regulation 21 of the Tariff Regulations'2014 provides for the components for the purpose of determinations of Annual Fixed Cost (AFC) of a generating station. These are:
  - Return on Equity;
  - Interest on loan capital;
  - Depreciation;
  - Interest on working capital; and
  - Operation and Maintenance Expenses:

Return on Equity

Return on equity shall be computed on pre-tax basis at the base rate of 15.5% (for thermal, transmission and ROR Hydro) and 16.50% (for hydro – storage & ROR with pondage and pumped storage)to be grossed up with “Effective Tax Rate” as shown below. Rate of return on equity shall be rounded off to three decimal points .

- Rate of pre-tax return on equity = Base rate / (1-t), where t is the effective tax rate for respective financial year.

Return on Equity – Contd....

- Provided that in case of projects commissioned on or after 1st April, 2014, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in the regulations.

Interest on Loan Capital

- The CERC has specified a debt-equity ratio of 70:30 as the funding mix for the capital cost of a project. The interest rate shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized.

Depreciation

- The depreciation rate is 5.28% for major assets of the project.
- Depreciation shall be computed from the date of commercial operation of the generating stations/transmission system or unit there-of.
- Remaining depreciation value as on the 31st March of the year closing after a period of 12 years from COD, shall be spread over the balance useful life of the assets.

Interest on working capital

Open-cycle /Combined Cycle thermal generating stations

- Fuel cost of 30 days corresponding to the normative annual plant availability factor.
- Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel.
- Maintenance spares @ 30% of normative operation and maintenance expenses.
- Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor.
- Operation and maintenance expenses for one month.

Interest on working capital – Contd...
Hydro generating station incl. Pump storage

- Receivables equivalent to two months of fixed cost.
- Maintenance spares @ 15% of normative operation and maintenance expenses
- Operation and maintenance expenses for one month.

Interest on working capital – Contd...

- Rate of interest on working capital shall be on normative basis and shall be equal to the Bank Rate as on 1.4.2014 or on 1st April of the year during the tariff period of 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later.

Operations & Maintenance Costs
AGBPP & AGTPP

Financial year	AGBPP (Rs. In lakh /MW)	AGTPP (Rs. In lakh /MW)
2014-15	33.43	41.32
2015-16	35.70	44.14
2016-17	38.13	47.14
2017-18	40.73	50.35
2018-19	43.50	53.78

Operations & Maintenance Costs – Contd.
KHEP, RHEP & DHEP

Financial year	Kopili (Rs. in lakhs)	RHEP (Rs. in lakhs)	DHEP (Rs. in lakhs)	Khandong (Rs. in lakhs)	Kopili II (Rs. in lakhs)
2014-15	6132.72	7033.08	3900.10	1233.87	321.00
2015-16	6540.18	7500.36	4159.22	1317.89	342.33
2016-17	6974.71	7998.68	4435.56	1405.45	365.07
2017-18	7438.11	8530.12	4730.26	1498.82	389.32
2018-19	7932.30	9096.86	5044.54	1598.41	415.19

Operations & Maintenance Costs – Contd..
Hydro Power Stations

For new plants commissioned after 2014 April, 4% and 2.50 % of the project cost (excluding R&R expenses) will form the base O&M expense for stations upto 200 MW and above 200 MW respectively, which will be escalated @ 6.64% p.a.

Additional Capital Expenditure – Reg. 14

(1) The capital expenditure for new projects as well as existing projects incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;

Additional Capital Expenditure – Contd.

- (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (v) Change in law or compliance of any existing law:

- Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

Additional Capital Expenditure – Contd.

(2) The capital expenditure for new projects incurred on the following counts within original scope of works after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (ii) Change in law or compliance of any existing law;
- (iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

Additional Capital Expenditure – Contd.

- (iv) Any liability for works executed prior to the cut off date, after prudence check of the detail of such undischarged liability, total estimated cost of package, reason for withholding of payment and release of such payments etc.

Additional Capital Expenditure – Contd.

(3) The capital expenditure for existing projects incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (ii) Change in law or compliance of any existing law;
- (iii) Any expenditure to be incurred on accounts of need for higher security and safety of the plant;
- (iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

Additional Capital Expenditure – Contd.

- (V) Any liability for works executed prior to the cut off date, after prudence check of the detail of such undischarged liability, total estimated cost of package, reason for withholding of payment and release of such payments etc.
- (vi) Any liability of works admitted by the Commission after the cut off date to the extent of discharge of such liabilities by actual payment;
- (vii) Any expenditure required which is necessary for efficient operation of the generating station other that coal/lignite based.

Additional Capital Expenditure – Contd.

- (viii) In case of hydro, any expenditure necessary on account of damage by natural calamity and due to geological reasons and the expenditures required which are essential for successful & efficient plant operation.
- (x) Any capital expenditure found justified on account of modification in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage.

Additional Capital Expenditure – Contd..

- Provided that any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014.

Renovation and Modernization(Regulation15)

- For meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the originally recognized useful life of the generating station or a unit thereof, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date etc. and any other information considered to be relevant by the generating company .

BILLING - COMPUTATION OF CAPACITY CHARGE AND ENERGY CHARGE _ Regulation 31

- The fixed cost of a hydro generating station, computed on annual basis, shall be recoverable on monthly basis under capacity charges (inclusive of incentive) and energy charge, which is payable by the beneficiaries in proportion to their respective allocation in the seable capacity of the generating station:

Recovery of C.C. and E.C. as per Tariff Regulations,2014 – Hydro Plants

- Capacity Charge = AFC x 0.5 x (No. of days in the month/No. of days in the year) x (Actual Plant Availability Factor achieved during the month in %/Normative Plant Availability Factor in %)

- Energy Charge (Rs/Kwh) = AFC x 0.5/Annual Design Energy (adjusted for Auxiliary consumption and free power sale)

- Total Energy Charge = Energy Charge Rate (Rs/Kwh) x Saleable Scheduled energy (ex bus) for the month in kwH.

Protection from Hydrological Risks

For energy shortfall occurred within ten years from COD :

In case of actual generation from a hydro generating station is less than its Design Energy for a continuous **period of 04 years on account of hydrological factor**, the generating company shall approach CEA with relevant hydrological data for revision of design energy of the station.

Recovery of C. C. and E.C. as per Tariff Regulations,2014 – Thermal Plants

- For Thermal Power Stations, recovery of AFC is linked with Actual Plant availability achieved by the power stations where as Energy charge is linked with fuel price adjustment.

Calculation of C. C.. as per Tariff Regulations,2014 – Thermal Plants

- CC1 = (AFC/12)(PAF1/NAPAF) subject to ceiling of (AFC/12)
- CC2 = (AFC/6)(PAF2/NAPAF) subject to ceiling of (AFC/6) – CC1
- CC3 = (AFC/4)(PAF3/NAPAF) subject to ceiling of (AFC/4) – (CC1 + CC2)
- CC4 = (AFC/3)(PAF4/NAPAF) subject to ceiling of (AFC/3) – (CC1 + CC2 + CC3)
- CC5 = (AFCx5/12)(PAF5/NAPAF) subject to ceiling of (AFCx5/12) – (CC1 + CC2 + CC3 + CC4) and so on
- CC12 = (AFC)(PAFY/NAPAF) subject to ceiling of (AFC) – (CC1 + CC2 + CC3 + CC4+CC5+CC6+ -------+ CC11)

Calculation of E C.. as per Tariff Regulations,2014 – Open and Combines Cycle Thermal Plants

- Energy charge Rate: GHR x LPPF x 100/{CVPF x (100-AUX)}
  - GHR is “Gross Station Heat Rate”
  - LPPF is “Wt. av. Landing cost of primary fuel”
  - CVPF is “Wt. av. Gross calorific value”
  - AUX is “Normative aux. energy consumption in %”.
- Energy Charge = Energy Charge Rate (Rs/Kwh) x Saleable Scheduled energy (ex bus) for the month in kwH.

Normative Plant Availability of NEEPCO's Power Stations

- Kopili HEP: 79%
- Khandong and Kopili II: 69%
- RHEP: 85%
- DHEP: 73%
- AGBPP: 72%
- AGTPP: 85%

Rebate and Surcharge – Regulation 44 and 45

- Rebates @ 2% is allowable for payment of bills through letter of credit (LC) on presentation **or through NEFT/RTGS within a period of 2 days of presentation of bills.** For payment after 02 days but within 30 days, a rebate of 1% is allowable.
- Late payment surcharge for payment beyond 60 days **is 1.50%** per month.

Thank You

Presentation of NERPC at 22nd Commercial Committee Meeting

Presented by: -

LaIrinsanga

AS, NERPC

Regulation

- Transmission system availability factor for a calendar month (TAFM) shall be calculated by the respective transmission licensee, got verified by the concerned RLDC and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges. Transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system.

Regulation

- AC transmission lines: Each circuit of AC transmission line shall be considered as one element.
- Inter-Connecting Transformers (ICTs): Each ICT bank (three single phase transformer together) shall form one element.
- Static VAR Compensator (SVC): SVC along with SVC transformer shall form one element. However, 50% credit to inductive and 50% to capacitive rating shall be given.

Regulation

- Bus Reactors/Switchable line reactors: Each Bus Reactors/Switchable line reactors shall be considered as one element.
- HVDC Bi-pole links: Each pole of HVDC link along with associated equipment at both ends shall be considered as one element.
- HVDC back-to-back station: Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for transfer of interregional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable.

Regulation

- Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the transmission licensee, the Member-Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved.
- Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of RLDC.

Different Categories

- The outages can be broadly divided into:
    1) System Constraints
    2) Deemed available
    3) Attributable to agency
    4) Attributable to others

Planned Outages

- In all cases, RLDC will certify the actual outages period. The outage periods will be cross-checked with the approved outage periods in OCC forum.
- All planned outages should be availed by the executing agency as approved in the OCC forum.
- Any deferment from approved outage hours and approved outage days may be intimated by the agency to NERPC with a copy to NERLDC, justifying the reason of deferment.

Emergency Outages

- Outages beyond the control of the agency when RPC nor RLDC could not be informed earlier and immediate remedial actions are required.
- Outages planned in OCC forum but are of emergency in nature like tower in danger, CBs need immediate replacement, etc. However, the agency has to intimate RPC with a copy to RLDC.
- Outages that cannot be delayed till next OCC forum for proper approval.

Transient Outages

- Outages that are of transient in nature due to lightning, mal-operation of relays, etc.
- Transient Earth Fault, Auto-reclosure, phase-to-phase fault, etc.
- Outages due to infringements.
- However, the agency has to intimate RLDC with the reason of outage for all the above cases.

Outages due to others

- Outages due to fault in the downstream protection.
- Outages as per direction of RLDC for desired system condition.
- Outages due force majeure/ Acts of God.
- However, the agency has to intimate RLDC with the reason of outage for all the above cases.

Force Majeure

- Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or
- (b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- (c) Industry wide strikes and labour disturbances having a nationwide impact in India;

Conditions given in SoR

- Only 2 trippings per annum allowed for each AC system, additional 12 hours may be added for each tripping in case of trippings more than 2 in a year.
- Further in case of outage of a transmission element affecting evacuation of power from a generating station outage hours shall be multiplied by a factor of 2.

Suggestions of PCC/ OCC

- In case of force majeure due to lightning, the agency may send DR waveform to RLDC/ RPC.
- Option of installing lightning mapping was suggested.
- NERTS was requested to give presentation in next OCC to highlight the DR waveform nature so that same can be used for certification.
- Two trippings per year is allowed for each AC system.

Suggestions of PCC/ OCC

- Some mechanism may be developed to find out the cause of tripping, only tripping attributable to the agency may be considered for 2 trippings per annum.
- In case of trippings affecting generation, whether lines directly connected to the station or lines not directly connected but also affecting the generation should be considered?
- It was agreed to review in next PCC / OCC meetings.

Thank You

Detailed statement of Regulated Sale for the Financial Year 2012-13 [20th June, 2012 to 31st March, 2013]

Regulating Entity - NHPC Ltd. Regulated Entity- Meghalaya Energy Corporation Ltd.	Generating station from where regulation is done	Quantum of regulated power (In MWH)		Mode of sale of regulated power (through exchange or through traders of UI etc)	Total revenue earned from sale of regulated power (in Crs)	Detail of expenditure incurred towards below mentioned heads (in Crs)						Amount of outstanding dues of the Regulated Entity (in Crs)	Amount adjusted against the outstanding dues of the Regulated Entity (in Crs)	Remaining amount, if any, to be passed on to the Regulated Entity (in Crs)
		Injection at Regional periphery (MWh)	Injection at Interface point (MWh)			IEX Charges	PTC professional charges	Registration fee for exchanges or traders' fee etc	Adjustment of energy charges	Any other incidental expenses with detail	TOTAL EXP. AND ECR			
1	2	3		4	5	6a	6b	6c	6d	6e	6f	7	8	9=5-6f-8
Jun-12	L O K T A K	971.593	988.210	Through Power Exchange- IEX (Indian Energy Exchange)	0.3675	0.01340	0.0044	0.0110	0.1311	0	0.1599	13.18	0.3675	-0.1599
Jul-12		7417.525	7537.875		3.2202	0.10006	0.0333	-	0.9309	0	1.0642	13.69	3.2202	-1.0642
Aug-12		8577.600	8676.660		2.8676	0.11516	0.0386		1.0362	0	1.1899	13.46	2.8676	-1.1899
Sep-12		8201.600	8282.748		1.7956	0.10974	0.0369		0.9524	0	1.0990	12.94	1.7956	-1.0990
Oct-12		8743.838	8854.008		2.9150	0.11726	0.0393		1.0650	0	1.2216	12.96	2.9150	-1.2216
Nov-12		7487.465	7556.145		2.1973	0.10030	0.0337		0.8048	0	0.9388	12.95	2.1973	-0.9388
Dec-12		6488.345	6579.726		1.9805	0.08811	0.0292	-	0.7236	0	0.8409	12.91	1.9805	-0.8409
Jan-13		8326.880	8484.330		2.5294	0.11281	0.0374		0.8650	0	1.0152	12.65	2.5294	-1.0152
Feb-13		2,005.900	2039.943		0.5530	0.02733	0.0090		0.2751	0	0.3114	4.9	0.5530	-0.3114
Adjustment due to annual billing **12-13**									0.4287	0	0.4287		-0.4287	-
Principal -as on mar 13														-
Interest -as on mar 13														-
LPS -as on mar 13														-
Adjustment Due to Revised REA issued by NERPC on 25.10.2013 - **12-13**									0.0297	0	0.0297		-0.0297	-
														-
Total		58220.745	58999.643	0	18.4262	0.7842	0.2617	0.0110	7.2425	-	8.2994	109.6400	17.9678	-7.8409
		0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		average loss	1.34											

Pankaj AM(E)

Annexure-2.1

Detailed statement of Regulated Sale for the Financial Year 2013-14

Regulating Entity - NHPC Ltd. Regulated Entity- Meghalaya Energy Corporation Ltd.	Generating station from where regulation is done	Quantum of regulated power (In MWH)		Mode of sale of regulated power (through exchange or through traders of UI etc)	Total revenue earned from sale of regulated power (in Crs)	Detail of expenditure incurred towards below mentioned heads (in Crs)						Amount of outstanding dues of the Regulated Entity (in Crs)	Amount adjusted against the outstanding dues of the Regulated Entity (in Crs)	Remaining amount, if any, to be passed on to the Regulated Entity (in Crs)
		Injection at Regional periphery (MWh)	Injection at Interface point (MWh)			IEX Charges	PTC professional charges	Registration fee for exchanges or traders' fee etc	Adjustment of energy charges	Any other incidental expenses with detail	TOTAL EXP. AND ECR			
1	2	3		4	5	6a	6b	6c	6d	6e	6f	7	8	9=5-6f-8
Jan-14	L O K T A K	1098.700	1114.138	Through Power Exchange- IEX (Indian Energy Exchange)	0.3058	0.0164	0.0049	0.0112	0.1483	0.00	0.1708	15.47	0.1350	-
Feb-14		3397.828	3449.693		0.9919	0.0506	0.0153	-	0.4946	0.00	0.5605	15.71	0.4314	-
Mar-14		4056.825	4119.018		1.1501	0.0603	0.0182	-	0.4486	0.00	0.5172	16.58	0.6330	-
Principal -as on mar 14														
Interest -as on mar 14														
LPS -as on mar 14														
Total		8553.353	8682.848	0.0000	2.4478	0.1272	0.0384	0.0112	1.0715	0.0000	1.2485	47.7600	1.1994	0.0000
								0						0

Detailed statement of Regulated Sale for the Financial Year 2014-15

Regulating Entity - NHPC Ltd. Regulated Entity- Meghalaya Energy Corporation Ltd.	Generating station from where regulation is done	Quantum of regulated power (In MWH)		Mode of sale of regulated power (through exchange or through traders of UI etc)	Total revenue earned from sale of regulated power (in Crs)	Detail of expenditure incurred towards below mentioned heads (in Crs)						Amount of outstanding dues of the Regulated Entity (in Crs)	Amount adjusted against the outstanding dues of the Regulated Entity (in Crs)	Remaining amount, if any, to be passed on to the Regulated Entity (in Crs)
		Injection at Regional periphery (MWh)	Injection at Interface point (MWh)			IEX Charges	PTC professional charges	Registration fee for exchanges or traders' fee etc	Adjustment of energy charges	Any other incidental expenses with detail	TOTAL EXP. AND ECR			
1	2	3		4	5	6a	6b	6c	6d	6e	6f	7	8	9=5-6f-8
Apr-14	L O K T A K	1413.925	1437.558	Through Power Exchange- IEX (Indian Energy Exchange)	0.4982	0.0213	0.0064	-	0.2013	-	0.2290	17.3000	0.2693	-
May-14		1016.050	1032.058		0.3702	0.0157	0.0046	-	0.1556	-	0.1758	17.7900	0.1944	-
Jun-14		2594.525	2613.303		0.8673	0.0382	0.0117	-	0.3952	-	0.4450	18.4500	0.4223	-
Jul-14		8924.700	9081.870		3.0288	0.1303	0.0401	-	1.1863	-	1.3568	17.9000	1.6720	-
Aug-14		9084.605	9238.818		3.8109	0.1338	0.0408	-	1.2775		1.4521		2.3588	-
Principal														
Interest														
LPS														
Total		23033.805	23403.605	0	9	0	0	-	3	-	4	71	5	-

Revised in AM (E)

Annexure - 2.1

Financial Year 2014-15											
Regulating Entity: Regulating Entity:	Generating Station from where regulation is done.	Quantum of regulated power.		Mode of sale of regulated power (through exchange or through traders)	Total revenue earned from sale of regulated power in.	Detail of expenditure incurred towards (a) adjustment of energy charges (b) registration fee for exchanges or traders fee © any other incidental expenses with detail in.			Amount of outstanding dues of Regulated Entity in.	Amount adjusted against the outstanding dues of the .	Remaining amount if any to be passed to the
		(in MH)			(Rs)	(Rs)			(Rs)	(Rs)	(Rs)
1	2	3	4	5	6	7			8	9	(10)=(5)-(6)-(8)
		As per REA	As per Trading			a	b	c			
Regulating Entity: NEEPCO Regulated Entity: MeECL	**RHEP**	4855.44	3854.05	Through Exchange	14453319.6	4779022			3025792351	34039536.8	0
	DHEP	390.501	369.25	Through Exchange	1387826.79	778380					
	AGBPP	16945.812	16308	Through Exchange	53196973.26	32583390					
	AGTPP	4756.847	4810.8	Through Exchange	15578127.15	12435918					
	TOTAL	**26948.6**	**25342.1**		**84616246.8**	**50576710**	**0**	**0**	**3025792351**	**34039536.8**	**0**

Note: The outstanding shown in column (8) is excluding the late payment surcharge.

Statement for Import of 11 KV power Supply from ASED at chapakhowa In-let Point.

Sl. No.	Month	Period.	Meter Reading From	Meter Reading TO.	Reading multiply @ 1000	Reading KWH.	Restricted Auxiliary consumption as Tr. capacity	Actual Drawn.	Remarks
1.	July '2011	w.e.f 13/7/2011 to 31-7-2011.	—	94.65	94.65 × 1000	94650	1890	92760	
2.	Aug 2011	31-8-2011	94.65	435.05	340.4 × 1000	340400	6800	333600	
3.	Sept. 2011	30-9-2011	435.05	613.19	178.14 × 1000	178140	3560	174580	
4.	Oct. 2011	01-11-2011	613.19	791.80	178.61 × 1000	178610	3600	175010	
5.	Nov. 2011	01-12-2011	791.80	978.16	186.36 × 1000	186360	3725	182635	
6.	Dec 2011	31-12-2011	978.16	1165.93	187.77 × 1000	187770	3755	184015	
7.	Jan' 2012	31-01-2012	1165.93	1365.13	199.20 × 1000	199200	3984	195216	
					Total	1365130	27314	1337816	

The Above Meter Reading has been Taken Jointly at Chapakhowa In-let point & found correct.

dtd- 17/02/2012

SUB-DIVISIONAL ENGINEER
CHAPAKHOWA ELEC. SUB-DIVISION
A.S.E.B. CHAPAKHOWA

Junior Engineer (E)
Roing Electrical Division
Department of Power, A.P.

Annexure-3.3

Annexure-3.5

ANX-B

ALL FIGURES IN MU

		APR'14			MAY'14			JUN'14			JUL'14		
		REA	I/ SCH	Deviation	REA	I/ SCH	Deviation	REA	I/ SCH	Deviation	REA	I/ SCH	Deviation
ALLOCATED CSGS NER	Kopili HEP	1.4256	1.3794	0.0461	9.7794	9.3843	0.3952	0.0537	0.0515	0.0021	29.8555	28.7857	1.0697
	Kopili HEP - II	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.4868	4.3335	0.1532	7.9225	7.6497	0.2728
	Khandong HEP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.4961	9.1626	0.3335
	RHEP	17.9079	17.2736	0.6343	46.4621	44.8546	1.6075	50.7921	49.0823	1.7098	77.9314	75.1956	2.7358
	DHEP	1.4553	1.4061	0.0491	0.4591	0.4439	0.0152	1.1770	1.1403	0.0367	6.8179	6.5844	0.2335
	AGBPP	81.0329	77.7090	3.3239	79.9591	75.3032	4.6559	80.8695	76.3636	4.5059	81.8435	78.4109	3.4326
	AGTPP	18.3561	17.6283	0.7278	22.1621	20.9008	1.2613	24.5461	23.1917	1.3544	23.8859	22.9083	0.9776
	NEEPCO Total	**120.1777**	**115.3965**	**4.7812**	**158.8218**	**150.8867**	**7.9351**	**161.9252**	**154.1630**	**7.7621**	**237.7527**	**228.6972**	**9.0555**
	NHPC	3.3885	3.2700	0.1186	2.5726	2.4849	0.0877	6.6965	6.4851	0.2114	20.2335	19.5368	0.6966
	OTPC	75.2804	72.3419	2.9385	36.3938	35.1403	1.2535	72.9252	70.3099	2.6153	76.4646	73.5655	2.8990
	NER GROSS	**198.8467**	**191.0084**	**7.8383**	**197.7882**	**188.5119**	**9.2763**	**241.5469**	**230.9581**	**10.5888**	**334.4507**	**321.7995**	**12.6512**
UNALLOCATED CSGS ER	Farakka	19.5286	83.3525	-63.8239	18.9933	92.3562	-73.3629	16.2751	77.9848	-61.7097	21.5837	88.0140	-66.4302
	Kahalgaon I	8.7869		8.7869	7.2808		7.2808	6.8197		6.8197	9.7428		9.7428
	Kahalgaon II	40.4272		40.4272	41.0222		41.0222	33.5720		33.5720	31.6318		31.6318
	Talcher	10.5077		10.5077	11.2151		11.2151	9.8902		9.8902	13.0312		13.0312
	Farakka III	6.5414		6.5414	16.5716		16.5716	13.6196		13.6196	14.6030		14.6030
	ER GROSS	**85.7918**	**83.3525**	**2.4393**	**95.0831**	**92.3562**	**2.7269**	**80.1766**	**77.9848**	**2.1918**	**90.5924**	**88.0140**	**2.5784**

Annexure 4.1

Deviation Outstanding status of NER for FY - 2014 - 15 (including 13-14)

As on 03/09/2014

Constituents	Total (till wk-21 of FY 14-15)		Total (Disb. Till wk-8)Part		Total	
	Payable to Pool	Pool	Paid	Received	O/S Payable to Pool	Pool
Ar. Pradesh	212603299	1992352	178286089	0	34317210	1992352
Assam	578605013	6391296	61630006	50322	516975007	6340974
Manipur	45798743	19827425	32400000	0	13398743	19827425
Meghalaya	89018628	10616600	320952	0	88697676	10616600
Mizoram	55578560	0	30007763	0	25570797	0
Nagaland	97507041	6778385	81864146	0	15642895	6778385
Tripura	207033126	458434	18282779	0	188750347	458434
Loktak	3278856	5589548	3232669	741778	46187	4847770
NEEPCO	45171146	60772370	41180481	4951700	3990692	55820670
ER	78597835	830525125	0	404035129	78597835	426489996
OTP(with u-2)	53754469	8624931	53438192	959612	316277	7665319
Addl. To PSDF				89904537		
Total	**1466946716**	**951576466**	**500643077**	**500643077**	**966303666**	**540837926**

(Annexure-4.5) Technical Specification (TS) for Special Energy Meters and DCDs- Compliance Sheet

SN	Technical Spec by POWERGRID
1.	The energy metering system specified herein shall be used for tariff metering for bulk, inter-utility power flows, in different Regions of India. One static type composite meter shall be installed for each EHV circuit, as a self-contained device for measurement of active energy (MWh) transmittals in each successive 15 minute block and certain other functions, as described in the following paragraphs.
2.	The meters shall be suitable for being connected directly to voltage transformers (VTs) having a rated secondary line-to-line voltage of 110V, and to current transformers (CTs) having a rated secondary current of 1 A (model-A) or 5A (model-B). Any further transformers/transactions/transducers required for their functioning shall be in-built in the meters. Necessary isolation and/or suppression shall also be built-in, for protecting the meters from surges and voltage spikes that occur in the VT and CT circuits of extra high voltage switchyards. The reference frequency shall be 50Hz.
3.	The active energy (Wh) measurement shall be carried out on 3-phase, 4-wire principle, with an accuracy as per class 0.2 S of IEC-62053-22:2003. In model-A (for CT secondary rating 1A), the energy shall be computed directly in CT and VT secondary quantities, and indicated in watt-hours. The meter shall compute and display the net active energy (Wh) sent out from the substation busbars during each successive 15-minutes block, and store it in its memory along with plus sign if net active energy(Wh) is sent and with a minus sign if net active energy is received . It shall also display on demand the net Wh sent out during the previous 15-minute block, with a plus sign if there is net Wh export and viceversa.
4.	Further, the meter shall continuously integrate and display on demand the net cumulative active energy sent out from the substation bus bars up to that time. The cumulative Wh reading at each midnight shall be stored in the meter's memory. The register shall move backwards when active power flows back to substation bus bars.
5.	The meter shall count the number of cycles in VT output during each successive 15-minutes block, and divide the same by 900 to arrive at the average frequency. This shall be stored in the meter's memory as a 2-digit code which shall be arrived at by subtracting 49.5 from the average frequency, multiplying by 100 and neglecting all decimals. For example, 49.89 Hz shall be recorded as 39. In case the average frequency is less than 49.5 Hz, it shall be recorded as 00. In case it is 50.49 Hz or higher, it shall be recorded as 99. The conversion of average frequency to 2 digit code shall be performed outside the meter by meter manufacturer supplied software and stored in text output file.The average frequency of the previous 15- minutes block shall also be displayed, on demand in hertz.
6.	The meter shall continuously compute the average of the RMS values of the three line-to-neutral VT secondary voltages as a percentage of 63.51 V, and display the same on demand. The accuracy of the voltage measurement/computation shall be atleast 0.5%, a better accuracy such as 0.2% in the 95-105% range being desirable.
7.	The meter shall also compute the reactive power (VAR) on 3-phase, 4-wire principle, with an accuracy as specified in clause 11.0, and integrate the reactive energy (VARh) algebraically into two separate registers, one for the period for which the average RMS voltage is 103.0% or higher, and the other for the period for which the average RMS voltage is below 97.0%. The current reactive power (VAR), with a minus sign if negative, and cumulative reactive energy (VARh) readings of the two registers shall be displayed on demand. The readings of the two registers at each midnight shall also be stored in the meter's memory. In model-A (for CT secondary rating of 1 A), the reactive power and reactive energy transmittals shall be computed in VAR/VARh directly calculated in CT and VT secondary quantities. When lagging reactive power is being sent out from substation busbars, VAR display shall have a plus sign or no sign and VARh registers shall move forward. When reactive power flow is in the reverse direction, VAR display shall have negative sign and VARh registers shall move backwards.The SEM shall

	compute and record the net VARh as well as per phase VARh (for all three phases) of each 15 minute block.Meter shall record net VARh of each 15 minute time block with plus sign for reactive power sent out and minus sign for reactive power received into busbars.
8.	In the model-B (for CT secondary rating of 5A), all computations, displays and memory storage shall be similar except that all figures shall be one fifth of the actual Wh, VAR and VARh worked out from CT and VT secondary quantities.
9.	The meters shall fully comply with all stipulations in IEC standards 62052-11:2003 and 62053-22:2003, except those specifically modified by this specification. The reference ambient temperature shall be 30° C.
10.	Errors shall be reasonable for all power factor angles from 0° to 360°.
11.	For reactive power (VAR) and reactive energy (VARh) measurements, IEC 62053-23:2003 shall be complied with. The accuracy of measurement of reactive energy shall be as per class 2.
12.	Each meter shall have a test output device (visual) for checking the accuracy of active energy (Wh) measurement. The preferred pulsing rate is twenty (20) per Wh for Model-A and four (4) per Wh for model-B. It shall be possible to couple this device to suitable testing equipment also.
13.	No rounding off to the next higher last decimal shall be done for voltage and frequency displays. All 15 minute Wh figures shall however be rounded off to the nearest last decimal.
14.	The three line-to-neutral voltage shall be continuously monitored and in case any of these falls below about 70%, a normally flashing lamp provided on meter's front shall become steady. It shall go off if all three voltages fall below 70%. The time blocks in which such a voltage failure occurs/persists shall also be recorded in the meter's memory. The lamp shall automatically resume flashing when all VT secondary voltages are healthy again. The two VARh registers specified in clause 7.0 shall remain stay-put while VT supply is unhealthy.
15.	The meters shall normally operate with the power drawn from the VT secondary circuits. The total burden imposed by a meter for measurement and operation shall not exceed 10 VA on any of the phases. An automatic backup for continued operation of the meter's calendar-clock, and for retaining all data stored in its memory, shall be provided through a long-life battery, which shall be capable of supplying the required power for at least 2 years. The meters shall be supplied duly fitted with the batteries, which shall not require to be changed for at least 10 years, as long as total VT supply interruption does not exceed two years. The battery mounting shall be designed to facilitate easy battery replacement without affecting PCB of the meter. The meters shall not require any separate auxiliary supply for their operation.In addition , there shall be provision to operate on control power supply to SEM from 110V DC/220 DC. In case of loss of VT supply, meter’s front panel display should not disappear and data/communication features must remain active.
16.	Each meter shall have a built-in calendar and clock, having an accuracy of 10 seconds per month or better.In addition to built-in calendar and clock,secured software based solution for meter time correction shall have to be provided. The date (year-month-day) and time (hour-min.-sec.) shall be displayed on the meter front, on demand,when VT supply is available or other wise.
17.	Each meter shall have a unique identification code, which shall be marked permanently on its front, as well as in its memory. All meters supplied to POWERGRID as per this specification shall have their identification code starting with "NP", which shall not be used for any other supplies. "NP" shall be followed by a dash and a five(“xxxxx”) or six(“xxxxxx”) digit running serial number, further followed by a dash and "A" for Model-A, and "B", for the use with CT secondaries of 1 A and 5 A respectively.
18.	Each meter shall have at least one seven (7)-character, seven-segment electronic display, for indication of the following (one at a time), on demand:
i)	Processor's identification code and model : nP1234 A
ii)	Date (year month day) : 910329 d

iii)	Time (hour min. sec.) : 195527 t
iv)	Cumulative Wh reading : 12345.6 C
v)	Average frequency of the previous block: 49.89 F
vi)	Net Wh transmittal during the previous block: - 28.75 E
vii)	Average % voltage : 99.2 U
viii)	Reactive power (VAR) : 106.5 r
ix)	Voltage - high VARh register reading: 01234.5 H
x)	Voltage - low VARh register reading : 00123.4 L
xi)	Low battery indication
19.	A gold plated touch key or push button shall be provided on the meter front for switching on the display and for changing from one indication to the next. (The display shall switch off automatically about one minute after the last operation of touch key/push button). When the display is switched on, the parameter last displayed shall be displayed again, duly updated.
20.	Each meter shall have a non-volatile memory in which the following shall be automatically stored:
i)	Average frequency for each successive 15-minute block, as a 2-digit code
ii)	Net Wh transmittal during each successive 15-minute block, up to second decimal, with plus/minus sign
iii)	Cumulative Wh transmittal at each midnight, in six digits including one decimal.
iv)	Cumulative VARh transmittal for voltage high condition, at each midnight in six digits including one decimal
v)	Cumulative VARh transmittal for voltage low condition, at each midnight, in six digits including one decimal
vi)	Date and time blocks of failure of VT supply on any phase, as a star (*) mark.
21.	The meters shall store all the above listed data in their memories for a period of ten (10) days. The data older than ten (10) days shall get erased automatically on FIFO.
22.	Each meter shall have an optical port on its front for tapping all data stored in its memory. Portable or hand held data collection devices shall also be separately provided for this purpose, one for each substation, to serve as the interface between the meters specified above and the local personal computer (PC). In addition to above each meter shall be provided with a RS-485 port as well as LAN port for RJ 45 connection on one of its sides, from where all the data stored in the meter's memory can also be tapped. The overall intention is to tap the data stored in the meter's memories once a week from any of the two ports mentioned above and transmit the same to a remote central computer using STD or other communication links, through the local PC. It shall also be possible to obtain a print out (hard copy) of all data collected from the meters, using the local PC.
23.	The whole system shall be such as to provide a print out (both from the local PC and from remote central computer) of the following form: 55 +16.28 56 +15.95 55 +15.32 54 +15.66 23 55 +14.93 55 +14.26 54 +14.85 56 +15.17 NP-1234-A 12345.6 01234.5 00123.4 91-03-29 57 +14.72 56 +13.83 55 +13.57 53 +12.91 01 52 +13.34 51 +12.76 52 +14.11 52 +15.28 The above data shall be available in text file format (file extension as per IEEE standard) exportable to Excel.Also,the system needs to provide additional data in the format mentioned in ANNEXURE-I. This data shall also be available in second text file format similar to first text file format. The user shall have the option to download one or both text files.
24.	The meters shall be supplied housed in compact and sturdy, metallic or moulded cases of non-rusting construction and/or finish. The cases shall be designed for simple mounting on a plane, vertical surface such as a control/relay panel front. All terminals for CT and VT connections

	shall be arranged in a row along the meter's lowerside. Terminals shall have a suitable construction with barriers and cover, to provide a secure and safe connection of CTs and VTs leads through stranded copper conductors of 2.5 sq. mm. size.
25.	All meters of the same model shall be totally identical in all respects except for their unique identification codes. They shall also be totally sealed and tamper proof, with no possibility of any adjustment at site, except for clock correction.
26.	The meters shall safely withstand the usual fluctuations arising during faults etc. In particular, VT secondary voltages 115% of rated applied continuously and 190% of rated for 3.0 seconds, and CT secondary current 150% of rated applied continuously and 30 times of rated applied for 0.5 seconds shall not cause any damage to or maloperation of the meters.
27.	The meters shall also withstand without any damage or maloperation reasonable mechanical shocks, earthquake forces, ambient temperature variations, relative humidity etc. They shall have an IP-51 category dust-tight construction, and shall be capable of satisfactory operation in an indoor, non-air conditioned installation.
28.	The meters shall continue to function for the remaining healthy phase(s), in case one or two phases of VT supply fails. In case of a complete VT supply failure, the computation of average frequency (as per 5.0) shall be done only for the period during which the VT supply was available in the 15-minute block. Any time block contraction or elongation for clock correction shall also be duly accounted for.
29.	The harmonics shall preferably be filtered out while measuring Wh, VAR and VARh, and only fundamental frequency quantities shall be measured/computed.
30.	Either the meters shall have built-in facility (eg. test links in their terminals) for in-situ testing, or a separate test block shall be provided for each meter.
31.	Portable/hand-held Data Collection Devices (DCD): These shall be tailor-made for tapping all data stored in a meter's memory, a faithfully transferring it to the local PC. Each device shall be supplied complete with
i)	a lead with optical head for coupling it to the meter,
ii)	a lead for plugging it to a personal computer;
iii)	an internal battery for powering the devices;
iv)	a case for safely carrying it about
v)	a battery charger
	The total arrangement shall be such that one (1) operation can carry out the whole operation himself, in about five (5) minutes per meter.
32.	The DCD shall have a key for starting the data tapping from the coupled meter's memory, a key to start data transfer to the PC, and a lamp, which would light up on completion of data collection, remain `on' while the data is held in the device and would go 'off' when all data has been transferred to the PC. Data tapping operation shall not erase the data from the meter's memory, or effect the meter operation in any way. The memory of the DCD shall get automatically cleared when the data has been transferred to the PC only then the DCD shall accept data from another meter. DCDs shall also have necessary provision for meter clock correction. DCDs shall be compatible with earlier supplied meters of L&T/SML make in regard to data downloading etc.
33.	The Contractor shall provide the necessary software which would enable a local IBM-Compatible PC to
i)	accept the data from the DCD and/or from an interface device connected to the optical port/RS-485 port and store it in it's memory in binary read only format in an user defined file name (File name format must be ddmm substation name-utility name),Also the download operation with DCD or directly using optical cable shall create a single file in binary form for all SEMs whose data was collected in that continuous session/operation.
ii)	Polling feature along with a task scheduler to run the data downloading software at a pre-designated date and time repeatedly or by manually selecting a meter. File naming for such

	downloaded data should also be in user defined format. A detailed activity log shall also be available for each downloading operation,
iii)	upload/import meter data (binary files) in the software for further processing. While uploading, there shall be provision to upload all selected files with single key stroke.
iv)	Convert the binary file(s) to text file(s). There should be provision to select multiple files based on file name, convert all selected files with single key stroke and store the text files in the same location where binary files are stored.
v)	display the collected data on PC's screen in text format, with forward/backward rolling,
vi)	print out in text format the data collected from one or more meters, starting from a certain date and time, as per operator's instructions,
vii)	transmit the collected data, in binary format, through an appropriate communication link to the central computer, starting from a certain date and time, as per operator's instructions, and
viii)	store the collected data in binary format, on a floppy disc/CD/Pen Device. In addition to above , in general the software should be able to convert DLMS/COSEM compliant SEMs data to existing format as well as in tabular (.csv) format.
34.	The above software shall further ensure that absolutely no tampering (except total erasures) of the collected metering data is possible during its handling by the PC. The software shall be suitable for the commonly available PCs, and shall be supplied to Owner in a compatible form to enable its easy loading into the PCs available (or to be installed by the Owner/others) at the various substations.
35.	Quality Assurance "THE SOFTWARE SHOULD BE USER FRIENDLY AND CERTIFIED BY NERLDC (NORTH EATERN REGION LOAD DESPATCH CENTRE) FOR ENSURING DATA HANDLING CAPABILITIES" Therefore software shall be offered for technical compatibility at NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong, Meghalaya- 793006, which will be evaluated technically, before taking up further necessary action in the procurement process.
36.	The quality control procedure to be adopted during manufacture of the specified equipment shall be mutually discussed and finalized in due course, generally based on the established and proven practices of the manufacturer.
37.	Testing
38.	All equipment, after final assembly and before dispatch from manufacturer's works, shall be duly tested to verify that is suitable for supply to the Owner. In particular, each and every meter shall be subjected to the following acceptance tests:
i)	Verification of compliance with Table 4 under clause 8.1 of IEC-62053-22:2003, in both directions of power flow, for class 0.2S.
ii)	Test of the register ratio and the impulse value of the transmitting device, for both directions.
iii)	Verification that VARh measurement errors are within values permitted for class 2 in Table 6 of IEC 62053-23 for both directions of power flow.
iv)	Effect of +10% variation in measuring circuit voltage, on accuracy of Wh and VARh measurement
v)	Power loss.
vi)	Dielectric properties.
vii)	Starting and running with no-load for Wh and VARh, in both directions.
viii)	Functional checks for display and memory.
ix)	Accuracy of the calendar and clock.
x)	Accuracy of voltage and frequency measurement.
39.	Any meter which fails to fully comply with the specification requirements shall be liable to be rejected by the Owner. However, the Owner may purchase such meter at a reduced price in case of marginal non-compliance, at his sole discretion.
40.	Acceptance Tests for DCD and PC Software All DCDs, after final assembly and before dispatch from Contractor's/Manufacturer's works

	shall be duly tested to verify that they are suitable for supply to the Purchaser. In particular, each and every DCD shall be subjected to the following acceptance test:
i)	Functional checks
ii)	Downloading Meter Data from the Meter(s)
iii)	Compatibility with PC Software
iv)	Downloading the meter data on PC
v)	Functioning of advance and retard time commands
vi)	Per meter downloading time verification
vii)	Capacity of DCD for data storage
41.	**Type Tests** One (1) out of every hundred (100) meters shall be subjected to the complete range of type tests as per IEC-62053-22:2003, IEC-62053-23:2003 and IEC 62052, 11:2003, after final assembly. In case of any failure to pass all specified tests, the contractor shall arrange to carry out the requisite modifications/replacements in the entire lot of meters at his own cost. After any such modifications and final assembly, two (2) meters selected out of the lot by the Owner's representative shall be subjected to the full range of type tests. The lot shall be accepted by the Owner only after successful type testing.
42.	The meters used for type testing shall be separately identified, duly marked, and supplied to the Owner in case they are fully functional and as good as other new meters, after necessary touching up/refurbishing. In case this is not possible, the contractor shall provide their replacements at no extra cost to Owner.
43.	The Contractor shall arrange all type testing specified above, and bear all expenses for the same.
44.	Following technical information shall be furnished by the Bidders in their offers: i) Foreseen dimensions of proposed meter. ii) Expected weight of proposed meter. iii) Foreseen dimensions of DCD. iv) Expected weight of DCD. v) Dimensions and weight of the test block, if supplied separately.

SUGGESTED MODIFICATIONS AND INCLUSIONS
IN
TECHNICAL SPECIFICATION (TS)
FOR
ENERGY METERING SYSTEM

A. **Para 3.0** may be clarified to clearly indicate that the Special Energy Meter(SEM) shall compute, display and store in its memory the net active energy (Wh) sent out from the station busbars during each 15-minute time block with a plus sign and similarly the net active energy(Wh) received into the sub-station busbars during each 15-minute time block with a minus sign. The SEM shall also display on demand the net Wh sent out during the previous 15-minute block with a plus sign (in place of minus sign as per present specs.) and vice versa when received into the station busbars.

B. **Para 5.0** may be modified to indicate the method of arriving at the average frequency for successive 15-minute block. This average frequency should be recorded upto two decimal places. Conversion of the average frequency to two digit code shall be performed outside the meter by meter manufacturer supplied software and stored in a text output file. The frequency may be shown as a 2-digit code which shall be arrived at by subtracting 49.5 from the average frequency, multiplying by 100 and neglecting all decimals. For example, 50.25 Hz shall be recorded as 75 and 50.26 Hz shall be recorded as 76. In case the average frequency is 49.50 Hz and less than 49.5 Hz the code shall be 00. In case it is 50.49 Hz or greater than 50.49 Hz the code shall be recorded as 99. The average frequency of the previous 15-minute block shall also be displayed , on demand, in Hertz.

C. **Para 6.0** may be modified so as to continuously measure, display and record the parameters as per the list fixed by BIS in the Indian profile for COSEM (Annexure-D for ABT meters) in each 15-minute block.

D. **Para 7.0** may be modified to include the following requirement: The SEM shall compute and record the net VARh as well as per-phase VARh (for all three phases) of each 15-minute time block in addition to the existing specifications.

Meter shall record net VARh of each 15-minute block with plus sign for reactive power sent out from station busbars and minus sign for reactive power received into the busbars. This information is required to facilitate Ancillary Services mechanism in near future.

E. **Para 15.0** needs modification in terms of power supply needs of the meter. The SEM shall normally be capable of operating with power drawn from the VT secondary circuits. In addition, there shall be provision to operate on control power supply to the SEM from 110V DC / 220V DC. Provision of Battery back-up for meter's calendar-clock and retaining data stored in memory may, however, be continued to fulfill as per existing specifications. Even in case of loss of VT supply, Meter's front panel display should not disappear and data transfer/communication features should remain active.

F. Each SEM shall have a built-in calendar and clock whose accuracy may be 10 seconds per month or better. In addition to having a built-in calendar and clock, secured software based solution for meter time correction shall have to be provided. The date and time (as per existing defined format) shall be displayed on the meter front, on demand, when VT supply is available or otherwise. **Para 16.0** may be modified accordingly to include this overall requirement.

G. Number of SEMs installed is already crossed 3000 mark. The existing number series "NP-xxxx-A" or "NP-xxxx-B" is nearing exhaustion with five RLDCs using up the series. With the rapid expansion of the network in terms of Sent out energy and drawal points over the next two five-year plan periods the metering points shall grow proportionately. In view of this it is proposed that existing series may be replaced with new series of meter ID numbers, viz, having 5-digit "xxxxx" or 6-digit "xxxxxx" replacing the "xxxx" series and so on. Relevant changes to be made in **Para no. 17.0.**

H. **Para 22.0** may be modified to include feature of data transfer capability from meter through RS-485 port as well as LAN port for RJ-45 connection.

I. The power sector is continuously evolving. The metamorphosis arising out of the areas of energy accounting, transmission usage deviation accounting, accounting needs arising to meet ancillary services, Renewable Energy and Renewable

Regulatory Fund accounting leads us to a situation where we need to gear up. As per future requirements of the system operator additional information in a convenient and user-friendly format is necessary. It is hence suggested that the meter shall provide additional data in the format suggested in Annexure-I. This data shall be available in a second text file format (file extension as per IEEE standard) exportable to Excel. The first text file shall provide information as per existing requirements but in similar exportable text file format. The user shall have the option to download one or both of the text files. The above requirement may be suitably inserted in **Para 23.0.**

J. The portable Hand Held Unit (HHU) / Commom Meter Reading Instrument(CMRI) / Data Collecting Device (DCD) shall be having IEC 62056 compatibility for standardized parameters.The optical coupler for tapping data stored in the SEMs memory should be compatible universally across different make of SEMs. The optical port and communication protocol of the associated Hand held unit (HHU) shall conform as per IEC 62056 standard.The coupling cable should also be compatible with existing SEMs under operation (i.e. M/s SML and M/s L&T supplied meters). **Para 31.0** to be modified to include the above requirement.

K. **Para 33.0** was modified on approval of the Competent Authority and communicated vide IOM no. CSO/SEM/ dated Aug'25, 2009 (Copy enclosed). The sub-para (i) of this **Para 33.0** may also include the requirement that the download operation with DCD or directly using Optical cable shall create a single file in Binary form for all the SEMs whose data was collected in that continuous session/operation. Conversion of the binary file shall create two (2) Text files (as in sub-clause 23) for all the SEMs downloaded in that particular session/operation. Other functions as per sub-clause (ii) to sub-clause (viii) of the specifications may be unchanged. However, in general, the software should be able to convert DLMS/COSEM compliant SEMs data to existing format as well as in tabular (.csv) format.

L. **NEW REQUIREMENTS SUGGESTED TO BE INCLUDED.**

All new SEMs being procured may be DLMS compliant for SEM communication protocol. It must also be compliant for Indian Companion COSEM standard. Data security shall be ensured as per IEC-62056-51 standard (Three layers of security). Detection of Tamper conditions as included in IEC 62056 standard must be mandatory for DLMS compliant meter protocol. The CMRI / HHU / DCD must be having IEC 62056 compatibility for standardized parameters.

(Annexure-4.5) Technical Specification (TS) for Special Energy Meters and DCDs-Compliance Sheet

ANCILIARY SERVICES SHOULD BE RECORDERD IN METER WITH FOLLOWING ANNEXURE SO AS TO RECORD VAR COMPENSATION ETC. IN FORLLOWING FORMAT OUT PUT

ANNEXURE-I

Date Tables	Bloc	Freq. Hz.	I_R	I_Y	I_B	V_R	V_Y	V_B	$VARh_R$	$VARh_Y$	$VARh_B$	
	1											
	2											
	3											
	...											
	...											
	...											
	...											
	93											
	94											
	95											
	96											

Lastly meter should comply all CEA regulations as per Interface meters as mentioned below:

As per powers vested in the Electricity Act, 2003, the Central Electricity Authority(CEA) had notified the Central Electricity Authority (Installation and Operation of Meters) Regulations 2006 followed by Amendment Regulations, dated 04th June, 2010. The CEA has laid down the standards and guidelines to be adopted for Interface Meters with respect to type, ownership, accuracy, Operation & Maintenance, Anti-Tampering, Calibration ,etc. Clause 20.0 of this Regulation provides for adoption of New Technologies with the approval/directions of the Appropriate Commission.

Details of L&T make SEM Meter Sl.No. 6898 to 6959 which are to be replaced

Sl.No.	Meter No.	Place Of Installation	Remarks
1	NP 6898-A	**JIRIBAM END OF 132kV AIZAWL FDR**	Replaced (NP7798 A)
2	NP 6899-A	**JIRIBAM END OF 132kV PLP FDR**	Replaced (NP8499A)
3	NP6900-A	**JIRIBAM END OF 132kV HAFLONG FDR**	Replaced (NP7796 A)
4	NP6901-A	**JIRIBAM 132/33kV TRF (MANIPUR CONSUMPTION)**	Replaced (NP8501A)
5	NP6902-A	**JIRIBAM END OF 132kV LOKTAK FDR -2**	Replaced (NP7797 A)
6	NP6903-A	SILCHAR END OF PALATANA-II	Replaced
7	NP6904-A	SILCHAR END OF PALATANA-I	Replaced
8	NP6905-A	**LOKTAK GT- 2**	
9	NP6906-A		**Not in service**
10	NP6907-A	SM NAGAR END OF PALATANA	Replaced (NP8471A)
11	NP6908A	**Y' BAM END OF 132kV N' KONG FDR**	
12	NP6909-A	**RENGPANG END OF 132kV LOKTAK FDR-1**	
13	NP6910-A	**LOKTAK END OF 132kV IMPHAL (PG) FDR**	
14	NP6911-A	***LOKTAK GT- 2 Replaced by NP6905A***	
15	NP6912-A	BONG400/220KV (LV) ICT	Replaced(NP8469 A)
16	NP6913-A	**KAHELIPARA END OF 132kV UMTRU FDR- 2**	Replaced
17	NP6914-A	**KAHELIPARA END OF 132kV UMTRU FDR - 1**	Replaced
18	NP6915-A	**UMTRU END OF 132kV KAHELIPARA FDR- 1**	Replaced (NP8474 A)
19	NP6916-A	**UMTRU END OF 132kV SARUSAJAI FDR- 2**	Replaced (NP8491 A)
20	NP6917-A	**UMTRU END OF 132kV SARUSAJAI FDR- 1**	Replaced (NP8473 A)
21	NP6918-A	**JIRIBAM(PG) END OF 132kV OF JIRIBAM(MN) FDR**	Replaced (NP8500A)
22	NP6919-A	**TINSUKIA END OF 220kV KATHALGURI FDR -1**	
23	NP6920-A	**TINSUKIA END OF 220kV KATHALGURI FDR -2**	Replaced (NP8386 A)
24	NP6921-A	**KATHALGURI END OF 220kV TINSUKIA FDR- 2**	Replaced (NP 5778 A)
25	NP6922-A		**Not in service**
26	NP6923-A	**PAILAPOOL END OF 132kV JIRIBAM FDR**	Replaced (NP8498A)
27	NP6924-A	**LUMSHNONG END OF 132kV BDR(ASEB) FDR**	Replaced (NP8384 A)
28	NP6925-A	**H' LONG(PG) END OF 132kV H' LONG(ASEB) FDR**	Replaced with the Meter No.NP 8494A
29	NP6926-A	**HAFLONG(PG) END OF 132kV KHD FDR**	Replaced with the Meter No.NP 8502A
30	NP6927-A	**KOLASIB END OF 132kV BADARPUR(PG) FDR**	Replaced (NP8497A)
31	NP6928-A	UDAIPUR (Banduar) END OF PALATANA	Replaced (NP8470A)
32	NP6929-A	**DIMAPUR(PG) END OF 132kV KOHIMA FDR**	Replaced . NP8427 A
33	NP6930-A	**DIMAPUR(PG) END OF 132kV DIMAPUR FDR -2**	
34	NP6931-A	**DIMAPUR (S) END OF 132kV DIMAPUR(PG) FDR -2**	Replaced NP8478 A
35	NP6932-A	**KOHIMA(S) END OF 132kV DIMAPUR(PG) FDR**	
36	NP6933-A	**LOKTAK GT- 3**	
37	NP6934-A	**LOKTAK END OF 132kV JIRIBAM FDR - 2**	
38	NP6935-A	**LOKTAK END OF 132kV N' KHONG FDR**	Replaced (NP 7500 A)
39	NP6936-A		**Not in service**
40	NP6937-A	BOKAJAN END OF DIMAPUR FEEDER	
41	NP6938-A	**AIZAWL(PG) END OF 132kV ZEMABAWK FDR -2**	Replaced (NP8485A)
42	NP6939-A	**AIZAWL (PG) END OF 132kV KOLASIB FDR**	Replaced (NP8486A)
43	NP6940-A	**AIZAWL (PG) END OF 132kV KUMARGHAT FDR**	Replaced (NP8503A)
44	NP6941-A	**AIZAWL(PG) END OF 132kV ZEMABAWK FDR -1**	Replaced (NP8504A)
45	NP6942-A	**AIZAWL (PG) END OF 132kV JIRIBAM FDR**	Replaced (NP8505A)
46	NP6943-A	**IMPHAL(PG) END OF 132kV LOKTAK FDR**	
47	NP6944-A	**BNG END OF 400kV BINAGURI FDR- 2**	Replaced(NP 5318 A)
48	NP6945-A	**BNG END OF 400kV BINAGURI FDR- 1**	Replaced(NP8468 A)
49	NP6946-A	**D' CHERRA END OF 132kV D'NGAR FDR**	
50	NP6947-A	**KOLASIB END OF 132kV AIZAWL(PG) FDR**	Replaced(NP8496 A)
51	NP6948-A	**N' KHONG END OF 132kV LOKTAK FDR**	
52	NP6949-A	**KARONG END OF 132kV KOHIMA FDR**	
53	NP6950-A	**YUREMBAM END OF 132kV IMPHAL (PG) FDR**	
54	NP6951-A	**Y' BAM END OF 132kV KARONG FDR**	
55	NP6952-A	**LOKTAK GT- 1**	
56	NP6953-A	**IMPHAL(PG) END OF 132kV YUREMBAM FDR**	
57	NP6954-A	**LOKTAK END OF 132kV JIRIBAM(RENGPANG) FDR - 1**	Replaced (NP 7601 A)
58	NP6955-A	**S' SUJAI END OF 132kV UMTRU FDR-1**	Replaced
59	NP6956-A	**S' SUJAI END OF 132kV UMTRU FDR- 2**	Replaced
60	NP6957-A	**UMTRU END OF 132kV KAHELIPARA FDR- 2**	Replaced (NP8475 A)
61	NP6958-A	**DIMAPUR(PG) END OF 220kV MISA FDR- 1**	Replaced NP 8480A
62	NP6959-A	**KHT(PG) END OF 132kV BADARPUR (PG) FDR**	Replaced NP 8447A

others

1	NP 5313 A	BTPS End of 220 KV Salakati- BTPS-I	Replaced NP 8476 A
2	NP 5288 A	DMP-I bay at PG end of DMP	Replaced. NP5385A
3	NP 5790-A	Balipara end of 400KV Balipara-Misa-I	NP8594-A (Elster)
4		HV side of ICT -I at ImPhal (PG) S/S	NP 8581 A
5		HV side of ICT -II at ImPhal (PG) S/S	NP 8576 A

SEM Installation at both ends of ISTS elements.

1		Mariani end of 220KV Misa-Mariani	NP8591 A	
2		Mariani end of 220KV Kathalguri-Mariani	NP8596 A	
3		Imphal (P/G) end of 132 KV Dimapur-Imphal	NP8671 A	
4		HV side of 220/132 KV Dimapur ICT-II	NP6936A	
5		Imphal(P/G) end of 132 KV Loktak-Imphal	NP8672 A	
6		Imphal (P/G) end of Imphal-Ningthoukong	NP6943 A	
7		Imphal(P/G) end of 132 KV Imphal-Imphal-II	NP8670 A	
8		Imphal(P/G) end of 132 KV Imphal-Imphal-II	NP6953 A	
9		Haflong end of 132 KV Haflong-Jiribam	NP8565 A	
10		220KV side of ICT-II at Misa	NP8638 A	Meter is available in HV side.
11		Balipara end of 400KV Balipara-Bongaigaon-I	NP8655 A	
12		Balipara end of 400KV Balipara-Bongaigaon-II	NP 8653 A	
13		Badarpur end of 132 KV Badarpur-Kumarghat	NP 8675 A	
14		Badarpur end of 132 KV Badarpur-Silchar-I	NP 8493 A	
15		Badarpur end of 132 KV Badarpur-Silchar-II	NP 8495 A	
16		LV side of 400/220 KV Bongaigaon ICT	NP 8469A	
17		Jiribam end of 132 KV Jiribam-Badarpur	Yet to replaced	
18		Luangmual end of 132KV Aizwal-Luangmual	Yet to replaced	
19		Zuangtui end of 132KV Aizwal-Zuangtui	Yet to replaced	
20		Ningthouhong end of 132 KV Imphal(PG)-Ningthoukong	Meter defective.	

पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सबसिडीयरी कंपनी)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary of POWERGRID)

उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र North Eastern Regional Load Despatch Centre

डाक रिंझा, लापालांग, शिलांग – 793006 (मेघालय) ई-मेल: nerldc1@hotmail.com

PO Rynjah, Lapalang, Shillong-793006 (Meghalaya) E-mail: nerldc1@gmail.com

Tel. : (0364) 2535717,2536930Fax : (0364) 2535717

संदर्भ : उपक्षेभाप्रेकें/ एम.ओ/125/4426-26 Date: 26.08.2014

सेवा में / To,

सदस्य सचिव

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

शिलांग - 793003

Member Secretary
NERPC, MSHFCS Ltd. Building
Nongrim Hills, Shillong 793003

Sub: Availability Verification of Transmission System.

Sir,

Subsequent to notification of CERC (Terms & Condition of Tariff) Regulation 2014, new clauses have come to place like allowing maximum two tripping per year in AC system and applying multiplication factor of 2 with outage hours in case outage affects evacuation of power from generating station. In view of this it is necessary to streamline the system of availability verification of the transmission system. NERLDC would like to propose the steps given below for the purpose of verification of transmission system availability w.e.f April '14.

i. Submission of outage data to NERLDC by the licensee pertaining to previous month (Say data of January shall be submitted by February).

ii. NERLDC will verify duration of outage and place the data in PCC of NERPC (Say March 1st week) for verification of reasons of outage and ascertaining whether outage is attributable to transmission licensee or others.

iii. Simultaneously place the data in OCC of NERPC (Say March 1st week) for identifying the outages which caused generator backing down.

iv. PCC & OCC shall intimate the outcome/decision to NERLDC within a week after the meeting (Say by 15th March).

v. NERLDC will verify and submit the data to NERPC Secretariat (Say by 25th March).

Outage details (after verifying outage duration) of April-June '14 pertaining to NERTS and NETC are attached for discussion in OCC/PCC scheduled in Sept '14. Accordingly revised verification will be made by NERLDC for April-June '14.

Thanking You.

Encl. As above.

भवदीय / Yours faithfully

(टी.एस. सिंह /T.S.Singh)

महाप्रबंधक / General Manager

Copy To: 1. GM (Comml.), NERTS, POWERGRID, LAPALANG, SHILLONG.

2. MD, NETCL, Gurgaon, 1st Floor, Ambience Corporate Tower, Ambience Mall, Gurgaon, 122001, Haryana .

Annexure-4.11 (3/3)

पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सबसिडीयरी कंपनी)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary of POWERGRID)

उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र North Eastern Regional Load Despatch Centre

डाक रिंझा, लापालांग, शिलांग – 793006 (मेघालय) ई-मेल: nerldc1@hotmail.com

PO Rynjah, Lapalang, Shillong-793006 (Meghalaya) E-mail: nerldc1@gmail.com

Tel. : (0364) 2535717,2536930Fax : (0364) 2535717

संदर्भ : उपूक्षेभाप्रेकें/ एम.ओ/125/

Date: 27.08.2014

सेवा में / To,

The Managing Director,
North Eastern Transmission Company Ltd.,
1st Floor, Ambience Corporate Tower, Ambience Mall,
Gurgaon, 122001
Haryana

Sub: Availability Verification of Transmission System.

Sir,

Kindly refer our letter dated 26.08.2014 addressed to Member Secretary, NERPC on the above subject. In this connection it is requested to submit the cumulative number of trippings of each element and the number attributable to NETC on monthly basis for the period April to June 2014. This is required to have a clear idea of the trippings exceeding two per year.

This information may please be furnished now onwards on monthly basis.

Thanking You.

भवदीय / Yours faithfully

(टी.एस. सिंह /T.S.Singh)

महाप्रबंधक / General Manager

WEEK FROM 0000 HRS OF 10-06-14 TO 1030 HRS OF 19-06-14

Annexure-4.13

NP-8576-A 00005.0 00001.6 00000.6 10-06-14

00 43 +00.00 43 +00.00 42 +00.00 47 +00.00 44 +00.00 45 +00.00 46 +00.00 47 +00.00 42 +00.00 45 +00.00 46 +00.00 49 +00.00 41 +00.00 46 +00.00 44 +00.00 45 +00.00

04 40 +00.00 41 +00.00 42 +00.00 42 +00.00 34 +00.00 36 +00.00 46 +00.00 50 +00.00 43 +00.00 46 +00.00 48 +00.00 50 +00.00 50 +00.00 46 +00.00 47 +00.00 49 +00.00

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NP-8576-A 00005.0 00001.6 00000.6 11-06-14

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16 47 +00.00 48 +00.00 38 +00.00 45 +00.00 44 +00.00 49 +00.00 46 +00.00 51 +00.00 46 +00.00 49 +00.00 48 +00.00 44 +00.00 37 +00.00 37 +00.00 42 +00.00 39 +00.00

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NP-8576-A 00005.1 00001.6 00000.6 12-06-14

"Detailed List of SDH nodes of ULDC scheme proposed for Replacement with Location names in North Eastern Region
Purchase Action: To be procured under "Establishment of FO System in lieu of mw Link in NER
Content : Site Wise BOQ for SDH/Mux Optical Terminal Equipments of ULDC scheme

S.No	Location	SDH Eqpt (upto 2 direction)	S4.1	L4.1	L4.2	OLI (upto 150km)	OLI (151-175km)	OLI (176-200km)	SDH Eqpt (> 2 dir.)	S4.1	L4.1	L4.2	OLI (upto 150km)	OLI (151-175km)	E1 Card	Ethernet Card	MuX	2 wire sub-sub	4 wire E&M	Asynch sub channel	DACS	Cabinet Mux	Cabinet SDH
1	Bongaigaon								**1**	**4**				**2**	**2**	**1**	2	2	2	2		1	
2	Agartala Gas	1	2			2									2	1							1
3	Agartala SLDC	1	2												2	1							1
4	Badarpur(PG)	1	4		2	2									2	1							1
5	Dimapur								1	2		2	2		2	1							1
6	Imphal								1	2			4		2	1							1
7	Kahelipara	1	4												2	1							1
8	Khandong	1	2		2										2	1							1
9	Khliehriat (PG)								1			6			2	1							1
10	Kohima	1			2	2									2	1							1
11	Kopili	1	2		2										2	1							1
12	Kumarghat								1				6		2	1							1
13	NEHU								1	6					2	1							1
14	RSCC, Shillong								1	4		2			2	1	2	2	2	2		1	1
15	Umiam 1	1	4												2	1							1
16	Umiam 3	1	2		2										2	1							1
17	Repeater between balipara & bongaigaon	1				2	2								2	1							1
	Total	**10**	**22**	**0**	**10**	**8**	**2**	**0**	**7**	**18**	**0**	**10**	**12**	**2**	**34**	**17**	**4**	**4**	**4**	**4**	**0**	**2**	**16**

Based on MECL Requirement

18	Umtru	1	2		2	2									2	1	2	2	2	2		1	1
	G Total	**11**	**24**	**0**	**12**	**10**	**2**	**0**	**7**	**18**	**0**	**10**	**12**	**2**	**36**	**18**	**6**	**6**	**6**	**6**	**0**	**3**	**17**
Following stations of ULDC are also considered , cost will be shared proportionately between MW replacement & ULDC-SDH replacement. C																							
19	Sarusajai	1	2	2											2	1	2	2	2	2		1	1
20	Balipara								1				8		2	1	2	2	2	2		1	1
21	Misa								1		2	2	4		2	1	2	2	2	2		1	1

Bill of Qantities/SPARE SDH/MUX-Terminal Eqpt ULDC NODES-NER
To be procured under "Establishment of FO System in lieu of mw Link in NER

S.No.	Description	Unit	SPARE
1.0	**Transmission Equipment**		
A	**SDH Equipment (STM-4 ADM - Upto two direction)**		
(I)	Base equipment (Common cards, Power Supply cards, power cabling, other hardware & accessories including sub-racks etc. fully equipped excluding optical cards and tributary cards indicated below).	Nos.	1
(II)	**Optical Cards**		
(a)	S1.1	Nos.	
(b)	S4.1	Nos.	2
(c.)	L4.1	Nos	1
(d)	L4.2	Nos	1
(e)	to support upto 150 kms for STM-4*	Nos	1
(f)	to support from 151 km to 175 km for STM-4*	Nos	1
(III)	**Tributary Cards**		
(a)	E1 Interface card (Minimum 16 interfaces per card)	Nos	2
(b)	Ethernet interfaces 10/100 Mbps with Layer-2 switching (Minimum 4 interfaces per card)	Nos	1
(B)	**SDH Equipment (STM-4 ADM - more than two directions)**		
(I)	Base equipment (Common cards, Power Supply cards, power cabling, other hardware & accessories including sub-racks etc. fully equipped excluding optical cards and tributary cards indicated below).	Set*	1
(II)	**Optical Cards**		
(a)	S1.1	Nos.	
(b)	S4.1	Nos.	1
(c.)	L4.1	Nos	
(d)	L4.2	Nos	1
(e)	to support upto 150 kms for STM-4*	Nos	1
(f)	to support from 151 km to 175 km for STM-4*	Nos	
(III)	**Tributary Cards**		
(a)	E1 Interface card (Minimum 16 interfaces per card)	Set*	1
(b)	Ethernet interfaces 10/100 Mbps with Layer-2 switching (Minimum 4 interfaces per card)	Set*	1
2.0	**Termination Equipments**		
A1	**Drop & Insert Multiplexer** Base Equipment (common Cards, Power supply cards, Power Cabling, other Hardware & accessories including subracks etc fully equipped excluding subscriber line interface cards)	Nos.	1
A2	**Subscriber Line Interface Cards**		
(a)	2 wire (Sub/Sub) Voice Channel cards (minimum 8 channel per card)	Nos.	1
(b)	4 wire (E&M) Voice Channel cards (with minimum 8 channel per card)	Nos.	1
(c)	Asynchronous Sub channel Data card (minimum 4 channel per card)	Nos.	1
B.	**Digital Access Cross-Connect Switch (DACS)** 16X16 ports switching Matrix, fully equipped for minimum 16 E1 ports	Nos.	1

Annexure-8.4

LIST OF RTU-SICs TO BE INSTALLAED/REPLACED **ANNEXURE-B**

Sl. No.	Region	Name of Substation Where RTU-SIC systems are to be replaced	Voltage Level (kV)	Replacement of RTU-Qtty	Replacement of SIC with acc. Qtty
1	NERTS	AIZAWL	132	1	1
2		BADARPUR	132	1	1
3		BALIPARA	400	1	1
4		BONGAIGAON	400	1	1
5		DIMAPUR	220	1	1
6		HAFLONG	132	1	1
7		IMPHAL	132	1	1
8		ITANAGAR	132	1	1
9		JIRIBAM	132	1	1
10		KHLIEHRIAT	132	1	1
11		KOLASIB	132	1	1
12		KUMARGHAT	132	1	1
13		MISA	400	1	1
14		SILCHAR	400	Not Required	
15		ZIRO	132	1	1
16		MARIANI	220	Not Required	
			TOTAL Requirement	14	14