

North Eastern Regional Power Committee

MINUTES OF THE 117th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 07/01/2016 (Thursday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 117th OCC Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 117th OCC meeting. He informed the house that 16th TCC/RPC meetings will be held shortly and requested members to submit any agenda at the earliest. He once again noted the absence of members of NHPC, P&E Dept. Mizoram & Tripura and mentioned that issue of non participation of these utilities would be highlighted during the next TCC/NERPC meetings. He then requested all the members to actively participate in the meeting.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, Director/SE(O) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 116th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

SE (O) informed that minutes of 116th meeting of Operation Sub-committee held on 17th December, 2015 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2015/4556-4591 dated 31st December, 2015.

NERLDC requested Operation sub-committee to amend deliberation of the sub-committee of the **Item Nos. D.4 & D.5 of 116th OCC** meeting and to incorporate views of NERLDC as below:-

Item No D.4

"Furnishing of Technical & Commercial Data for Computation of PoC Charges & Losses for 3rd Quarter of 2015-16 (Oct'15- Dec'15)":

Recorded:

All Utilities agreed to submit the data as per formats for Quarter 1 of 2016-17 (April-June, 2016) by 31st January, 2016.

The Sub-Committee also decided that Form-1 and Form-3 would be supplied to constituents well in advance by NERLDC so that rectification of data may be taken up in next OCC meeting.

Action: NERLDC, All constituents.

Amendment to be Recorded:

All Utilities agreed to submit the data as per formats for Quarter 1 of 2016-17 (April-June, 2016) by 31st January, 2016.

The Sub-Committee also noted that Form-1, Form-2 and Form-3 would be available on website of Implementing Agency (NLDC) which are to be filled up by constituents well in advance so that rectification of data may be taken up in next OCC meeting.

Action: All constituents.

Item No D.5

Petition No. 113/MP/2014:

Recorded:

DGM, OTPC mentioned that NERLDC should not file the petition to CERC as any issue can be discussed and resolved in the forum of NERPC. He mentioned that OTPC has been trying to comply and adhere to the decision of OCC/PCC Sub-committees of NERPC in every issue and as such filing a petition to CERC is not in the spirit of the forum. He however stated that since the matter has been filed to CERC, necessary action will be taken up by them in this regard.

The Sub-Committee noted as above.

Action: OTPC

Amendment to be Recorded:

DGM, OTPC mentioned that NERLDC should not file the petition to CERC as any issue can be discussed and resolved in the forum of NERPC. He mentioned that OTPC has been trying to comply and adhere to the decision of OCC/PCC Sub-committees of NERPC in every issue and as such filing a petition to CERC is not in the spirit of the forum. He however stated that since the matter has been filed to CERC, necessary action will be taken up by them in this regard.

NERLDC stated that the matter regarding requirement of SPS scheme related to Pallatana generation was discussed in 76th OCC meeting of NERPC held on 08.08.2012. The 78th OCC subcommittee on 09th October 2012 of NERPC requested that the schemes were to be implemented before commissioning of Module-I of Pallatana. During the 90th OCC meeting of NERPC held on 04th October 2013, the sub-committee requested OTPC to implement the SPS immediately for safety and security of the grid. During the 91st and 92nd OCC held on 15th Nov'13 and 06th Dec'13 subcommittee of NERPC requested OTPC to implement SPS II & SPS III at the earliest without further delay. OTPC agreed for early implementation. In the 93rd and 94th OCC meeting of NERPC held on 21st Jan'14 and 18th Feb'14, the subcommittee expressed concern for early implementation of SPS-II and SPS-III. During 95th OCC and 19th PCC meetings held on 12th March 2014, the subcommittee requested OTPC for early implementation of the SPS schemes. During the 96th OCC & 20th PCC meetings held on 20th April 2014 and during 97th OCC & 21st PCC meetings held on 06th May 2014, the subcommittee expressed concern for delay in implementation of SPS schemes by OTPC.

The Sub-Committee noted as above.

Action: OTPC

OTPC requested Operation sub-committee to amend deliberation of the sub-committee of the **Item Nos. D.1 & D.3 of 116th OCC** meeting and to incorporate views of OTPC as below:-

Item No D.1

“Generation Planning (ongoing and planned outages)”:

Recorded:

NEEPCO/NHPC/OTPC may kindly intimate the availability for hydro stations:

Amendment to be Recorded:

OTPC requested to remove from hydro stations list:

Item No D.3

“Furnishing Reactive Power Absorption Data for last one year”:

Recorded:

The Sub-Committee requested NEEPCO, OTPC and NHPC to furnish the data to NERLDC/NERPC latest by **31.12.2015**.

Amendment to be Recorded:

OTPC requested to remove from hydro stations list:

OTPC has already submitted the required data as per the prescribed format of NERDC. Further, they informed that the format is not capturing all relevant parameters. OTPC suggested that they will submit detailed data printout (automatically as generated from the system).

With the above Amendment, the Sub-committee confirmed the minutes of 116th OCCM of NERPC as no other comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING DECEMBER, 2015

As per the data made available by NERLDC, the grid performance parameters for December, 2015 are given below:

NER PERFORMANCE DURING DECEMBER, 2015

States	Energy Met (MU)		w.r.t. Nov,15 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Nov,15 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Dec, 15
	Dec-15	Nov-15		Dec-15	Nov-15		
Ar. Pradesh	54.16	57.84	-6.36	55.78	58.96	-5.39	-2.99
Assam	643.05	661.46	-2.78	655.70	671.70	-2.38	-1.97
Manipur	74.49	71.15	4.69	75.66	72.42	4.47	-1.57
Meghalaya	157.91	145.96	8.19	167.42	151.78	10.30	-6.02
Mizoram	42.11	38.64	8.98	43.14	39.62	8.88	-2.45
Nagaland	62.42	58.85	6.07	63.67	59.88	6.33	-2.00
Tripura	77.43	107.39	-27.90	78.85	108.56	-27.37	-1.83
Region	1111.58	1141.28	-2.60	1140.21	1162.92	-1.95	-2.58

States	Demand Met (MW)		w.r.t. Nov,15 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Nov,15 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Dec, 15
	Dec-15	Nov -15		Dec-15	Nov -15		
Ar. Pradesh	132	118	11.86	133	120	10.83	-0.76
Assam	1314	1378	-4.64	1312	1379	-4.86	0.15
Manipur	167	163	2.45	167	164	1.83	0.00
Meghalaya	348	335	3.88	349	336	3.87	-0.29
Mizoram	96	89	7.87	97	90	7.78	-1.04
Nagaland	138	120	15.00	140	121	15.70	-1.45
Tripura	221	242	-8.68	221	243	-9.05	0.00
Region	2320	2352	-1.36	2355	2372	-0.72	-1.51

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

AVERAGE FREQUENCY (Hz)

Month---->	Dec-15	Nov -15
Total Generation in NER (Gross)	924.69	1064.97
Total Central Sector Generation (Gross)	662.96	808.78
Total State Sector Generation (Gross)	261.73	256.19
Inter-Regional Energy Exchange		
(a) NER-ER	90.66	161.26
(b) ER-NER	17.34	67.64
(c)NER-NR	0.00	20.58
(d)NR-NER	333.85	251.51
© Net Import	260.53	137.31

Month---->	Dec-15	Nov -15
	% of Time	% of Time
Below 49.9 Hz	16.23	11.48
Between 49.9 to 50.05 Hz	66.32	67.06
Above 50.05 Hz	17.45	21.46
Average	49.98	49.99
Maximum	50.32	50.28
Minimum	49.59	49.64

The Sub-committee noted as above.

FOLLOW UP ACTION

C.1 Status of Generating Units, Transmission Lines in NER:

During 117th OCC meeting, the status as informed by NTPC, NEEPCO, POWERGRID and DOP, Nagaland is as follows:

SN	Items	Status as given in 117th OCC Meeting	Status as on 116 th OCC
1	Trial operation and CoD of Unit -I of Bongaigoan TPS of NTPC	Unit #1 by March, 2016 First infirm injection in January, 2016. NERLDC requested NTPC to furnish quantum of block-wise infirm injection in MW on day ahead basis	COD is expected by March, 2016. Infirm power injection to the grid in same month. Extension period has already been applied to CERC

2	400/220kV, 2x315 MVA ICT of NTPC at Bongaigaon	31.03.2016. NERLDC informed that commissioning of these elements is to be expedited in view of system security.	31.03.2016
3	Trial operation and CoD of Monarchak GBPP of NEEPCO	COD of GT is 24.12.15 Trial run of STG not done COD on 31.03.2016	Trial run within December, 2015 & CoD is 31.03.2016
4	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	November, 2016 March, 2017	November, 2016 March, 2017
5	Pare HEP of NEEPCO (2 x 55 MW)	June, 2016	June, 2016
6	400 kV D/C Silchar - Melriat line of PGCIL	Retendering done. September, 2016	September, 2016
7	220kV Rangia - Salakati of AEGCL	June, 2016. 4 Piles out of 13 Piles completed.	June, 2016
8	132kV Monarchak – Surjamaninagar D/C of TSECL	No representative	March, 2016
9	400/132 kV, 2nd 125 MVA ICT at Pallatana	June, 2016	June, 2016
10	132kV Pasighat – Aalong of Ar. Pradesh	March, 2016	March, 2016
11	132kV Surjamaninar (India)– South Commila (Bangladesh)	Completed on 16.12.2015	08.12 2015
12	132kV Doyang– Wokha	February, 2016	-
13	220 kV, 20 MVAR Bus Reactor at AGBPP	March, 2016	February, 2016
14	132kV Surjamaninagar Bay at OTPC	June, 2016	June, 2016
15	63MVAR Reactor at Byrnihat of Me.PTCL	Approval from Board is awaited.	SE, SLDC informed that Estimated Cost approval from Board is awaited. The status will be intimated in next OCC meeting.
16	Up-gradation of 132 kV Lumshnong-Panchgram line	DPR preparation stage	DPR preparation stage

17	Biswanath Chariali 63 MVAR Bus Reactor	January,2016	-
18	RHEP 80 MVAR Bus Reactor	The status will be intimated in next OCC meeting.	-

The Sub-committee noted as above.

Action: All concerned Utilities above.

C.2 CT Ratio of Transmission Lines & Enhancement of Loadability of lines in NER:

During 115th OCC meeting, the Sub-Committee decided that the CT would be changed in a phased manner depending on severity of criticality as per priority list drawn up by NERLDC. The list has been circulated along with Minutes of 115th OCC meeting and also the list has been posted in NERPC website as requested by the Sub-committee. The status is to be intimated to NERPC by the respective agencies and will be reviewed in OCC meetings.

During 116th OCC meeting, the Sub-Committee decided that the CT would be changed in a phased manner depending on severity of criticality as per priority list drawn up by NERLDC. The status is to be intimated to NERPC by the respective agencies and will be reviewed in OCC meetings.

Deliberation of the Sub-Committee

NERTS, POWERGRID informed that 15 nos. 600/1 A CTs will be arranged for dynamic rating of the lines listed in Annexure C.2. NERLDC requested to other utilities to change CT for dynamic rating of the lines listed in Annexure C.2.

The current status is given in **Annex. C.2.**

The Sub-Committee noted as above.

C.3 Conversion of line reactors of 400kV Balipara – Bongaigaon I&II to switchable line Reactors at Balipara & Bongaigoan:

During 115th OCC meeting, DGM (AM), NERTS informed that immediately two nos. of NGR by-pass equipments (Isolator & CT) of Ranganadi # 1 & 2 Feeder at Balipara will be available due to LILO of 400kV Balipara-Ranganadi Line at BNC. NERLDC suggested to install those in Bongaigaon Line Reactor # 1 & 2 at Balipara. Further,

POWERGRID informed that balance items like 336kV LA & CSD is under procurement and the scheme will be installed by January, 2016.

During 116th OCC meeting, DGM (AM), NERTS informed that procurement of by-pass scheme and CSD relays in small quantity will take some more time and hence, time frame for installation may be considered upto March, 2016.

Deliberation of the sub-Committee:

DGM (AM), NERTS informed scheme would be completed by March, 2016.

The Sub-committee noted as above

Action: NERTS, POWERGRID

C.4 Finalization of Operating Procedures of State Grid of NER:

As per clause no 5.1.g of IEGC, detailed operating procedures for each state grid shall be developed and maintained by the respective SLDC.

Deliberation of the sub-Committee:

Status as intimated during 117th OCC forum of NERPC is as follow:-

SI No	Description	Status of approval from OCC forum of NERPC
1	Operating Procedure of Ar. Pradesh 2015	Not submitted
2	Operating Procedure of Assam 2015	Submitted
3	Operating Procedure of Manipur 2015	By 31.03.2016
4	Operating Procedure of Meghalaya 2015	Draft Submitted
5	Operating Procedure of Mizoram 2015	By 31.03.2016
6	Operating Procedure of Nagaland 2015	By 31.03.2016
7	Operating Procedure of Tripura 2015	Not submitted

The Sub-committee noted as above.

Action: All constituents as above.

C.5 No PLCC Panels in two feeders of MSPCL:

NHPC informed that at Loktak Power Station, no PLCC Panels are installed in two nos. of 132 kV feeders of MSPCL i.e. Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder. Since PLCC Panel is very important equipment for Protection of the feeders and even communication between two station. This issue was already raised in the previous meetings several times.

During 113rd OCC meeting, representatives of MSPCL informed that the PLCC Panels for said lines has already been included in the scope of ongoing R&M works of

their Substations. The forum requested Manipur to verify the detail scope and inform in next OCCM.

Subsequently during 38th PCC meeting, MSPCL informed that sufficient progress has been made and the above works have been awarded to ABB as a Turnkey Project. Commissioning of PLCC panels will take place within the stated deadline i.e. 30.11.15.

During 116th OCC meeting, MSPCL representative informed that the above work will now be completed within 31.03.2016.

Deliberation of the sub-Committee:

The forum unanimously agreed that this should be reviewed monthly and suggested that this be included in item C.1.

The Sub-Committee noted as above.

Action: MSPCL

C.6 Finalization of operational protocols for operation of line for supply of power to Bangladesh:

It is anticipated that power supply to Bangladesh from Surjamaninagar sub-station of Tripura will commence from middle of December, 2015. The power will be transmitted through international line jointly owned by India (India portion) & Bangladesh (for Bangladesh portion).

Before commencement of power supply it is essential that the following operational protocols are finalized:

Real time operation –

During 40th PCC meeting, after detailed deliberation it was decided that:

- a. Code for charging to be given by NLDC India.
- b. Proposals for shutdown to be routed through OCC forum of RPC to NLDC India and code to be given by NLDC India.
- c. Overdrawal issue to be dealt by Tripura.
- d. For item 4 & 5 procedures to be drawn up after detailed study of existing ones of ER - Bangladesh power transfer.

GM, NERLDC concluded that any other modalities would be worked out by NERLDC considering ER Bangladesh procedure.

Deliberation of the sub-Committee:

DGM(SO-II), NERLDC suggested that the item be dropped and reviewed before commencement of power supply to Bangladesh. DGM(SO-II), NERLDC requested the forum to arrange meeting among constituents of NER, NLDC, Bangladesh, NLDC, India, NERLDC & NERPC to finalize Operating Procedures & Restoration Procedures for power system of Comilla, Bangladesh & NER and related issues.

The Sub-Committee noted as above.

C.7 Monthly MU requirement & availability of each state of NER as per format:

The following figures of state wise MU requirement and availability were taken from draft LGBR 2015-16 of NERPC. State wise MU requirement and availability for these months are to be checked. Constituents may kindly verify if the above data are correct.

Requirement:

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	67	67	57	70	
Assam	700	680	650	700	
Manipur	75	80	70	75	
Meghalaya	202	215	185	190	
Mizoram	45	47	40	45	
Nagaland	69	65	65	70	
Tripura	120	125	100	125	
NER	1278	1279	1167	1275	

Availability:

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	45	48	40	50	
Assam	550	590	550	600	
Manipur	65	70	60	65	
Meghalaya	200	180	145	140	
Mizoram	40	42	40	45	
Nagaland	55	55	50	50	
Tripura	195	200	150	170	
NER	1150	1185	1035	1120	

The Sub-Committee noted as above.

C.8 Monthly MW requirement & availability of each state of NER:

The following figures were taken from LGBR 2015-16 of NERPC. These figures are to be reviewed.

A. Peak Demand in MW

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	128	133	130	135	
Assam	1460	1400	1260	1410	
Manipur	149	165	148	155	
Meghalaya	425	375	350	400	
Mizoram	95	90	85	90	
Nagaland	130	125	120	130	
Tripura	255	250	240	275	
NER	2642	2538	2333	2595	

B. Peak Availability in MW

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	126	118	110	130	
Assam	1200	1195	1150	1170	
Manipur	128	145	128	140	
Meghalaya	350	325	280	250	
Mizoram	90	85	85	80	
Nagaland	90	95	90	95	
Tripura	403/230	403/230	403/230	403/230	
NER	2445	2375	2243	2268	

*Tripura indicates 400/230 if Pallatana available/if not available

B.1. Off Peak Demand in MW (08:00 Hrs)

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	70	73	70	80	
Assam	1020	1030	1020	1050	
Manipur	95	95	90	95	
Meghalaya	234	230	220	220	
Mizoram	62	60	55	55	
Nagaland	80	85	75	80	
Tripura	180	190	170	180	
NER	1641	1638	1700	1760	

B.2. Off Peak Availability in MW (08:00 Hrs)

Name of State	Dec15	Jan16	Feb16	Mar16	Apr16
Ar. Pradesh	60	65	60	70	
Assam	840	850	900	950	
Manipur	90	90	80	85	
Meghalaya	300	275	245	230	
Mizoram	60	60	60	55	
Nagaland	55	70	60	65	
Tripura	240	240	240	240	
NER	1645	1650	1645	1695	

Deliberation of the sub-Committee:

SE(O), NERPC informed that since LGBR for 2016-2017 is under preparation, the data for April, 2016 onwards will be furnished once the above LGBR is finalized. He informed that data for LGBR for 2016-2017 has been received from NEEPCO,OTPC

only and requested NHPC & NTPC to send the data within 15.01.2016. Further, he requested all the constituents, CTUs to furnish the generation, transmission data along with planned shutdown/maintenance etc. within 15.01.2016. All constituents agreed to furnish by 15.01.2016.

DGM (SO-II), NERLDC expressed their difficulties as system studies could not be carried out for 2015-16 due to non finalization of LGBR for 2016-2017 & planned outages of elements for 2016-17.

The Sub-Committee noted as above.

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

NEEPCO/NHPC may kindly intimate the availability for hydro stations:

Generating Station	Units running	MW	MU	Reservoir
Khandong	1	38	0.1235	713.75
Kopili	4	184	1.704	601.25
Kopili-II	1	18	0.054	713.75
Ranganadi	3	401	Subject to inflow	
Doyang	3	56.6	0.1692	314.55
Loktak	2	70	1.638	768.24
AGBPP	-	-	-	-
AGTPP	-	-	-	-

Hydro planning

In view of outage of Kopili units, proper planning is essential for utilization of available water of other reservoir based stations so that adequate generation can be maintained upto April/May, 2016.

AGM,SLDC, Assam suggested that since Kopili would go under plant S/D from March its inflow may be increased simultaneously reducing generation from other hydro units except RHEP.

The Committee discussed and approved the proposed shutdown by Generating Stations and the same is given in Annexure - D.3 (along with trans element).

D.2 Outage Planning Transmission elements

It was agreed in the 99th OCC meeting that shutdown will be availed only after approval is given by the OCC forum. It was also agreed that deferment/revision of outages elements other than already approved in OCC will be henceforth put/displayed in the website of NERPC (**under Operational Activities/OCC Approved shutdown**) as per CERC regulations/ CEA guidelines etc for ensuring smooth & secure grid operation.

Furnishing request of shut down of the element, which was approved by NERPC, by Indenting Agency (ISTS licensees/STUs/Generating Companies) to NERLDC: Planned shutdown approved by NERPC shall be considered for implementation by NERLDC on D-3 basis. If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC on 7th of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

Deliberation in the meeting

The sub-Committee discussed and approved the proposals received from the constituents regarding transmission elements for January, 2016- February, 2016 and the same has already been uploaded in website of NERPC. The date(s) for shutdown of 132 kV RHEP-Nirjuli and 132 kV RHEP-Ziro was not finalized and it was decided that it would be accorded on date(s) after Bihu while Ar. Pradesh would get 30MW off-peak and 15MW peak through Gohpur.

D.3 Furnishing Reactive Power Absorption Data for last one year:

As per Para no. 9.9.1 of Recommendations of Enquiry Committee on Grid Disturbance, the regulatory provisions regarding absorption of reactive power by generating units needs to be implemented.

It is requested that you may please furnish instances when Reactive Power support was provided by Generators for last one year.

The latest Capability Curve of each generator in Soft Copy may also be provided.

Deliberation in the meeting

DGM (SO-II), NERLDC requested all generating utilities of NER to furnish at least hourly unit-wise active power in MW, reactive power in MVAR & terminal voltage in kV of the previous month by 10th of the month as per format at **Annexure -D.3**

The Sub-Committee requested all generating utilities of NER to furnish the data of previous month to NERLDC/NERPC on monthly basis by 10th of the month.

Action: NEEPCO, NHPC, NTPC, OTPC, APGCL, MePGCL, TSECL, DOP, Nagaland, P&E, Mizoram.

Action: NEEPCO, NHPC.

D.4 Furnishing of Technical & Commercial Data for Computation of PoC Charges & Losses for 3rd Quarter of 2015-16 (Oct'15- Dec'15):

As per provisions of the CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time, the following data are required for Computation of PoC Charges & Losses for **3rd Quarter of 2015-16 (Oct'15- Dec'15)**

1. Technical details of new transmission elements and generating units which are expected to commence commercial operation during **Oct'15- Dec'15**
2. Yearly Transmission Charges
3. Nodal Generation information and forecast withdrawal data

As per provisions of the CERC (Sharing of Inter State Transmission Charges and Losses) (Third Amendment), Regulations, 2015, the Designated ISTS Customers (DICs) are required to submit node-wise forecast injection/withdrawal information and maximum injection/withdrawal data for corresponding quarter of last three years to the Implementing Agency for computation of PoC Charges & Losses for **3rd Quarter of 2015-16 (Oct'15- Dec'15)**.

As discussed in 3rd Validation Committee Meeting held on 30th September, 2015, following dates were finalized for submission of data for **4th Quarter of 2015-16 (January -March, 2016)**.

SI. No.	Timeline	Remarks
1	31 st October, 2015	Data to be provided by DICs to IA
2	10 th November, 2015	Data to be sent by IA to RPC
3	25 th November, 2015	RPC to rectify the data through a meeting at RPC level and then send to IA by 25 th November, 2015
4	30 th November, 2015	Validation Committee meeting

In the 115th OCC meeting, the Sub-Committee decided that data required for rectification would be supplied to constituents well in advance by Implementing Agency (NLDC) so that rectification of data may be taken up in next OCC meeting.

During 116th OCC all the utilities agreed to submit the data as per formats for Quarter 1 of 2016-17 (April- June, 2016) by 31st January, 2016.

TSECL informed regarding to 4th Validation committee meeting held on 30/11/15. Inviting to the above it is for your kind information that considerable differences in Data of Pallatana generation in the RTA issued is seen in comparison with the actual generation. TSECL is to inform you that due to gas constraint Pallatana was unable to achieve full generation (not exceeding 530-540 MW), whereas RTA is issued considering full capacity of Pallatana project resulting higher burden of POC.

Deliberation in the meeting

NERLDC requested DICs & transmission utilities to furnish Technical & Commercial Data for Computation of PoC Charges & Losses for 1st Quarter of 2016-17 (Apr'16- Jun'16) as per format by 15th January, 2016.

All Utilities agreed to submit the data as per formats for Quarter 1 of 2016-17 (April- June, 2016) by 15th January, 2016.

DGM(SO-II), NERLDC once again reiterated that necessary Forms are already available in NLDC website and constituents may kindly download from there.

The Sub-committee noted as above.

Action: All DICs & Transmission Utilities.

D.5 Petition No. 113/MP/2014:

OTPC vide mail dated 07.12.2015 has requested to discuss the petition No. 113/MP/2014 filed by NERLDC to Hon'ble CERC. Further, they informed that Petition was filed without any information/discussion/record in preceding or succeeding OCC meetings though there was no conflict among constituents, OTPC & NERLDC for implementation of SPS.

During 116th OCCM, DGM, OTPC mentioned that NERLDC should not file the petition to CERC as any issue can be discussed and resolved in the forum of NERPC. He mentioned that OTPC has been trying to comply and adhere to the decision of OCC/PCC Sub-committees of NERPC in every issue and as such filing a petition to CERC is not in the spirit of the forum. He however stated that since the matter has been filed to CERC, necessary action will be taken up by them in this regard.

Deliberation in the meeting

DGM (SO-II), NERLDC informed that the issue related to implementation of SPS related to Pallatana was discussed in TCC meeting held at Agartala on 04.09.13. In this TCC meeting, it was recorded as below:-

Quote

The committee requested OTPC to highlight action plan for reducing the generation for implementation of proposed SPS. OTPC requested NERLDC for providing certain information as desired by BHEL. Committee advised OTPC to communicate NERLDC accordingly for getting the required information. OTPC was requested for taking early action for implementation of SPS for safety & security of the NER grid.

Unquote

Many disturbances occurred due to non implementation of SPS related to Pallatana. As the SPS related to Pallatana was not implemented till filing of this petition on 05.06.14, NERLDC filed petition of protection deficiency in NER system to Hon'ble CERC.

After detailed deliberation as per guidance of Member Secretary, NERPC it was decided that hence forward unresolved issues of Sub-Committee of NERPC would be taken up in TCC/RPC. If the issue still remains unresolved then approach to CERC can be made only after sufficient time frame for implementation.

The Sub-Committee noted as above.

Action: OTPC.

The Sub-Committee noted as above.

Action: OTPC.

D.6 Shutdown of Block- #2 of OTPC:

OTPC intimated that Pallatana Block-2 will undergo shutdown from 25th January, 2016 to 7th February, 2016 for CI & HRSG License renewal.

During 116th OCC meeting, The issue was discussed in detailed and the forum requested OTPC to keep in mind that any maintenance schedule should not be taken during lean hydro season. The forum requested OTPC to take up the matter with the concerned agency so that in future no shutdown will be granted to them during lean hydro season. The comfort period granted by the forum is **July to September**.

DGM, OTPC mentioned that he will take the matter with Competent Authority of OTPC so that the solution can be finalized in this regard.

The forum however approved the above shutdown since no sufficient gas is available to OTPC to run both the units.

Members raised the issue regarding reduction of gas supply to Pallatana and requested NERPC to take up the matter with highest authority of ONGC.

SE(O), NERPC informed that during 27th CC meeting, the issue of reducing of gas supply to Pallatana to accommodate Monarchak is a very serious concern for NER beneficiaries as till now it is understood that Monarchak is a state project and he requested the house to take up the matter in the next NERPC meeting. Further, he stated that full gas supply should be made available to Pallatana first then to Monarchak Plant to avoid deprivation of all other NER states.

Deliberation in the meeting

The forum unanimously reiterated that thermal power plant (gas based & coal based) shutdown may be taken only during the high hydro period i.e. **July to September**. Regarding non-availability of gas to OTPC, SE(O) requested utilities to propose this as an agenda item for 16th TCC/RPC.

The Sub-Committee noted as above.

Action: All utilities, NERPC.

D.8 Power Evacuation/flow on HVDC Line:

800kV Bishwanath Chariali - Agra HVDC line was commissioned on 31.10.2015 and the power flow on this line is being instructed by NERLDC without intimating to the constituents.

During 116th OCC meeting, NERLDC informed that COD was declared by asset owner and the same was informed to NERPC also. Moreover +/- 800kV Bishwanath Chariali - Agra HVDC is an inter-regional line and falls under the Jurisdiction of NLDC.

Assam representative raised the issue regarding flow of power from NR to NER through HVDC line. NERLDC informed that 400kV Farrakha-Malda-D/C is under S/D. Due to S/D of these lines import ATC of NER may reduce drastically, so to avoid any change in ATC during lean hydro season power flow from NR to NER is maintained.

SE(O) raised the issue stating that at present ATC/TTC has been enhanced to around 1100 MW and the issue of constraints did not arise during the current period. He also mentioned that during the 4th NPC meeting, the issue of co-ordination regarding of shutdown of Inter-regional which affect the other region has to be intimated accordingly. He mentioned that every time NERPC informed to ERPC whenever shutdown is being taken and he stated that the issue will be taken up with ERPC so that such problem does not occur in future.

Members are of the opinion that PoC charges may be imposed upon NER constituents once the HVDC link is being used by them. They requested the forum that such mechanism should be looked into so that burden should not fall on them.

Deliberation in the meeting

NERLDC stated that there are two issues here, one is technical issue & other is commercial issue. Direction of power flow of +/- 800 kV Biswanath Chariali – Agra HVDC lines is decided by NLDC in view of security & reliability of National Grid. Tariff related issues will be determined by Hon'ble CERC.

After detailed deliberation it was decided to refer the matter to 16th TCC/RPC, keeping in view the future ramifications.

The Sub-Committee noted as above.

D.9 Early Restoration of 63 MVAR line Reactor at Balipara:

The 63 MVAR line Reactor of 400 kV Bongaigaon – Balipara line –II at Balipara end is under outage since 19.07.2015. Early restoration of the reactor is very essential for containing over voltage problem which is very much on higher side after commissioning of Agra- BNC HVDC pole-I especially during operation of the pole. Presently the problem is being managed by opening 400 kV lines thereby system security is compromised.

Early commissioning of 80 MVAR 2nd Bus reactor at BNC is also very much essential in this connection.

During 115th OCC meeting, DGM (AM), NERTS informed that the above work will be completed by first week of December, 2015.

During 116th OCC meeting, DGM (AM), NERTS informed that the test charge has already completed and the above work will be completed within December, 2015.

Deliberation in the meeting

DGM (AM), NERTS informed the forum that EI of RIO (NE) will inspect on 12.01.16 and then reactor would be commissioned once the clearance is obtained.

The Sub-Committee noted as above.

Action: NERTS.

D.10 Estimated Transmission Availability Certificate (TAC) for the month of November, 2015.

NETC and POWERGRID, NERTS have submitted TAC data of November, 2015 in the first/second week of December, 2015. This will enable issuance of verification by NERLDC and certification by NERPC on monthly basis within stipulated time frame. Both NETC and NERTS are advised to follow the agreed time schedule in future to avoid accumulation of reports and corresponding delay.

The Sub-Committee noted as above.

D.11 400kV, 80 MVAR Bus Reactor at OTPC Pallatana

During the 116th OCC Meeting, OTPC informed that the 400kV, 80 MVAR Bus Reactor at OTPC Pallatana is ready for recharging and sought clearance for charging of the same. NERLDC informed that the same can be taken into service subject to real time condition.

However, now after checking the relevant records at NERLDC it is seen that the reactor was never successfully put into service and the matter has to be look into considering that the element was out for a prolong period.

In this connection it is pertinent to mention that, as per Clause No. 43 of Measures Relating to Safety & Electric Supply Regulation 2010 by CEA, the electrical installations/line, before commencement of supply or recommencement after shutdown for six months and above shall not be charged/ energized without the approval of the Electrical Inspector in writing to ensure safety measures specified under the said regulations in the electrical installations.

OTPC may take action accordingly and certify fulfillment of other statutory requirements while permission for charging the reactor is sought.

During 116th OCC meeting, The Sub-committee requested OTPC to first test charge the reactor and then get the approval of EI of RIO (NE).After obtaining the required clearance apply to NERLDC for charging the reactor.

Deliberation in the meeting

DGM(O&M), OTPC informed the forum that OTPC would apply to NERLDC for necessary charging instruction since all other formalities have been completed.

DGM (SO-II), NERLDC informed that application of charging of new element is to be furnished to NERLDC as per format of Procedure for Integration of New Transmission Element into the Grid.

The Sub-Committee noted as above.

Action: OTPC.

D.12 Modification of existing 132kV S/C Nirjuli –Ranganadi Transmission Line on account of Railway Track Construction:

The newly constructed Harmuti-Naharlagun Railway Track infringes with the 132KV Nirjuli-Ranganadi line between existing location 02 to loc.14 & crosses the track at 3 (three) locations. In order to do away with this infringement & at the behest of the District Administration, POWERGRID has carried out detailed survey for re-alignment of the complete line section from loc.134 to loc.23. The proposed line section shall now pass through Emchinallah-Lekhi village in Papumpare District.

Further, the contract for diversion of the line section from loc.134 to loc.23 has also been awarded by POWERGRID & erection work is expected for commencement very shortly. Subsequent to completion of the re-aligned section of the line(which is expected by April'2016), the existing line section passing through Doimukh area in Papumpare District shall be required to be disconnected & dismantled. It may be mentioned that the 132KV Nirjuli-Ranganadi line has been looped in & looped out at 132KV Lekhi Substation of DoP, AP at tower loc.11. Therefore, with disconnection of the existing line section from loc.134 to loc.23 as a result of its re-alignment, connection of Lekhi Substation(DoP, AP) with Ranganadi & Nirjuli through the LILO portion shall be no longer available.

It is learnt that action has been taken by DoP, AP simultaneously for modification of the LILO line so as to ensure connectivity with 132KV Nirjuli-Ranganadi line after re-alignment is carried out by POWERGRID. Therefore, DoP, AP may look into for completion of this modification of LILO portion of the line matching with re-alignment of the line from loc.134 to loc.23(under execution by POWERGRID) in case it is felt necessary to maintain the existing configuration of LILO of line at Lekhi S/s(DoP, AP).

During 116th OCC meeting, the Sub-committee unanimously agreed to the proposal of NERTS.

Since no representative from Ar. Pradesh was present, portion pertaining to Ar. Pradesh could not be updated.

Deliberation in the meeting

DGM (AM), NERTS informed the forum that erection works related to Ar. Pradesh i.e. LILO point for connectivity to Lekhi should match that of POWERGRID.

EE, SLDC, Ar. Pradesh informed the forum that Railways have not yet transferred the funds to DoP, Ar. Pradesh. He assured to take up the matter with their concerned authority to match the construction.

DGM(AM), NERTS informed the forum that erection works related to Ar. Pradesh i.e. LILO point for connectivity to Lekhi should match that of POWERGRID.

EE, SLDC, Ar. Pradesh informed the forum that Railways have not yet transferred the funds to DoP, Ar. Pradesh. He requested that the matter may be referred to next TCC/RPC meeting keeping in mind the sensitivity of the issue.

The Sub-committee instructed that DoP, Ar. Pradesh should carry out the above work in line with PPOWERGRID so that the power supply to Nirjuli does not hamper.

Action: NERTS & Ar. Pradesh.

D.13 Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor

SLDCs of NER are requested to assess the above on monthly basis, 5 months in advance (eg: TTC/TRM/ATC for the month of November to be calculated by 15th of July), for further assessment of TTC, ATC and TRM of NER-ER corridor, group of control areas, individual control areas with the region and state-control-area to state-control-area by NERLDC, if required.

SLDCs are also requested to send study results for Peak (Export & Import) & Off Peak (Export & Import) along with assumptions in details and 6 nos ".sav" case files (Base Case for Peak & Off Peak, Off Peak & Peak Export & Off Peak & Peak Import) to NERLDC by 15th of the month for the fifth month. All India ".sav" case files have been sent to SLDCs. SLDCs are requested to use this ".sav" case files while computing TTC, ATC & TRM for their state control area.

The study results for assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) have not been received from any SLDC of NER.

Updated Base Cases have been already mailed to all the SLDCs on 08.12.15. All the SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) and submit the cases to NERLDC for the month of May'16 by 15th January, 2016.

The state-wise Transfer Capability as assessed by NERLDC for the month of May'16 based on available information is as below.

Import Capability

SN	State	OFFPEAK Case		PEAK Case	
		Contingency	Total Transfer Capability	Contingency	Total Transfer Capability
1	Arunachal Pradesh	N-1 of 132/33 kV, 1x20 MVA Transformer at Naharlagun	165	N-1 of 132/33 kV, 1x20 MVA Transformer at Naharlagun	165
2	Assam	N-1 of 220/132 kV, 3x100 MVA transformers at Sarusajai	1410	N-1 of 220/132 kV, 3x100 MVA transformers at Sarusajai	1370
3	Manipur	N-1 of 132/33 kV, 2x50 MVA Transformers at Imphal (PG)	285	N-1 of 132/33 kV, 2x50 MVA Transformers at Imphal (PG)	285
4	Meghalaya	N-1 of 132 kV Killing-Epip II D/C	270	N-1 of 132 kV Killing-Epip II D/C	275
5	Mizoram	N-1 of 132/33kV, 12.5 MVA transformer at Luangmual/Zimabawk/Serchip/Lunglei	110	N-1 of 132/33kV, 12.5 MVA transformer at Luangmual/Zimabawk/Serchip/Lunglei	110
6	Nagaland	N-1 of 132/66 kV, 100 MVA ICT at Dimapur (Nagaland)	95	N-1 of 132/66 kV, 100 MVA ICT at Dimapur (Nagaland)	95
7	Tripura	N-1 of 132 kV Pallatana - Udaipur S/C	190	N-1 of 132 kV Pallatana - Udaipur S/C	150

Deliberation in the meeting

DGM(SO-II), NERLDC requested all utilities to kindly verify the ATC/TTC figures. The figures for state-wise TTC as above, would be considered as Final if no comments are received from any SLDCs of NER by 20.01.2016.

After detailed deliberation it was decided to refer the issue related to system studies by SLDCs to System Study sub-group meeting.

The Sub-Committee noted as above.

D.14 Re-conductoring of 132 kV BiswanathChariali (PG) – Pavo (AS) D/C lines

The 132 kV BiswanathChariali (PG) – Pavo (AEGCL) D/C lines are vital feeders to cater to loads in Pavo, Gohpur, Depota areas of Assam. After commissioning of these lines, with feeding of Gohpur area loads from BiswanathChariali (PG) instead of Nirjuli (PG), the loading of each line touches 65-70 MW during Peak Hours.

System studies conducted considering Peak Load scenario in Assam revealed that the system is not secure under N-1 contingency during period of high drawal in Depota, Gohpur and Pavo areas of Assam.

It is thus proposed for reconductoring of 132 kV BiswanathChariali (PG) – Pavo (AEGCL) D/C lines for improved security and reliability of the Grid.

Deliberation in the meeting

AEGCL representative suggested that Gohpur Bus has to be upgraded with the reconductoring. He also informed the forum that after successful commissioning of 220 kV Sonabil S/S load of Depota and Gohpur will be catered from there. However he suggested that one circuit of 132 kV Biswanath Chariali - Chimpu (Itanagar) line, which was approved in 5th Standing Committee Meeting of NER, may be LILLOed at Gohpur to fulfil N-1 criteria.

After detailed deliberation the forum decided to refer the matter to the upcoming TCC/RPC meetings & the next Standing Committee Meeting.

The Sub-committee noted as above.

Action: AEGCL.

D.15 Up-gradation of 2x30 MVA, 220/132 kV ICTs at Mokokchung (PG)

The 220/132 kV Mokokchung (PG) substation is a vital link through which power from Mariani (AS) can feed to Mokokchung area of Nagaland through 220 kV Mariani (PG) – Mokokchung (PG) D/C and 220/132 kV ICTs at Mokokchung (PG).

Under N-1 of 220 kV Mariani – Mokokchung D/C lines, the other circuit may be able to carry upto 200 MW on continuous basis. But due to restriction in capacity of ICTs at Mokokchung (PG), under N-1 contingency of these ICTs the loading in the entire section from 220 kV Mariani (PG) to 132 kV Mokokchung (PG) would be restricted to less than 30 MW.

From system studies it was observed that in case of N-1 contingency of 220/132 kV ICTs at Mokokchung, the loading on other ICT exceeded its rated capacity.

It is thus proposed to enhance the capacity of ICTs at Mokokchung (PG) from present level to 2 x 100 MVA, 220/132 kV ICTs, for enhancing the reliability of the Grid.

Deliberation in the meeting

AEGCL suggested that one 100MVA 220/132 kV ICT be commissioned in addition to the already existing 2x30 MVA ICTs. However NERLDC viewed that this alternative still does not fulfill the N-1 contingency, keeping in mind the future load growth.

After detailed deliberation it was decided to enhance the capacity of ICTs at Mokokchung (PG) from present level to 2 x 100 MVA, 220/132 kV ICTs, for enhancing the reliability of the Grid and refer this matter to the upcoming TCC/RPC meetings and the next Standing Committee Meeting.

The Sub-committee noted as above.

Action: NERTS.

D.16 Implementation of Automatic Demand Management Scheme (ADMS)

Hon'ble CERC directed vide order in Petition No. 113/MP/2014 on 31.12.15 to submit PERT charts & action plans for Implementation of Automatic Demand Management Scheme (ADMS) by SLDCs of NER and to implement ADMS by 30.06.16. Hon'ble CERC directed RLDCs to submit the report of status of implementation of Automatic Demand Management Scheme (ADMS) by SLDCs of NER by 31.08.16.

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

Deliberation in the meeting

AGM,SLDC, Assam suggested that since ADMS involves connectivity to 33kV substations, a separate meeting with the DISCOMS is required. The forum agreed and requested NERPC to kindly convene the meeting at a suitable date.

NERLDC requested SLDCs of NER to submit the report of status of implementation of Automatic Demand Management Scheme (ADMS) by SLDCs of NER by 15.08.16.

The Sub-committee noted as above.

Action: NERPC & SLDCs.

D.17 Tripura is ready for 100MW power Transaction to Bangladesh in any time. It is requested to study load flow of Tripura system as well as NER.

DGM(SO-II) once again reiterated that load flow studies have already been done. He informed that loading of 400/132 kV, 125 MVA ICT at Pallatana will depend on high generation of Pallatana, low generation of AGTPP, low generation of AGTPP, low generation of TSECL and outages of one/two lines of 132 kV Silchar – P K Bari lines. He requested TSECL to reduce their drawl in case of overloading 400/132 kV, 125 MVA ICT at Pallatana and the same is attached at **Annexure D.17.**

Members once again re-iterated that curtailment of power should be made to NER constituents in order to meet the above 100MW power to Bangladesh.

The Sub-committee noted as above.

D.18 Consent for URS Scheduling:

At present URS of any ISGS is being scheduled to other beneficiaries after taking consent of the concerned ISGS. This is creating delay in scheduling process. A standing consent from the ISGS station can help in this respect.

Deliberation in the meeting

Honourable CERC order dated 05.10.2015 against Petition No. 310/MP/2014, regarding scheduling Un-requisitioned Power of Sasan Ultra Mega Power Project and direction to Load Despatch Centres to schedule Un-requisitioned Power was discussed.

As per the order consent of the original beneficiary and the new beneficiary shall be submitted by the ISGS intending to avail revision of schedule to the concerned RLDC by mail.

After detailed deliberation, it was agreed that all beneficiary going for under-requisition can give month wise standing consent to the respective ISGS (AGBPP, AGTPP & OTPC) with a copy to NERLDC for rescheduling the URS power to the other beneficiaries for reducing the time taken for implementing the schedule.

The forum also requested NEEPCO that it may please operate NEEPCO control room 24x7.

The Sub-committee noted as above.

Action: All concerned utilities.

D.19 Seminar on “Restoration Procedure”:

Like previous years this year also NERLDC will organize one day seminar on “Restoration Procedure of NER Grid”. It is proposed to organize the seminar in February, 2016. All the Utilities are requested to nominate 4/5 or more number of participants, associated with operation of SLDCs- Generating stations and Sub-stations, for the purpose. All Utilities are also requested to give small presentations (10/15 Minutes duration) in the seminar for the knowledge of other utilities.

Exact date and venue will be intimated in due course.

Deliberation in the meeting

DGM(SO-II), NERLDC requested SLDCs to kindly give presentation about the restoration procedures of the state grid prepared by them.

The Sub-committee noted as above.

Action: All utilities.

D.20 Request for adherence to RLDC advises to avoid violations of Regulations:

It has been observed that on many occasions desired relief cannot be achieved due to non or delayed compliance of RLDC requests leading to violations of various stipulations specially related to over drawal from the grid. CERC is closely monitoring these violations. All concerned are requested to please adhere to the real time advises of NERLDC to avoid future complications. In this regard recent order of CERC on Grid disturbance of 30/ 31.07.12 may please be referred, wherein many utilities are penalized.

Deliberation in the meeting

The Sub-committee directed all the utilities to strictly adhere to the instruction by NERLDC during real time operation to avoid violation. .

Action: All utilities.

Date & Venue of next OCC meeting

It is proposed to hold the 118th OCC meeting of NERPC on first week of February, 2016. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I

List of Participants in the 117th OCC Meetings held on 07/01/2016

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, EE	Ar. Pradesh	09436288643
2.	Sh. M.K. Bordoloi, CGM, SLDC	Assam	09435203996
3.	Sh. J.K. Baishya, AGM,SLDC	Assam	09435041494
4.	Sh. B.C. Borah, AGM,SLDC	Assam	09435119248
5.	Sh. P. Dutta, AM (Commercial)	Assam	08822693871
6.	Sh. K. Sarma, AGM, AEGCL	Assam	09435013532
7.	Sh. A.N. Dev Choudhury, AGM, APDCL	Assam	09954055295
8.	Sh. A. Bhattacharjee, Dy. Manager, AEGCL	Assam	09435332928
9.	Ms. Laishram Ritu, Manager, SLDC	Manipur	09612882984
10.	Ms. Haobam Memnaobi Chanu, DM,SLDC	Manipur	08131964667
11.	Sh. Javed M. Warjri, AEE, SLDC	Meghalaya	09856012700
12.	Sh. T. Gidon, EE, SLDC	Meghalaya	09774479956
13.	Sh. S.B. Nath, EE, Killing Sub-Station	Meghalaya	09436108836
14.	Sh. A.G. Tham, AE, MRT	Meghalaya	-
	No Representative	Mizoram	-
15.	Sh. A. Jakhalu, EE (Trans.)	Nagaland	09436002696
	No Representative	Tripura	
16.	Sh. Amaresh Mallick, DGM (SO-II)	NERLDC	09436302720
17.	Sh. Anupam Kumar, Sr. Engineer	NERLDC	09436335379
18.	Sh. Abraham Varghese, AGM	NERLDC	09436302725
19.	Sh. B.K. Chakraborty, DGM (E)	NEEPCO	09436309730
20.	Sh. Suranjan Sarkar, Sr. Manager (E/M)	NEEPCO	08974009294
21.	Sh. P. Kanungo, DGM (AM)	PGCIL	09436302823
22.	Sh. S. Chakraborty, Manager	NTPC	09435322541
	No Representative	ENICL	-
	No Representative	NHPC	-
23.	Sh. Thakor Prasad Pandey, DGM (O&M)	OTPC	08794718423
24.	Sh. P.K. Mishra, MS	NERPC	-
25.	Sh. B. Lyngkhai, Director/S.E (O)	NERPC	09436163419
26.	Sh. S. Mukherjee, AD-I/AEE	NERPC	08794277306
27.	Sh. Shaishav Ranjan, AD-II/A.E	NERPC	08794276168

ANNEXURE-C.2

Name of the line	Operating voltage (KV)	Tower Type	Length (KM)	Type of Conductor	CT Ratio at either end (max)		CT Ratio at either end (adopted)		Maximum Loading Capacity	Present Loading Capacity)	Remarks
					Stn A	Stn B	Stn A	Stn B			
132KV D/C RC Nagar-Agartala-I**	132	Double Circuit	8.384	ACSR PANTHER	600/1	400/1	300/1	400/1	70	55	Upgradation of conductors of these lines to HTLS conductors has been approved in 5th SCM of NER on 08.08.15. It is proposed to increase the CT ratios at both ends of this D/C to 800/1 each. (Total of 12 CTs will need to be replaced by POWERGRID)
132KV D/C RC Nagar-Agartala-II**	132	Double Circuit	8.384	ACSR PANTHER	600/1	400/1	300/1	400/1	70	55	
132KV S/C Badarpur-Kolasib	132	Single Circuit	107.226	AAAC PANTHER	600/1	600/1	600/1	600/1	75	75	No replacement of CTs required
132KV S/C Kolasib-Aizwal	132	Single Circuit	66.098	AAAC PANTHER	600/1	600/1	600/1	600/1	75	75	No replacement of CTs required
132 KV S/C Badarpur - Khliehriat	132	Single Circuit	76.646	AAAC PANTHER	600/1	600/1	600/1	600/1	75	75	No replacement of CTs required
132 KV S/C Jiribam- Aizwal	132	Single Circuit	172.315	ACSR PANTHER	400/1	400/1	400/1	400/1	70	70	CT ratios need upgradation with 600/1 CTs at both ends of the line, in order to confirm to Dynamic Line ratings as per guidelines of NRCE (Total of 6 no. CTs will need to be replaced by POWERGRID)
132 KV S/C Jiribam-Haflong	132	Single Circuit	100.630	ACSR PANTHER	400/1	400/1	400/1	400/1	70	70	CT ratios need upgradation with 600/1 CTs at both ends of the line, in order to confirm to Dynamic Line ratings as per guidelines of NRCE (Total of 6 no. CTs will need to be replaced by POWERGRID)
132KV S/C Khandong -Umrangso-Haflong	132	Single Circuit	63.166	ACSR PANTHER	300/1	400/1	300/1	400/1	55	55	CT ratios need upgradation with 600/1 CTs at Khandong and Umrangshu ends of 132 kV Khandong - Umrangshu lines and Umrangshu & Haflong ends of 132 kV Umrangshu - Haflong lines, in order to confirm to Dynamic Line ratings as per guidelines of NRCE (Total of 12 no. CTs will need to be replaced; 3 CTs at Khandong by NEEPCO; 3 CTs at Umrangshu end of 132 kV Umrangshu - Khandong by AEGCL; 3 CTs at Umrangshu end of 132 kV Umrangshu - Haflong line by AEGCL; 3 CTs a Haflong end of 132 kV Umrangshu - Haflong line by POWERGRID)
132kv S/C Kumarghat-R.C.Nagar	132	Single Circuit	104.020	ACSR PANTHER	600/1	600/1	600/1	600/1	75	75	No replacement of CTs required
132 KV S/C Loktak - Imphal-II	132	Single Circuit	35.040	ACSR PANTHER	400/1	600/1	400/1	600/1	75	75	CT ratios need upgradation with 600/1 CTs at Loktak end of the line, in order to confirm to Dynamic Line ratings as per guidelines of NRCE (Total of 3 no. CTs will need to be replaced by NHPC)
132KV S/C Nirjuli-Ranganadi	132	Single Circuit	22.29	ACSR PANTHER	600/1	500/1	600/1	500/1	75	75	No replacement of CTs required
132kv Palatana-Surajmani Nagar	132	Double Circuit	35.00	Twin ACSR Moose	600/1	600/1	600/1	600/1	120	120	No replacement of CTs required

Reactive Power Absorption of Generators

(As per Recommendations of CEA's Enquiry Committee on Grid Disturbance, and Protection Audit by M/S Tractebel)

Plant			
Unit No.			
Date :			
Time-Block	Active Power in MW (+/- =	Active Power in MVAR (+/- = Injection/Withdrawal)	Terminal Voltage of Generator in kV

Remarks: Minimum resolution for furnishing the data should be Hourly Time Blocks

Reactive Power Absorption of Generators

(As per Recommendations of CEA's Enquiry Committee on Grid Disturbance, and Protection Audit by M/S Tractebel)

Plant			
Unit No.			
Date :			
Time-Block	Active Power in MW (+/- =	Active Power in MVAR (+/- = Injection/Withdrawal)	Terminal Voltage of Generator in kV

Remarks: *Minimum resolution for furnishing the data should be Hourly Time Blocks*

Reactive Power Absorption of Generators

(As per Recommendations of CEA's Enquiry Committee on Grid Disturbance, and Protection Audit by M/S Tractebel)

Plant			
Unit No.			
Date :			
Time-Block	Active Power in MW (+/- =	Active Power in MVAR (+/- = Injection/Withdrawal)	Terminal Voltage of Generator in kV

Remarks: Minimum resolution for furnishing the data should be Hourly Time Blocks

Reactive Power Absorption of Generators

(As per Recommendations of CEA's Enquiry Committee on Grid Disturbance, and Protection Audit by M/S Tractebel)

Plant			
Unit No.			
Date :			
Time-Block	Active Power in MW (+/- =	Active Power in MVAR (+/- = Injection/Withdrawal)	Terminal Voltage of Generator in kV

Remarks: Minimum resolution for furnishing the data should be Hourly Time Blocks

Summary – Study for Bangladesh Interconnection through Tripura

From SEM & State Generation data:

Peak Demand Met of Tripura was around 265 MW

Minimum Demand Met was around 5 MW (Load Crash Scenario).

1) Peak Load Case (Tripura Demand = 265 MW, Generation = 90 MW):

- a) Palatana = 550 MW, AGTPP = 134 M, Monarchak = 60 MW, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (from HV to LV) = **91 MW**

- b) Palatana = 550 MW, AGTPP = 134 MW, Monarchak = **NIL**, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (from HV to LV) = **125 MW**

Load Reduction of 20 MW from Tripura is required to control Palatana ICT loading.

400/132 kV Palatana ICT Loading (from HV to LV) = **134 MW** (Without 132 kV Silchar – PKBari D/C)

Load Reduction of 35 MW from Tripura is required to control Palatana ICT loading.

- c) Palatana = **700 MW**, AGTPP = 134 M, Monarchak = **NIL**, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (from HV to LV) = **144 MW** (Without 132 kV Silchar – PKBari D/C)

- d) Palatana = 550 MW, AGTPP = **NIL**, Monarchak = **NIL**, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (from HV to LV) = **212 MW** (Without 132 kV Silchar – PKBari D/C)

132 kV Palatana – Surjamaninagar loading = **142 MW**

With Additional ICT=>

Palatana = 700 MW, AGTPP = **NIL**, Monarchak = **NIL**, Tripura Generation = 90 MW

2 x 125 MVA, 400/132 kV Palatana ICT Loading (from HV to LV) = **128 MW / ICT** (Without 132 kV Silchar – PKBari D/C)

2) Minimum Load Case (Tripura Demand = 5 MW, Generation = 90 MW)

- a) Palatana = 550 MW, AGTPP = 134 M, Monarchak = 100 MW, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (*from LV to HV*) = **126 MW** (132 kV Silchar – PKBari D/C out of service)

- b) Palatana = *NIL*, AGTPP = 134 M, Monarchak = 100 MW, Tripura Generation = 90 MW

400/132 kV Palatana ICT Loading (*from LV to HV*) = **165 MW** (132 kV Silchar – PKBari D/C out of service)

132 kV Palatana –Surjamaninagar loading = **103 MW**

With 132 kV Silchar – PKBari D/C in service=>

400/132 kV Palatana ICT Loading (*from LV to HV*) = **147 MW** (132 kV Silchar – PKBari D/C out of service)

132 kV Palatana –Surjamaninagar loading = **91 MW**