



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

Ph. No: 0364 - 2534039

Fax No: 0364 - 2534040

Website: www.nerpc.nic.in

No. NERPC/SE (O)/OCC/2018/5475-5512

Dated: February 02, 2018

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (EE Zone), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
15. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad, Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. GM, NERLDC, Dongtiah, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 140th OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 140th OCC Meeting held at Guwahati on the **19th January, 2018** for your kind information and necessary action. The minute is also available on the website of NERPC, www.nerpc.nic.in.

Any comments/observations may kindly be communicated to NERPC Secretariat at the earliest.

Encl: As above

भवदीय / Yours faithfully,

बि. लिंगखोइ / B. Lyngkhoi
निदेशक / Director/ SE

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.



निदेशक / Director/ SE

North Eastern Regional Power Committee

MINUTES OF THE 140th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 19/01/2018 (Friday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 140th OCC Meeting is attached at **Annexure – I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 140th OCC meeting. He noted the presence of participants from all the utilities except Mizoram and Nagaland. He expressed satisfaction about the maximum participants from all the utilities and requested to continue the same in future so that matters can be resolved during the meeting. He stated that NERPC has been doing its best to serve the interest of the N.E. Region but unless the support is reciprocated from the constituents it would be very difficult to achieve the goals. He further informed that representation by state utilities in various meetings at Delhi has been very poor of late, for example in GNA meeting there was no representation by states of NER and such important issues should not be neglected. He suggested that a small group of members from NER Constituents to be formed to discuss and deliberate the issue of GNA in detail so that the views/comments of NER can be furnished to CERC. The forum appreciated the proposal and it was decided that Director/SE(O), NERPC would be the Convener and he can co-opt suitable members to this sub-group.

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

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 139th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 139th meeting of Operation Sub-committee held on 19th December, 2017 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 28th December, 2017.

NERLDC vide mail dtd. 01.01.2018 sought the following modifications to item D.10:-

The following may please be added at the end of the item no. D.10.

Station wise daily declared MU for hydro ISGS would be as below.

1. KHANDONG: (2X25) and KOPILI —II (1X25)

- Energy content: 25 MU (Current 15 MU and 10 MU expected from inflow)
- To run for 150 days till next monsoon.
- Daily energy = $25/150 = 0.167$ MU
- 40 MW for 4 hours daily evening peak.

2. KOPILI: (4X50=200 MW)

- Energy content: $78.5 \text{ MU} + (15 \times 4 = 60 \text{ MU}) = 138 \text{ MU}$.
- To run for 150 days till next monsoon.
- Daily energy = $138/150 = 0.92$ MU
- NERLDC to schedule 0.92 MU, approx. 1000 MWH/day mainly during peak hours.

3. LOKTAK: (3X35=105 MW)

- Energy content: 250 MU.
- 2.5 MU per day till 15.01.18 i.e. $2.5 \times 15 \text{ days} = 37.5$ MU.
- Then 1 MU/day till May'18 i.e. $(1 \times 135 = 135)$ MU.

4. DOYANG: (3X25=75 MW)

- Energy content: 21.5 MU.
- Can be scheduled as per present trend. (0.18 MU).

The Sub-committee confirmed the minutes of 139th OCCM of NERPC with above modifications as no other comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 140th OCC:

State	Protection System	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	Requisition of funds by May-June 2018.	Clarification submitted to Techno-Economic Sub-group.	-	SLDC to apprise SERC of the project.
Nagaland	SE(C&O) informed that	Clarification submitted	To re-submit proposal to	Documents and relevant papers have

	work is in progress.	to Techno-Economic Sub-group.	NERPC for Study.	been furnished to Nagaland SERC as desired by Chairperson, SERC. SERC has requested for a presentation at Kohima/Nagaland by the SAMAST group
Mizoram	-	Clarification submitted to Techno-Economic Sub-group.	Appraisal Committee is yet to approve	To furnish action plan.
Manipur	Remaining tenders referred to Higher Tendering Committee. All LOAs by Feb'18.	Clarification submitted to Techno-Economic Sub-group.	Submitted to NERPC for Study before sending to NPC/NLDC.	NERPC/NERLDC members to meet SERC /MSPCL higher officials in 2 nd week of Feb'18.
Tripura	To submit UC by 04.02.18. Material 90% received at site.	Clarification submitted to Techno-Economic Sub-group.	To submit proposal to NERPC for Study.	NERPC/NERLDC members to meet TSERC /TSECL higher officials in 1 st week of Feb'18.
Assam	Remaining tenders' bidding document under scrutiny. All LOAs' by Aug'18.	Clarification submitted to Techno-Economic Sub-group.	-	DPR finalized.
Meghalaya	MePTCL-PLCC LoA by Feb'18 MePGCL -LOA completed.	Clarification submitted to Techno-Economic Sub-group.	-	DPR finalized.

The Sub-Committee noted as above.

Action: All state utilities/NERPC.

2. Outage of Important Grid Elements:

Name of the Element	Name of Utility	Status as informed in 140th OCC
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	NERPC to pursue with NPC regarding exact status.

400KV 80MVAR Bus Reactor at Palatana	OTPC	Unavailability of critical spare. By 15.03.2018 - CoD.
132 kV Mariani (AEGCL) - Mokochung (DoP, Nagaland) S/C	AEGCL	Line cannot be charged due to low insulation. RCE of ₹ 43 lakhs to be sanctioned by Jan'18.
132 kV P K Bari - Silchar I & II	NERTS	Persistent RoW issues. By 15.02.2018 both circuit to be restored.
132 kV Dimapur - Dimapur I	DoP Nagaland	By Jan'18 Bus up-gradation at Dimapur by DoP, Nagaland
132 kV Hailakandi - Dullavcherra	AEGCL	By 15.02.2018.
132 kV RHEP Bus B	NEEPCO	By Jan'18
DHEP Unit 2	NEEPCO	GT failure. By Feb'18
400/220 kV, 315 MVA ICT-II at BgTPP	NTPC	By 23.02.2018
AGTCCPP Unit 4	NEEPCO	By 20.01.2018

AEE (C&O), NERPC gave a presentation on the reactor at RHEP and according to his study he suggested that Case-V be opted for with additional procurement of 2x63MVAR at BNC to be used as L/R for 400kV RHEP-BNC. This will provide relief at both nodes of RHEP & BNC. His presentation is at **Annexure - 2**.

GM, NERLDC stated that reactor at RHEP was discussed in SCM and the same has been approved by NERPC Board meeting and felt that NEEPCO should go ahead as plan.

The Sub-committee requested that NERPC will jointly carry out the study with NERLDC in this regard and intimate to the next OCC Meeting and if require the issue will be taken up again in the next SCM.

The Sub-Committee noted as above.

Action: NERPC, NERLDC.

3. Furnishing of various data for reliable grid operation:

Data regarding	Status as of 140 th OCC
DAS output for FRC calculation	Event date: 09.12.17- BgTPP, OTPC, Khandong, Kopili Stg II data provided Event date: 10.01.18- Ranganadi

Report on VDI	Submitted by SLDC of Assam (Daily and Monthly Basis), Meghalaya (Monthly Basis) and DoP, Nagaland	
DG healthiness report	OTPC, NTPC, Kopili, Khandong, Kopili Stg II, Nagaland, Mizoram submitted the data	
Auxiliary Supply details	To be reviewed after Third Party Protection Audit – Item to be dropped	
Technical & Commercial data for PoC (Q1 2018-19)	NEEPCO, OTPC, NHPC, DoP Arunachal Pradesh, MSPCL, AEGCL, MePTCL, P & ED Mizoram, DoP, Nagaland, TSECL submitted the data. MePTCL and TSECL to submit YTC data	
Operating Procedures.	Items	Data submitted by
	OP of States	Submitted only by AEGCL and MePTCL
	OP of HVDC	Not Submitted
	OP of Transmission System	Not submitted by any constituents
	OP of Generating Stations	Not submitted by any generators
	OP of GIS	Not submitted by any constituents
Data related to Power Map.	Items	Data submitted by
	Communication (PLCC/OPGW/GPRSVSAT/Satellite)	List of lines mailed by NERLDC on 9 th January'18
Data related to Single Line Diagram.	State SEM Location	Only Meghalaya submitted

The Sub-committee noted as above.

Action: All utilities as above.

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING DECEMBER, 2017

As per the data made available by NERLDC, the grid performance parameters for December, 2017 are given below:

NER PERFORMANCE DURING DECEMBER, 2017

States	Energy Met (MU)		w.r.t. Nov,17 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Nov,17 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Dec,17
	December-17	November-17		December-17	November-17		
Ar. Pradesh	66.94	69.09	-3.11	67.97	70.14	-3.09	-1.52
Assam	702.79	696.69	0.88	716.42	712.58	0.54	-1.90
Manipur	79.23	68.84	15.09	80.44	69.89	15.10	-1.50
Meghalaya	149.54	135.42	10.43	149.54	135.42	10.43	0.00
Mizoram	55.56	39.53	40.55	56.61	40.43	40.02	-1.85
Nagaland	64.75	58.70	10.31	73.09	59.73	22.37	-11.41
Tripura	107.32	104.60	2.60	108.21	105.56	2.51	-0.82
Region	1226.13	1172.86	4.54	1252.28	1193.75	4.90	-2.09

States	Demand Met (MW)		w.r.t. Nov,17 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Nov,17 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Dec,17
	Dec-17	Nov-17		Dec-17	Nov-17		
Ar. Pradesh	136	136	0.00	138	144	-4.17	-1.45
Assam	1453	1478	-1.69	1479	1515	-2.38	-1.76
Manipur	187	178	5.06	194	180	7.78	-3.61
Meghalaya	368	339	8.55	369	339	8.85	-0.27
Mizoram	95	90	5.56	104	95	9.47	-8.65
Nagaland	127	132	-3.79	155	132	17.42	-18.06
Tripura	223	240	-7.08	223	240	-7.08	0.00
Region	2314	2380	-2.77	2333	2443	-4.50	-0.81

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU**AVERAGE FREQUENCY (Hz)**

Month---->	Dec-17	Nov-17	Month---->	Dec-17	Nov-17
Total Generation in NER (Gross)	1365.874	1362.689		% of Time	% of Time
Total Central Sector Generation (Gross)	1063.102	1043.830	Below 49.9 Hz	12.86	16.91
Total State Sector Generation (Gross)	302.771	318.859	Between 49.9 to 50.05 Hz	73.86	73.53
Inter-Regional Energy Exchange			Above 50.05 Hz	13.93	9.56
(a) NER-ER	4.54	0.00	Average	49.98	49.97
(b) ER-NER	483.02	335.56	Maximum	50.25	50.27
(c) NER-NR	441.40	441.40	Minimum	49.70	49.62
(d) NR-NER	0.00	0.00			
© Net Import	37.08	-105.84			

Deliberation of the sub-Committee:

NERLDC gave a presentation on the grid performance for the month of December 2017. NERLDC also highlighted that Daily, Weekly and Monthly Voltage Deviation Report, Frequency Deviation Report and System Reliability Report for December'17 are already mailed to all the constituents for necessary actions. Further it was informed that members may access these reports from NERLDC website under the tab CERC KPI Reports. NERLDC informed the forum about the number of lines kept open on high voltage. Forum express concern about the same and requested the generators to absorb MVAR.

The Sub-Committee noted as above.

ITEMS FOR DISCUSSION

C. OLD ITEMS

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

During 140th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 139 th OCC Meeting	Status as given in 140 th OCC Meeting
a. New Elements			
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	ICT-1 - Mar'18	ICT-1 - Mar'18
2	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Delay in dam construction. First unit by early 2018.	Unit #1 - Mar'18
3	Pare HEP of NEEPCO (2 x 55 MW)	Delay in dam construction. First unit by early 2018.	Unit #1 - Mar'18
4	400 kV D/C Silchar - Melriat line of PGCIL	March, 2018.	March, 2018.
5	220kV Rangia - Salakati of AEGCL	March, 2018.	March, 2018.
6	132kV Monarchak – Surjamaninagar D/C of TSECL	TSECL informed that letter for extension would be sent to NERPC soon.	CEA to revert back.

7	400kV D/C Balipara - Kameng	To be matched with Kameng HEP. To be reviewed in next OCCM	March, 2018.
8	RHEP 80 MVAR Bus Reactor	NERLDC, NERPC to conduct joint study.	NERLDC, NERPC to conduct joint study.
9	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	Ar. Pradesh - Mar'18 Manipur, Mizoram, Nagaland - CoD	Ar. Pradesh - Mar'18 Manipur, Mizoram, Nagaland - CoD
10	400/220 kV 315 MVA ICT-II at Bongaigaon	March, 2018.	March, 2018.
11	220/132 kV, 160MVA ICT-II at Balipara	ICT#II - delayed	ICT#II - delayed
12	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	March, 2018.	March, 2018.
13	400/132 kV, 1x315 MVA ICT-III at Silchar	March, 2018.	March, 2018.
14	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	March, 2018.	March, 2018.
15	400 kV Silchar - Misa D/C	2019	2019
16	1x125 MVAR Bus Reactor at 400 kV at Balipara	March, 2018(LOA date).	March, 2018(LOA date).
17	1x125 MVAR Bus Reactor at 400 kV Bongaigaon	March, 2018(LOA date).	March, 2018(LOA date).
18	Tuirial HEP of NEEPCO	Unit #I -CoD by Dec'17 Unit #II - Jan'18	Unit #I -CoD pending Communication and Connection Agreement. Unit #II - Jan'18
19	33kV bay at 220kV Mariani(AS) S/Sn	Metering issues to be taken up with APDCL by NERTS	Metering issues to be taken up with APDCL by NERTS
20	33kV Tezu-Tezu(AP)	-	-
21	33kV bay for 132kV Badarpur(PG) S/Sn	APDCL to revert back with status.	APDCL to submit estimate to NERTS.
22	Completion of MW vacation OPGW project 1. Srikona - Pailapul - Jiribam	Target completion : Feb 2018	Completed to be dropped.

	2. BTPS – Agia – (Boko – Mirza) – Sarasujai Aizwal – kolasib – badarpur		
23	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	Estimate Requested to Director Distribution, shillong and CEO, Jowai. Request submitted on: 07 th Feb 2017 Reminder Submitted on: 25 th Nov 2017	MeECL to revert back.
24	Dedicated 33kV feeder for Badarpur Substation from Panchgram upper SS	Old copy of estimate handed over to APDCL, Badarpur for submission of revised and corrected GST estimate.	APDCL to submit estimate to NERTS.

b. Elements under breakdown/upgradation

25	Up-gradation of 132 kV Lumshnong- Panchgram line	DPR already submitted to NERPC/NLDC.	Approved by Techno- Economic sub-group for funding from PSDF.
26	Switchable line Reactors at 400kV Balipara & Bongaigoan	Jan'18	Jan'18
27	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	May'2018	May'2018
28	LILO of 132kV Ranganadi – Nirjuli at Pare of NEEPCO by PGCIL	LILO completed. Two towers to be diverted. Complete by Dec'17.	Jan'18
29	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh	Bay 1 at RHEP for Pare: Jan'18 Bay 2 at RHEP for Itanagar: Mar'18	Bay 1 at RHEP for Pare: Jan'18 Bay 2 at RHEP for Itanagar: Mar'18
30	LILO portion of 132kV Ranganadi – Nirjuli(diversion work) at Lekhi by DoP Ar. Pradesh	Dec'17	Jan'18
31	Replacement of Main- I relay for 400kV Silchar-Byrnihat at Byrnihat S/Sn	By 21.12.2017.	Completed on 21.12.2017. To be dropped.

32	Re-conductoring of 132kV Umiam Stg#III - Umtru	DPR prepared. Submitted for approval.	SE, SLDC suspected that nomenclature might be wrong. MeECL to revert back.
33	Upgradation of ULDC FO node	Target completion : June 2018	Target completion : June 2018
34	HTLS reconductoring of 132kV Agartala - RC Nagar - I & II	Ckt - I : Dec' 2017 Ckt - II : Jan ' 2017	Ckt - II : completed on 26.12.2017. Ckt - I : under progress. schedule for completion by Jan'18.

The Sub-Committee noted as above.

Action: All state utilities/central utilities/NERPC.

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	2		14.49	714.2
Kopili-II	1			
Kopili	4		97.86	601.3
Ranganadi	2		Subject to inflow	
Doyang	2		18.9	318.25
Loktak	3		250.00	768.27
AGBPP	-	-	-	-
AGTPP	-	-	-	-

Hydro planning

The outage of other generating stations may be approved considering the present level water level in reservoirs.

Deliberation of the sub-Committee:

The Committee discussed and approved the proposed shutdown by Generating Stations and the same has already been uploaded in the website of NERPC.

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.

In 124th OCCM, SE(C&O) strongly opined that constituents should inform to NERPC/NERLDC in case shutdown is not avail as approved in the OCC meeting and should mention clearly the reason for not availing the shutdown. The full list of shutdown would be placed in the next OCC by NERLDC so that proper record can be made in future for generating units as well as transmission lines. All constituents endorsed the view of SE(C&O).

In 130th OCCM, Member Secretary opined strongly about non commitments of earlier decision by the constituents and stated that all proposed plan shutdowns and agenda for the next OCC meeting should be sent to NERPC Secretariat latest by 5th day of next month. He directed SE(C&O) that the decision should be strictly adhere to and no shutdowns or agenda will be entertained after that stipulated date.

In 134th OCCM, it was decided that all communication related shutdown be approved in OCC forum only.

Deliberation in the Meeting:

SE(C&O), NERPC clarified that all shutdown proposals must be sent at least 6 working days before date of OCC meeting. Any proposal received after D-6 working days would not be entertained. After detailed deliberation, it was decided that in case OCC approved shutdown is not granted by RLDC due to grid constraints NERLDC would reschedule the shutdown on a date mutually agreeable with the utility.

NERLDC also requested all the utilities to confirm all the shutdown on D-3 regarding availing of the shutdowns. Any shutdown not confirmed on D-3 will not be allowed.

The sub-Committee discussed and approved the proposals received from the constituents regarding transmission elements and generating units for January, 2018 - February, 2018 and the same has already been uploaded in website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of August, 2017 & September, 2017:

NETC and POWERGRID have submitted the outage data for the month of August & September, 2017. So the attributability of outage of the said elements may please be finalized.

Deliberation in the Meeting:

The forum once again advised NETC & POWERGRID to submit data in a time bound manner as decided previously.

The Sub-Committee noted as above.

Action: NERPC

D.4 Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor

Updated PSS/E Base Cases had been mailed to all the SLDCs on 02.11.17. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of Nov'17 using these cases, and submit the study cases and results to NERLDC by 31.10.17.

NERLDC has assessed the state control area wise, state subsystem wise and group of control-area wise TTCs for NER Grid, on behalf of SLDCs of NER. The study results will be presented in the meeting. SLDCs are requested to check the TTC of their control areas as computed by NERLDC and give comments, if any, by 30.11.17.

If no comments received from any SLDCs of NER, TTC, ATC & TRM figures of State control area and group of control areas as assessed by NERLDC will be considered as final and may be uploaded on website.

As per discussions in 122nd OCC meeting of NERPC, all SLDCs of NER may host the assessed TTC / ATC / TRM figures on their website for information dissemination.

Deliberation in the meeting

SLDC Arunachal Pradesh could not give a presentation and stated that the same would be given in the month of March, 2018. EE, SLDC further requested NERLDC to train their officials for calculation of ATC/TTC. NERLDC agreed.

NERLDC has assessed TTC of each state control area of NER, each state subsystem on behalf of SLDCs of NER and group of control-area wise TTCs for NER Grid:

States	Off-peak		Peak	
	N-0	N-1	N-0	N-1
Arunachal	214	184	212	182
Assam	1661	1531	1706	1565
Manipur	338	259	338	261
Meghalaya	358	200	278	138
Mizoram	129	118	129	118
Nagaland	175	90	171	74
Tripura (including Bangladesh)	316	112	324	78

The Sub-Committee noted as above.

Action: All SLDCs.

D.5. Implementation of SPS for transfer of 160 MW power to Bangladesh through Tripura-Bangladesh link and modifications suggested for other SPSs in NER:

In Special Meeting on SPS, UFR etc. held on 23.06.17, Chief Manager, NERTS, POWERGRID presented the draft scheme to implement the suggested SPS for transfer of 160 MW power to Bangladesh through Tripura-Bangladesh link. The Sub-Committee discussed the suggested schemes in detail and agreed in principle to implement the schemes.

The forum requested NERPC to take up the matter with CEA/CTU/NLDC for implementation at the earliest after vetting in OCC forum.

In 138th OCCM, S.E. (C&O), NERPC informed that a meeting in Bangladesh would be convened very soon and exact date would be intimated in Dec'17.

Deliberation in the meeting

S.E. (C&O), NERPC informed that due to prior engagements of Member Secretary, NERPC the visit to Bangladesh could not be scheduled. Further, he mentioned that methodology of funding of the above tour has to be concurred by MoP. He mentioned that NERPC will discuss with MoP/CTU/NLDC for above visit and intimate in next OCC meeting.

The Sub-Committee noted as above.

Action: NERPC.

D.6. Modus-Operandi for SPS mock testing:

The 138th OCC forum requested NERTS to prepare a draft sequence of operation for each SPS and present in next OCC for ratification. The date for SPS 2 and SPS 3 mock testing will also be finalized in next OCC Meeting.

Deliberation in the meeting

NERLDC, gave presentation on the Mock Testing of SPS. Presentation attached in **Annexure D.6.**

After detailed deliberation, forum opined that NERPC/NERLDC may find some experts from the region to solve this long pending issue and if not, the same may be called from other region. The forum requested OTPC to intimate the details of their action plan for addressing the issues at their end pertaining to the successful operation of SPS-2 & 3 at the earliest.

The Sub-Committee noted as above.

Action: OTPC//NERPC/NERLDC.

D.7. Submission of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the Annual outage plan for 2018-19 by 31.10.17 as per IEGC

- a) As per IEGC, each SLDC shall submit LGBR for its control area, for peak as well as off-peak scenario, **by 31st October for the next financial year**, to respective RPC Secretariat. The annual plans for managing deficits/surpluses in respective control areas shall clearly be indicated in the LGBR submitted by SLDCs.
- b) As per IEGC, all SEBs/STUs, Transmission Licensees, CTU, ISGS, IPPs, MPPs and other generating stations shall provide to the respective RPC Secretariat their proposed outage plan in writing for **the next financial year by 31st October of each year**. These shall contain identification of each generating

unit/transmission line/ICT etc., the preferred date for each outage and its duration and where there is flexibility, the earliest start date and latest finishing date.

In 138th OCCM, SE(C&O), NERPC requested all the utilities to submit data by 30.11.2017 so that LGBR may be prepared and finalized by Dec'17. The forum requested NERPC to consider only generation capacity that will be able to generate in FY17-18 rather than the entire Installed Capacity for accurate projections.

AEGCL informed the forum that Adamtilla and Baskhandi generating station have been decommissioned. TSECL informed that some units of Rokhia and Baramura have also been decommissioned. SE(C&O), NERPC directed AEGCL and TSECL to write letter to CEA regarding the same.

Deliberation in the meeting

AEE, NERPC gave a presentation on the draft of LGBR for FY 2018-2019 and same was appreciated by the forum. Presentation at **Annexure – D.7**

SE(C&O), NERPC informed that almost all utilities had submitted the relevant data and the final LGBR would be presented in the next OCC meeting. He mentioned that with co-operation from all the utilities the LGBR would be sent to CEA as per scheduled i.e. 31.01.2018.

The Sub-Committee noted as above.

Action: All utilities

D.8. Voltage Deviation Index of PALATANA and BgTPP:

As per VDI reports issued by NERLDC and uploaded in website, the voltage at 400 kV BgTPP and 400 kV Palatana buses are found to be going out of IEGC band (above 420 kV) for considerable time on regular basis as shown below.

Date	Time in Hrs	
	BGTPP	PALATANA
11-11-2017	3.58	3.43
12-11-2017	3.8	4.05
13-11-2017	6.4	5.1
14-11-2017	2.9	1.39
15-11-2017	6.13	5.1

Being generator buses, the voltages are supposed to be controlled by varying the MVAR injection / drawal and maintaining the same inside IEGC band at all times.

The 138th OCC forum requested BgTPP and Palatana GBPP to conduct Internal study and revert back to the forum.

Deliberation in the meeting

OTPC and NTPC representatives made presentations highlighting reactive power generation/absorption by the machines during different conditions.

In case of Palatana units, it was seen that the machines were always operating in lagging power factor thereby generating reactive power even in case of voltage being much higher than 400 KV. OTPC was advised to further look into the matter and ensure absorption of reactive power within the limit of capability curve.

In case of NTPC, it was seen that the units were absorbing reactive power in high voltage condition which was found to be in order. It was agreed that NERLDC would cross check and verify the data given by NTPC.

The Sub-Committee noted as above.

Action: NERLDC.

D.9. Transformer Tap optimization:

System study was conducted by NERLDC considering load, generation and network pattern of November, 2017 during Peak & Off Peak periods. Suggested taps position of important transformers in NER for maintaining bus voltages within permissible limit as well as to minimize system losses.

SE(C&O), NERPC once again re-iterated that NERLDC has to write to Director(Tech.), MePTCL. DGM(MO),NERLDC opined that changing tap position at present based on scenario for February, 2018 would be inappropriate. The forum requested NERLDC to present details of tap-position required for particular periods and also frequency of change.

Deliberation in the meeting

NERLDC informed that letter regarding the same was already written to Director, Transmission, Meghalaya.

It was agreed to drop the item for the time being.

The Sub-Committee noted as above.

D.10. Revision of Restoration Procedures of NER 2017:

System Restoration procedure of NER Grid was last updated in December'2016. Since then changes have been taken place in the NER network and the procedure needs to be revised. As per discussion in the last OCC meeting and feedback received from Meghalaya we have revised the "RESTORATION PROCEDURE OF NER" and sent to all concerned utilities of NER.

Deliberation in the meeting

NERLDC informed that they will finalise the Restoration Procedures and the same will be uploaded in their websites by the end of January,2018.

The Sub-Committee noted as above.

D.11. Update on Real Time Energy Assessment for Effective Grid Management:

In 139th OCCM, CDAC representative stated that they would require the proprietary protocol from the meter manufacturer(s) to proceed further with the Project. DGM(MO), NERLDC explained that as per practice followed in other Regions like NR, ER etc., AMR provider, Meter manufacturer and Powergrid sign a tripartite agreement to enable passing of the protocol to AMR provider. A sample of draft agreement in ER (TCS is AMR provider) was provided to CDAC and it was advised that CDAC should initiate process and circulate a draft agreement for the present case. CDAC agreed to do the needful and stated that they would develop protocol converter accordingly.

CDAC was asked not to delay any further and complete the project in quickest possible time.

CDAC has furnished the draft tripartite agreement which is to be signed between CDAC, POWERGRID-NERTS and meter manufacturer(s).

Deliberation in the meeting

AEE, NERPC intimated that the process of signing tripartite agreement between CDAC, Powergrid and L&T was in progress. He requested NERTS to expedite the matter.

The Sub-Committee noted as above.

Action: NERPC/NERTS.

D.12. Restriction of OTPC Palatana DC:

Restriction of OTPC Palatana DC up to installed capacity as per provision of IEGC (5th Amendment) however OTPC unit is able to generate more than Declare Installed

Capacity in winter session (As per Gas turbine characteristics) on dated 18/12/2017 and other consequent days.

IEGC 5th Amendment regulations Reg. 5.2(h) en proviso allows for modification in IC in case of gas stations based on ambient temperature & pressure: " *In case of gas/liquid fuel based unit s, suitable adjustment in Installed Capacity should be made by RLDCs/SLDCs for scheduling in due consideration of prevailing ambient conditions of temperature and pressure vis-à-vis site ambient conditions on which installed capacity of the generating station or unit (s) thereof have been specified*".

In 139th OCCM, Manager, OTPC gave a presentation on the gas turbine characteristics and generation limits for Palatana machines.

NERLDC submitted the following observations during actual operation till now:

1. Hourly temperature is not available from reliable source such as IMD.
2. Gen. Vs Temp. Curve supplied by OTPC is for Gas Turbine only. For Steam Turbine, proportionate figure is considered which needs discussion.
3. Currently IC and DC are declared on D-1 basis, real time revision based on temperature is not to be entertained.
4. If it is implemented for OTPC, other gas based stations also need to be included in consultations with the stations.
5. During summer, computed installed capacity will be less than name plate rating when temperature is higher.

Deliberation in the meeting

After detailed deliberation the following were agreed upon:

1. OTPC would endeavour to provide temperature data from reliable source such as IMD. Till that time, temperature data as provided by OTPC from other source like Accuweather would be accepted by NERLDC.
2. Computation of installed capacity based on temperature would be done on day ahead basis.
3. During summer, computed installed capacity would be less than name plate rating as per characteristic curve when temperature is higher.

The Sub-Committee noted as above.

Action: NERLDC/OTPC.

D.13. Mis-declaration of DC by AGTCCPP:

It is seen that in absence of 132 kV AGTPP-Agartala-1(under long S/D 26.12.2017) AGTPP declaring DC as 90-100 MW but whenever they are asked to generate as per declared DC, they revise their DC downwards (Please refer NERLDC instruction dated 05.01.18, 10:00 hrs to increase generation as per DC i.e 98 MW but RCN immediately revised their DC to 74 MW). As per IEGC regulation 6.4 mis-declaration of DC by a plant is an offence and they can be asked by RLDC to explain the reason with back up data.

(IEGC Cl 6.4.18: It shall be incumbent upon the ISGS to declare the plant capability faithfully, i.e. according to their best assessment. In case, it is suspected that they have deliberately over/under declare the plant capability contemplating to deviate from the schedules given on the basis of their capability declarations(and thus make money either as undue capacity charge or as the charge for deviations from schedule),the RLDC may ask the ISGS to explain the situation with necessary backup data).

Deliberation in the meeting

NEEPCO regretted for the reported case of mis-declaration and agreed to take due care to ensure non-repetition of the same.

The Sub-Committee noted as above.

D.14. Revision of draft NER REACTIVE POWER MANAGEMENT MANUAL 2017.

NERLDC prepared NER REACTIVE POWER MANAGEMENT MANUAL 2017and uploaded in the NERLDC website on 31st December'17. The manual and its annexure can be obtained from the following links:

<http://www.nerldc.in/Docs/webupload/NER%20REACTIVE%20POWER%20MANAGEMENT%20MANUAL%202017.pdf>

<http://www.nerldc.in/Docs/webupload/ANNEXURE%20OF%20NER%20REACTIVE%20POWER%20MANAGEMENT%20MANUAL%202017.pdf>

Deliberation in the meeting

The forum noted and appreciated the report published by NERLDC.

The Sub-Committee noted as above.

D.15. Recording of operational instructions over VOIP in RLDC:

As per 139th OCC discussion establishment of recording system for all real time instructions and conversations thro' VOIP network was supposed to be established

within Feb'18. It is very important to establish the recording system at the earliest as all verbal communication/ conversations among RLDCs, SLDCs and stations are getting lost. Recording status at SLDC also may be discussed.

Deliberation in the meeting

POWERGRID intimated that due to GST issue the issue was delayed but the same now has been resolved and the award will be completed by January, 2018.

The Sub-Committee noted as above.

Action: NERTS

D.16. Telemetry & Voice Communication Problem:

Telemetry problem:.

Deliberation in the meeting

Voice Communication problem:

Dedicated voice communication links and its availability is one of the key requirements for efficient grid management. But it is observed that non availability of adequate communication links with many stations affecting grid operation seriously.

VOIP system not installed.

1. NTPC, BgTPP (Even no BSNL or Mobile –not reliable) – **by Feb'18**
2. OTPC, PALATANA - **by Nov'18**
3. 400 kV BYRNIHAT/KILLING – **by Mar'18.**
4. 400 kV AZARA – **Completed (NERLDC will confirm).**
5. 400 kV SILCHAR – **by Nov'18.**
6. Zero, Roing, Tezu and Pasighat – **by Nov'18 (PG) & AP (under R&M)**

VOIP phones are not working

1. Mariani(POWERGRID) – **OK (NERLDC will confirm)**
2. Mokokchung - **OK**
3. Kumarghat - **OK**
4. Khandong - **OK**
5. Doyang – **OK (NERLDC said low quality & PGCIL to resolve)**
6. Nirjuli - **OK**
7. Kohima - **OK (NERLDC said not OK & PGCIL to resolve)**
8. Kathalguri – **by Mar'18**
9. Jiribam - **OK**
10. Kolasib – **shifted for Tuirial project.**

Following SLDCs do not have ULDC phones:

1. SLDC Imphal – **already provided and OK**
 2. SLDC Aizawl – **do-**
 3. SLDC Itanagar – **phones provided but link/signal problem local end**
- b. Most of the POWERGRID stations are connected through only one dedicated voice link.

PGCIL informed that 2 nos. of dedicated channel will be made available after Nov'18

The Sub-Committee noted as above.

Action: NERTS

D.17. Ratification of projected demand and generation for Q1 of 2018-19 (Apr'18 to Jun'18):

In the 3rd Validation Committee meeting for PoC application period Oct'15-Dec'15, held on 30th September 2015, at NLDC conference Hall, CERC had proposed a methodology for ratification of projected data at RPC forum.

Projected demand and generation of NER constituents to be considered in the base case for POC transmission charge and loss calculations for Q1 (Apr'18-Jun'18) will be presented in the meeting for **ratification by the constituents**.

All Power Utilities are requested to furnish the **details of newly commissioned elements that are to be considered in the base case for Q1 of 2018-19 by 15th January, 2018**. Also, Power Utilities are requested to validate the .sav case file uploaded in NLDC website by 20th Feb'18.

Comparison of Q3 (October to December, 2017) projection and actual demand of state utilities are as follows:

SI No	State	Projected Demand in MW	Actual Demand (Max. MW as per PSP report)	Percentage Deviation (%)
1	Arunachal Pradesh	135	139	-2.88
2	Assam	1550	1745	-11.17
3	Manipur	168	187	-10.16
4	Meghalaya	290	368	-21.20
5	Mizoram	93	95	-2.11
6	Nagaland	130	135	-3.70
7	Tripura	358	291	23.02

State Utilities are requested to intimate the reason for the deviation from projected demand so that feedback can be given to CERC in the next validation committee meeting.

Deliberation in the meeting

Variation more than 20% was observed in case of Meghalaya and Tripura. In case of Assam and Manipur, variation was more than 10%. OCC observed that there should be some financial implication like penalty to ensure projection close to actuals.

It was agreed that the view of NERPC-OCC would be intimated in next validation committee meeting.

The ratified data is attached in **Annexure D.17**.

The Sub-Committee noted as above.

Action: NERPC/NERLDC

D.18. Finalization of Installed Capacity of NER

In 129th OCCM, after detailed deliberation it was decided that NERLDC & NERPC will circulate final Installed Capacity Figures based on the data received from all constituents before next OCC Meeting and the same shall be finalized and validated in 130th OCC Meeting. Member Secretary, NERPC informed that de-commissioning of generating units will only recorded when communication is received from CEA. **It was requested to utilities to write to concerned division of CEA for de-commissioning of generating units.**

As per NERLDC records (**Annexure-D.18**), current installed capacity of NER is 3707 MW excluding the recently de-commissioned units. Present Installed Capacity of NER is attached as Annexure 3. However, this figure still includes capacity of some of the generating units of state utilities which are under long outage.

It is requested to state utilities to intimate the status of written communication to CEA for de-commissioning of generating units.

It is also observed that some of the units are not capable to generate up to its installed capacity.

Deliberation in the meeting

NERLDC gave a presentation on the IC and the same is attached at **Annexure – D.18**. Further, it was requested to all the constituents to certify on their own about their derating units by intimating to CEA with a copy to NERPC at the earliest.

The Sub-Committee noted as above.

Action: All concerned utilities

D.19. Utilization of Weather Data by State Utilities

Shri Piyush Goyal, then Union Minister of State (IC) for Power, Coal, New & Renewable Energy and Mines launched the Weather Portal for Power Sector in association with POSOCO and IMD at the meeting of the Forum of Regulators held at New Delhi on 23rd June'17. During a meeting held on 1st November, 2017, IMD has requested all the utilities to give their feedback on the usage of the Weather Portal. The matter was also discussed during 138th OCC Meeting.

Feedback from SLDC, Mizoram mentioning usefulness has been received but the areas where these are used are not mentioned. The portal is available at <http://amssdelhi.gov.in/NERLDC/MAIN.html>

It is requested to all power utilities to kindly share your feedback on the usage of the Weather Portal. Feedback shall also include the areas where the data of weather portal is used.

Deliberation in the meeting

NERLDC requested all the utilities to give feedback on the usage of weather portal including requirement of any other further data at the earliest.

The Sub-Committee noted as above.

Action: All utilities

D.20. Connectivity of 132 kV Balipara and 132 kV Sonabil:

As informed by AEGCL earlier, configuration of 132 kV Sonabil Sub-Station was changed due to loading of 220/132 kV, 50 MVA ICT-I at Balipara as 220/132 kV, 50 MVA ICT-II was under outage. Currently, there is no connectivity between 132 kV Balipara and 132 kV Sonabil substations.

Recently, 220/132 kV, 160 MVA ICT-II at Balipara has been commissioned. This newly commissioned 220/132 kV, 160 MVA ICT at Balipara will take care of the over loading of 220/132 kV, 50 MVA ICT at Balipara.

It is requested to AEGCL to restore the earlier configuration of Sonabil and charge 132 kV Balipara – Sonabil line.

Deliberation in the meeting

NERLDC gave presentation regarding connectivity of 132 kV Balipara and 132 kV Sonabil substation. AEGCL agreed to restore the earlier configuration of Sonabil and

charge 132 kV Balipara – Sonabil line. However, they requested NERPC to write to MD, AEGCL so that the work can be expedited at the earliest.

The Sub-Committee noted as above.

Action: NERPC/AEGCL

D.21. Procurement of additional 70 Laptops:

Target as intimated by NERTS in 139th. OCC:

- i. e-RA : 26.12.2017
- ii. LOA : 29.01.2018
- iii. Material Dispatch : 15.03.2018

SE(C&O), NERPC expressed concern regarding the delay and stated that there should not be any further delay and the Laptops should be made available as per target date.

Deliberation in the meeting

Revised Target as intimated by NERTS:

- i. e-RA : Feb'18
- ii. LOA: March'18
- iii. Material Dispatch: April'18

OCC expressed serious concern over the delay and stated that there should not be any further delay.

The Sub-Committee noted as above.

Action: NERTS

D.22. Installation of new L&T SEMs in NER:

In 139th OCC, NERTS stated the following:

1. Replacement of Elster Meters at Azara and Agia : Being done on 19.12,2017
2. Installation of two SEMs at 400/220 KV ICT at Bongaigaon : Completed
3. Installation of SEMs at Pare HEP: NERLDC should issue a letter addressed to NERTS advising the installation.
4. Installation of check meters at Loktak and Ranganadi HEP: NERLDC should issue a letter addressed to NERTS advising the installation. Kopili-2 check meter installation would also be included in the advice.

DGM(MO), NERLDC stated that letters against sl nos 3 and 4 would be issued by 20.12.2017.

NERLDC issued letters on 20.12.2017 for sl. No. 3 and 4 above.

Deliberation in the meeting

Regarding installation of SEMs at Pare and Kameng HEP, NERTS agreed to take necessary action at the earliest.

NERTS also agreed to expedite installation of check meters in ISGS and report the status.

The Sub-Committee noted as above.

Action: NERTS

D.23. AMR in NER:

The tender for AMR scheme could not be published as the cost estimate approved was of pre-GST regime. Finance Deptt recommended to frame fresh estimate with GST before tendering process. Accordingly for framing cost estimate offer from parties viz. Valiant Communications, AMI Tech, TCS were fetched. Out of these parties, received offer only from M/s Valiant communications amounting to Rs. 4.95 Crore. POWERGRID proposed to wait for 1 / 2 weeks time for receiving offer from other parties for finalization of cost estimate based on minimum offer of at least three different vendors (subject to availability).

In 138th OCC, NERTS intimated that no further offer has been received. OCC advised NERTS to proceed based on the single offer from M/s Valiant communications.

In the 139th OCC, NERTS stated the target as below:

- i. Tendering : Jan'18
- ii. Bid opening : Feb'18
- iii. LOA : Mar'18

Deliberation in the meeting

NERTS stated the target as below:

- i. Tendering : Jan'18
- ii. Bid opening : Feb'18
- iii. LOA : Mar'18

As the project has already been delayed substantially, NERTS was advised to ensure that there is no further delay.

The Sub-Committee noted as above.

Action: NERTS

D.24. Testing of SEMs at accredited laboratory:

NERTS stated that as per policy they do not proceed with cost estimate based on single offer. OCC discussed the matter and considering the fact that Testing has to be done as per CEA Metering Regulations, advised NERTS to proceed with single offer.

Deliberation in the meeting

NERTS informed that Tendering would be done in Jan'18.

The Sub-Committee noted as above.

Action: NERTS

D.25. Procurement of DCD:

In 139th OCC, DGM(MO), NERLDC explained that as there are only 6 DCDs in stock and new installations are in progress, additional DCDs would be required urgently.

Even after procurement of Laptops, DCDs would be needed for providing time correction command. OCC agreed to the suggestion and advised NERTS to initiate action for procurement of 25 DCDs on repeat order.

Regarding compatibility of new DCDs with old L&T SEMs, NERTS was advised to take-up the matter with L&T and resolve the issue at the earliest. L&T being the sole supplier, they must ensure compatibility of their newly supplied DCD with all their meters.

Deliberation in the meeting

As agreed in 139th OCC, NERTS was once again advised to initiate necessary action for procurement of DCD.

NERTS agreed to do the needful.

The Sub-Committee noted as above.

Action: NERTS

D.26. Erratic reading of SEM:

SL.NO	LOCATION	METER NO	FEEDER NAME	REMARKS
1	Dullavcherra	NP-6946-A	132 KV Dullav-D'Nagar	Reading 10% Of other end

Deliberation in the meeting

NERTS representative intimated that rectification would be done at the earliest.

The Sub-Committee noted as above.

Action: NERTS

D.27. Issues with newly supplied L&T meters at KHEP:

Following were intimated by NEEPCO in 139th OCC meeting:

The installation of new L&T make special energy meter started at KHEP by PGCIL. The following issues are required to resolve before dis-connection of old L&T energy meters.

1. The old L&T meters data are collected through **Vincom** software but for new L&T meters Vincom plus software is required. The Software is not working properly in Windows 10 – 64 bit OS. Matter already communicated in NER Metering Group in WhatsApp.
2. The existing L&T meters data are directly collected through a central PC and thus requested to configure the new meters also so that shift engineers can directly collect the data in the same PC.
3. The Analogics DCD meter may be kept as standby in case of failure of direct connectivity from central PC.
4. We are calculating station Ex-bus through our SEMDBASE software. So, SEMDBASE software modification is required to facilitate the energy calculation for commercial purpose.

DGM(MO),NERLDC informed that current week data has not been received because 2 DCDs at Khandong are not working. He requested NERTS that official from Khliehriat (PG) may please be deputed to visit Khandong and collect the data. NERTS concurred and affirmed that the work would be completed by 20.12.2017.

Deliberation in the meeting

NERTS was advised to initiate action regarding implementation of RS-485 scheme in all ISGS at the earliest in line with point 4 of MOM of SEM meeting. It was agreed that if necessary, L&T personnel should be called for this.

Regarding detailed extensive training by L&T, it was decided that same would be carried out after implementation experience of RS-485 in some Stations and training may also be in one such Stations.

The Sub-Committee noted as above.

Action: NERTS

ADDITIONAL AGENDA ITEM:

D.28. Updated Power Map of NER & States of NER:

NERLDC informed that Updated Power Maps of NER and States of NER has been updated and published in the website of NERLDC. The Password was intimated during the meeting.

Deliberation in the meeting

All the utilities were requested to validate and give feedback if any to NERLDC by 15.02.18.

For kind information

The Sub-Committee noted as above.

D.29. General Network Access:

NERPC highlighted the concept of GNA as presented by Hon'ble CERC presented during the workshop on 12.01.2018 and the same is enclosed at **Annexure - D.29**.

As directed by the Chair, NERPC will call the sub-group meeting comprising of NER utilities soon so that constituents can give their comments for forwarding the views to CERC. Formation of the sub-group would be decided by NERPC Secretariat.

The Sub-Committee noted as above.

Action: NERPC

D.30. Overloading of ICT at Palatana:

OTPC raised concern about the over loading of ICT at Palatana due to overdrawal by Tripura in case of tripping of Monarchak and stated that it was compromising grid security.

After discussion it emerged that the incident was for a very short duration. However, the point was noted for taking care in future.

The Sub-Committee noted as above.

D.31. FOLD Meeting:

NERLDC informed that the next Forum Of Load Despatcher (FOLD) meeting will be held on 25.01.2018 and requested constituents to attend the same.

For kind information

The Sub-Committee noted as above.

D.32. Low Voltage in Mizoram:

NERLDC informed that the low voltage problem in Mizoram has cropped in again and suggested that capacitor bank installation is a must.

SE (C&O), informed that the DPR of capacitor bank installation has already been approved by the PSDF sub-group and hopefully the same will be sanctioned soon.

For kind information

The Sub-Committee noted as above.

D.33. SAMAST implementation:

DGM(MO), NERLDC stated that detailed discussion and presentation on SAMAST was organized as per details below:

1. At Aizawl on 04.01.2018 involving Mizoram
2. At Shillong on 11.01.2018 involving Meghalaya and M/S Kalkitech
3. At Guwahati on 12.01.2018 involving Assam and M/S Kalkitech

He stated that DPR for Assam and Meghalaya would be ready by 1st. week of Feb'18. Mizoram has also initiated action on DPR preparation.

The following was proposed as next activity:

1. Preparation of common technical specs for AMR and utility softwares like scheduling software, meter data processing software, accounting software, open access software etc. for all NER States.
2. The common technical specs can be drafted by a working committee.
3. This would enable implementation of a common system in all SLDCs.
4. NERPC secretariat can be authorized to call common tender for all NER States which would help in cost optimization and also effective implementation in all States.
5. Otherwise it would be difficult to get SAMAST implemented in small States due to non-availability of good vendors.

OCC agreed to the above and it was decided to put up the matter to CCM, TCC/NERPC for approval.

It was agreed that SAMAST group would visit Tripura and Manipur in last week of Jan'18 or first week of Feb'18.

The Sub-Committee noted as above.

Action: NERPC/NERLDC & NER States.

Date & Venue of next OCC meeting

It is proposed to hold the 141st OCC meeting of NERPC on second week of February, 2018. 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 140th OCC Meetings held on 19.01.2018**

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, EE(E), SLDC	Ar. Pradesh	09436288643
2.	Sh. R. Choudhury, DGM, APDCL	Assam	09435143426
3.	Sh. Dipesh Ch. Das, AGM (LDC)	Assam	09954110254
4.	Sh. Indrajit Tahbildar, DM, APDCL	Assam	09864799857
5.	Sh. Pranab Saha, DM, SLDC	Assam	09435561717
6.	Sh. K.Goswami, Consultant, APDCL	Assam	08638487200
7.	Sh. Sujata Athokpam, AM, SLDC, MSPCL	Manipur	09615028232
8.	Sh. Jayela Wahengbam, AM, SLDC, MSPCL	Manipur	09856875084
9.	Sh. F.E. Kharshiing, SE, SLDC	Meghalaya	09863066960
10.	Sh. B.Wankhar, EE (MO)	Meghalaya	09436105914
11.	Sh. A.G.Tham, AEE, MePTCL	Meghalaya	09774664034
	No Representatives	Mizoram	-
	No Representatives	Nagaland	-
12.	Sh. Debabrata Pal, Sr. Manager (Comml.)	Tripura	09436500244
13.	Sh. Mrinal Paul, Manager, SLDC	Tripura	09436137022
14.	Sh. Joypal Roy, Sr. Manager (E/M)	NEEPCO	09435577726
15.	Sh.N.R.Paul, GM	NERLDC	09436302723
16.	Sh. R. Sutradhar, DGM (MO)	NERLDC	09436302714
17.	Sh. S.C.De, AGM	NERLDC	09436335369
18.	Smt. Momai Dey, Sr. Engineer	NERLDC	09436302716
19.	Sh. Subhash Kumar, Engineer	NERLDC	09485185844
20.	Sh. Keshab Borah, AE	NERLDC	07399276312
21.	Sh. M.K.Baruah, DGM	PGCIL	09401454030
22.	Sh. Sanjeeb Ku. Sahoo, Engineer (E)	NHPC	09485211808
23.	Sh. Narendra Kr Gupta, Sr. Manager (O&M)	OTPC	09774253426
24.	Sh. E.Ngullie, DGM (O)	NTPC	09435139531
25.	Sh. P.K.Mishra, Member secretary	NERPC	09968380242
26.	Sh. B. Lyngkhai, Director/S.E (C&O)	NERPC	09436163419
27.	Sh. S. Mukherjee, AEE	NERPC	08794277306
28.	Sh.A. Agrawal, AEE	NERPC	07424064484

RHEP Reactor Study Summary

With the relevant base case provided by NERLDC the study results are tabulated:-

Case-I(present case)	2x80MVAR & 2x63MVAR Bus Reactor at BiswanathChariali 2x50MVAR Line Reactor at RHEP for 400kV RHEP-BNC	<u>Bus Voltages</u> At 400kV RHEP: 1.0827p.u./ 433.08kV At 400kV BNC: 1.0848p.u./ 433.92kV
Case-II	2x80MVAR Bus Reactor at BiswanathChariali 2x63MVAR L/R at BNC for 400kV RHEP-BNC 2x50MVAR Line Reactor at RHEP for 400kV RHEP-BNC	<u>Bus Voltages</u> At 400kV RHEP: 1.0721p.u./ 428.84kV At 400kV BNC: 1.0701p.u./ 428.04kV
Case-III	2x80MVAR&2x63MVAR Bus Reactor at BiswanathChariali 2x50MVAR Line Reactor at RHEP for 400kV RHEP-BNC 2x50MVAR Line Reactor at BNC for 400kV RHEP-BNC	<u>Bus Voltages</u> At 400kV RHEP: 1.0616p.u./ 424.64kV At 400kV BNC: 1.0636p.u./ 425.44kV
Case-IV	2x80MVAR & 2x63MVAR Bus Reactor at BiswanathChariali 2x50MVAR Line Reactor at RHEP for 400kV RHEP-BNC 80MVAR B/R at 400kV RHEP	<u>Bus Voltages</u> At 400kV RHEP: 1.0578p.u./ 422.96kV At 400kV BNC: 1.0694p.u./ 427.76kV
Case-V	2x80MVAR & 2x63MVAR Bus Reactor at BiswanathChariali 2x63MVAR Line Reactor at RHEP for 400kV RHEP-BNC 2x50MVAR Line Reactor at BNC for 400kV RHEP-BNC	<u>Bus Voltages</u> At 400kV RHEP: 1.0571p.u./ 422.84kV At 400kV BNC: 1.0591p.u./ 423.64kV

Synopsis: It is seen from above that the Installation of 80MVAR B/R at RHEP though gives voltage relief at 400kV RHEP, the bus voltage at 400kV BNC remains high.

So it is suggested that Case-V be opted for with additional procurement of 2x63MVAR at BNC to be used as L/R for 400kV RHEP-BNC. This will provide relief at both nodes of RHEP & BNC.

SPS 2 & 3 Mock Test on 13th Jan'18

Presented by
Momai Dey
NERLDC

SPS-2

Condition for Operation:

- a. Tripping of 400 kV Silchar – Palatana D/C
- b. Tripping of one circuit of 400 kV Silchar – Palatana D/C when other circuit under outage

Final Output

Tripping of HVCBs of ICT-I & ICT-II at Palatana

Maximum Allowable Operation Time:

100 msec

Signals involved:

1. SPS-2 Signal from Silchar when both lines trips at Silchar
2. DT signal from Silchar for tripping of 400 kV Silchar – Palatana 1 line (due to operation of 86 A/AR Lockout*/ Breaker Opening at Silchar)
3. DT signal from Silchar for tripping of 400 kV Silchar – Palatana 2 line (due to operation of 86 A/AR Lockout*/Breaker Opening at Silchar)
4. SPS Signal generated at Palatana to trip HVCBs of ICT-I & ICT-II at Palatana

SPS-3

Condition for Operation:

- Tripping of 400 kV Silchar – Byrnihat S/C & 400 kV Silchar – Azara S/C
- Tripping of 400 kV Silchar – Byrnihat S/C when 400 kV Silchar – Azara S/C under outage
- Tripping of 400 kV Silchar – Azara S/C when 400 kV Silchar – Byrnihat S/C under outage

Final Output

Tripping of HVCBs of GTG-I & GTG-II at Palatana

Maximum Allowable Operation Time:

100 msec

Signals involved:

- DT signal from Byrnihat for tripping of 400 kV Silchar – Byrnihat S/C (due to operation of 86 A/ **AR Lockout** /Breaker Opening at Byrnihat)
- DT signal from Azara for tripping of 400 kV Silchar – Azara S/C (due to operation of 86 A/ **AR Lockout**/ Breaker Opening)
- SPS-3 Signal generated at Silchar to Palatana

Observations – Silchar/Azara/Byrnihat

Sl No	Observations	Recommendations
1	Issue of Auxiliary Contacts of breaker configured for SPS-2 & SPS-3 at Silchar	Auxiliary Contact of Tie CB of Palatana-1 line (SPS-2) and Main CB & Tie CB of Byrnihat line (SPS-3) are to be replaced with properly working spare contacts
2	Unwanted tripping of 400 kV Silchar – Azara line during testing	DT sent from Azara to Silchar during BCU restart at Azara is to be rectified by AEGCL at the earliest
3	Continuous DT Signal received at Silchar from Azara after breaker opening at Azara end of 400 kV Silchar – Azara. This resulted in continuous pickup of 86 A & B at Silchar.	This issue has been rectified. However, as informed by Azara, some works are still pending at Azara end. These works are to be done by AEGCL at the earliest.
4	*DT signal for AR Lockout relay operation is not configured at Silchar for tripping of individual lines of 400 kV Silchar – Palatana D/C (Delay of 27 msec in AR Lockout relay operation & DT signal other end)	*AR lockout relay operation shall initiate DT send to Palatana for individual lines at Silchar as per approved scheme.

Observations – Palatana

- Very high time delay in SCADA
 - SPS-2 : 1259 msec
 - SPS-3 : 7839 msec
- ICT I & II main breakers at Palatana tripped during SPS-2 mock test (Not as per Scheme). The ICTs were connected to the grid through Tie Breakers.
- Trip command for only GTG-I HVCB was actuated during SPS-3 mock test (Not as per Scheme)

SPS-2 – Operation Time

Sl No	Description	Time in msec
1	DT Travel Time (Silchar to Palatana)	39 - 47
2	Time between DT Receive at Palatana & Line Breaker Opening	49 - 53
3	Time between DT Receive at Palatana and ICT I & II Main Breaker Opening	1259
4	Delay in CMR	Not Tested
5	Delay in opening ICT Breakers at Palatana	Not Tested
Total SPS Operation Time (1+3)		> 1298
Max. Allowable Operation Time		100

SPS-3 – Operation Time

Sl No	Description	Time in msec
1	Time between Breaker Opening & sending DT signal at Byrnihat	11
2	DT Travel Time (Byrnihat to Silchar)	42
3	Time between Breaker Opening & sending DT signal at Azara	12
4	DT Travel Time (Azara to Silchar)	41
5	Time between DT Receive at Silchar & Line Breaker Opening	33
6	Delay in BCU at Silchar for SPS 3	Not Tested
7	DT Travel Time (Silchar to Palatana)	39 - 47
8	Delay in SCADA at Palatana for SPS 3	7839
9	Delay in CMR	Not Tested
10	Delay in opening GTG I & II Breakers at Palatana	Not Tested
Total SPS Operation Time (1+2+5+6+7+8+9+10)		> 7964
Max. Allowable Operation Time		100

Station / System / State	Unit Number	Capacity in MW	Start Date	End Date	No. of Days	Reason/Remarks
NHPC						
Loktak	Unit 1	35	10-01-19	30-01-19	21	ANNUAL PLANNED MAINTENANCE
	Unit 2	35	01-02-19	21-01-19	21	
	Unit 3	35	23-02-19	15-03-19	21	
NTPC						
BgTTP	Unit 2	250	01-09-18	25-09-18	25	ANNUAL PLANNED MAINTENANCE
NEEPCO						
AGBP	GTG # 2	33.5	15-01-19	18-02-19	35	Major Inspection
	GTG # 4	33.5	15-04-18	05-10-18	25	Turbine Inspection
	GTG # 6	33.5	07-11-18	12-12-18	35	Major Inspection
	STG # 1	30	16-05-18	30-05-18	15	Annual Planned Maintenance
	STG # 2	30	01-05-18	15-05-18	15	Annual Planned Maintenance
	STG # 3	30	01-06-18	15-06-18	15	Annual Planned Maintenance
AGTCCPP	GTG # 1	21	15-07-18	10-08-18	25	Major Inspection and AVR Replacement
	GTG # 2	21	15-06-18	10-07-18	25	Major Inspection and AVR Replacement
	GTG # 3	21	01-04-18	10-04-18	10	AVR Replacement
			15-04-18	24-04-18	10	Hot Gas Path Inspection
	GTG # 4	21	01-11-18	10-11-18	10	AVR Replacement
	STG # 1	25.5	01-05-18	06-05-18	6	Hydro test for Boiler (72 Hrs. each HRSG)
	STG # 2	25.5	01-04-18	15-04-18	15	Minor overhauling and Hydro test for Boiler (72 Hrs. each HRSG)
TGBP	GTG	65.42	01-06-18	24-06-18	24	PG and CI BI
	STG	35.58	15-11-18	22-11-18	8	Maintenance
KOPILI I	UNIT 1	50	01-12-18	25-12-18	25	Annual Planned Maintenance
	UNIT 2	50	27-12-18	20-01-19	25	
	UNIT 3	50	22-01-19	15-02-19	25	
	UNIT 4	50	18-02-19	14-03-19	25	
KOPILI II	KOPILI II	25	01-11-18	30-12-18	60	APM & MIV Replacement
KHANDONG	UNIT 1	25	20-01-19	14-02-19	26	Annual Planned Maintenance
	UNIT 2	25	01-03-19	25-03-19	25	
DOYANG	UNIT 1	25	05-12-18	04-01-19	30	ANNUAL PLANNED MAINTENANCE
	UNIT 2	25	08-01-19	07-02-19	30	
	UNIT 3	25	10-02-19	12-03-19	30	
RANGANADI	UNIT 1	135	01-12-19	21-12-19	21	ANNUAL PLANNED MAINTENANCE
	UNIT 2	135	01-01-19	21-01-19	21	
	UNIT 3	135	01-02-19	21-02-19	21	
PARE HEP	UNIT 1	55	20-01-19	04-02-19	15	ANNUAL PLANNED MAINTENANCE
	UNIT 2	55	10-02-19	25-02-19	15	
TURIAL HEP	UNIT 1	30	01-12-18	31-12-18	31	ANNUAL PLANNED MAINTENANCE
	UNIT 2	30	01-01-19	31-01-19	31	
OTPC						
PALATANA	Unit 1	363.3	22-08-18	31-08-18	10	Boiler(HRSG) license renewal
	Unit 2	363.3	02-09-18	11-09-17	10	

Station / System / State	Unit Number	Capacity in MW	Start Date	End Date	No. of Days	Reason/Remarks	
ASSAM							
KLHEP	UNIT 1	50			50	MAJOR OVERHAULING	
	UNIT 2	50			20	ANNUAL PLANNED MAINTENANCE	
LTPS	UNIT 2	15	06-08-18	16-08-18	2	ANNUAL PLANNED MAINTENANCE	
	UNIT 3	15	10-09-18	20-09-18	10		
	UNIT 5	20	04-06-18	14-06-18	2		
	UNIT 7	20	25-06-18	10-07-18	30		
	UNIT 8	37.2	01-02-18	10-02-18	2		
NTPS	UNIT 6	22.5	01-04-18	30-04-18	30	ANNUAL PLANNED MAINTENANCE	
MEGHALAYA							
SONAPANI	UNIT 1	1.5	01-04-18	30-04-18	30	ANNUAL PLANNED MAINTENANCE	
STAGE I POWER SUMER	UNIT 1	9	01-07-18	15-07-18	15	ANNUAL PLANNED MAINTENANCE	
	UNIT 2	9	16-07-18	30-07-18	15		
	UNIT 3	9	01-05-18	15-05-18	15		
	UNIT 4	9	16-05-18	31-05-18	16		
STAGE II POWER UMSUMER	UNIT 1	10	01-05-18	20-05-18	20	ANNUAL PLANNED MAINTENANCE	
	UNIT 2	10	21-05-18	10-07-18	51		
STAGE III POWER KYRDEMKULAI	UNIT 1	30	01-06-18	31-07-18	61	ANNUAL PLANNED MAINTENANCE	
	UNIT 2	30	01-04-18	31-05-18	61		
STAGE IV, NONGKHYLLEM	UNIT 1	30	01-04-18	30-04-18	30	PRE-MONSOON MAINTENANCE	
	UNIT 2	30	01-11-18	31-03-19	150	CAPITAL	
MLHEP	Unit 1	42	05-04-18	05-04-18	1	ANNUAL PLANNED MAINTENANCE	
			10-05-18	10-05-18	1		
			05-07-18	05-07-18	1		
			06-09-18	06-09-18	1		
			01-11-18	30-11-18	30		
			01-02-19	24-02-19	24*		
			01-03-19	10-03-19	10*		
	Unit 2	42	05-04-18	05-04-18	1	ANNUAL PLANNED MAINTENANCE	
			10-05-18	10-05-18	1		
			07-06-18	07-06-18	1		
			06-09-18	06-09-18	1		
			01-12-18	31-12-18	31		
			01-02-19	24-02-19	24*		
			01-03-19	10-03-19	10*		
	Unit 3	42	05-04-18	05-04-18	1	ANNUAL PLANNED MAINTENANCE	
			10-05-18	10-05-18	1		
			02-08-18	02-08-18	1		
			06-09-18	06-09-18	1		
			01-01-19	31-01-19	30		
			01-02-19	24-02-19	24*		
			01-03-19	10-03-19	10*		
	NAGALAND						
	LIKIMRO	UNIT 1	8	01-04-18	10-04-18	10	ANNUAL PLANNED MAINTENANCE
		UNIT 2	8	11-04-18	20-04-18	10	
UNIT 3		8	21-04-18	30-04-18	10		
TRIPURA							
ROKHIA	UNIT 3	21	10-08-18	16-08-18	7		
BARAMURA	UNIT 1	21	01-09-18	07-09-18	7	CI & BI	
	UNIT 2	21	08-09-18	14-09-18	7	MAJOR INSPECTION	
GUMTI	UNIT 1	5	OUT OF BUS throughout the year				
	UNIT 2	5	11-09-18	20-09-18	10	ANNUAL PLANNED MAINTENANCE	
	UNIT 3	5	21-09-18	30-09-18	10		

* @6 hours/day

Arunachal Pradesh	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	Not furnished											
Energy Requirement (as computed by NERPC)	68.35	70.26	65.89	66.28	77.02	71.19	77.25	77.97	72.19	75.08	67.08	71.34
Availability (based on Central and State Generation Targets)	58.89	70.50	83.78	99.88	96.23	82.62	77.45	63.39	57.96	55.22	50.44	55.90

Assam	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	764.55	892.40	980.28	1030.41	1050.93	1030.08	1047.55	937.35	872.12	887.56	854.80	928.08
Energy Requirement (as computed by NERPC)	612.74	778.29	864.22	952.10	970.21	934.64	885.83	707.17	719.43	754.22	656.23	691.35
Availability (based on Central and State Generation Targets)	720.23	810.91	892.17	992.22	967.37	859.96	898.78	795.50	765.58	760.34	683.58	753.16

Manipur	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	87.00	82.93	78.90	82.00	90.06	87.15	91.45	100.80	109.90	116.72	98.28	103.70
Energy Requirement (as computed by NERPC)	64.76	67.46	64.86	65.08	76.98	69.64	75.56	78.59	87.43	81.47	68.00	75.92
Availability (based on Central and State Generation Targets)	76.30	86.53	102.23	129.88	126.69	110.48	117.42	106.01	87.00	77.80	70.54	78.63

Meghalaya	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	149.00	143.00	142.00	155.00	159.00	164.00	166.00	169.00	175.00	181.00	163.00	166.00
Energy Requirement (as computed by NERPC)												
Availability (based on Central and State Generation Targets)	149.76	204.20	254.18	312.29	322.71	308.96	274.43	206.71	194.14	183.68	156.90	157.69

Mizoram	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	44.00	49.00	50.00	49.00	49.00	50.00	50.00	53.00	57.00	58.00	46.00	47.00
Energy Requirement (as computed by NERPC)	44.00	49.00	50.00	49.00	49.00	50.00	50.00	53.00	57.00	58.00	46.00	47.00
Availability (based on Central and State Generation Targets)	48.32	55.23	61.88	70.31	68.72	57.77	62.14	54.57	51.52	49.96	45.33	50.01

Nagaland	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	70.00	70.00	70.00	81.00	81.00	81.00	81.00	72.00	75.00	72.00	70.00	70.00
Energy Requirement (as computed by NERPC)	66.35	74.90	76.55	80.84	79.25	76.88	71.00	67.23	73.27	69.81	60.44	64.55
Availability (based on Central and State Generation Targets)	57.06	66.44	81.20	94.01	98.03	86.81	88.26	74.62	65.99	61.94	55.68	60.50


Tripura	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Energy Requirement (as furnished by the state)	99.18	98.38	123.16	123.51	127.98	125.18	132.09	98.49	96.16	97.14	77.59	81.66
Energy Requirement (as computed by NERPC)												
Availability (based on Central and State Generation Targets)	266.57	281.48	241.98	307.67	293.89	267.67	299.50	272.21	280.31	276.08	254.68	280.03

ANNEXURE-D.17

GENERATION FORECAST			
Sl. No	Generation	As Given by Utilities	To be Ratified in 140th OCC Meeting
1	AGTTP, NEEPCO	132	132
2	Doyang, NEEPCO	52	52
3	Kopili, NEEPCO	184	184
4	Kopili 2, NEEPCO	22	22
5	Khandong, NEEPCO	44	44
6	Ranganadi, NEEPCO	401	401
7	AGBPP_Kathalguri	220	220
8	Loktak, NHPC	105	105
9	Palatana GBPP	547	547
10	Bongaigaon_NTPC	Not received by NERLDC	
11	Arunachal Pradesh	0	0
12	Assam	231	231
13	Manipur	0	0
14	Meghalaya	323	323
15	Nagaland	24	24
16	Tripura	110	110
17	Mizoram	8	8
DEMAND FORECAST			
Sl. No.	States	As Given By Utilities	To be Ratified in 140th OCC Meeting
1	Arunachal Pradesh	115	115
2	Assam	1580	1580
3	Manipur	175	174.5
4	Meghalaya	290	290
5	Mizoram	93	93
6	Nagaland	133	Nagaland to review
7	Tripura	380	380

Installed Capacity in NER (As on 31.12.17)

Isolated Capacity		Grid Capacity									
Utility / Mode	Capacity in MW	Utility / Station	Type	No. of Units	Size (MW)	Total (MW)	Utility / Station	Type	No. of Units	Size (MW)	Total (MW)
State Sector		Central Sector					Tripura				
Arunachal Pradesh		Khandong	H	3	25	75	Baramura	G	2	5	10.00
Micro Hydel	63.00	Kopili	H	4	50	200		G	1	7.0	7.00
Diesel	16.00	Doyang	H	3	25	75		G	2	21	42.00
Total Arunachal Pradesh	79.00	AGBPP	G	6	34	201	Gumti	H	3	5	15.00
Assam			AGTCCPP	S	3	30	90	Rokhia	G	6	8
Micro Hydel	0.00	G		4	21	84	G		3	21	63.00
Diesel	0.00	S	2	26	51	Total Tripura (Including Monarchak)				291	
Total Assam	0.00	Ranganadi	H	3	135	405	Assam				
Manipur		Monarchak	G	1	65	65.42	Champabati	H	2	2	4.00
Micro Hydel	0.60		S	1	36	35.58	Namrup	G	2x21+11+24+22.5		99.50
Diesel/Heavy Fuel	42.27	Monarchak Solar PV	SO	9	5	5	Lakwa	G	2x15+3x20+1x37.2		127.20
Total Manipur	42.87	Total NEEPCO (Excluding Monarchak)				1181	Adamtila (IPP-DLF)	G	3	3	9.00
Mizoram		Loktak	H	3	35	105	Baskandi (IPP-DLF)	G	1x5+3x3.5		15.50
Solar	0.27	Total NHPC				105	Langpi HEP	H	2	50	100.00
Diesel	0.50	Palatana	G	2	232.3	464.6	Myntreng	H	2	1.5	3.00
Total Mizoram	0.77		S	2	131.0	262.0	Suryatap	S	1	5	5.00
Nagaland		Total OTPC				726.6	Total Assam				363
Micro Hydel	1.50	BgTPP	C	2	250	500	Mizoram				
Diesel	0.00	Total NTPC				500	Bairabi	O	4	6	22.92
Total Nagaland	1.50	Total (ISGS)				2513	Micro Hydel	H	2x1.5+3x0.35+2x1.5+3x1+2x1+2x1.5		17.85
Tripura		State Sector							3x0.1+2x0.25+2x0.25+1x0.5+2x0.25+2x0.25		
Diesel	1.00	Meghalaya					Serlui B	H	3	4	12.00
Total Tripura	1.00	Umiam Stage I	H	4	9	36.00	Total Mizoram				53
Total Isolated	125	Umiam Stage II	H	2	10	20.00	Total (State Sector)				1194
		Umiam Stage III	H	2	30	60.00	Regional Total				
		Umiam Stage IV	H	2	30	60.00	Isolated				125
		Umtru	H	4	3	11.20	Grid (Hydro)				1392
		New Untru	H	2	20	40.00	Grid (Gas)				1675
		Myntdu Leshka	H	3	42	126.00	Grid (Coal)				607
		Sonapani	H	1	2	1.50	Grid (Oil)				23
		MPL	C	8+45.15		53.15	Grid (SO)				10.0
		Adhunik	C	1	25	25.00	Total Central Sector				2513
		Shyam Century	C	1	14	13.80	Total Grid				3707
		Maithan Alloys Ltd	C	1	15	15.00	Total NER Capacity				3832
		Total Meghalaya				462	Total Hydro - 1457 MW				
		Nagaland					Total Thermal - 2364 MW				
		Likimro	H	3	8	24	Total Solar : 10.3 MW				
		Likhimro, Lang, Dulumroi Stage I	H	1	1.5	1.5	H=Hydro, G=Gas, C=Coal, O=Oil, S=Steam				
		Total Nagaland				26	Source: Data collected from Power Utilities				



Draft
Central Electricity Regulatory Commission
(Grant of Connectivity and General
Network Access to the inter-State
transmission system and other related
matters) Regulations, 2017

CERC
12th January, 2018

Background

- CERC (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009-effective from 1.1.2010

Challenges

- IPPs seek Connectivity for full quantum (approximately equal to IC) but LTA for less quantum- Payment liability is only for LTA quantum
- LTA for target region due to beneficiaries not identified: no scheduling priority
- Transaction of power through STOA- No transmission planning for STOA, MTOA.-Problem of congestion in getting Medium Term and Short Term Open Access.
- No concept of contracted import capacity other than LTA capacity for the states. The transmission rates are calculated based on LTA capacity.
- The generators are either abandoning their project or requesting for surrender of LTA or are rescheduling their projects or changing target region.
- Merit Order not accounted for in planning

Page * 2

2

Other Issues with prevailing Connectivity Regulations

- Upcoming realities of availability of cheaper power
- Issues related with upcoming renewables
- Provisions related with dedicated transmission line-sharing etc.
- Relinquishment provisions
- Application bank guarantee/ Access Bank Guarantee
- Treatment of non availability of upstream/ downstream system

Page * 3

3

Background

- September 2014- Staff paper on Transmission Planning, Connectivity, Long Term Access, Medium Term Open Access and other related issues"

Page * 4

4

Background

CERC Order dated
20.2.2015

- Task Force for giving input for draft regulations on transmission planning under Sh. A.K. Saxena, Chief Engg CERC with members from CEA, CTU, POSOCO, STUs

Office Order Dated
8.12.2015

- Committee to "Review Transmission Planning, Connectivity, Long Term Access, Medium Term Open Access and other related issues"-under Shri Mata Prasad, Power System Expert- Chairman, Shri Rakesh Nath, Former Member, APTEL-Member ,Shri A. S. Bakshi, Member CERC-Member

February 2016

- Task Force on Transmission Planning submitted its report to Commission

26th April 2016

- Draft CERC (Transmission Planning and other related matters) Regulations, 2017

Background

9th meeting of the Mata Prasad Committee-
17.05.2016

- Deliberation with Discoms on concept of GNA

September, 2016

- Mata Prasad Committee submitted its report to the Commission

18th September 2017

- Public Hearing on Draft CERC (Transmission Planning and other related matters) Regulations, 2017

14th November 2017

- Draft CERC (Grant of Connectivity and General Network Access to the inter-State transmission system and other related matters) Regulations, 2017.

Salient features of Draft Regulations

- Scheduling of power as per merit order- under long term, medium term or short term contracts as per requirement of entities.
- Requirement of specifying target region- removed
- GNA for installed capacity for generators- mitigate congestion, no free Connectivity, no part LTA
- Relinquishment of GNA is not allowed except for closure of plant – modalities of exit clearly defined
- Downstream system issues- to be planned together
- Regulatory Oversight on planning
- Increase in transparency- Stakeholders involvement in planning
- Sale of surplus power from bus bar of generating station

7

Draft Regulations Provisions

Definitions

- General Network Access or GNA” means the non-discriminatory access to the ISTS granted by the CTU to an Applicant for an estimated maximum injection/ drawal for a specified period.
- Applicant for GNA
 - State Transmission Utility on behalf of intra-state entities who intend to seek GNA through STU (distribution licensee, consumers, embedded generator etc.);or
 - Consumer; or
 - A generating station including a captive generating plant irrespective of installed capacity; or
 - Distribution licensee
 - Others

Page 2-9

Application for GNA

- Generators to seek GNA for Installed capacity less auxiliary consumption
- Any intra-State entity desirous of availing GNA to ISTS may apply GNA application directly to CTU along with required No objection certificate from STU or it may apply for the same to STU
 - STU to consider application by intra-State entity while making application on behalf of intra-State entities for grant of GNA to CTU

Page * 10

GNA by State

- STU shall provide GNA for 5 year period starting 4 years hence the year when GNA application is made. Relevant portion of the Format (**FORMAT-GNA-2**) for application for Grant of GNA by State Transmission Utility (STU):

5	Details of GNA (MW) (Year wise for 5 year)	Q1 GNA (MW)	Q2 GNA (MW)	Q3 GNA (MW)	Q4 GNA (MW)	
	(i) 2022 (ii) 2023 (iii) 2024 (iv) 2025 (v) 2026 (If STU is applying for GNA in January, 2018)					
6	Entity wise details for GNA	2022	2023	2024	2025	2026
	Quantum (MW) for which GNA required in respect of (i) Entity-1 (ii) Entity-2 (iii) Entity-3	(Quarterly data)	(Quarterly data)	(Quarterly data)	(Quarterly data)	(Quarterly data)

Page * 11

GNA by State-Example

- In January 2019, STU shall provide its peak quarterly requirement from ISTS (Injection/ Withdrawal GNA) for years 2023, 2024, 2025, 2026 and 2027.
 - Such data should be provided on Annual rolling basis i.e. in January 2019, STU should provide its GNA for 2023- 2027.
 - STU should consider the anticipated demand figures from each DISCOM in the State, other intra state entities and likely generation from the generating companies having generating stations in the State.
 - STU can revise its projected GNA for the year 2024 and beyond in the year 2020
 - STU would not be allowed to revise the same for the year 2023 keeping in view construction timeline for transmission
- STU should also provide quarterly Injection/Withdrawal data for immediate 4 years also i.e., for years 2019, 2020, 2021 and 2022

Page * 12

Scheduling mechanism for States

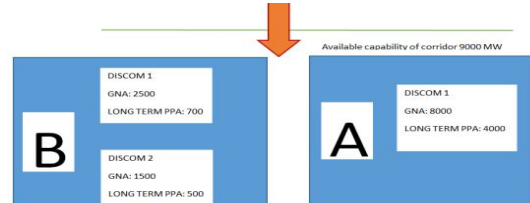
- It has been envisaged that states shall be able to schedule its power under contract for any period (Long/medium/ short term) after operationalization of GNA
- However, on account of constraints in ISTS, it may not be possible to accommodate the quantum requested by State on day ahead basis under certain circumstances
- the State shall be asked to provide its revised schedule and the State's entitlement through the constrained transmission corridor shall be intimated
- The State shall be given liberty to schedule from long term /medium term /short term contracts through the constrained corridor as per the relative economics of the transactions to the State
- In case of more than one state is availing power through the constraint corridor, POSOCO shall schedule the power in proportion to long term PPAs tied up on that corridor by each state

Page • 13

Scheduling mechanism for States: Case I

- When corridor capability requirement sought by two States is more than available corridor capacity for day ahead scheduling requiring curtailment among States and their DISCOMS.

Suppose there are two States, State A and State B



Page • 14

Scheduling mechanism for States- Case-I

- In case sum of requisitions from both the states for power import through the specific corridor exceeds the available capability due to any contingency, then the requisitions made by the States need to be rescheduled to ensure that the total requisition is equal to available capability.
- The scheduling would be carried out proportionate to the quantum of corridor allocated to each of the DISCOMs pursuant to their long term PPA.
- Suppose DISCOM-1 of State B requests for import of 2500 MW from specified corridor. Requisition of 2500 MW by DISCOM 1 of State B through corridor would be reduced to: $9000 \times 700 / (700 + 500 + 4000) = 1212$ MW
- DISCOM-1 can requisite power from any generator who is in upstream of the congested corridor subject to total requisition of 1212 MW. It can be through any PPA under short, medium or long term based on economic operations

Page • 15

Scheduling mechanism for States- Case-I

- Similarly for DISCOM 2 of State B Requisition through corridor would be reduced to:

$$9000 \times 500 / (700 + 500 + 4000) = 864 \text{ MW}$$

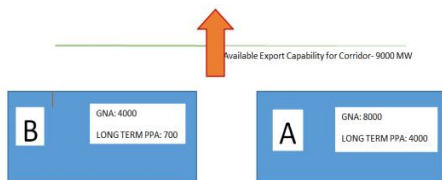
- And for DISCOM of State A, scheduling through corridor would be as: $9000 \times 4000 / (700 + 500 + 4000) = 6924$ MW

Page • 16

16

Scheduling mechanism for States: Case II

- When Export capability sought by two Generators is less than available capacity requiring scheduling accordingly among Generators



Page • 17

17

Scheduling mechanism for States: Case II

- In case sum of schedules requested from both the generators for power export through the corridor exceeds the available export capability due to any contingency, then the schedule obtained by the generators needs to be finalised to ensure that the total schedule is equal to available export capability.

- The scheduling would be carried out proportionate to the quantum of long term PPA entered by each Generator.

- Corridor Allocated to schedule power from Generator A: $9000 \times 4000 / (4000 + 700) = 7660$

- Corridor Allocated to schedule power from Generator B: $9000 \times 700 / (4000 + 700) = 1340$

- The beneficiary who wishes to avail power through this export corridor through Generator A would be able to schedule 7660 MW from Generator A and similarly for 1340 MW from Generator B through the said Corridor

Page • 18

Case-II...

- In case out of 7600 MW which can be scheduled from Generator A through constrained corridor more than one beneficiary seeks to schedule power such that total requisition is more than 7660 MW then following methodology is proposed:
- Suppose the PPAs between generators and beneficiaries is as detailed below

Beneficiary	GB			GA		
	Long	Medium	Short	Long	Medium	Short
B1	100	300	1500	2500	1000	500
B2	600	1000	500	1500	500	2000

Page • 19

Case-II.....

- B2 can schedule power from GB: $1340 \times 600 / (600 + 100) = 1448$ MW
- B2 can select the transaction from GB under Long, medium or short term PPA based on economic operation subject to total being 1448MW.
- Similarly from B2 to GA:
 $7660 \times 1500 / (1500 + 2500) = 2873$ MW.
- Though total transaction right for B2 through the corridor is 4321 MW (1448+2873=4321 MW), it cannot schedule the total power from GA only even if it is more economical. B2 cannot schedule more than 2873 MW from GA, subject to total schedule given to GB from B1 & B2.
- The samples indicated are illustrative for understanding. Suggestions are invited from stakeholders on methodology which may be followed based on actual scenarios which may happen

Page • 20

Network Services for Transfer of Power

- GNA will not entitle any generating station to interchange any power with the grid
- Generating station will be required to sign PPA or PSA
- CTU shall develop an online portal for obtaining the information regarding PPA by a Generator or distribution licensee or trading licensee or consumer or any other entity.
- Scheduling priority
 - long term PPAs
 - medium term PPAs
 - short term PPA and
- Among PPAs of same category under pro-rata basis

Page • 21

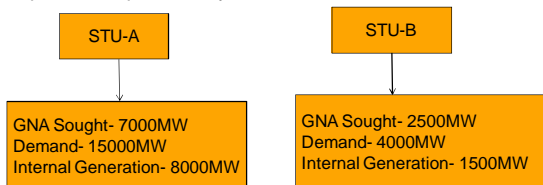
GNA by State

- STUs to seek GNA at each of its interconnection point with ISTS to facilitate transmission planning
 - The planning of transmission system can only be effectively carried out if Drawl/ injection is known at each point.
 - In case if, node wise details are not furnished then it would lead into assumption of loads at different nodes by planner which can results into congestion in some corridors and underutilisation in some other corridors.
 - The nodal Load generation is also required for TTC computation and for computation used for sharing of transmission chargers and losses regulations

Page • 22

GNA by State

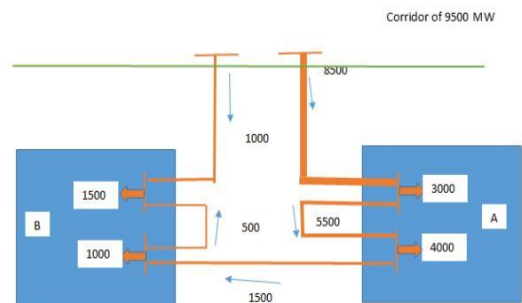
- Example showing impact of Assumed value of Load at each Node by planner and subsequently change in the same during operational period may be as follows:



- In case GNA at each interconnection point is not segregated, Network shall be planned using Lump sum Value of GNA.

Page • 23

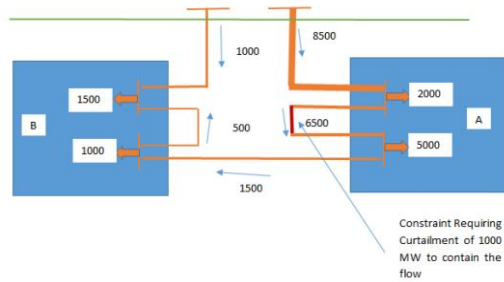
GNA by State- Network Planned Based on Lump sum GNA and assumed Node wise Load



Page • 24

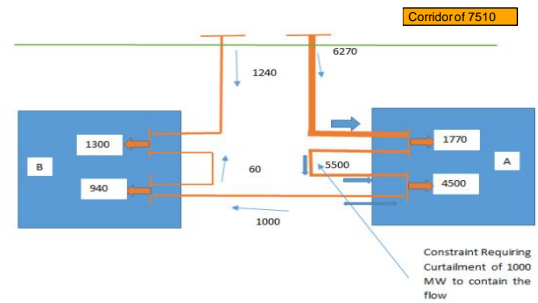
GNA by State

Change in Power flow due to change in nodal drawl points with same GNA:



Page • 25

GNA by State-TTC revised to 7510



Page • 26

Difficulties in assessing GNA

- Explanatory Memorandum-Para 2.4.8
- While finalising the Report of the Committee, representatives of States were invited for their views on the proposed GNA. They expressed their difficulty in assessment of GNA accurately. Keeping that in view the Committee in its report has suggested the following:
 - "6.3.4..... (c) In case the projected import/export requirement is not provided by STU, CTU should, in consultation with CEA and POSOCO, assess the import /export requirement of the State for the purpose of transmission planning and upload the same on CTU's website for comments from stakeholders. In the absence of any response to the same from STU, the projected import/export requirement assessed by CTU should be taken for transmission planning.
 - (d) Bulk Consumers directly connected to ISTS need to provide their drawal requirements from the ISTS.
 - (e) A Validation Committee comprising representatives of CTU and STUs should be set up under chairmanship of CEA which should validate the projected import/export requirement from ISTS provided by STUs / assessed by CTU considering the comments received from stakeholders on the uploaded data. The Validation Committee should finally approve the projected import/export requirement for each State which should be uploaded on website of CEA and CTU and should form the baseline for planning."

Page • 29

Draft Central Electricity Regulatory Commission (Transmission Planning and other related matters) Regulations, 2017

- "23. Procedure for Transmission Planning:

23.1. The following procedure shall be complied with all entities involved in the transmission planning of ISTS:

- (a) The inputs regarding the generating stations which are likely to come up would become available to the transmission planners from the Central Repository of generation projects, applications for GNA and STUs.
- (b) The demand projections by the STUs estimated by them in coordination with the DISCOMs should form the baseline for transmission planning.
- (c) In case the projected import/export requirement is not provided by STU, CTU should, in consultation with CEA and POSOCO, assess the import /export requirement of the State for the purpose of transmission planning and upload the same on CTU's website for comments from stakeholders. The same shall be discussed at Regional study Committee level. In the absence of any response to the same from STU, the projected import/export requirement assessed by CTU should be taken for transmission planning.
- (e) The Central Study Committee shall validate the projected import/export requirement from ISTS provided by STUs / assessed by CTU considering Page 18 the comments received from stakeholders on the uploaded data. The Central Study Committee shall finally approve the projected import/export requirement for each State which shall be uploaded on website of CEA and CTU and shall be used for planning....."

2.4.11. The above aspects may be kept in view while furnishing suggestions on the proposed model of GNA.

Applicant for Connectivity [Regulation 2(1)(c)]

- Any company authorised by the Central Government or the State Government as:
 - (a) Solar Power Park Developer or (b) Wind Power Park Developer or (c) Wind-Solar Power Park Developer
- Distribution Licensee who intends to avail supply for a minimum load of 250 MW from the inter-State transmission system
- Consumer who intends to avail supply for a minimum load of 250 MW from the inter-State transmission system
 - Dedicated line by CTU with full cost to be borne by consumer.

Page • 29

Other important definitions

- Central Repository means a database maintained by Central Electricity Authority in case of conventional energy and by any other authority as notified by the Central Government in respect of renewable energy

Page • 30

Scope

- Persons who are already connected to the state grid may be allowed to seek Connectivity and GNA to ISTS subject to payment of transmission charges corresponding to additional Connectivity and GNA and applicable state charges.
- Generating stations who are already connected to the ISTS grid for part of their installed capacity shall seek Connectivity and GNA to ISTS for balance capacity.
- An Applicant seeking GNA to the inter-State Transmission System cannot apply for GNA without applying for Connectivity to inter-State transmission system or intra-State transmission system.
- An Applicant who is already connected to the grid can apply for GNA for the connected quantum without applying for Connectivity.
- An applicant may apply for Connectivity and GNA simultaneously.
- The existing Long Term customers of ISTS shall be deemed to be GNA customers subject to fulfillment of conditions as per the Regulation 25 hereof

Page * 31

Connectivity to both ISTS and intra-State Transmission System

- Applicant shall apply for Connectivity for demarcated quantum to CTU and STU such that total Connectivity quantum equals installed capacity less auxiliary consumption
- Commercial liability of generator including CGP towards ISTS shall be corresponding to the quantum proposed to be evacuated through CTU network.
- Applicant shall clearly indicate the quantum of Connectivity with inter and intra state transmission system in its application to CTU.
- CTU shall take confirmation from concerned STU regarding connectivity to intra-state transmission system before grant of Connectivity to ISTS. If such confirmation is sought by CTU, STU shall confirm the same within a period of 15 days.

Page * 32

Treatment of Upstream/downstream system

- ISTS licensee, CTU, STU, associated State transmission licensee and distribution licensee shall ensure to commission systems in matching timeframe.
- Notwithstanding any provision with regard to indemnification in any agreement between the parties, in case of non-availability of identified downstream/upstream system, the payment liability shall fall on entity due to which the element has not been put to regular use as certified by RLDC. CTU shall coordinate with STU to ensure that ordering for State lines are done such that it is commissioned matching with ISTS lines. The ISTS system shall be included under POC calculations only after it is put to regular use.

Page * 33

33

Treatment of Delay in Transmission Project or Generation Project

- In case of delay of both generator and transmission licensee
 - the date of start of GNA may be postponed by CTU as per progress assessed by CTU and mutual agreement
 - This will be duly notified on website of CTU
- In case of failure in developing generating station/dedicated transmission system by the scheduled date of GNA operationalisation
 - Liability of payment of transmission charges will start from the date of operationalization of GNA
- In case of adverse progress of generating station
 - CTU to endeavour to re-plan the system
- The transmission licensee should keep provision of foreclosure in the contract made by it with EPC contractor.
- In case of delay
 - CTU to make alternate arrangement at the cost of transmission licensee
 - Alternate arrangement to be removed with commissioning of actual plan
 - In case alternate arrangement cannot be provided, trans. Licensee shall pay proportionate transmission charges to the generator

Page * 34

Access Bank Guarantee

- Access Bank Gurantee – 20 lac/MW, 10/lac/MW for renewables
- No access BG by STU.
 - Access BG for intra-state entities through STU
- The Access Bank Guarantee shall be kept subsisting for 5 years from the date of operationalisation of GNA. After operationalisation of GNA, Access BG equivalent to 1/5th of amount shall be returned back to the Applicant till 4th year. The amount equivalent to 1/5th of Access BG shall be kept subsisting till the end of 12th year as security towards relinquishment charges. The Applicant shall submit revised Access BG accordingly.
- The Access Bank Guarantee may be encashed by the nodal agency
 - (a) If the application is withdrawn by the applicant after 9 months of grant of GNA by the Nodal Agency.
 - (b) If the applicant fails to submit the extension letter of the earlier furnished BG at least 30 days prior to its expiry.
 - (c) If the GNA is relinquished in accordance with Regulation 24.

Page * 35

35

Relinquishment of GNA

- In case of exit from GNA, GNA customer to be disconnected from the grid with following liability:

Case	Liability
In case GNA Customer exits after the grant of GNA but before operationalization of GNA	<ul style="list-style-type: none"> ▪ Complete Access Bank Guarantee ▪ Transmission charges for one year (average all India POC rate)
In case GNA Customer exits prior to completion of 5 years after GNA is operationalized	<ul style="list-style-type: none"> ▪ Remaining Access Bank Guarantee ▪ Transmission charges for one year as per prevailing PoC Rate (If rate is not available, average all India POC rate)
In case a GNA Customer exits after 5 years after GNA is operationalized	<ul style="list-style-type: none"> ▪ Transmission charges for one year as per prevailing PoC Rate (If rate is not available, average all India POC rate)

Page * 36

Relinquishment of GNA.....contd...

- IPP relinquishes its GNA on its conversion to CGP
 - Pay applicable relinquishment charges
- For CGP to IPP
 - Fresh application for additional GNA
- De-rating or up-rating of units is allowed due to technical reason
 - No relinquishment charges
 - Necessary certification is required from CEA
- Charges recovered from encashment of ABG or from relinquishment of GNA
 - To be used for reducing YTC for the next quarter
- For intra-State entity relinquishing GNA
 - Relinquishment charges shall be applicable
 - State GNA shall be adjusted accordingly

Transition Phase: Between the Connectivity Regulations and the proposed GNA mechanism

Generating Station	Treatment
Generating stations with full capacity tied up including CGS	<ul style="list-style-type: none"> • GNA= Installed Capacity-APC • Corresponding LAT quantum of beneficiaries = GNA of beneficiaries • A list of these generating station to be published by CTU within one month
Generating stations having sought LTA (including target region) for part capacity and the same has already been operationalized or has not been operationalised	<ul style="list-style-type: none"> • Generating Station to apply for additional GNA within 3 months* • CTU to grant GNA from the date of availability if transmission system
For generating station applied LTA for full capacity but LTA is not yet operationalized	<ul style="list-style-type: none"> • CTU to consider same as GNA application for the full injectable capacity and operationalise GNA as per availability of transmission system

Transition Phase.....

Generating Station	Treatment
In case the existing LTA customer happens to be a trading licensee	<ul style="list-style-type: none"> • CTU to convert LTA into GNA of the concerned generating station/ DISCOM/ intra-State entity
Renewable Energy Generating Station or Solar Power Park Developer	<ul style="list-style-type: none"> • deemed to have been granted Stage-I Connectivity • They shall apply for Stage-II Connectivity
*Granted connectivity to ISTS but not physically connected to ISTS	

Sale of surplus power by distribution licensee

- In case a distribution licensee intends to sell surplus power available to it from its share in the generating stations located within the State,
 - it may seek injection GNA for the said quantum.
- In case a distribution licensee intends to sell its contracted power from an ISGS to any third party,
 - the distribution licensee shall be allowed to sell power at the injection point of that ISGS

Regulatory Oversight

- CTU shall approach the Central Commission for regulatory approval along with system studies of new transmission assets in respect of ISTS within a month of its approval by Standing Committee. After the approval is accorded by the Central Commission, the system strengthening of ISTS shall be undertaken for implementation in accordance with applicable Regulations

Nodal Agency & Application Fee

- CTU is the Nodal Agency for grant of Connectivity and GNA to the ISTS.
- Application Fee

Sl. No.	Quantum of Power to be injected into/drawal from ISTS	Application fee (Rs. in lakh)	
		For Connectivity	GNA
1.	Up to 100 MW	4	4
2.	More than 100 MW and up to 500 MW	6	6
3.	More than 500 MW and up to 1000 MW	12	12
4.	More than 1000 MW	18	18

- No application fee for STUs.
- Two Stage Connectivity for Renewable energy generating station or Solar / Wind / Wind-Solar Power Park Developer

Timeframe for processing of application

Nature of Application	Time limit for processing beginning the last day of the month in which application was received by the nodal agency
Connectivity (for applicants other than renewable generating station, Solar, Wind Power Park Developer and Wind-Solar power park developer)	60 days
Connectivity (for renewable generating station, Solar, Wind Power Park Developer and Wind-Solar power park developer)	60 days
Application for Stage-I	60 days
Application for Stage-II	60 days
GNA	120 days where augmentation of transmission system is not required 180 days where augmentation of transmission system is required

- In case CTU is not able to process the application for Connectivity and GNA in Timeframe specified above, application fee shall be returned and application fee shall be processed free of cost

Page • 43

Grant of Connectivity (other than Wind/Solar/Solar-Wind Power Park Developer)

- Connectivity Application shall be for a quantum equal to installed capacity of generating station less auxiliary power consumption.
- A captive power plant shall apply for Connectivity for a quantum of maximum exportable capacity proposed to be connected to ISTS.
- The application for Connectivity shall contain details such as,
 - registration no. of Central Repository,
 - proposed geographical location of the applicant,
 - maximum quantum of power to be interchanged with the ISTS
 - Status of Site identification, land acquisition, Environmental clearance, Forest Clearance, Water linkages, Fuel Arrangement, etc.

Page • 44

Grant of Connectivity- Renewable Energy Generating Station or Solar / Wind /Wind-Solar Power Park Developer

- Two Stage Connectivity
 - Stage-I and Stage-II Connectivity
- Documents required with Stage-I Connectivity Application:
 - A copy of Board Resolution, if Applicant is a company
 - Project Report regarding intended type of project, implementation plan
 - Site identification wherever undertaken
 - Environmental clearance
 - Forest Clearance for the land
 - Authorisation issued by Central Government or State Government, as applicable

Page • 45

Stage-II Connectivity

- An Applicant may apply for Stage-II Connectivity
 - along with application for Stage-I Connectivity or
 - after grant of Stage-I Connectivity if it meets eligibility criterion as provided in Regulation 7.9 (c) and Regulation 7.9 (d)
- 7.9 (c) An Applicant other than a merchant power plant shall be eligible to apply for Stage-II Connectivity on achieving following milestones:
 - Financial closure of the project developer has been completed.
 - Award of project through bidding by any entity authorised by the Central Government or State Government for 50 MW and above; or Execution of Long Term PPA under the provisions of Act for at least 50 MW. In case the PPA has been executed through a trader, then it must also be supported with a back-to-back PSA

Page • 46

Stage-II Connectivity- contd.

- 7.9 (d) An Applicant not covered under Regulation 7.9 (c) (merchant power plant) shall be eligible to apply for Stage-II Connectivity on achieving following milestones:
 - Financial closure of the project developer has been completed.
 - Applicant has completed at least 50% Tower Erection of dedicated Transmission Line to connect to ISTS and have installed switchgear and ICT at its pooling station
- Stage-II application accompanied by a BG or LG of Rs. 5 Lakh/MW for the purpose of bay implementation in accordance with the Bay Implementation Agreement with CTU.
- BG or LG shall be kept valid till application for GNA is made along with applicable Access BG.
- The Application for GNA shall be made within 6 months of grant of Stage-II Connectivity
 - failing which Stage-II Connectivity shall be revoked and BG or LG shall be encashed.

Page • 47

Grant of Connectivity

- All online applications received during the month shall be treated to have been made concurrently.
- Nodal Agency shall intimate deficiencies, if any, within one week of receipt of Application.
- Applicant shall rectify deficiencies within one week thereafter
 - Failing which application shall be closed and 20% of application fees shall be forfeited and balance be returned
- In case rectified application is received after last day of the month, the application shall be deemed to have been made in subsequent month and processed accordingly.

Page • 48

Grant of Connectivity

- In case of any material change location or quantum after filing of application or grant of Connectivity:
 - The applicant shall inform the same to the nodal agency
 - If modification in ISTS is required, the nodal agency shall the applicant within a period of one month to file fresh application along with application fee and relevant documents.
 - The fresh application shall be considered by the nodal agency in accordance with the Regulations and the earlier application shall be closed.
- If no modification in the planned ISTS is required, the nodal agency shall issue revised grant incorporating the change in Connectivity.
- CTU shall indicate the firm location while granting Stage-II Connectivity. Applicant shall enter into bay implementation agreement within 30 days of grant of Stage-II Connectivity

Page • 49

Grant of Connectivity

- More than one generator can use the dedicated line connecting their generating station to pooling station of ISTS
 - after formalising all aspects including sharing of the transmission charges and losses of the transmission line among the generators.
 - The transmission charges shall be decided in line with the Tariff Regulations notified by CERC
- After commissioning of dedicated line by the generator(s)
 - The dedicated line shall be handed over to CTU for the purpose of operation and maintenance.
 - CTU shall be entitled to normative operation and maintenance expenses as per CERC Tariff Regulations.
 - The line shall be under the operational control of CTU for all the purposes

Page • 50

Grant of Connectivity

- Applicants granted Connectivity shall submit details of project execution to Central repository.
- Applicant granted connectivity shall furnish technical connection data to CTU within 1 month of finalisation of EPC contract.
- Applicant shall sign "Connection Agreement" within one month of intimation of connection details by CTU.
- Applicant shall not be allowed physical connection without signing of Connection Agreement.
- Applicant shall submit a copy signed Connection Agreement to respective RLDC in whose control area it is located prior to physical connection with the grid

Page • 51

Grant of Connectivity

- Applicant granted Connectivity shall be allowed physical connection with the grid only after filing the application for GNA complete in all respects.
 - Else Connectivity granted shall be withdrawan and application fee shall be forfeited.
 - In case of deemed withdrawal of application, the Applicant may file a fresh application for Connectivity
- The Connection Agreement shall be signed amongst the Applicant, CTU and ISTS licensee (whose S/s or PS or switchyard or the TL has been identified by the nodal agency for connectivity) subject to fulfilment of requirements of CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007

Page • 52

Infirm Power and Start-up Power

- The applicant shall be able to interchange firm power with the grid only after its GNA is operationalized.
- The applicant may be allowed to draw start-up power or inject infirm power by respective RLDC prior to operationalization of GNA subject to Regulation 7.34 and Regulation 7.35.
- A unit of generating station shall be allowed to inter-change infirm power with the grid during the commissioning period, including testing and full load testing before the COD, after obtaining prior permission of the concerned RLDC for the periods mentioned

Page • 53

Connectivity by a Captive Generating Plant

- A Captive Generating Plant (CGP) may have surplus capacity which it may intend to sell on long term or medium term or short term basis or it may seek to evacuate power from CGP to captive user by using ISTS.
- A Captive Generating Plant (CGP) shall apply for Connectivity for a quantum of maximum exportable capacity proposed to be connected to ISTS

Page • 54

Construction of Dedicated Transmission Line

- To be developed and owned by the concerned generating station.
- The dedicated line shall be operated by CTU.
- The specifications for dedicated transmission lines shall be indicated by CTU while granting Connectivity.
- Length of Dedicated line ≤ 100 km
- The lines connecting the generator to intra-state transmission system shall be regulated as per Regulations of concerned State Commission.
- In case dedicated lines have already been constructed or under construction by ISTS Licensees,
 - Transmission charges for such lines from CoD shall be payable by the generator till operationalization of GNA post which transmission charges shall be shared as per the Sharing regulations.

Page * 56

Start date of Connectivity

- From the physically connection to to the grid for drawl or injection of power.
- Drawal of start-up power from the grid or injection of infirm power into the grid only through dedicated line after grant of Connectivity and GNA
 - except where LILO has been allowed as part of coordinated transmission planning

Page * 56

Point of Commercial Metering

- Metering shall be done at the interface point of connection of the generator with transmission system of licensee as specified in the CEA Metering Regulations.
- In case dedicated transmission Lines are owned/ constructed by a generator,
 - metering point shall be at the pooling sub-station of ISTS licensee.
- In case generator is connected to more than one pooling station,
 - metering shall be at the bus bar of the generating station

Page * 57

Application for General Network Access (GNA)

- Application seeking GNA shall be filed within two and half years from the date of intimation of grant of
 - Connectivity for Applicants other than renewable energy generating station or Solar or Wind or Wind-Solar Power Park Developer
 - Stage-I Connectivity for renewable energy generating station or Solar or Wind or Wind-Solar Power Park Developer by CTU
-

Page * 58

Application for GNA- Deficiency removal

- Any deficiency in the application shall be communicated within a week of receipt of application
- Applicant shall be required to rectify the deficiency within one week thereafter
 - Failing which application shall be closed, application fee shall be forfeited and Access BG shall be returned within 15 days
- If the rectified application is received after last day of the month, the application shall be deemed to have been in made in subsequent month.

Page * 59

Relative priority

- Application for GNA shall be processed on following basis:
 - Applications received during the month shall be construed to have been received concurrently.
 - Applications received during a month shall have priority over applications received during subsequent month.
 - Applications for existing projects and projects under construction shall have priority over applications for new projects.
 - While processing applications for GNA due regard shall be given to date of start of GNA sought
- GNA applications shall be processed quarterly

Page * 60

GNA by Generator

- New Generating station- 5 years prior to expected CoD of 1st unit
- Renewable energy generators including Solar /Wind/ Wind-Solar Power Park Developer - 2years prior to the expected COD
- For project under construction/projects seeking GNA for balance capacity for which there is no LTA, GNA can be applied earlier than specified above
- GNA may be sought in phased manner matching with commissioning schedule of its units

Page * 61

GNA by Captive Power Plant

- In case of captive power plants (CPP) with co-located captive load,
 - Injection GNA = Installed Capacity less normative APC less the captive load estimated by the CPP for the co-located captive plant
- Where CGP is not located at the same place as captive load,
 - Injection GNA corresponding to the captive load to be met and for any surplus power
- The captive user of CGP may seek drawal GNA if it intends to draw power through long or medium or short term agreement through ISTS through connection point of CGP and in such cases, it shall be subject to the charges as may be imposed by the respective State Commission.
- The scheduling segregation among power sold by CGP and power purchased by captive user shall be done by concerned RLDC /SLDC as the case may be

Page * 62

Effective Date of General Network Access

- GNA to be operationalized from the date given in the GNA Agreement
- Part operationalization of GNA
 - If all the required transmission system has not been commissioned
 - Grid security should not be compromised
- CTU to match CoD of transmission system with date of start of GNA
- Transmission system shall be entitled to tariff only after corresponding GNA is operationalized
- Inability of a GNA Applicant to generate or supply electricity shall not absolve it from liability to pay transmission charges
- Payment security mechanism in the form of LC before operationalization of GNA
 - Establishment of payment of security mechanism shall not be a precondition
- Date of operationalization of GNA may be extended with approval of the Commission
 - Only in case of delay due to reasons beyond the control of transmission licensee or generator

Page * 63

Curtailement

- For the reason of transmission constraints,
 - The transactions already scheduled may be curtailed by the Regional Load Despatch Centre.
 - The transactions shall be curtailed on the basis of duration of transaction with short term transactions shall be curtailed first, followed by curtailment of medium term transactions and thereafter curtailment of long term customers.
 - Amongst the customers of same category, curtailment shall be carried out on pro rata basis

Page * 64

Thank You