North Eastern Regional Power Committee

Agenda For

138th OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 24th November, 2017 (Friday)

Venue : "Hotel Pragati Manor", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 137th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 137th meeting of Operation Sub-committee held on 27th October, 2017 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 03rd November, 2017.

The Sub-committee may confirm the minutes of 137th OCCM of NERPC as no 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 137th OCC:

State	Protection System	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	Tendering in process.	DPR preparation stage.	-	SLDC to apprise SERC of the project.
Nagaland	Work under execution. Completion by 31.12.17.	Under scrutiny of Techno-Economic Sub-group.	Under process of approval. To submit undertaking and other required documents.	Documents and relevant papers have been furnished to Nagaland SERC as desired by Chairperson, SERC. SERC has requested for a presentation at Kohima/Nagaland by the SAMAST group
Mizoram	Main Equipment and Diagnostic Tools LOA issued. Remaining LOAs by Nov'17.	To be further examined by Techno-Economic Sub-group after interaction with consultant.	Proposal on hold. To be considered upon funds being available.	To furnish action plan.

Manipur	By Sept'17 all tenders to be completed. By Sept-Oct'17 all LOAs' to be issued.	Pilot project under scrutiny of Techno-Economic Sub-group. To submit clarification.	-	NERPC/NERLDC members to meet SERC /MSPCL higher officials to enable take-off of the project.
Tripura	LOAs' completed. MI going on.	Submitted to NPC/NLDC.	Under Study stage**	NERPC/NERLDC members to meet TSERC /TSECL higher officials to enable take-off of the project.
Assam	By Oct'17 all LOAs would be issued. Remaining tenders by Sept'17.	Under scrutiny of Techno-Economic Sub-group.	-	Joint meeting of Assam, Meghalaya, NERLDC & NERPC to be held at Kahelipara on 22.09.17 for finalisation of DPR.
Meghalaya	MePTCL – Remaining 7% LOAs by first week of November. MePGCL – all LOAs complete	DPR submitted to CEA & NLDC	-	To initiate activity for identification of Metering points.

The status of implementation of the above schemes (physical as well as financial progress) may please be reviewed and the entities are requested to expedite implementation of the schemes. The entities may also be advised to furnish status as per format by first week of every month on regular basis to Member Convener, PSDF Project Monitoring Group (AGM, NLDC, POSOCO) with a copy to NPC & NERPC. The LOAs of R&M Scheme are to be furnished to NERLDC/NERPC regularly.

States may please intimate the latest status.

2. <u>Long Outage of Important Grid Elements:</u>

Name of the Element	Name of Utility	Status as informed in 137th OCC	Latest status
63MVAR Reactor at Byrnihat to replaced with 80MVAR Reactor	MePTCL	DPR complete. Board approval awaited.	

400KV 80MVAR Bus Reactor at Palatana	OTPC	04 Nos bushing to be replaced. Work would be completed by OTPC itself. Tentative completion 31.12.2017.	
132 kV Jiribam – Rengpang S/C	MSPCL	Line charged from Rengpang. The 132/33kV, 20MVA transformer at Jiribam (MA) charged on 25.10.2017.	
132 kV Mariani (AEGCL) – Mokokchung (DoP, Nagaland) S/C	DoP Nagaland & AEGCL	Line cannot be charged due to low insulation. RCE of ₹ 43 lakhs to be sanctioned by Nov'17.	
132 kV P K Bari – Silchar I & II	NERTS	Nov'17-One circuit (subject to weather condition, if water recedes then within 10 days on ERS). By Dec'17 permanent restoration.	
132 kV Dimapur - Dimapur I	NERTS	Bay work at Dimapur(PG) completed by NERTS. Nagaland has to charge from their end. To be dropped.	
132 kV Hailakandi – Dullavcherra	AEGCL	By Dec'17.	
250MW Unit#II BgTPP	NTPC	1st week of Nov'17.	

Utilities may please intimate the latest status.

3. Furnishing of various data for reliable grid operation:

Data regarding	Status as of 137th OCC	Status as of 138th OCC
UFR Operation Report	SLDCs of Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland and Tripura submitted for September'17. Agenda may be dropped	
DAS output for FRC calculation	BgTPP, Palatana, RHEP, AGTCCPP STGs, Monarchak to submit data as and when asked by NERLDC. NEEPCO informed that Tuirial HEP has DAS.	
Furnishing Geographic co-ordinates of nodes	MSPCL, MePTCL, P&ED, Mizoram and POWERGRID submitted the data. DoP, Arunachal Pradesh, AEGCL, DoP, Nagaland and TSECL yet to submit the data.	
Report on VDI/FDI	Submitted by SLDC of Assam (Daily Basis) and Meghalaya (Monthly Basis). Other SLDCs not yet submitted.	

DG healthiness report	OTPC, AGTCCPP, AGBPP, Khandong, Kopili, AEGCL, MePGCL, P&E, Mizoram, DoP, Nagaland and TSECL submitted for September'17.	
Auxiliary Supply details	To be reviewed after Third Party Protection Audit.	
Technical & Commercial data for PoC (Q4 2017-18)	NTPC, NEEPCO, OTPC, NHPC, DoP, Arunachal Pradesh, MSPCL, AEGCL, MePTCL, DoP, Nagaland, TSECL submitted the data. P&E, Mizoram yet to submit. TSECL & MePTCL to submit YTC data	
Operating Procedures.	**Items** / **Data submitted by** OP of States: Submitted only by AEGCL and MePTCL only 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/GPRS/VSAT/Satellite: Not submitted by any constituents	
Data related to Single Line Diagram.	SEM Location of States: Not submitted by any constituents	

Status on submission of Data during 137th OCC

Sl no	Station	Water level (12 hours basis)	Inflow	Discharge	Gate Opening
1	Kopili	Daily Basis	**Not giving**	Daily Basis	Daily Basis
2	Khandong	Daily Basis	**Not giving**	Daily Basis	Daily Basis
3	Ranganadi	**Not giving**	Daily Basis	Daily Basis	**Not giving**
4	Doyang	**Not giving**	**Not giving**	Monthly Basis upto Sep'17	Monthly Basis upto Sep'17
5	Loktak	**Monthly Basis upto July'17**	**Not giving**	Monthly Basis upto July'17	Monthly Basis upto July'17
6	Nagaland	Monthly Basis upto Aug'17	Monthly Basis upto Aug'17	Monthly Basis upto Aug'17	**Not giving**
7	Meghalaya	Monthly Basis upto Sep'17	**Not giving**	**Not giving**	Monthly Basis upto Sep'17
8	Assam	**Not giving**	**Not giving**	**Not giving**	**Not giving**
9	Tripura	**Not giving**	**Not giving**	**Not giving**	**Not giving**

NERLDC has also requested that Water level, inflow details, discharge quantity & Number of Gate opening (in case of spillage) of Hydro Plants be recorded on a 12 hour basis (2 entries in a day) and to be submitted to NERPC & NERLDC on a monthly basis for proper operational planning.

NERLDC may please inform the status.

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

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

NER PERFORMANCE DURING OCTOBER, 2017

	Energy Met (MU)		w.r.t. Sept,17 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Sept,17 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Oct,17
States	**October-17**	**September-17**		**October-17**	**September-17**		
Ar. Pradesh	72.27	64.90	11.36	73.59	66.13	11.28	-1.79
Assam	843.29	876.70	-3.81	872.23	920.44	-5.24	-3.32
Manipur	66.96	65.39	2.40	68.39	66.72	2.50	-2.09
Meghalaya	127.88	116.62	9.66	127.88	116.62	9.66	0.00
Mizoram	39.98	36.05	10.90	41.10	37.04	10.96	-2.73
Nagaland	68.60	69.26	-0.95	69.78	70.38	-0.85	-1.69
Tripura	126.46	127.55	-0.85	128.18	129.75	-1.21	-1.34
Region	**1345.44**	**1356.47**	**-0.81**	**1381.15**	**1407.07**	**-1.84**	**-2.59**

	Demand Met (MW)		w.r.t. Sep,17 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Sep,17 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Oct,17
States	**Oct-17**	**Sept-17**		**Oct-17**	**Sept-17**		
Ar. Pradesh	139	128	8.59	145	135	7.41	-4.14
Assam	1745	1718	1.57	1822	1770	2.94	-4.23
Manipur	170	165	3.03	174	166	4.82	-2.30
Meghalaya	300	326	-7.98	300	325	-7.69	0.00
Mizoram	86	85	1.18	88	87	1.15	-2.27
Nagaland	135	141	-4.26	137	147	-6.80	-1.46
Tripura	291	306	-4.90	303	306	-0.98	-3.96
Region	**2499**	**2520**	-0.83	**2596**	**2629**	-1.26	-3.74

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	**Oct-17**	**Sept-17**
Total Generation in NER (Gross)	1627.573	1473.211
Total Central Sector Generation (Gross)	1213.062	1052.596
Total State Sector Generation (Gross)	414.511	420.615
Inter-Regional Energy Exchange		
(a) NER-ER	**4.12**	**2.83**
(b) ER-NER	**380.18**	**465.76**
(c)NER-NR	**483.06**	**438.76**
(d)NR-NER	0.00	0.00
© Net Import	-107.00	24.17

AVERAGE FREQUENCY (Hz)

Month---->	**Oct-17**	**Sept-17**
	% of Time	% of Time
Below 49.9 Hz	13.60	11.85
Between 49.9 to 50.05 Hz	77.21	78.73
Above 50.05 Hz	9.19	9.57
Average	49.97	49.97
Maximum	50.20	50.32
Minimum	49.65	49.62

C. OLD ITEMS

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

During 138th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 137th OCC Meeting	Latest Status
a. New Projects			
1	CoD of Unit -II of Bongaigoan TPS of NTPC	CoD by Nov'17	
2	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	ICT-1 - Nov'17	
3	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Delay in dam construction. First unit by early 2018.	
4	Pare HEP of NEEPCO (2 x 55 MW)	Delay in dam construction. First unit by early 2018.	
5	400 kV D/C Silchar - Melriat line of PGCIL	March, 2018.	

6	220kV Rangia - Salakati of AEGCL	Delayed. Termination of agreement due to bankruptcy of construction agency.	
7	132kV Monarchak – Surjamaninagar D/C of TSECL	March'18.	
8	400kV D/C Balipara – Kameng	To be matched with Kameng HEP.	
9	RHEP 80 MVAR Bus Reactor	Studies to be conducted in detail.	
10	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	All SLDCs' by Mar'18 full-fledged operation.	
11	400/220 kV 315 MVA ICT-II at Bongaigaon	Manufacturing stage	
12	220/132 kV, 2x160 MVA ICTs at Balipara	ICT-I: DoCO 31.09.17. ICT-II: delayed	
13	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Delayed.	
14	400/132 kV, 1x315 MVA ICT-III at Silchar	Delayed.	
15	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	Delayed.	
16	400 kV Silchar – Misa D/C	2019	
17	1x125 MVAR Bus Reactor at 400 kV at Balipara	December, 2017(LOA date).	
18	1x125 MVAR Bus Reactor at 400 kV Bongaigoan	December, 2017(LOA date).	
19	Bays at Hailakandi & 132V Silchar-Hailakandi	Nov'17	
20	Tuirial HEP of NEEPCO	Unit #I -Trial run completed Unit #II - Dec'2017	

21	400 kV, 63 MVAR Bus Reactor #II at Biswanath Chariali	Oct'17	
22	33kV bay at 220kV Mariani(AS) S/Sn	Formalities to be completed by NERTS with AEGCL.	
23	33kV Tezu-Tezu(AP)	Dec'17	
24	33kV bay for 132kV Badarpur(PG) S/Sn	APDCL to revert back with status.	
b. Elements under breakdown/ upgradation			
25	Up-gradation of 132 kV Lumshnong-Panchgram line	Tendering in process.	
26	Switchable line Reactors at 400kV Balipara & Bongaigoan	CSD to be procured. Bongaigaon- Dec'17	
27	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	May'2018	
28	LILO of 132kV Ranganadi – Nirjuli at Pare of NEEPCO by PGCIL	Completion to be confirmed in writing by NERTS.	
29	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh	Bay 1 at RHEP for Pare: Dec'17 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	
31	Replacement of Main-I relay for 400kV Silchar-Byrnihat at Byrnihat S/Sn	Nov'17	
32	Re-conductoring of 132kV Umiam Stg#III - Umtru	DPR preparation stage.	

Concerned constituents may kindly intimate the status.

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				
Kopili				
Kopili-II				
Ranganadi			Subject to inflow	
Doyang				
Loktak				
AGBPP	-	-	-	-
AGTPP	-	-	-	-

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

The Committee may discuss and approve the proposed shutdown by Generating Stations as given in Annexure – D.2 below.

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 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.

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for November, 2017 - December, 2017 at Annexure- D.2., which is available in the website of NERPC.

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

NETC and POWERGRID have submitted the outage data for the month of June 2017 & July 2017. So the attributability of outage of the said elements June please be finalized.

Members may please discuss.

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 have 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 **30.11.17**.

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.

Members may discuss.

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.

It was also decided to implement the modifications finalized by the forum for already installed SPSs in NER at the earliest. For implementation of the modifications, high speed trip relays are to be put in place. POWERGRID was requested to install High Speed Trip Relays at Azara, Byrnihat and Silchar so that the modified SPS-2, 3 & 4 will be in service at the earliest.

Mock test of SPS-2 & SPS-3 was done on 27th Jul'17. As per report submitted by OTPC, during the mock test on 27th Jul'17, it took 147 milliseconds to reach DT signal from Silchar to Palatana. However, as per discussions in Special Meeting on SPS, UFR etc held on 23rd Jun 2017, total operational time for SPS-2 & 3 should be less than 100 millisecond to save the Tripura system/ Southern Part of NER system**.** During the mock test on 27th Jul'17, 400 kV Silchar – Palatana I line tripped. Detailed report from POWERGRID is yet to be submitted.

Modified schemes in totality and mock test plan for SPS may please be presented in the OCC meeting by implementing agencies.

In 136th OCCM, S.E(C&O), NERPC informed that due to various engagements a meeting could not be organised at Bangladesh for implementation of SPS. He requested TSECL to make necessary arrangements for the meeting slated to be held tentatively in October, 2017.

Sr. Consultant, NETC informed that of late 400kV Silchar- Byrnihat is frequently tripping due to severe lightning problem. These outages are severely affecting OTPC. He further informed that SPS-3 testing was done on 27th July but timing was observed to be 147ms much greater than the 100ms decided in SPS scheme. He requested MeECL/AEGCL to accelerate procurement of HS trip relay at Byrnihat & Azara as decided previously. The forum requested POWERGRID to procure HS trip relay on behalf of MePTCL & AEGCL as this will accelerate the process. The forum advised OTPC not to implement SPS through DCS but through hard wiring as decided in SPS meeting on 23.06.17. The forum decided that mock testing would be conducted once procurement and installation related to modified schemes are in place.

In 137th OCCM, S.E.(C&O),NERPC informed that a meeting in Bangladesh would be convened around second week of Dec'17 to finalize SPS implementation.
NERPC informed the forum that a special meeting on SPS was held on 11.10.17 at in Convention Centre, Shillong after the NERPC board meeting which was attended by NERPC, NERLDC, OTPC and NERTS. The decision of the meeting is as follows:

a. *Spurious operation of SPS-3 on 21st September'17 will be investigated by POWERGRID and come out with reports within 1 week.*
b. *POWERGRID will complete the modification of SPS-2 scheme within 1 week however to match the execution at Palatana, OTPC has to confirm the availability of SAS engineer.*
c. *As informed by OTPC, even in the absence of modification of SPS-2, in the event of outage of one of the 400kV Silchar-Palatana D/C line, SPS 2 will be operating for the other circuits. However, based on actual operational condition, NERLDC will decide the generation level.*

d. Till implementation of modified SPS-3 scheme, the auto-reclosure will be kept at non-auto mode at both ends of 400kV Silchar-Azara S/C & 400kV Silchar-Byrnihat S/C lines.

e. Implementation of modified SPS-3 scheme by Assam, Meghalaya & NERTS will be coordinated by SE, Protection, NERPC.

f. In case of outage of any one of 400kV Silchar-Byrnihat & 400kV Silchar-Azara, generation reduction will be done by NERLDC as per grid conditions

DGM(AM),NERTS informed that a team of NERTS,NERPC/NERLDC had visited Azara on 18.10.17 and checked the DT send logic, which was found to be correct. Similar logic is to be made at 400kV Byrnihat and both DTs (Azara & Byrnihat) are to be combined at Silchar for SPS-3. He further opined that similar scheme for DT combination is to be done at Palatana for SPS-2. Members requested MeECL, OTPC and NERTS to expedite remaining works as above and also modifications suggested in Special Meeting on SPS held on 23.06.17 at the earliest.

NERPC/NERLDC/TSECL/OTPC/NERTS/MeECL may please intimate the status.

D.6. 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 137th OCCM, SE(C&O), NERPC requested all the utilities to submit data by 31.10.2017 so that LGBR may be prepared and finalized by Nov-Dec'17.

AEGCL & P&E, Mizoram already submitted the data.

NERPC/NERLDC may please intimate the status.

D.7. Low voltage in Tripura-Mizoram:

It is seen that every day during peak hours voltage in 132 kV Tripura –Mizoram sub-system comes down to around 122-124 kV. During this time the MW drawal of Bangladesh remains at 140-160MW while their VAR drawal remains to around 44-50 MVAR. Tripura drawal from grid also remains high. The system voltage in the sub-system comes down to 122-124 kV level [in RC Nagar (122), Agartala (123), Aizawl(124)] and this part of grid remains very vulnerable. Inspite of opening of all line/bus reactors at Silchar, voltage condition remains grim. MVAR support from Monarchak, Rokhia, Baramura remains low or no support as per the MVAR capability curve of the machines.

As highlighted above whenever system voltage comes down to 124 kV during peak hours, RCNagar machines trip aggravating the situation. RCNagar generation comes down to around 15-20 MWs.

The 136th OCC forum requested TSECL to regulate Bangladesh MVAR drawal and conduct meeting at appropriate level in this regard. It was also decided that Tripura should conduct studies and submit DPR of scheme for installation of Capacitor banks at the earliest.

As per deliberations in 17th TCC/RPC it was decided that System Studies for reactive compensation would be conducted by Tripura & Mizoram. Elements like 400kV Silchar-Melriat and other about to be commissioned elements are to be considered while conducting the studies

The 137th OCC forum requested SLDC Tripura & Mizoram to conduct detailed studies in association with respective distribution utilities at the earliest.

TSECL/P&ED Mizoram may please update the status.

D.8. <u>SCADA & Communication Issues:</u>

A. Non-availability of CB status - Numbers of CB status of ISTS , ISGS as well as STUs are out or wrong since long and due to this Sequence of Events reports are not indicating correct pictures of events of the Grid. In case of any tripping/disturbance SOE is one of the main report through which we can analyze any event but as CB status are not updating correctly, SOE is not giving correct picture of chronological events. So all the concerned utilities are requested to look into matter so that all CB statuses are logged correctly.

Members may please deliberate.

B. MW and MVAR data validation:

For correctness of real time data i.e. MW/MVAR/KV/FREQUENCY validation is required between the real time system data available at control centres and actual status at site in every quarter and report has to be maintained for verification. But in absence of this validation process, numbers of MW/ MVAR / Voltage data are not reporting correctly and ultimately misleading the real time system operators.

The 137th OCC forum felt that loss of data and telemetry at NERLDC is a serious issue. This has been a subject of intense discussion in NETeST forum. After detailed deliberation it was decided that commitments w.r.t. RTU/SCADA/Communication would be reviewed in a tabular form in every OCC meetings.

The latest status including voice communication is attached at Annexure D.9.

Members may please discuss.

D.9. Ratification of Demand & Generation Projection for Q4 FY17-18:

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.

In line with the decision in the Validation Committee meeting, Demand and Generation projections w.r.t North Eastern Region constituents as given by Implementing Agency is attached in **Annexure D.9** for ratification in 138th OCC Meeting of NERPC.

Members may please ratify.

AGENDA ITEM FROM NEEPCO:

D.10. Shutdown of gas supply to AGBPP:

M/s AGCL has planned to carry out Gas Pigging and cleaning works of 7.2 km Kathalguri OCS to NEEPCO gas pipe line along few other maintenance works as per guidelines of PNGRB (Petroleum and Natural Gas Regulatory Board) in 1st week of December, 2017 with total shut down of gas supply to NEEPCO for a period of 10 days and intimated us accordingly vide their letter dtd 27.10.2017.

NEEPCO however has strongly expressed its disapproval on the proposed initiatives taken by AGCL in such a short notice and issued a letter requesting them to defer the program till August/ September, 2018 (high hydro season) giving sufficient notice period to NEEPCO thus enabling it to do necessary planning.

On reply, M/s AGCL vide their letter under ref sl no. 3 has informed NEEPCO that the subject maintenance will be difficult to carryout in the month of Aug-Sept due to high underground water table and proposed to execute the works during 15th Feb to 25th Feb, 2018.

As there will be no generation from AGBP during the shutdown period of 10 days, NEEPCO has to take prior approval from the OCC.

The details are attached at **Annexure. D.10.**

NEEPCO may please deliberate.

AGENDA ITEM FROM NERLDC:

D.11. 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. Further as per IEGC clause 5.8(a) this document needs to be revised annually.2016 version of Restoration Procedure of NER is available in NERLDC website (www.nerldc.org/documentindex.aspx) and it is password protected. Password is 2016. So all entities of NER Grid are requested to please go through the 2016 revision of Restoration procedure & annexures and forward us the changes in

Network, Power maps etc by 5th December'2017 so that draft Restoration Procedure can be prepared and published before 139th OCC. In this connection our communication vide no. NERLDC/SO-I/10477-90 dt.09/11/2017 may please refer. It may please be noted that the Procedure is to be finalized by end of December, 2017 positively.

Members may please take needful action.

D.12. Recording of operational instructions over VOIP in RLDC:

It is very important to record operational instructions and keep these records for future requirement. As per CEA grid standards regulations 2010 (point 8) recording of instructions by RLDC as well as SLDCs are compulsory. Due to absence of recording system with VOIP communication system established since 2015 all real time instructions and conversations thro' this network are getting lost and can't be produced whenever it is required. Though there is provision of voice recorder with present VOIP voice communication system but it is not yet implemented. It may please be noted that recording facility was available in earlier PUNWARE ULDC dedicated communication system.

POWERGRID is requested to establish the same at the earliest.

D.13. 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.

Members may please discuss.

D.14. 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 are attached at **Annexure D.14.**

This is for information & necessary action please.

D.15. Feedback to IMD on Weather Website for North Eastern Region:

Shri Piyush Goyal, 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.

NERLDC gave presentations on Weather Portal of North Eastern Region during 132nd OCC Meeting and Scientist from IMD, Guwahati also gave presentation on the Weather Portal during 134th OCC Meeting.

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.

All the utilities of NER are requested to give their feedback to NERLDC by 30th November, 2017 so that the same can be forwarded to IMD.

This is for information & necessary action please.

D.16. Utilisation of 4 nos Tertiary Reactors at Misa Sub-station:

4 nos Tertiary Reactors are connected in 400/220 kV, 3x105 MVA Single Phase ICT at Misa which will be replaced by 2 nos 500 MVA ICTs. It is proposed to connect 2 nos Tertiary Reactors in each 500 MVA ICT at Misa.

Members may please discuss.

METERING RELATED ITEMS

D.17. Update on Real Time Energy Assessment for Effective Grid Management:

As decided in 137th. OCC meeting, the matter regarding visit of CDAC to NERLDC was pursued and CDAC representative visited NERLDC on 16.11.2017. Complete details of Meters pertaining to all NER States as sought by CDAC was handed over to them (**Annexure-D.17**). There are total existing 76 SEMs which would cover computation of drawal by seven States. A list of projected future meters is also given in the statement for integration as and when commissioned.

CDAC would install the AMR system to compute net drawal by each State on every 15 minute time block basis and schedule vs actual as well as computed Deviation charges would be displayed in a server in each SLDC, NERLDC and NERPC secretariat.

As all required data has been handed over, CDAC was advised to start work on the project at the earliest. CDAC need to chalk out an action plan and intimate time bound plan to NERPC so that progress can be monitored in each OCC meeting. It was suggested that work on a particular State at a time may be commenced and completed in time bound target.

OCC members may discuss and approve the scheme.

D.18. Procurement of additional 70 Laptops:

Target as intimated by NERTS:

i. e-RA : 30.10.2017

ii. LOA : 15.11.2017

iii. Material Dispatch: 30.11.2017

NERTS may confirm regarding issuance of LOA.

D.19. Installation of new L&T SEMs in NER:

The detailed SEM Installation schedule was submitted by NERTS and requested availability of concerned Engineers of respective utilities for installation activity. The schedule was agreed by Metering Committee.

NERTS may intimate status of installation so far.

D.20. AMR in NER:

Status as intimated by NERTS in last meeting:

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).

NERTS may intimate status

D.21. Testing of SEMs at accredited laboratory:

NERTS stated that fresh offer was received only from a single party viz. M/s Yadav Measurements Pvt. Limited. As per Offer of M/s YMPL, the estimated cost is Rs.12, 55,500.00 excluding GST @18% plus boarding/lodging /local transportation extra. POWERGRID proposed to go ahead to frame cost estimate based on single offer. Metering Committee agreed.

NERTS may intimate status.

D.22. Other Metering issues:

S.N	LOCATION	LOC. ID	METER NO	FEEDER NAME	REMARKS
1	SALAKATI	AS-30	NP-9434-A	SALAKATI END OF BTPS 1	SALAKATI END READING 1/3 of BTPS END
2	AIZAWL	MZ-08	NP-8486-A	AIZAWL END OF KOLASIB	AIZAWL END READING 2/3 OF KOLASIB END
6	IMPHAL(MN)	ZZ-01	NP-8374-A	IMPHAL(MN) END OF IMPHAL(PG) II	IMPHAL(MN) END READING 10% LOWER THAN IMPHAL(PG) END
3	IMPHAL(MN)	MN-01	NP-6950-A	IMPHAL(MN) END OF IMPHAL(PG) I	REVERSE POLARITY & READING HIGHER BY 12% OF IMPHAL(PG) END
4	NINGTHOUKONG	MN-17	NP-4498-A	NINGTHOUKONG(MN) END OF IMPHAL(PG)	NINGTHOUKONG END SHOWING REVERSE POLARITY & READING ONLY 12% OF THE OTHER END.
5	RENGPANG	MN-11	NP-6909-A	RENGPANG END OF LOKTAK	RENGPANG END SHOWING REVERSE POLARITY

NERLDC may please deliberate.

AGENDA ITEM FROM NERPC:

D.23. Grid Integration of RE and options for managing intra-day load/generation variation:

In the FOR Technical Committee meeting on 18.08.2017 the various options for handling intra-day load generation were discussed which are as follows:-

1. Banking.
2. DAM price on PX as reference.
3. Pool based on VC as approved by the regulator and on payment of cost.
4. Pool based on VC as approved by the regulator and on payment of marginal cost.
5. Pool based on auction (intra-day for the rest of the day).

6. Pool based on auction (hourly).

7. Pool based on auction (intra-hour i.e. 15 minutes block).

The details are attached at **Annexure. D.23**

Members may please discuss.

AGENDA ITEM FROM TSECL:

D.24. Outage of important lines and availability:

Since long, Durllavcherra- Dharmanagar & both circuit of P.K.Bari- Silchar line is out. As reliability support charge TSECL is paying the full charges in the POC mechanism. NERPC is requested to kindly look into the matter & discuss in the OCC forum.

TSECL may please deliberate.

Any other item:

Date and Venue of next OCC

It is proposed to hold the 139th OCC meeting of NERPC on second week of December, 2017. The date & exact venue will be intimated in due course.

*****

Generation Projection (Jan 2018 - Mar 2018)

				Generation declared Commercial from 1st Apr '17 to 30th Sep'17					Generation declared/expected to be declared Commercial from 1st Oct'17 to 31st Dec'17								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
108	**AGTPP, NEEPCO**	**NER**	129											129		132	132
109	**Doyang, NEEPCO**	**NER**	52											52		63	63
110	**Kopili, NEEPCO**	**NER**	161											161		0	0
	Kopili 2, NEEPCO	**NER**	23											23	As per data given by NEEPCO	21	21
111	**Khandong, NEEPCO**	**NER**	41											41		43	43
112	**Ranganadi, NEEPCO**	**NER**	402											402		401	401
113	**AGBPP_Kathalguri**	**NER**	234											234		220	220
115	**Loktak, NHPC**	**NER**	105											105	As per NHPC	105	105
116	**Palatana GBPP**	**NER**	674											674	As per OTPC	547	547
117	**Bongaigaon_NTPC**	**NER**	239						Bongaigaon_NTPC	2	250	165	165	404	As per NTPC	460	460
118	**Arunachal Pradesh**	**NER**	0											0			0
119	**Assam**	**NER**	306											306		231	231
120	**Manipur**	**NER**	0											0			0
121	**Meghalaya**	**NER**	130											130		321	321
122	**Nagaland**	**NER**	15											15		16	16
123	**Tripura**	**NER**	84											84		73	73
124	**Mizoram**	**NER**	6											6	As per data given by Mizoram	8	8
	TOTAL		**2601**					**0**					**165**	**2766**			**2641**

Note:

1. Projections are based on monthly maximum injection in the last 3 years from actual metered data.
2. Generation forecast has been done based on the following criteria
(i) If there is an increasing trend then last year average generation has been considered
(ii) Otherwise average of past three year average generation has been considered
3. In case of new generators where past data was not available following has been assumed
(i) 0.80 plf for hydro generators
(ii) 0.7 plf for thermal generators.
(iii) 0.3 plf for gas stations

DEMAND FORECAST USING PAST 3 YEARS DATA (Jan 2018 - Mar 2018)

	2014-15			2015-16			2016-17			1	2	3	4	Data given by DICs	Comments
	Jan-15	Feb-15	Mar-15	Jan-16	Feb-16	Mar-16	Jan-17	Feb-17	Mar-17	2014-15 Average	2015-16 Average	2016-17 Average	Projected Demand for (Jan 2018 - Mar 2018) before		
Arunachal Pradesh	115	115	107	117	135	113	120	135	138	112	122	131	140	130	As per Arunachal Pradesh
Assam	1,220	1,215	1,215	1,330	1,327	1,316	1,464	1,396	1,391	1,217	1,324	1,417	1,520	1550	As per Assam
Manipur	144	136	146	166	158	155	163	162	158	142	160	161	173	171	As per Manipur
Meghalaya	343	316	343	377	322	315	331	300	298	334	338	310	303	310	As per Meghalaya
Mizoram	88	88	81	101	99	84	98	93	94	86	95	95	101	93	As per data given by Mizoram
Nagaland	123	120	128	122	118	114	121	147	122	124	118	130	130	123	As per Nagaland
Tripura	210	212	233	219	227	248	223	223	228	218	231	225	231	300	As per Tripura
N. Eastern Region	**2,202**	**2,155**	**2,131**	**2,332**	**2,328**	**2,367**	**2,320**	**2,234**	**2,200**						
All India Peak Met	**1,35,348**	**1,35,201**	**1,37,678**	**1,43,401**	**1,42,994**	**1,44,766**	**1,47,094**	**1,49,322**	**1,54,148**	**1,36,076**	**1,43,720**	**1,50,188**	1,57,440		

Notes

1. Projections are based on the past 3 years' monthly Peak Demand Met data available on the website of CEA
2. The above projections are being done for financial year 2017-2018 (Q4) i.e January 2018 to March 2018
3. Projections are being done based on the forecast function available in MS Office Excel
4. CEA Reports can be accessed from the following links:

http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-01.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-01.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-01.pdf

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED
नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(A Govt. of India Enterprise)
(भारत सरकार का संस्थान)
Office of the Head of Project, AGBP, NEEPCO, Bokuloni
कार्यालय, संयंत्र प्रमुख, एजिबिपि, नीपको, बकुलनि

NEEPCO/AGBP/HOP/T-9(A)/2017-18/ 328

14.11.17

Inter Office Memo
अंतरिम कार्यालय ज्ञापन

From: HOP, AGBP

To: The Executive Director (O&M)
NEEPCO Ltd., Shillong

Sub: AGCL request for temporary shutdown of Gas supply to NEEPCO for carrying out Gas Pipe line maintenance.

Ref: 1. AGCL letter ref: GP/PL/01/2015/Pt-III/132 dtd 27.10.2017
2. Our letter ref: NEEPCO/AGBP/HOP/T-9/2017-18/297 dtd 30.10.2017
3. AGCL letter ref: INST-AGCL/NEEPCO/95/VI/ON dtd 14.11.2017

M/s AGCL has planned to carry out Gas Pigging and cleaning works of 7.2 km Kathalguri OCS to NEEPCO gas pipe line along few other maintenance works as per guidelines of PNGRB (Petroleum and Natural Gas Regulatory Board) in 1st week of December, 2017 with total shut down of gas supply to NEEPCO for a period of 10 days and intimated us accordingly vide their letter under ref sl 1 (copy enclosed).

We however strongly expressed our disapproval on the proposed initiatives taken by AGCL in such a short notice and issued a letter requesting them to defer the program till August/ September, 2018 (high hydro season) giving sufficient notice period to us enabling us to do necessary planning from our side as well.

On reply, M/s AGCL vide their letter under ref sl no. 3 has informed us that the subject maintenance will be difficult to carryout in the month of Aug-Sept due to high underground water table and proposed to execute the works during **15th Feb to 25th Feb, 2018**.

As there will be no generation from AGBP during the shutdown period of 10 days, we shall have to take prior approval from the OCC.

Submitted for kind perusal and further instruction please.

14/11/17

Encl. as above

(H. K. Changmai)
(हरि कृष्ण चांमाई)
HOP, AGBP, NEEPCO
संयंत्र प्रमुख, एजिबिपि, नीपको

P. O. DULIAJAN
DIST. DIBRUGARH
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FAX : (0374) 2800557
e-mail : info@assamgas.org
Visit us : www.assamgas.org

ASSAM GAS COMPANY LTD
(A GOVT. OF ASSAM UNDERTAKING)

An ISO 9001:2008 Company

CIN OF AGCL : U11101AS1962SGC001184

No: INST-AGCL/NEEPCO/95/VI/ON

Date: 14/11/2017

To,
The General Manager & HoP
NEEPCO
P.O. Bokuloni
Dist: Dibrugarh

Email ID: h_changmai@rediffmail.com

Sub: Temporary suspension of gas supply to NEEPCO
Ref: (i) Our earlier letter no. GP/PL/01/2015/Pt.III/132 dtd. 27/10/2017
(ii) Your reply letter no. NEEPCO/AGBP/HOP/T-9/2017-18/297 dtd. 30/10/2017

Dear Sir,

Inviting reference to your above letter, we would like to inform you that Gas Pigging and Cleaning of trunk pipeline is required for health check-up of the pipeline and needs to be carried out at regular interval. Accordingly, we planned to take up the work in 1st week of December 2017. This activity will lead to suspension of gas to your Power Generation Plant for 10 (ten) days period which we had intimated to you vide our earlier letter.

We understand that you need to take permission from different statutory bodies before taking a decision for complete shutdown of your plant. As stated in your letter, it will be difficult on our part to carry the work in August-September 2017 due to high underground water table. Considering this aspect, we have re-examined the case and found that 15th February '18 to 25th February'18 will be most convenient time for us . Therefore, we request you to allow us to work during this period. We assure you that all possible steps will be taken up by us to minimise this time period.

We hope, by this time, you will be in a position to get all necessary approval and allow us to take up the requisite work.

Thanking you,

Yours faithfully,

(S.Tamuli)
DGM(Technical Services)
For MANAGING DIRECTOR

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED
नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(A Govt. of India Enterprise)
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Office of the Head of Project, AGBP, NEEPCO, Bokuloni
कार्यालय, संयंत्र प्रमुख, एजिबिपि, नीपको, बकुलनि

No. NEEPCO/AGBP/HOP/T-9/2017-18/ 297 Dated 30/10/2017

To,
The Managing Director
Assam Gas Company Ltd.
P.O. Duliajan, Assam – 786 602

Sub: AGCL request for temporary shutdown of Gas supply to NEEPCO
Ref: 1. Your letter ref: GP/PL/01/2015/Pt-III/132 dtd 27.10.2017
2. Your e mail dtd 28.10.2017

Sir,

We hereby would like to express our serious concern to receive a sudden request for shut down of gas supply to NEEPCO for a period of 10 (ten) days in the 1st week of December, 2017 to carry out Gas Pigging and cleaning work of Gas pipe line from Kathalguri OCS to NEEPCO vide your letter under reference sl 1. We are shocked over the fact that without any prior intimation or any discussion, AGCL has issued a letter on 27.10.2017 (received by us on 28.10.2017) informing us about taking this decision which has a far reaching effect on the whole North Eastern Region and subsequently on that very date issued an e-mail intimating us about finalizing the program unilaterally with issuance of necessary instruction to the concerned contractor.

We have always been under an impression that AGCL being associated with NEEPCO for last almost 25 years understands the consequences of complete shutdown of a 291 MW Power Plant for a period of 10 (ten) days in such a short notice. AGBP being base load power station with round the clock power generation of 210 MW is the back bone of a stable Power system in the North Eastern Region.

It would therefore be prudent on our part to make you aware of the fact that NEEPCO does not have the authority to go for complete shutdown of its plant for such a long period of its own. There is a Regulatory Committee i.e. NERPC (North Eastern Regional Power Committee) formed under the aegis of Govt. of India with representatives from all the stake holders (all seven NE States) chaired by Power Minister of any one North Eastern State empowered to take such decision.

The proposal for such shutdown must be forwarded to the above committee by the respective Power Plant for detailed deliberation and necessary approval. Further, generation of power is being considered as one of the emergency services for the society. For approval of such shutdown, thoughtful planning for managing the shortfall of power in the region is required involving all the stake holders. From the past experiences, it is seen that generally no thermal power station is allowed to go for any planned shut down during lean hydro period (Oct-Nov to March-April), in the interest of the people of the North Eastern Region, as generations from all hydro stations are much less due to shortage of water. However, there may be deviations only in case of extreme emergency supported by facts and figures.

Under the above circumstances, you are requested to kindly review your decision for taking shutdown in the month of December and plan sometime in the month of August – September, 2018 for convenience of all stakeholders and in the interest of the people of the North Eastern Region.

Thanking you,

Yours faithfully,
30/10/17
H. K. Changmai)
(हरि कृष्ण चांमाई)
HOP, AGBP, NEEPCO

Copy forwarded for kind information to:
The DGM(E/M), AGBP
31/10/17
Sr. M(E/M)
O/o HOP

O/C

O/O M. NEEPCO/AGBP/HOP/T-9/ 1489
DATED 31/10/2017

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ASSAM GAS COMPANY LTD
(A GOVT. OF ASSAM UNDERTAKING)

An ISO 9001:2008 Company

CIN OF AGCL : U11101AS1962SGC001184

No. :- GP/PL/01/2015/Pt.-III/132

Date: 27/10/2017

plean prepare draft Deputy

28/10/17

To
The Head of Project
NEEPCO
P.O. Bokuloni
Bhadoi Pachali

e-mail :- h_changmai@rediffmail.com

Sub.:- Temporary shutdown of gas supply to NEEPCO

Dear Sir,

As per the guidelines of PNGRB (Petroleum and Natural Gas Regulatory Board), AGCL is planning to carry out Gas Pigging and cleaning work of the Kathalguri OCS to NEEPCO, 550 /500 mm NB x 7.20 km gas pipeline along with few other maintenance works.

We have estimated that total 10 (ten) working days will be required to complete the work and during this period gas supply to NEEPCO will remain suspended. However, we will put our best effort to minimize the shutdown period of the pipeline.

Accordingly, we are planning to takeup the job in the 1st week of December 2017.

We hope you will bear with us considering the safety of the pipeline and enable us to comply with PNGRB Guidelines.

Thanking you.

Yours faithfully,

(S. Tamuli)
DGM (TS)
For Managing Director

Copy to:- 1. CGM (GMS) Oil India Ltd., Duliajan

Senario : February 2018 **20/Nov/17**

Sl. No.	Substation	Voltage Ratio (kV)	Transformer No.	Capacity in MVA	Controlled Bus	Tap Step (%)	Total Tap Positions	Nominal Tap	Present Tap	Voltage Profile				Optimised Tap Changer Position
										Off-Peak			Peak	
										Nominal Taps	Present Tap setting	After Optimisaton	After Optimisaton	
1	Balipara	400/220	1	315	400kV	1.25	17	9	9	423	421	416	411	NO (9)
		400/220	2	315	400kV	1.25	17	9	9					NO (9)
		220/132	1	50	132kV	1.25	17	9	9	143	142	141	139	NO (9)
		220/132	2	100	132kV	1.25	17	9	9					NO (9)
2	Bongaigaon	400/220	1	315	400kV	1.25	17	9	12	426	425	417	409	NO-5 (4)
3	Salakati	220/132	1	50	132 kV	1.25	17	9	13	144	135	135	134	NO + 6 (15)
		220/132	2	50	132 kV	1.25	17	9	16					NO + 6 (15)
4	Misa	400/220	1	315	400kV	1.25	17	9	5	426	421	415	411	NO + 6 (15)
		400/220	2	315	400kV	1.25	17	9	5					NO + 6 (15)
5	Ranganadi HEP	400/132	1	360	400 kV	2.5	17	9	9	420	416	408	413	NO - 3 (6)
		400/132	2	360	400 kV	2.5	17	9	9					NO - 3 (6)
6	Azara	400/220	1	315	400kV	1.25	17	9	8	427	425	410	410	NO + 1 (10)
		400/220	2	315	400kV	1.25	17	9	8					NO + 1 (10)
7	Biswanath Chariali (PG)	400/132	1	200	400 kV	1.25	17	9	8	423	420	414	412	NO (9)
		400/132	2	200	400 kV	1.25	17	9	8					NO (9)
8	Silchar	400/132	1	200	400 kV	1.25	17	9	9	422	421	412	411	NO - 3 (6)
		400/132	2	200	400 kV	1.25	17	9	9					NO - 3 (6)
9	Byrnihat	400/220	1	315	400 kV	1.25	17	9	9	435	437	422	415	NO - 6 (3)
		400/220	2	315	400 kV	1.25	17	9	9					NO - 6 (3)
		220/132	5083/1	160	132 kV	1.25	17	9	9	148	149	145	141	NO + 4 (13)
		220/133	5083/1	160	132 kV	1.25	17	9	9					NO + 4 (13)
10	Palatana	400/132	1	125	400 kV	1.25	17	9	9	420	420	410	410	NO - 3 (6)
		400/132	2	125	400 kV	1.25	17	9	9					NO - 3 (6)
11	BgTPP	400/220	2	125	220 kV	1.25	17	9	9	426	425	417	409	NO - 5 (4)

Note : a) NO indicates Nominal Tap position, b) NO-1 when HV bus is controlled bus, indicates transferring MVAR from HV bus to LV bus to reduce voltage of the HV bus and increase voltage of LV bus

Details of Special Energy Meters at inlet points of NER States

Main Meters

Loc. ID	Meter (Make)	Meter No.	CTR	PTR	Place of installation of SEM	Mobile/ Telephone conectivity
AR. PRADESH INLET POINTS						
RN-01	LnT	NP-5792-A	500	1200	RANGANADI END OF 132kV NIRJULI FEEDER	YES
AR-04	LnT	NP-5306-A	300	1200	NIRJULI END OF 132kV GOHPUR FDR	YES
RN-11	LnT	NP-5278-A	500	1200	RANGANADI END OF 132kV ZIRO FDR	YES
KT-14	LnT	NP-6885-A	400	2000	KATHALGURI END OF 132kV DEOMALI FDR	YES
AS-55	LnT	NP-5306-A	300	1200	BALIPARA END OF 132kV KHUPI-KIMI FDR	YES
RN-12	LnT	NP-7664-A	100	300	RHEP END OF 33kV PARE FDR	YES
ASSAM INLET POINTS						
AS-03	LnT	NP-6888-A	800	2000	MARIANI END OF 220kV KATHALGURI FDR	YES
AS-04	LnT	NP-6886-A	800	2000	MARIANI END OF 220kV MISA FDR	YES
AR-04	LnT	NP-5306-A	300	1200	NIRJULI END OF 132kV GOHPUR FDR	YES
AS-06	LnT	NP-7595-A	400	1200	PANCHGRAM END OF 132kV LUMSHNONG FDR	YES
ME-03	LnT	NP-8474-A	400	1200	UMTRU END OF 132kV KAHELIPARA FDR- 1	YES
ME-04	LnT	NP-8475-A	400	1200	UMTRU END OF 132kV KAHELIPARA FDR- 2	YES
ME-05	LnT	NP-8491-A	400	1200	UMTRU END OF 132kV SARUSAJAI FDR- 2	YES
ME-07	LnT	NP-8473-A	400	1200	UMTRU END OF 132kV SARUSAJAI FDR- 1	YES
AS-07	LnT	NP-6872-A	600	1200	PANCHGRAM(ASEB) END OF132kV BDP (PG) FDR	YES
AS-08	LnT	NP-6946-A	400	1200	D' CHERRA END OF 132kV D'NGAR FDR	YES
AS-11	LnT	NP-8494-A	50	1200	HAFLONG CONSUMPTION	YES
AS-38	LnT	NP-8634-A	500	2000	MISA END OF 220kV SAMAGURI FDR-1	YES
AS-39	LnT	NP-8637-A	500	2000	MISA END OF 220kV SAMAGURI FDR-2	YES
AS-30	LnT	NP-5314-A	800	2000	SALAKATI END OF 220kV BTPS FDR- 1	YES
AS-31	LnT	NP-5297-A	800	2000	SALAKATI END OF 220kV BTPS FDR- 2	YES
AS-42	LnT	NP-5307-A	800	2000	BALIPARA END OF SONABIL FDR -1	YES
AS-47	LnT	NP-6893-B	40	300	MARIANI END OF 33kV CHANKI FDR	YES
AS-57	LnT	NP-6150-A	400	1200	BALIPARA END OF 132kV GOPHUR FDR	YES
AS-73	LnT	NP-8368-A	300	1200	RANGIA END OF MOTONGA(DEOTHANG) FDR	YES
AS-75	ELSTER	NP-8664-A	500	1200	SILCHAR END OF 132kV SRIKONA FDR -1	YES
AS-76	ELSTER	NP-8665-A	500	1200	SILCHAR END OF 132kV SRIKONA FDR -2	YES
AS-81	ELSTER	NP-8666-A	500	1200	SILCHAR END OF 132kV HAILAKANDI-1 FDR	YES
AS-82	ELSTER	NP-8667-A	500	1200	SILCHAR END OF 132kV HAILAKANDI-2 FDR	YES
AS-86	LnT	NP-8484-A	400	1200	AGIA END OF 132kV MENDIPATHAR FDR	YES
AS-93	ELSTER	NP-8588-A	1000	3636.36	AZARA END OF 400kV SILCHAR FDR	YES
KT-15	LnT	NP-9650-A	800	2000	KATHALGURI END OF 220kV TINSUKIA FDR -1	YES
KT-16	LnT	NP-9443-A	800	2000	KATHALGURI END OF 220kV TINSUKIA FDR -2	YES
MN-06	LnT	NP-8499-A	400	1200	JIRIBAM END OF PAILAPOOL FDR	YES
NG-08	LnT	NP-5287-A	300	1200	DIMAPUR END OF 132kV BOKAJAN FDR	YES
AM-01	ELSTER	NP-8658-A	1000	3636.36	AZARA END OF 400kV BONGAIGAON FDR	YES
KK-01	LnT	NP-5780-A	300	1200	KHANDONG END OF 132kV UMRANGSOO FDR	NO
AS-69	LnT	NP-8502-A	400	1200	HAFLONG END OF 132kV KHANDONG FDR	YES
AM-10	ELSTER	NP-4500-A	300	1200	BNC END OF 132 KV PAVOI-1	YES
AM-11	ELSTER	NP-4502-A	300	1200	BNC END OF 132 KV PAVOI-2	YES
NT-14	LnT	NP-5281-A	1600	2000	NTPC ICT-2 LV SIDE	YES

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Recvd Documents
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Details of Special Energy Meters at inlet points of NER States

MANIPUR INLET POINTS							
LO-04	LnT	NP-9045-A	400	1200	LOKTAK END OF NINGTHOUKHONG FDR	YES	
MN-03	LnT	NP-6949-A	400	1200	KARONG END OF 132kV KOHIMA FDR	NO	
MN-04	LnT	NP-8501-A	50	1200	JIRIBAM 132/33kV TRF (MANIPUR CONSUMPTION)	YES	
MN-05	LnT	NP-8378-A	600	1200	IMPHAL(PG) END OF 132kV OF YUREMBAM -I FDR	YES	
MN-06	LnT	NP-8499-A	400	1200	JIRIBAM END OF PAILAPOOL FDR	YES	
MN-10	LnT	NP-9581-A	300	1200	IMPHAL(PG) END OF 132kV NINGTHOUKONG(MN) FDR	YES	
LO-01	LnT	NP-9065-A	400	1200	LOKTAK END OF RENGPANG FDR	YES	
MN-12	LnT	NP-8500-A	300	1200	JIRIBAM(PG) END OF 132kV OF JIRIBAM(MN) FDR	YES	
MN-13	LnT	NP-9520-A	300	1200	IMPHAL(PG) END ICT- 1	YES	
MN-14	LnT	NP-9522-A	300	1200	IMPHAL(PG) END ICT- 2	YES	
MN-16	LnT	NP-8670-A	300	1200	IMPHAL(PG) END OF 132kV OF YUREMBAM -II FDR	YES	10
MEGHALAYA INLET POINTS							
AS-06	LnT	NP-7595-A	400	1200	PANCHGRAM END OF 132kV LUMSHNONG FDR	YES	
ME-03	LnT	NP-8474-A	400	1200	UMTRU END OF 132kV KAHELIPARA FDR- 1	YES	
ME-04	LnT	NP-8475-A	400	1200	UMTRU END OF 132kV KAHELIPARA FDR- 2	YES	
ME-05	LnT	NP-8491-A	400	1200	UMTRU END OF 132kV SARUSAJAI FDR- 2	YES	
ME-06	LnT	NP-6881-A	300	1200	KHLRT (PG) END OF 132kV KHLRT(MeSEB) FDR- 1	YES	
ME-07	LnT	NP-8473-A	400	1200	UMTRU END OF 132kV SARUSAJAI FDR- 1	YES	
ME-09	LnT	NP-6880-A	600	1200	KHLRT (PG) END OF 132kV KHLRT(MeSEB) FDR-2	YES	
AS-70	LnT	NP-9092-A	800	2000	MISA(PG) END OF 220kV BYRNIHAT(KILLING) FDR- 1	YES	
AS-72	LnT	NP-9091-A	800	2000	MISA(PG) END OF 220kV BYRNIHAT(KILLING) FDR- 2	YES	
ME-14	LnT	NP-8370-A	1000	3636.36	BYRNIHAT(KILLING) END OF 400kV B'GAON FDR	YES	
AS-86	LnT	NP-8484-A	400	1200	AGIA END OF 132kV MENDIPATHAR FDR	YES	11
MIZORAM INLET POINTS							
MZ-01	LnT	NP-8485-A	300	1200	AIZAWL(PG) END OF 132kV LUANGMUAL FDR	YES	
MZ-11	LnT	NP-8497-A	300	1200	KOLASIB END OF 132kV BADARPUR(PG) FDR	YES	
MZ-12	LnT	NP-8496-A	600	1200	KOLASIB END OF 132kV AIZAWL(PG) FDR	YES	
MZ-14	LnT	NP-8504-A	300	1200	MELRIAT(PG) END OF 132kV ZUANGTUI FDR	YES	
MZ-15	LnT	NP-9565-A	600	1200	MELRIAT(PG) END OF SHIMUI I FDR	YES	
MZ-16	LnT	NP-9497-A	600	1200	MELRIAT(PG) END OF SHIMUI II FDR	YES	6
NAGALAND INLET POINTS							
NG-01	LnT	NP-9451-A	300	1200	DIMAPUR (PG) END OF 132kV DIMAPUR (S) FDR -1	YES	
MN-03	LnT	NP-6949-A	400	1200	KARONG END OF 132kV KOHIMA FDR	NO	
DY-03	LnT	NP-8799-A	300	1200	DHEP END OF 132kV SANIS FDR	NO	
DY-04	LnT	NP-9053-A	300	1200	DHEP END OF 132kV MOKOKCHUNG FDR	NO	
NG-16	LnT	NP-8472-A	600	1200	DIMAPUR(PG) END OF 132kV KOHIMA(S) FDR	YES	
NG-17	LnT	NP-9649A	600	1200	DIMAPUR (PG) END OF 132kV DIMAPUR(S) FDR -2	YES	
NG-20	ELSTER	NP-4517-A	300	1200	MOKOK(S) END OF MOKOK-MOKOK-1	YES	
NG-21	ELSTER	NP-4511-A	300	1200	MOKOK(S) END OF MOKOK-MOKOK-2	YES	
AS-47	LnT	NP-6893-B	40	300	MARIANI END OF 33kV CHANKI FDR	YES	9
TRIPURA INLET POINTS							
AG-01	LnT	NP-9081-A	600	1200	AGTPP END OF 132kV AGARTALA FDR- 1	YES	
AG-02	LnT	NP-9093-A	600	1200	AGTPP END OF 132kV AGARTALA FDR- 2	YES	
TR-04	LnT	NP-6860-A	600	1200	KUMARGHAT(PG) END OF 132kV P.K.BARI FDR	YES	
AS-08	LnT	NP-6946-A	400	1200	D' CHERRA END OF 132kV D'NGAR FDR	YES	
PL-03	LnT	NP-7603-A	800	1200	PALATANA END OF 132kV OF UDAIPUR LINE 1	YES	
PL-04	LnT	NP-8381-A	1600	1200	PALATANA END OF 400kV OF SM NAGAR	YES	
ZZ-24	ELSTER	NP-8569-A	500	1200	SILCHAR END OF 132 KV PK'BARI -1	YES	
ZZ-25	ELSTER	NP-8563-A	500	1200	SILCHAR END OF 132 KV PK'BARI -2	YES	8
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NEW ELEMENTS		
STATE	**LOCATION**	**Place of installation of SEM**
AR. PRADESH	BNC(PG)	BNC END OF ITANAGAR FDR
AR. PRADESH	BNC(PG)	BNC END OF GOHPUR FDR
AR. PRADESH	ITANAGAR(S)	ITANAGAR END OF GOHPUR FDR
AR. PRADESH	ITANAGAR(S)	ITANAGAR END OF RANGANADI
AR. PRADESH	RHEP(NEEPCO)	RANGANADI END OF PARE FDR
AR. PRADESH	PARE(NEEPCO)	PARE END OF ITANAGAR FDR
AR. PRADESH	PARE(NEEPCO)	PARE END OF NIRJULI FDR
AR. PRADESH	PARE(NEEPCO)	PARE END OF NORTH LAKHIMPUR FDR
ASSAM	SONAPUR(S)	SONAPUR END OF BYRNIHAT FDR
ASSAM	SONAPUR(S)	SONAPUR END OF SILCHAR FDR
ASSAM	MARIANI(PG)	MARIANI (PG) END OF MARIANI (AS) I FDR
ASSAM	MARIANI(PG)	MARIANI (PG) END OF MARIANI (AS) II FDR
ASSAM	MARIANI(PG)	MARIANI(PG) END OF KHUMTAI I FDR
ASSAM	MARIANI(PG)	MARIANI(PG) END OF KHUMTAI II FDR
ASSAM	MISA(PG)	MISA END OF SANKARDEVNAGAR I FDR
ASSAM	MISA(PG)	MISA END OF SANKARDEVNAGAR II FDR
ASSAM	NTPC	NTPC ICT 2 (LV) SIDE
MANNIPUR	THOUBAL(S)	THOUBAL END OF SILCHAR FDR
MANNIPUR	THOUBAL(S)	THOUBAL END OF IMPHAL FDR
MANNIPUR	LOKTAK(NHPC)	LOKTAK END OF NINGTHOUKONG FDR II
MANNIPUR	LOKTAK(NHPC)	LOKTAK END OF RENGPANG FDR II
TRIPURA	PKBARI(TBCB)	PKBARI (TBCB) END OF PKBARI (TSECL) I FDR
TRIPURA	PKBARI(TBCB)	PKBARI (TBCB) END OF PKBARI (TSECL) II FDR
TRIPURA	AGTCCPP (NEEPCO)	AGTCCPP END OF PKBARI (TSECL) I FDR
TRIPURA	AGTCCPP (NEEPCO)	AGTCCPP END OF PKBARI (TSECL) II FDR
TRIPURA	PALATANA(OTPC)	PALATANA END OF SURAJMANINAGAR II FDR
TRIPURA	SURAJMANINAGAR (TBCB)	SURAJMANINAGAR (TBCB) END OF SURAJMANINAGAR (TSECL) I FDR
TRIPURA	SURAJMANINAGAR (TBCB)	SURAJMANINAGAR (TBCB) END OF SURAJMANINAGAR (TSECL) II FDR
MANNIPUR	IMPHAL (PG)	IMPHAL(PG) END OF YUREMBAM III FDR
MANNIPUR	IMPHAL (PG)	IMPHAL(PG) END OF YUREMBAM IV FDR
ASSAM	RANGIA (TBCB)	RANGIA (TBCB) END OF RANGIA (AS) I FDR
ASSAM	RANGIA (TBCB)	RANGIA (TBCB) END OF RANGIA (AS) II FDR
ASSAM	RANGIA (TBCB)	RANGIA (TBCB) END OF AMINGAON (AS) I FDR
ASSAM	RANGIA (TBCB)	RANGIA (TBCB) END OF AMINGAON (AS) II FDR
NAGALAND	NEW KOHIMA (TBCB)	NEW KOHIMA (TBCB) END KOHIMA (NG) I FDR
NAGALAND	NEW KOHIMA (TBCB)	NEW KOHIMA (TBCB) END KOHIMA (NG) II FDR

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TOTAL 112

NOTE:

1. All meters have RS-485 ports.
2. Propriety protocol to be shared by Meter manufacturer after signing of tripartite agreement & NDA.
3. Meter supports 15 minute time block data.
4. Actual drawal of each State to be computed by sum of all Meter readings.
5. Schedule file is available in excel format.To be migrated to Oracle database in next 6 months time.

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I. Options for Intra-Day / Hour Ahead transactions:

Seven options have been proposed for Hour Ahead Transactions.

Option-1: ***Banking***

- Pros: Voluntary; No price transaction; Easy to implement
- Cons: Still bilateral; Opaque to cheaper options; True marginal cost of meeting demand not known; Elements of Cost and Value missing; No knowledge of gain or loss

Option-2: ***Day Ahead Market Price on Power Exchange as reference***

- Pros: Well accepted reference price; Dispute free
- Cons: Very remote chance of availability of generation sources with marginal cost equal to or less than Day Ahead Market(DAM) price; Liquidity will always be an issue

Option-3: ***Pool, based on variable cost as approved by the Regulator and on payment of cost***

- Pros: Visibility of all options for purchase decision; Dispute free as regulator approved Variable Cost (VC); All resources get paid as per their cost or marginal cost; Improvement over option 2, liquidity
- Cons: Still based on cost and not on value; VC difficult to ascertain; Merchant plants cannot participate as their tariffs are not determined by regulator

Option-4: ***Pool, based on variable cost as approved by the Regulator and on payment of marginal cost***

- Pros: Same as Option 3; Improvement over Option 3 – element of 'value' introduced because of marginal cost based payment
- Cons: VC difficult to ascertain; Merchant plants cannot participate as their tariffs are not determined by regulator; Payment based on marginal cost may lead to heart burn; still administered

Option-5: ***Pool, based on auction (intra-day for the rest of the day)***

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of Power Exchange (PX); Discoms' decision making process; OA registry, a pre-requisite

Option-6: ***Pool, based on auction (hourly)***

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of PX; Discoms decision making process; OA registry, a pre-requisite

Option-7: ***Pool, based on auction (intra-hour i.e. 15 min. block)***

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of PX; Discoms' decision making process; OA registry, a pre-requisite

II. Illustration:

a. Auction: 7.30 Hrs. – 8.00 Hrs. window, transaction for 'rest of the day' (Intra-day : Option 5) / 'for 9.00 – 10.00 Hrs.' (Hourly : Option 6) / 'for 9.00 – 9.15 Hrs.' (Intra-hour : Option 7), and so on
b. Generators can participate for sale of surplus power (over and above already scheduled on day-ahead basis)
c. Sellers (other than generators) and buyers can participate for surplus / deficit vis-à-vis their schedule on day-ahead basis
d. After the trade materializes under Option 5, 6 or 7 as the case may be, net schedule for the buyers and sellers shall be prepared, which will serve as reference point for DSM / UI
e. However, payment for 'Day-ahead' transaction and 'Intra-day' (Option 5) / 'Hourly' (Option 6) / 'Intra-hour' (Option 7) transactions shall be settled separately based on the schedules for the respective segments
f. Open Access Registry and delegation of decision making authority to operating level at Discom are pre-conditions to success of this framework.

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