North Eastern Regional Power Committee

Agenda For

145th OCC Sub-Committee Meeting

Time of meeting : 11:00 Hrs.

Date of meeting : 19th June, 2018 (Tuesday)

Venue : "Hotel Novotel", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 144th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 143rd meeting of Operation Sub-committee held on 11th May, 2018 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 21st May, 2018.

The Sub-committee may confirm the minutes of 144th 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 144th OCC:

State	Protection System	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	Could not be updated due to absence of officials.	Corrigendum to DPR to be furnished	-	SLDC to apprise SERC of the project. DPR to be prepared by 21.05.2018.
Nagaland	Pack-A: completed Pack-B: Aug'18 Pack-C: Aug'18 Pack-D: Completed.	Corrigendum to DPR to be furnished	To re-submit proposal to NERPC for Study.	DPR to be prepared by 21.05.2018.
Mizoram	Remaining LOAs by May'18.	Corrigendum to DPR to be furnished	Appraisal Committee is yet to approve	DPR to be prepared by 21.05.2018.
Manipur	Could not be updated due to absence of	Corrigendum to DPR to be	Submitted to NERPC for Study	DPR to be prepared by 21.05.2018.

	officials.	furnished	before sending to NPC/NLDC.	
Tripura	UC by 31.05.18.	Revised DPR to be submitted.	To submit proposal to NERPC for Study.	DPR to be prepared by 21.05.2018.
Assam	R&U Remaining 40% LOAs April'18 Retendering Diagnostic Tools, DG set and PLCC By Jun'18 all LOAs BCU Rem 40% LOAs by Apr'18	Revised DPR to be submitted.	-	DPR to be prepared by 21.05.2018.
Meghalaya	MePTCL- All LOAs awarded. Earthing Package tender and balance items by June'18 MePGCL –By April'18 erection is likely to be completed	Revised DPR to be submitted.	-	DPR to be prepared by 21.05.2018.

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. Long Outage of Important Grid Elements:

Name of the Element	Name of Utility	Status as informed in 144th OCC	Latest status
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	To be referred to SCM of NER.	
400KV 80MVAR Bus Reactor at Palatana	OTPC	Unavailability of critical spare. By 31.05.2018 - CoD.	
DHEP Unit 2	NEEPCO	By May'18	
400/220 kV, 315 MVA ICT-II at BgTPP	NTPC	By May'18	

Replacement of R-ph bushing of 63MVAR L/R at Balipara for 400kV Balipara-Bongaigaon -II (*out since 17.02.18)*	NERTS	By Nov'18	

Utilities may please intimate the latest status.

3. <u>Furnishing of various data for reliable grid operation:</u>

<table>
<tr><th>Data regarding</th><th>Status as of 144th OCC</th><th>Latest status</th></tr>
<tr><td>DAS output for FRC calculation</td><td>Event Date: 23.04.18; RHEP, OTPC, Kopili, Khandong, Kopili Stg-II, BgTPP provided information.
Event Date: 06.05.18; OTPC, Kopili and RHEP provided information.
NERLDC once again requested all generators to provide DAS data at the earliest for FRC calculation.</td><td></td></tr>
<tr><td>Operating Procedures</td><td><table><tr><th>Items</th><th>Data submitted by</th></tr><tr><td>OP of States</td><td>Submitted only by AEGCL and MePTCL</td></tr><tr><td>OP of Transmission System</td><td>Not submitted by any constituents</td></tr><tr><td>OP of Generating Stations</td><td>Not submitted by any generators</td></tr><tr><td>OP of GIS</td><td>Not submitted by any constituents</td></tr></table></td><td></td></tr>
<tr><td>Data related to Power Map.</td><td><table><tr><th>Items</th><th>Data submitted by</th></tr><tr><td>Communication (PLCC/OPGW/ GPRSVSAT/ Satellite</td><td>List of lines mailed by NERLDC on 9th January'18 Assam & Mizoram provided the data.</td></tr></table></td><td></td></tr>
<tr><td>Patrolling report(s) for T/L**.</td><td>No constituents have furnished the report</td><td></td></tr>
</table>

NERLDC may please inform the status.

4. <u>Monitoring of Corrective actions as decided in PCC forum:</u>

Name of the Element	Action to be taken	Name of Utility	Status as of 144th OCC	Latest status
132 kV Dimapur - Doyang 1 & 2 Lines	Installation of Numerical Relay at Doyang	NEEPCO	By Dec'18	

AGTCCPP- LFO	AVR replacement	NEEPCO	By Oct'18	
132kV AGTCCPP-Kumarghat	N/R to be replaced at AGTCCPP. To have check sync facility	NEEPCO	-	
132kVPK Bari-Kumarghat	Installation of Line differential relay	NERTS	By Oct'18	
132kV AGTCCPP-Agartala D/C.	Line differential relay to be installed	NERTS	By Dec'18	
132kV PKBari	Installation of Numerical Relay under R&M (*high priority).* TSECL to divert NR to AGTCCPP.	TSECL	By Aug'18	
132kV Rokhia-79Tilla D/C	DPR to be installed	TSECL	By Aug'18	

Concerned utilities may please inform the status.

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING MAY, 2018

As per the data made available by NERLDC, the grid performance parameters for May, 2018 are given below:

NER PERFORMANCE DURING MAY, 2018

	Energy Met (MU)		w.r.t. Apr,18 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Apr,18 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In May,18
States	**May-18**	**April-18**		**May-18**	**April-18**		
Ar. Pradesh	64.83	62.59	3.58	65.75	63.82	3.02	-1.40
Assam	711.96	664.32	7.17	752.57	699.90	7.53	-5.40
Manipur	65.95	63.35	4.10	66.97	64.51	3.81	-1.52
Meghalaya	144.44	132.99	8.61	144.44	132.99	8.61	0.00
Mizoram	50.36	47.86	5.22	51.16	48.80	4.84	-1.56
Nagaland	62.87	56.85	10.59	71.21	65.19	9.23	-11.71
Tripura	107.28	107.27	0.01	112.51	111.40	1.00	-4.65
Region	**1207.70**	**1135.24**	**6.38**	**1264.62**	**1186.61**	**6.57**	**-4.50**

	Demand Met (MW)		w.r.t. Apr,18 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Apr,18 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In May,18
States	**May-18**	**Apr-18**		**May-18**	**Apr-18**		
Ar. Pradesh	123	125	-1.60	138	138	0.00	-10.87
Assam	1596	1503	6.19	1626	1533	6.07	-1.85
Manipur	172	186	-7.53	179	193	-7.25	-3.91

Meghalaya	368	307	19.87	371	307	20.85	-0.81
Mizoram	87	89	-2.25	96	98	-2.04	-9.38
Nagaland	119	127	-6.30	147	156	-5.77	-19.05
Tripura	276	265	4.15	276	269	2.60	0.00
Region	**2611**	**2552**	**2.31**	**2709**	**2600**	**4.19**	**-3.62**

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	**May-18**	**Apr-18**
Total Generation in NER (Gross)	1450.399	1157.530
Total Central Sector Generation (Gross)	1149.117	906.296
Total State Sector Generation (Gross)	301.282	251.234
Inter-Regional Energy Exchange		
(a) NER-ER	**113.72**	**29.127**
(b) ER-NER	**192.00**	**271.839**
(c)NER-NR	**185.91**	**155.498**
(d)NR-NER	**0.00**	**74.889**
© Net Import	-107.63	162.103

AVERAGE FREQUENCY (Hz)

Month---->	**May-18**	**Apr-18**
	% of Time	% of Time
Below 49.9 Hz	22.52	13.16
Between 49.9 to 50.05 Hz	70.06	79.25
Above 50.05 Hz	7.43	7.59
Average	49.95	49.97
Maximum	50.22	50.21
Minimum	49.57	49.62

C. OLD ITEMS

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

During 144th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 144th OCC Meeting	Status as given in 145th OCC Meeting	
			Timeline for completion	**Furnishing of detail parameters****
a. New Elements				
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	Delayed due to construction issues. By June'18		To be updated by NERLDC.
2	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Sep'18		To be updated by NERLDC.
3	Pare HEP of NEEPCO (2 x 55 MW)	Unit #II - Trial run 15.05.18 Unit #I - CoD by May'18		Not applicable.

4	400 kV D/C Silchar - Melriat line of PGCIL	June, 2018.		To be updated by NERLDC.
5	132kV Monarchak – Surjamaninagar D/C of TSECL	Severe RoW issues. To be referred to next SCM for resolution of bay issue at Palatana.		Not applicable.
6	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	Nagaland-DoCO to be finalized Ar. Pradesh, Manipur - CoD Mizoram-ToC date to be confirmed.		Not applicable.
7	400/220 kV 315 MVA ICT-II at Bongaigaon	Tied up with GIS. By Aug'18.		To be updated by NERLDC.
8	220/132 kV, 160MVA ICT-II at Balipara	ICT#II - delayed, Sept''18		To be updated by NERLDC.
9	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Sept, 2018.		Not applicable.
10	400/132 kV, 1x315 MVA ICT-III at Silchar	June, 2018.		To be updated by NERLDC.
11	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	ICT-I : Jun'18 ICT-II : Aug'18		To be updated by NERLDC.
12	400 kV Silchar – Misa D/C	2019		Not applicable.
13	1x125 MVAR Bus Reactor at 400 kV at Balipara	Sept, 2018(LOA date).		Not applicable.
14	1x125 MVAR Bus Reactor at 400 kV Bongaigoan	Sept, 2018(LOA date).		Not applicable.

15	Tuirial HEP of NEEPCO	Voice and data connectivity upto SLDC to be ensured for DoCO.		To be updated by SLDC Mizoram.
16	33kV bay at 220kV Mariani(AS) S/Sn	Take up with APDCL. Load security payment is under process. APDCL will install meter.		Not applicable.
17	33kV Tezu-Tezu(AP)	-		Not applicable.
18	33kV bay for 132kV Badarpur(PG) S/Sn	APDCL submitted estimate to PG_Badarpur recently.		Not applicable.
19	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	To be taken up by NERTS with MePDCL.		Not applicable.
20	Construction of 132 kV Imphal (PG) - Yurembam III & IV lines with high capacity conductor by MSPCL	-		Not applicable.
21	LILO of 132kV Aizawl-Jiribam at Tipaimukh by MSPCL	-		Not applicable.
b. Elements under breakdown/upgradation				
22	Up-gradation of 132 kV Lumshnong-Panchgram line	To be approved by Techno-Economic sub-group for funding from PSDF.		Not applicable.
23	Switchable line Reactors at 400kV Balipara & Bongaigoan	Aug'18		Not applicable.
24	PLCC Panels at Loktak end of Loktak –	Oct'2018		Not applicable.

	Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder			
25	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh	Bay 1 at RHEP for Pare: Delayed Bay 2 at Pare for Itanagar: Delayed		Not applicable.
26	Re-conductoring of 132kV Umiam Stg#I - Umiam Stg-III	DPR prepared and submitted for approval		Not applicable.
27	Upgradation of ULDC FO node	Target completion : June 2018		Not applicable.

** As per decision of 9th NETeST meeting, elements which are about to be commissioned in next 6 months have to submit the following information/ parameters may kindly be furnished to NERLDC in advance for making the platform for Database in SCADA(which is to be monitored in OCC):

1. Single Line Diagram of the Power Station/Switchyards.
2. Data List of the Station (to check the signals of both Analog & Digital).
3. Wiring diagram of the Station (to check the wiring done at RTU end).
4. Generator Parameter details, Generator Transformer parameters.
5. Line and ICT details.

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 which is available in NERPC website.

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 142nd OCCM, SE (O&P), NERPC suggested that henceforth shutdown list may be prepared under following categories:

(i) New Construction Related Shut Down
(ii) Existing System Improvement Related Shut Down.
(iii) Existing System Normal Maintenance Related Shut Down
(iv) Communication Related Shutdown
(v) R&U works Related Shut Down under PSDF

The forum further decided that the modalities of communication related shutdown should be finalised. Members requested NERPC to invite POWERGRID telecom in next OCCM alongwith with officials (handling communication issues) from all utilities for this purpose.

In 143rd OCCM, SE(O&P), NERPC once again reiterated that shutdowns which are not being availed will not be entertained in the following month and would only be accorded in the next to next month. He hoped that in view of greater complexity in grid operation due to communication issues, the list of important links would be finalised by NERLDC very soon. He also requested NERTS to impress upon POWERGRID Telecom to attend the next OCCM positively.

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for June,2018-July,2018 which is available in the website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of January, 2017 to March, 2018:

NETC and POWERGRID have submitted the outage data for the month of January, 2017 to March, 2018. So the attributability of outage of the said elements may please be finalized.

In 143rd OCCM, SE(O&P),NERPC requested the members to furnish their comments w.r.t. the draft procedure.
NERLDC informed the forum that during 142th OCC Meeting, a draft Procedure was prepared by NERLDC and NERPC for streamlining the process of Verification of Transmission Element Availability. POWERGRID and NETC were requested to give their comments by 31.03.18. It was informed by NERLDC that same was circulated but no reply was received. NERLDC requested the forum to decide on the same.

SE(O&P), NERPC asked POWERGRID and NETC to comment on the procedure attached in Annexure D.3. The procedure will be finalized in the next meeting.

Member Secretary, NERPC informed the forum that 3 times reminder may be sent for any document for which comments were sought. If no comments are still received, the document will be considered as final.
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 04.06.18**. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of June'18 using these cases, and submit the study cases and results to NERLDC by **25.06.18**.

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 25.06.18.**

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. SPS mock testing & existing SPS scheme related:

In 143rd OCCM SE(O&P), NERPC informed that testing would be carried out tentatively in the first week of May,2018. He requested AEGCL, MeECL, NERTS, OTPC and NERLDC to depute concerned personnel for the said purpose.

In the Special Meeting on SPS-3 held at NERPC Shillong on 03.05.2015, the matter of mock testing was discussed. Members suggested that after implementation of the procedure on 07.05.2018, the date of mock testing may be finalized in the 144th OCCM.

In 144th OCCM it was decided that by 30.05.2018 NERTS would resolve the issues leading to generation of anomalous SPS-3 signal from Silchar. Subsequently after confirmation OTPC would turn on SPS-3 at Palatana. NETC was requested to increase patrolling and regular maintenance operation(s) for Palatana evacuation corridor(i.e. 400kV Palatana-Silchar I&II, 400kV Silchar-Byrnihat and 400kV Silchar-Azara). Further it was decided that in the intervening period 400kV Silchar-Byrnihat and 400kV Silchar-Azara shutdown would be decided on a case to case basis.

On 15.05.2018 NERTS while working on some filter logic implementation at Silchar S/S (for SPS-3), DT for 400kV Palatana-Silchar -II was sent to Palatana. This happened while Line-I was under approved shutdown, resulting in SPS-2 operation at Palatana. Subsequently NERTS informed that any rectification works for SPS-3 at Silchar S/S under live line conditions would result in the following:-

1. Sending of DT signals of Individual line(Palatana-1 &2).

2. Sending of SPS2 signal.

All these undesired events are possible due to congested wiring of all Signal wiring in Palatana 2 relay panels and Palatana 1 Ch- 2 PLCC panels at Silchar substation.

To resolve the stalemate a meeting was held at NERPC(minutes attached at **Annexure-D.5**).

Members may please discuss.

D.6. 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 has furnished the draft tripartite agreement which is to be signed between CDAC, POWERGRID-NERTS and meter manufacturer(s).

In 144th OCCM, SE(O&P),NERPC informed that the protocol has been handed over and CDAC has initiated subsequent works.

NERPC may please intimate the status.

D.7. 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.

In 144th OCCM, NERTS informed that LOA for DONGLE (facilitating voice recording facility in existing VOIP Exchange console at NERLDC) would be done by May'18 and supply by June'18/July'18.

NERTS may please intimate the latest status.

D.8. Integration of new RTUs at RHEP:

GE supplied RTU at RHEP will be provided for accommodating the two new 132 kV extension bays being constructed by us at RHEP in the first-second week of March 2018. Integration of new RTU with existing RTU at RHEP and NERLDC control centre shall be required. Hence special permission may be required through appropriate forum in this regard.

In 142nd OCCM, Sr. Manager, NEEPCO informed that RTU procurement is under tendering process and would be commissioned by Dec'18.

In 143rd OCCM, Sr. Manager, NEEPCO informed that as per discussion in 9th NETeST forum for 132kV RHEP-NDTL line, a team from NERLDC, NERTS would visit RHEP on 24.04.18 to sort out the RTU problem. For 132kV RHEP-Chimpu line he informed that RTU is under procurement and same would be installed by Dec'18. However NERLDC requested to install RTU at RHEP at the earliest possible time as current RTU is not reliable, hence creating grid monitoring problem.

A team from NERLDC and NERTS visited RHEP on 27.04.2018 and made the following recommendations:

- The S900 RTU may be replaced with new C264 RTU or existing bays may be integrated with installed C264 RTU.
- The old transducers for existing bays are to be replaced with MFTs.

NEEPCO has agreed to integrate the existing bays with installed C264 RTU.

In 144th OCCM, DGM(SO-I), NERLDC informed the forum that at present CB position & other data are reporting from RHEP. However the present S900 RTU is not reliable and needs resetting frequently, therefore he requested NEEPCO to expedite the work of integrating existing bays with installed C264 RTU. Sr. Manager, NEEPCO informed that due process has been initiated and work is expected to be complete latest by Dec'18. The forum requested NEEPCO to finish the works by Aug'18.

NEEPCO may please intimate the latest status.

D.9. Ensuring proper functioning of Under Frequency Relays(UFR) & df/dt Relays:

In 7th NPC meeting held on 08.09.17 it was agreed that mock test is good enough to test the healthiness of the UFR & df/dt relays. The frequency of site inspection was proposed to be upto six months. RPC may carry out periodic inspection, in line with provisions of IEGC and furnish inspection reports to NPC.

In 142nd OCCM, SE(O&P),NERPC informed that as mandated periodical inspection of UFR needs to be carried out. In this regard he requested help of NERTS by providing suitable kits.

DGM(AM),NERTS stated that Frequency Injection Kit is available in PGCIL stations and any logistical help may be provided. He further requested that an action plan in this regard may be devised and handed over for future course of action.

In 144th OCCM DGM(AM), NERTS requested that a detailed schedule be prepared and circulated to concerned constituents for nomination of members. SE(O&P), NERPC stated that the detailed schedule location wise would be prepared and circulated by NERPC forthwith.

In 145th OCCM, Sr. Manager, NEEPCO informed that AGTCCPP Extn only has PSS but it is not enabled. The same would be done while commissioning of DAVR for AGTCCPP-GTGs. He requested NERPC to modify the schedule accordingly.

DGM(AM), NERTS opined the following w.r.t. UFR and PSS inspection:

- Testing procedure is to be finalized beforehand. If the scheme is integrated in NR then relay to be taken out of service. Further OMICRON kit is required, which is available in select locations only and is not recommended for movement over longer distances.
- Dates need to be assigned location wise. This would enable nomination from all utilities.
- Also protection audit may be combined for fruitful outcome.

After detailed deliberation the forum decided that NERPC would in consultation with NERTS & NERLDC prepare the completed schedule and procedure. In the Special Meeting at NERPC(MoM attached at **Annexure-D.9**) on 28.05.2018 the UFR inspection procedure was finalized.

NERPC may please intimate the latest status.

D.10. Audit of PSS:

In the Special Meeting held at NERPC on 28.05.2018 the following were decided:-

- Members noted that PSS inspection would be futile and recommended that SRT may be submitted by all plants who have not done since last 3 years, at the moment.
- As per prevalent regulations only units above 50 MW are supposed to activate PSS mandatorily.

The MoM is attached at **Annexure-D.9.**

Members may please discuss.

D.11 Geospatial Energy Portal for NITI Aayog:

NITI Aayog is developing a user friendly GIS based Energy Map of India, which would provide true locations of all energy resources in India including power plants, coal and oil reserves, transmission lines, refineries, etc.

Ministry of Power (MoP), GoI has designated Central Electricity Authority (CEA) as the nodal agency to collect all the required data/information pertaining to the Power Sector of India by collecting it from different Utilities of Power Sector and submit it to NITI Aayog for early development of the Geospatial Energy Map of India.

Accordingly, CEA vide letters dated 09.02.2018 and 01.05.2018 requested Heads of DISCOMs/Power Departments to furnish the information regarding the name, voltage level, capacity, longitude and latitude of 33 kV and 66 kV Substations and lines as per proforma. However, information is still awaited from most of the utilities

Non furnishing of above information by DISCOM was discussed in a meeting taken by Chairperson, CEA on 26.04.2018, wherein it was advised that all RPCs may be requested to take up the issue in the OCC meetings for furnishing the information in a time bound manner.

The details of the sub-stations required are attached at Annexure-D.17(already circulated in 144th OCCM). Corresponding utilities are requested to provide the missing details in the annexure at the earliest.

In 145th OCCM SE(O&P), NERPC informed that the required data is for national interest and requested all utilities to submit the same. NERLDC requested that the name of substations and transformation capacity given in Annexure D.17 may also be verified and sent to NERPC and NERLDC.

NERPC may please intimate the status of submission.

D.12 Transformer Tap Optimization

System study regarding Transformer Tap Optimization was conducted by NERLDC considering high & lean hydro scenarios on half yearly basis. In line of the above, NERLDC has conducted studies considering High Hydro Scenario in North Eastern Region.

Suggested taps position of important transformers in NER for maintaining bus voltages within permissible limit as well as to minimize system losses will be shared during the meeting.

In 144th OCCM, NERLDC informed the forum that studies have been conducted for Transformer Tap Optimization of Transformers in Mizoram after obtaining data from them. The study results are attached at Annexure. D.21(circulated in 144th OCCM). NERLDC requested P&ED, Mizoram to go through the study results and to provide their comments.

P&ED Mizoram may please intimate the status.

D.13 Non-availability of SOE records of Biswanath Chariali, Ranganadi, Dimapur & Bongaigaon:

The SOE records of both BNC and RHEP do not appear for any breaker operations in any of the elements of both the stations. This causes lack of proper visibility for the system operators in real time and causes hindrance in proper & quick decision making.

In 144th OCCM, NERLDC requested the forum to restore the CB status and SOE data of HVDC,BNC as well as RHEP at the earliest as both the stations are very important for NER grid management.

NERLDC has also informed that SOE and Alarm records for Dimapur and Bongaigaon(Interregional links and others) do not appear for any breaker operation in any of the elements of the stations.

NERTS stated that it would revert back with the latest status.

NERTS may please intimate the status.

D.14 Poor Governor Response during sudden drop of frequency

On 23.04.2018 at 10:42 Hrs, there was a sudden decrease of frequency from 50.02 HZ to 49.72Hz in which Palatana has shown an increase of 49MW instantly. Whereas the other NER generators has shown almost a NIL response. Reasons may be intimated.

In 144th OCCM, NERLDC informed the forum that on 23.04.2018 at 10:42 Hrs, there was a sudden decrease of frequency from 50.02 HZ to 49.72Hz. During calculation of Frequency Response, it has been observed that most of the generators in NER has shown NIL response except for Palatana.

Sr. Manager, NEEPCO informed that TGBPP responded very well with GTG contributing 7MW and STG almost 2MW. He also informed that Kopili reservoir was very low but still increased generation by 0.75MW inspite of LFO issues. Further the vanes were at full capacity. For AGBPP, he informed that the unit(s) were in temperature control mode which did not allow to respond due to dip in frequency. The forum requested NHPC and NTPC to revert back with the reasons for poor response.

NHPC & NTPC may please intimate the status.

D.15 Disruption in Agartala PMU Data

PMU Data of Agartala got disrupted on (i) 04:53 hrs of 30/04/2018 to 20:00 Hrs of 01/05/2018; and (ii) 16:41 Hrs of 02/05/2018 to 10:32 Hrs of 03/05/2018. On enquiry it was found out that the 132 KV Dhalabil-Agartala S/C Line was under shut down on these period.

This indicates that the CVT input for agartala PMU has been taken from line CVT of Dhalabil-Agartala S/C Line. To avoid any such disruption in future, it is required to shift the CVT input of PMU to Bus CVT of Agartala.

In 144th OCCM, NERLDC informed the forum that PMU Data of Agartala got disrupted on 04:53 hrs of 30/04/2018 to 20:00 Hrs of 01/05/2018; and 16:41 Hrs of

02/05/2018 to 10:32 Hrs of 03/05/2018. On both the occasion, it was found out that the 132 KV Dhalabil-Agartala S/C Line was under shut down on these period.

After detailed deliberation it was surmised that line CVT of 132kV Dhalabil-Agartala is being used for PMU. NERLDC requested TSECL to shift the connection to 132kV Bus. TSECL agreed to do the needful by May'18.

TSECL may please intimate the status.

D.16 Slow progress in URTDSM implementation

NERLDC has submitted the approved location of workstations to be installed, but the cabling and installation work is still pending. The work progress for integration of PMUs even after link availability (e.g, MISA & Bongaigaon) to NERLDC is very slow. Further, installation & commissioning of 9 PMUs in 3 substations were pending as per last status.

POWERGRID may please update about the current status and expedite the work.

In 144th OCCM DGM(AM), NERTS informed that supply has been completed for all stations. In case of Biswanath Chariali and Ranganadi commissioning work has already been started and would be completed by July'18. NERLDC requested NERTS to expedite the commissioning works.

NERTS may please intimate the status.

D.17 DC corrected By NERLDC on dated 25/04/2018, for block 82.

On dated 25/04/2018 gas flow was increased by ONGC and DC was revised by OTPC accordingly, for block 82 DC was sent 716 MW according to current Ambient Temp (24°C) however NERLDC given corrected DC 708 MW by taking reference of forecasted temperature (27.2°C) sent with DC (R-0) on dated 24th April 2018.

In 144th OCCM DGM(MO),NERLDC informed that NERLDC has been adopting the day ahead temperature based correction because IMD temperature is unavailable for Udaipur. Further he clarified that the DC provided by OTPC is being considered for Accounting (PAF) purposes, while the one calculated on day ahead temperature basis is used only for scheduling purpose. DGM, OTPC requested that real time temperature should be used for scheduling purpose also. After detailed deliberation it was decided that procedure may be modified after discussion amongst NERPC & NERLDC, which would be communicated in the next OCCM.

NERPC/NERLDC may please inform the status.

AGENDA ITEMS FROM NEEPCO:

D.18 Requisition of spare 10 MVA 132/33 KV transformer from Nirjuli 132 KV substation for Pare HEP

The 2 X 55 MW Pare Hydro Electric Project, NEEPCO has been commissioned in May'2018 and COD of Unit-1 and Unit-2 are commenced from 28.05.18 and 21.05.18 respectively. Presently both the units are generating as per the ISGS of NERLDC.

Unfortunately, the SST (Station Service Transformer, 7.5 MVA, 132/33 KV) tripped due to "Neutral over current" on 22.05.18. While checking it was found major damages in the winding of the transformer, since then the transformer is under break down and shall require major repairing.

Presently, the station power supply is being drawn through one 33 KV Hoj-Sopo transmission line, which is not reliable.

It is learnt that one spare 10 MVA 132/33 KV transformer is available with Powergrid at Nirjuli (132 KV Sub-Station). We intent to receive and utilize this spare transformer on returnable basis/ or on rental basis till restoration of damaged SST after repair, or purchase of a new transformer.

NEEPCO may please deliberate.

D.19 Construction Power for GIS bay at Kopili Switchyard:

PGCIL is taking power from NEEPCO for construction of GIS bay at Kopili SY. During its operation, auxiliary AC supply will also be drawn from Kopili Power Station which will increase normative auxiliary consumption of 1% of Kopili Power Station. Hence this issue also to be discussed in the OCC meeting.

Providing auxiliary ac supply to the newly constructed PGCIL owned GIS substation at kopili SY, from the allowable 1% of the generation on chargeable basis or any other recovery mechanism that the forum may decide.

NEEPCO may please deliberate.

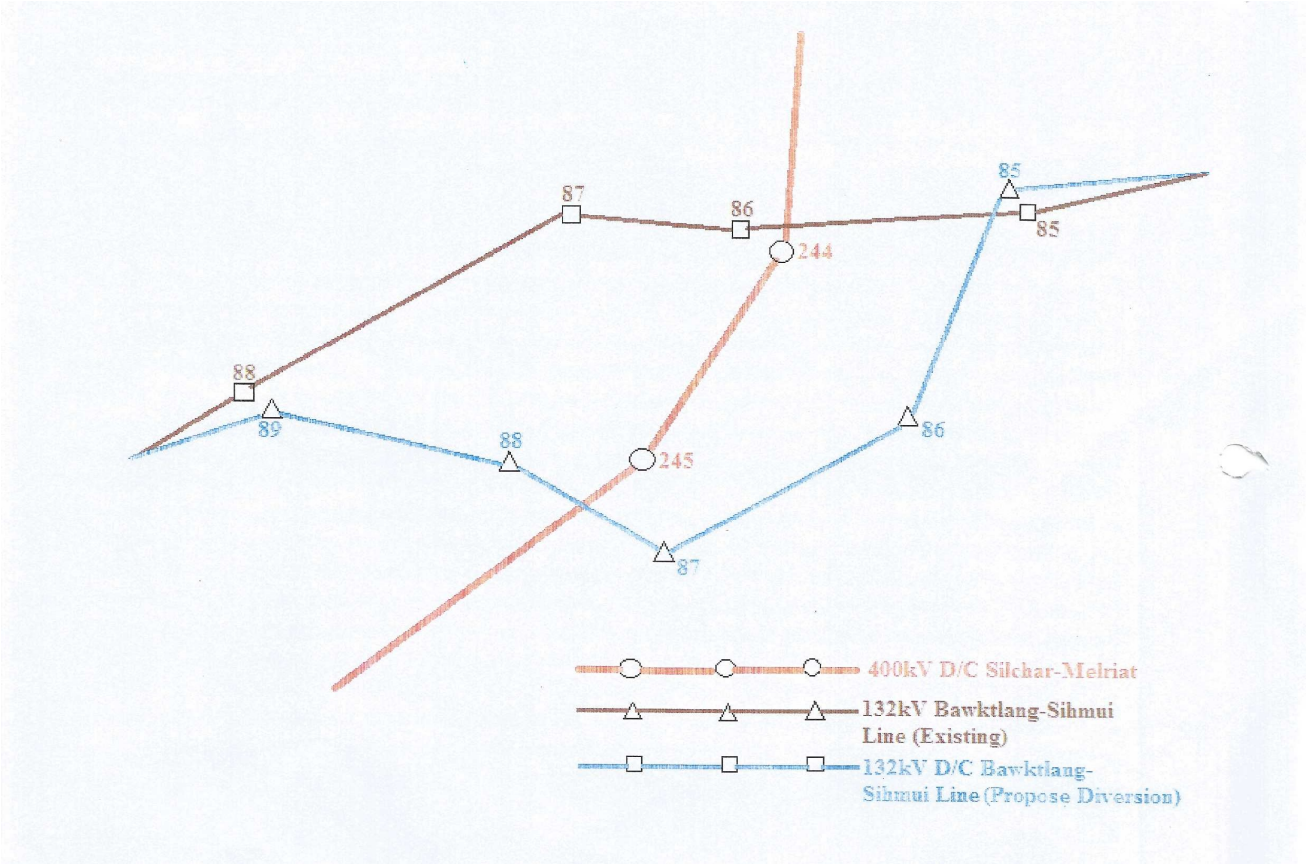
AGENDA ITEMS FROM NERTS:

D.20 Crossing of 400 kV D/C Silchar-Melriat and 132 kV D/C Bawktlang - Sihmui Line

POWERGRID is constructing 400 kV D/C Silchar —Melriat Line as part of Pallatana Transmission Sytem. During check survey, it has been observed that this line has to cross the 132 kV D/C Bawktlang-Sihmui line already constructed by P&E Department, Govt. of Mizoram. As per the proposed route alignment, the Loc No. 244 of the 400 kV line has to be erected at 10m distance from the Loc No. 86 of the 132 kV Line, which is not possible. Also there is no suitable place to relocate the Loc 244.

A number of possibilities have been explored jointly with P&E Deptt., Mizoram to divert either of the two lines and the only feasible option has been intimated to Mizoram vide our letter No. NEAZL/CONST/P&E/2018 dtd. 21.05.18, in which 4 Nos towers of the 132 kV Line are to be diverted by erecting 5 Nos new towers. POWERGRID proposes to bear the cost of this diversion. A sketch of the propose arrangement is attached here with for kind reference.

It may please be noted that the matter is being pursued with P&E Deptt. Mizoram since January'2017 and a number of joint verification have been carried out but a consensus is yet to be reached.



NERTS may please deliberate.

AGENDA ITEMS FROM NERPC:

D.21. Reporting of grid disturbance by RLDCs:

NPC vide letter dated. 16.05.2018 drew attention to reporting of grid disturbances by RLDCs to NPC.

'*Kind attention is invited to Regulation 13(2) of Central Electricity Authority (Grid Standards). Regulations, 2010 which provide that: "**The grid disturbance resulting in failure of power supply to large areas in a State shall also he reported by the Regional Load Despatch Centre to the Authority within twenty-four hours of the occurrence of the grid disturbance.**"*

The work related to grid disturbances on regional/national basis in CEA is being dealt in the National Power Committee (NPC) Division. It is therefore, requested that any occurrence of the grid disturbance may please be sent to NPC Division. CEA with a copy to Member (GO&D), CEA. This report may also be sent to the following e-mail Id:

(i) cenpc-cea@gov.in
(ii) cenpccea@gmail.com

NERPC may please deliberate.

D.22. Registration of all existing and upcoming electricity generating units cf the country of capacity 0.5 MW and above under National Level Data Registry System

Under the National Level Data Registry System, all the existing and upcoming electricity generating units of the country of capacity 0.5 MW and above would have to get registered with CEA and get a unique registration number from CEA For this impose, a detailed framework(attached at **Annexure-D.22**) was prepared by CEA and the same has been approved by Ministry of Power, Government of India.

For implementing the aforementioned National Level Data Registry System, CEA is preparing a E-Registration Portal and operationalization of E-Registration Portal may take 2 to 3 months time . Once the E-Registration Portal of CEA is ready, all the stakeholders would be informed accordingly by CEA for registering and feeding the data. It is therefore, requested to nominate a nodal officer and intimate the name, mobile, email, address of the same to the undersigned at the e-mail address pslfcea@yahoo.com It is further intimated to keep the concerned officer in readiness for doing the needful.

Till the E-Registration Portal of CEA is operationalized, all the existing procedure of furnishing data will continue as per existing provisions and laws.

Accordingly all generating utilities may please submit the relevant details of the nodal officer.

NERPC may please deliberate.

AGENDA ITEMS FROM OTPC

D.23. OTPC Station Outage from 23rd Aug 2018 to 09th Sept 2018:

ONGC asked the Total Gas S/D from 23rd Aug 2018 to 09th Sept 2018 for augmenting gas processing capacity from 2.2 to 2.7 MMSCMD, however if gas provided by ONGC, OTPC will run one unit during the period, which is yet to confirmed by ONGC.

OTPC may please deliberate.

D.24. Tripping of OTPC both Unit on dated 11th May and 15th May 2018 due to SPS -2 protection:

RCA required for Tripping of Both 400 KV Palatana –silchar line. Discussion requested on modification proposal regarding SPS-2 sent by OTPC.

OTPC may please deliberate.

AGENDA ITEMS FROM NERLDC:

D.25. Ratification of projected demand and generation for Q2 of 2018-19 (Jul'18 to Sep'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 discussed in the validation committee meeting for POC transmission charge and loss calculations for Q2 (Jul'18-Sep'18) will be presented in the meeting for ratification by the constituents. Ratification is required due to generation addition of Pare HEP & LRPP and significant difference observed between actual data (actual data of Apr'18 & May'18) and projected data by DICs for Q1.

This is for information & necessary action please.

D.26. Updated Operating Procedures of NER July 2018 (Draft)

Updated Operating Procedures of NER July 2018 will be available in NERLDC website for comments and suggestions from regional entities of NER.

Power utilities of NER are requested to send comment and suggestion for this document by 30th June'18. This document will be finalized by 10th July'18.

The document is password protected. Password may be collected from SO-II department of NERLDC (mail id: *nerldcso2@posoco.in*).

This is for information & necessary action please.

D.27. Updated Power Map of NER July 2018 (Draft)

Updated Operating Procedures of NER July 2018 will be available in NERLDC website for comments and suggestions from regional entities of NER. It will cover all the elements under operation, execution & planning stage.

Power utilities of NER are requested to submit comment and suggestion and check the line length, capacity etc. for this document by 30th June'18. This document will be finalized by 10th July'18.

The document is password protected. Password may be collected from SO-II department of NERLDC (mail id: *nerldcso2@posoco.in*).

This is for information & necessary action please.

D.28. Regional Committee for Load Forecasting

In 20th FOLD meeting held on 25th January 2018, members agreed about the Industry-Academia partnership for the load forecasting. The most important benefit of SLDC academia association shall promote capacity building at SLDC level on load forecasting leading to development of in-house capability.

Further, it was also decided that a competition among LDCs on daily load forecast would be organized. A committee may be constituted comprising members from SLDCs, RLDCs and NLDC, to evaluate the forecast by each LDC, based on a pre-defined performance matrix.

In view of the discussion in 20th FOLD meeting, a committee for NER region to evaluate the performance of the LDCs on load forecasting will be formed and the committee will comprise the following members:

a. One member from NERLDC
b. One member from at least 2 SLDCs of the NER region

The committee will evaluate the accuracy of the day ahead forecast (based on the Root Mean Square Error) of the participating LDC on monthly basis till 31st Mar'19.

Subsequent to evaluation at Regional Level, a committee at National Level comprising members from NLDC, RLDCs and SLDCs will be formed for evaluation of the winner(s).

Based on the details received from LDCs, and the accuracy of the forecasting model, the committee after the completion of the FY 2018-19, will decide the award(s) to be given to the concerned LDCs.

NERLDC may please deliberate.

D.29. Primary Frequency Response – Periodic checking by Third Party

The Hon'ble Central Commission notified the 5th amendment regulation to IEGC on 12th April 2017 which came into force with effect from 1st May 2017. In the section 5, sub para 9, it is mentioned that

"*The following proviso shall be added at the end of Regulation 5.2 (g) of Part 5 of the Principal Regulations: "Provided that periodic check-ups by third party should be conducted at regular interval once in two years through independent agencies selected by RLDCs or SLDCs as the case may be. The cost of such tests shall be recovered by the RLDCs or SLDCs from the Generators. If deemed necessary by RLDCs/SLDCs, the test may be conducted more than once in two years*."

In consideration of the present IEGC regulations, NLDC has compiled a list of generators which are under purview of primary frequency response. A summary of the generators is listed in table below:

Generating Machines under purview of RLDCs for primary frequency response					
S. No.	**Region**	**No. of Utilities**	**No. of stations**	**No. of Units**	**Capacity(MW)**
1	NR	10	27	113	21,192
2	WR	23	38	110	42,110
3	SR	9	15	47	19,228
4	ER	10	13	40	13,256
5	**NER**	**4**	**10**	**29**	**2,247**
	Total	**56**	**103**	**339**	**98,033**

As per IEGC regulation, the tests are to be carried out by independent third party agencies to be selected by RLDCs or SLDCs. Selection of independent third party agencies separately by each RLDC would be duplication of effort. In order to have ease and uniformity in procurement, NLDC on behalf of RLDCs would procure the services for conducting the Primary Frequency Response tests involving RLDCs/NLDC.

Regarding payment mechanism to be adopted, Hon'ble commission has notified that "The cost of such tests shall be recovered by the RLDCs or SLDCs from the Generators." Pursuant to implementation of GST, modalities for placement of award were analysed. In the case when agency is paid by POSOCO and recovery of amount

from generator on a later date by POSOCO would cause unnecessary repetition of same process and transaction. After further analysis, it emerged that recovering costs from generators, after making payment to agencies by POSOCO would result in double taxation. In view of the same, Generators would place the award on the agencies based on the rates finalized by POSOCO and the problem of double taxation for same transaction may be avoided. After completion of this task the payment to the agency will be made by owner of generator, which will be done after a detailed report on testing is submitted by agency to POSOCO. The draft report on testing will be shared with POSOCO for comments. The payment process will be initiated only after approval of testing report by POSOCO is done.

NERLDC may please deliberate.

D.30. Blackout of 220 kV Misa(PG) and Kopili HEP on 21st May'18

220 kV Misa Bus and Kopili Power Station were connected with rest of NER Grid through 220 kV Misa-Dimapur 1 & 2 Lines, 220 kV Misa-Byrnihat (Killing) 1 & 2 Lines, 220 kV Misa-Samaguri 1 & 2 Lines, 220 kV Misa-Mariani (PG) Line, 400/220 kV, 315 MVA ICT 1 & 2 at Misa Substation, 220 kV Misa-Kopili 1, 2 & 3 Lines, 132 kV Kopili-Khandong 1 Line and 132 kV Bus-Coupler of Khandong Substation. 132 kV Khandong - Kopili 2 line and Khandong U 1 & 2 were connected with Bus B and 132 kV Kopili - Khandong 1 Line, 132 kV Khandong - Khleihriat 1 & 2 Lines and 132 kV Khandong - Umrangshu Line were connected with Bus A.

At 15:31 Hrs on 21.05.2018, 220 kV Misa-Dimapur 1 & 2 Lines, 220 kV Misa - Byrnihat (Killing) 1 & 2 Lines, 220 kV Misa - Samaguri 1 & 2 Lines, 220 kV Misa-Mariani (PG) Line, 400/220 kV, 315 MVA ICT 1 & 2 at Misa substation, 220 kV Misa-Kopili 1, 2 & 3 Lines, 132 kV Kopili - Khandong 1 Line and 132 kV Bus-Coupler of Khandong Substation tripped.

Due to tripping of these elements, 220 kV Misa Bus and Kopili Power Station were separated from rest of NER Grid and subsequently Kopili Power Station and 220 kV Misa were blacked out.

At first 220 kV Misa Bus-A charged through ICT-I at Misa at 16:08 Hrs and following lines connected to Bus-A restored progressively.

- 132 kV Khandong - Khliehriat I at 15:59 Hrs.
- 220 kV Misa- Kopili I at 16:12 Hrs.
- 220 kV Misa- Samaguri I at 16:16 Hrs.
- 220 kV Misa- Dimapur II at 16:21 Hrs.
- 220 kV Misa- Byrnihat II at 16:29 Hrs.

While charging the lines connected to Bus-B by shifting to Bus-A; at 16:34 Hrs, the total restored lines got tripped once again resulting voltage failure of 220 kV Misa Bus. After detailed inspection, restoration of lines started at 17:18 Hrs through 400/220 kV ICT-I at Misa.

Following issues may be discussed:

a. Reason of Fault ~ R-E fault evolved in to R-Y-B-E fault
b. Reason for delayed fault clearance (~3480 msec)
c. Reason for Tripping of all elements in both 220 kV Bus-A & Bus – B at Misa(PG)

- POWERGRID is requested to intimate the how 220 kV elements were distributed (elements connected to 220 kV Bus-A & 220 kV Bus-B prior to disturbance)

d. Reason for tripping of 220 kV Samaguri – Sarusajai-2 line

e. Reason for tripping of 132 kV Khandong – Khiehriat -1 line

f. Reason for tripping of restored elements emanating from 220 kV Misa at 16:34 Hrs

g. Reason for LFO observed

NERLDC may please deliberate.

D.31. Overloading Problem of 132 kV Pare-Ranganadi I and 132 kV Pare – Lekhi Lines

After commissioning of two units of PARE HEP (NEEPCO), the generation with full capacity is 110 MW and the power evacuation is through 132 kV Pare-Ranganadi and Pare-Lekhi lines. Whenever 132 kV Nirjuli-Gohpur line remains closed and the Gohpur load (14-18MW) is fed radially from Nirjuli, it creates overloading of 132 kV Pare-Lekhi line (90-95 MW) during peak hours and during off peak hours, overloading takes place at 132 kV Pare-Ranganadi line (90-94 MW). Hence to avoid any tripping due to overloading, load management/generation reduction has become the daily issues in real time condition.

NERLDC may please deliberate.

D.32. High MVAR Drawl by Bangladesh

It has been observed mostly during peak hours that, Bangladesh drawal reaches 190 MW with reactive power consumption of 60-70 MVAR and sometimes even more. Any generation outage at Tripura during these periods (say outage of Monarchak/ Rokhia) causes severe low voltage issue at Agartala and hence AGTCCPP Units /132 kV system are compelled to supply very high quantum of MVAR to maintain Agartala Bus voltage which is not desirable for safety of the grid system. To prevent such issues, action needs to be taken to restrict MW/MVAR drawal by Bangladesh.

NERLDC may please deliberate.

D.33. Doyang Realtime data/status not available since 15th January'18

DOYANG realtime data and status are not available since January'18. This causes low visibility for the system operators in real time and affects proper grid management for taking quick decisions. POWERGRID/NEEPCO may apprise the status and intimate why it takes so long to restore the system.

NERLDC may please deliberate.

D.34. Communication problem with Nagaland during night time

It has been observed that in case of any tripping for instance like 132 kV Doyang-Sanis-Wokha line tripped on 4th June 18 at 01:35 hrs & restored at 0648hrs on 4th June 18 taking more than 5 hrs to restore of lines in Nagaland system. During odd night time, nobody receives phone call including SLDC thus resulting in abnormal delay in restoration of the line/system.

NERLDC may please deliberate.

D.35. LILO of 132 kV Jiribam-Aizawl at Tipaimukh S/S charged without following normal procedures.

S/D for LILO work of 132 kV Jiribam-Aizawl line (PG) at Tipaimukh S/S (Manipur) was taken on 1st June 2018 by Manipur. The same LILO Tipaimukh S/S (Manipur) was charged for the first time from Jiribam end on 3rd June 2018 at 1017 hrs and finally closed successfully at 11:34 hrs. However, this was allowed as a special case so that reliability of power supply to Mizoram is not affected. Till date, Telemetry data (RTU) & Voice communication systems are yet to be made available as mandated by IEGC. Manipur is requested to complete all formalities at the earliest possible.

NERLDC may please deliberate.

D.36. Normative DC implemented for Hydro Power Plants as per 5th Amendments of IEGC, CERC

As per 5th amendment in IEGC and SOR on 5th amendment dated 13th April'2018, restriction on Hydro plants to keep its schedule below On bar Installed Capacity less Auxiliary Consumption has been imposed. As per CERC order it is the prerogative of the generators to intimate the DC including overload capacity but the schedule to the beneficiaries would be restricted to installed capacity(IC) minus normative auxiliary consumption or the DC by generator whichever is less. A letter in this matter has been issued to concerned Utilities vide Ref No:NERLDC/SO-I/9185-96/489 dated 31/05/2018. Small ppt is kept ready for presentation.

NERLDC may please deliberate.

D.37. Scheduling related issues

Schedule related issues discussed in the forum.

As per suggestion of the forum, RLDC has been sending R0 and R1 schedules through email to all SLDCs apart from uploading it in the website. Also we have been sending all partial related schedules to concerned SLDCs along-with verbal telephonic intimation. But none of the SLDCs has responded to our mails so far. All Constituents Heads (SLDCs) are requested to kindly take note of the issue and sensitise to all shift personals to response.

NERLDC may please deliberate.

D.38. Pare unit is not synchronising as per schedule especially during morning peak

As per CERC, all Hydro stations are to declare their DC at least for 3 hrs/12block. But PARE HEP is declaring DC for 10 block only which may create problem for calculating DC.

As per demand curve of NER, NERLDC is scheduling the PARE generation during morning hours (from 06-10) and peak hours (16-22). But almost every day they are delaying the synchronising time from schedule time for 15min to 30 min, thereby attracting DSM charges and resulting in NER load gen mismatch/more power input from ER.

NERLDC may please deliberate.

D.39. Telemetry and Voice Communication issues

ULDC connection to each Generation plant and SLDCs is highly required as at the hour of crisis effective communication is a must. It has been observed that communication with AP SLDC, ASSAM SLDC and few other plants is a time taking process during critical time.

Latest Tabular format attached in **Annexure-D.39**.

NERLDC may please deliberate.

METERING RELATED ITEMS

D.40. Procurement of additional 70 Laptops:

Revised Target as intimated by NERTS in 144th. OCC:

e-RA: completed.
LOA: June'18
Supply: August'18

NERTS may intimate status.

D.41. Installation of new L&T SEMs in NER:

In 144th. OCC meeting, NERTS intimated that 86 SEMs out of the total of 131 have been installed. The balance would be completed by Jun'18.

NERTS may intimate status.

D.42. AMR in NER:

QR: by 30.04.18
Bid sale: till 08.06.18
OBD: 15.06.18
LOA: 30.06.18

NERTS provided the web-link for the tender as under:
www.pgcileps.buyjunction.in

NERTS may intimate status.

D.43. Testing of SEMs at accredited laboratory:

In the 142nd. OCC meeting, Manager, NERTS informed that current estimate is based on all 234 SEMs in NER with appx. Cost being INR 22lakhs(@8140/meter). DGM(MO), NERLDC clarified that testing is required only for meters which have been in service for more than 5yrs but less than 10yrs. NERTS was requested to obtain fresh estimate on finalization of number of Meters to be tested. Accordingly, no. of meters to be tested has been worked out. In 143rd OCCM, Manager, NERTS informed that the revised estimate has worked out to be appx. Rs.15.96 lakhs. In 144th. OCC meeting, NERTS informed that the testing of SEMs is under tendering process.

NERTS may intimate status.

D.44. Procurement of DCD:

In the 142nd. OCC meeting, NERTS representative intimated that LOA for the DCDs would be issued by May'18.

In 143rd OCCM, NERTS informed that the DCDs recently supplied by the agency M/s L&T are presently not available in view of enhancement of memory capacity subsequent to introduction of new version. POWERGRID taken up with the DCD supplier to provide the new versions at the same rate and terms and conditions so that procurement action can be taken up on repeat order basis vis-à-vis the contract recently awarded to M/s L&T for supply of SEM, DCD and Laptops. On confirmation from M/s L&T necessary action would be taken up by POWERGRID for procurement of DCD. In 144th. OCC, NERTS informed that the Technical Specifications have been changed due to up-gradation of DCD with higher memory capacity and the same has been communicated to M/s L&T.

NERTS may intimate status.

D.45. Erratic reading of SEM:

1. Dullavcherra end of 132 KV Dullavcherra-Dharmanagar feeder
2. Jiribam(PG) end of 132 kV Jiribam(PG)-Jiribam(Manipur)
3. Dimapur(PG) end of 132 Dimapur(PG)-Bokajan(Assam)

NERTS may intimate status.

D.46. Commissioning of RS-485 scheme in all ISGS of NER:

In 144th. OCC meeting, DGM(AM), NERTS informed that for total of 28 locations and 300 SEMs NERTS would go for tendering. The timeline would be intimated by next OCC.

NERTS may intimate status.

D.47. Installation of SEM for 33/11 KV Bhutan feeder in Assam system

In 143rd. OCC meeting, NERTS was requested to provide APDCL with one SEM on returnable basis for installation at 33/11kV Bhutan feeder.

NERTS has reported the following:

As decided in the OCC meeting , representative of POWERGRID has visited Bhairabkund (Bhutan Border) on 02.06.2018 along with APDCL officials for installation of energy meter in 11KV Rawta - Bhutan feeder.

The following activities were done during the visit:-

1. Installation of new energy meter in place of old energy meter.

The details of new energy meter installed as follows :
Sl. No. NP9527-A Make : L&T

CT Ratio : -/1, Imax : 2 Amp.
The CT and PT ratio provided are 200/5 A and 11KV/ 110V respectively.

2. The new VINPLUS software installed in LAPTOP provided by APDCL representatives.

3.One no. Optical- USB data cord handed over to APDCL representative.

4. Demonstration given to APDCL representative for extraction of data from energy meter to LAPTOP using VINplus software and optical-USB data cord.

5. Final reading of old meter and initial reading of new meter handed over to APDCL.

After successful installation of meter and demonstration of data extraction POWERGRID representative left the site on 02.06.18 evening.

Status may be discussed.

D.48. Time drift in SEMs.

Status of large time drift is as below:

a) NTPC-BgTPP (main meters time drift of about 8 minutes)

b) Bongaigaon (PG) (in the range of 10 minutes)

c) Dimapur (PG)

d) Imphal (Manipur) (in the range of 10-12 minutes)

e) 79 tilla (Tripura) (in the range of 10-12 minutes)

f) Silchar (PG) (in the range of 10-12 minutes)

g)Rangia / Motonga (in the range of 10-12 minutes)

h) Nirjuli(PG) (in the range of 15-25 minutes)

i) Agartala (in the range of 10-12 minutes)

Status regarding corrective action may be discussed.

D.49 Replacement of SEMs.

2 SEMs at Palatana are reported faulty and the same need to be replaced.

NERLDC may please deliberate.

Any other item:

Date and Venue of next OCC

It is proposed to hold the 146th OCC meeting of NERPC on second week of July, 2018. The date & exact venue will be intimated in due course.

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Annexure-D.5

Record of discussion held at NERPC , regarding hurdles faced for implementation of SPS-3 scheme.

An meeting was organized at NERPC, chaired by Sh. B.Lynkhoi (Director,NERPC) and attended by H.Talukdar , CM (POWERGRID) , Sh. Pinak Nandi (POWERGRID) and S.Mukherjee (NERPC) for discussing the hurdles faced in implementation of SPS-3 scheme.

Sh. B.Lynkhoi (Director,NERPC) asked representative of POWERGRID , regarding the implementation schedule of SPS-3 at POWERGRID Silchar substation so that SPS-3 scheme could be brought into service .

Representative of POWERGRID presented two possible ways for implementation of SPS-3 scheme:

CASE 1: (Modification in the existing scheme)

With reference to SPS 3 maloperation incident on 21st April and 30th April , POWERGRID representative confirmed that , there has no incident of SPS 3 trigger incident at silchar Substation (neither in BCU events nor in PLCC events) . So, the reason of maloperation is still unknown.

With reference to the mal -operation of SPS3 due to BCU restart of Pallatana 2 on 08th Feb 2018 and and also generation of mutiple SPS 3 DT signals to OTPC pallatana on 10th May 2018 , POWERGRID has analysed the events recorded in BCU and PLCC and has proposed for implementation of some filtering logics in SPS 3 scheme at Silchar substation , for avaoiding maloperation for actuation of similar conditions / events. However, implementation of these filtering logic shall require rewiring in BCU , protection relays (of Pallatana 2 Ckt) and PLCC panels (of Pallatana 1 Ckts.) at Silchar end. POWERGRID also informed that there is always a potential risk of working in the live panel and undesired tripping events are possible due to congested wiring of all Signal wiring in Palatana 2 relay / BCU panels and Palatana 1 Ch- 2 PLCC panels at Silchar substation.

Further it is to inform you that the associated possible tripping while working in live line may be as follows:

1. Sending of DT signals of Individual line (Palatana-1 & 2) resulting in tripping.

2. Sending of SPS2 signal to palatana .

Accordingly , POWERGRID requested for shutdown of both Palatana 1 and Palatana 2 circuits for 03 hrs for the rewiring work.

POWERGRID also informed that , POWERGRID cannot guarantee spurious free system , since the existing special protection scheme is using the common substation DC and BCU, and actuation of DC earth fault anywhere in the substation may or may not interfere with the Special protection scheme implemented.

Also, POWERGRID informed that, the existing SPS schemes is implemented via Pal atana —1 PLCC panels only . And hence, during shutdown of Palatana — I circuit , if nature of work necessitates local earthing , than PLCC soul per shall be out of service rendering the SPS scheme out also.

CASE 2: (Creating a new asset for SPS scheme at si I char and pal atana)

POWERGRID representative informed following benefits for creation of separate asset for special protection scheme at silchar and pal latana :

- working in live system becomes easy and risk free.
- requirement of shutdown during future modification necessities becomes less.
- Least chances of spurious signals due to earth faults in DC system of substation (since substation DC system covers a large area) .
- Least chances of generation of spurious SPS signals due to maloperation of some specific BCU /relays /assets.
- Uniformity of assets and architecture at both ends (i.e Silchar and palatana). Hence getting OEM support for complete resolution of mal operation issues becomes easier.
- Since presently , existing SPS scheme is implemented in Pal atana 2 and sri kona BCU and relays , hence Maintenance of these assets during annual maintenance schedule becomes impossible. Creating a separate asset shall resolve this issue.
- Better monitoring of SPS operation events in SCADA and fi Iteration of unnecessary substation events
- Creation of PLCC redundant path for SPS DT exchange. Hence, no issues shall be faced during shutdown of either Pal atana 1 or Pal atana 2 circuits.

POWERGRID informed that , following new assets shall be required at both silchar and palatana for execution of CASE 2 scenario.

1. 01 no. of BCU /RTU at both ends (Approx cost : 15 lakhs for both ends)
2. 01 no. of local SCA DA at both ends (Approx cost : 15 lakhs for both ends)
3. 02 no. of PLCC panels at both ends for Pal latana 1 and Pal latana 2 circuits. (Approx cost : 40 lakhs for both ends)
4. 100AH Battery alongwith AC —DC charger for separate DC system. (Approx cost : 10 I akhs for both ends)
5. Required communication, Control and Power Cables . (Approx cost : 10 lakhs for both ends)

Annexure-D.9

North Eastern Regional Power Committee

MINUTES OF SPECIAL MEETING ON UFR AND PSS TESTING

Date : 28/05/2018 (Monday)

Time : 15:00 hrs

Venue : "NERPC Secretariat", Shillong.

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

Shri F.Iqbal, Dy. Director welcomed all the members to the Special Meeting. He informed the present members with deep regret that Shri. B. Lyngkhoi, Director/SE(O&P), NERPC could not be present since he is out of station due to prior engagements. It was informed that Shri H.Talukdar, CM , NERTS who was heading the 3rd Party Protection Audit, would not be attending the meeting due to other commitments. In absence of Director, NERPC and Shri Talukdar it was decided that the recommendations of 3rd party Protection Audit would be discussed at a later meeting of the Sub-group.

The UFR Inspection & Testing Procedure (**Annexure-II**) prepared by Shri H.Talukdar, CM, NERTS was circulated in the meeting.

Members opined the following w.r.t. UFR I & T procedure:-

- Physical tripping may be avoided for feeders such that there's no power interruption during testing. If agreed by constituents, UFR of one feeder with least importance in each station can be physically tripped for testing purpose. For other feeders, tripping log maintained by substation can be referred for checking breaker operation.
- UFR should be tested at the designated frequency using Frequency Injection kit.

NERLDC also highlighted the number of instances during the 2016 & 2017 when there were no UFR operation during grid disturbance. Details are attached as annexure III.

AEE MRT informed that for UFR inspection approval of authority for providing Testing Kit is required.

Further he opined that physical tripping of feeders should be avoided at all costs. He also provided the names of the nodal officer(s) w.r.t. UFR inspection:

Name of sub-station	Name & Designation	Contact No.
Mawphlang	Shri K. Kynjing, AE	9485170070
Khliehriat	Shri R. Khongmalai, AE	7641834425
Nongstoin	Shri R. Khongmalai, AE	7641834425

Thereafter members made the following recommendations:-

- The draft UFR Inspection and Testing procedure be amended incorporating no physical tripping of feeders and testing of relay using Frequency Injection Kit.
- Inspection format would be prepared based on amended procedure.
- State transmission utilities would provide the kit wherever available. In case of non-availability, the same has to communicate beforehand so that NERTS may make necessary arrangements.

AEE, NERPC presented the background of PSS tuning(attached at **Annexure-IV**) based on current practices in Northern Region and Southern Region. It is briefly given as below:-

- All generators with capacity over 50 MW for which PSS has not been tuned or Step Response Test has not been carried out during last 12 months should carry out the SRT. In case of new units SRT is to be submitted before CoD.
- If results of SRT indicate sufficient damping, generating company would perform next Step Test after 3 years or at the time of major overhauling of the machine whichever is earlier.
- Generating companies would arrange for re-tuning of PSS, if SRT indicates insufficient damping or oscillations.
- All generating units to set PSS in such a way that it should come into service when the unit loading is above 50 % of installed capacity
- Step in the range of 2- 5 %(V_{ref}) could be taken at full load and at 50 % (or at a value as suggested by OEM) load for Step Up and Step Down with PSS On & Off for Step Response Test of each unit. PSS for the other units (of the station/stage) would be kept Off during the test.

Sr. Manager, NEEPCO informed that as per prevalent regulations only units above 50 MW are supposed to activate PSS mandatorily. So among NEEPCO plants only Ranganadi HEP, Pare HEP and TGBPP(Monarchak) are mandatory to activate PSS.

DM(E/M), NEEPCO stated that NEEPCO has no prior experience for PSS tuning, which are exclusively done by OEM. In case of any observed oscillation the same is reported to OEM who send the new settings electronically. The same is uploaded in the firmware.

Members noted that PSS inspection would be futile and recommended that SRT may be submitted by all plants who have not done since last 3 years, at the moment.

Sr. Manager, NEEPCO enquired a sample of the output of SRT which may be then supplied by NEEPCO. NERPC informed that the same would be attached in the Annexure-IV.

DM(E/M), NEEPCO also expressed difficulty in deciphering the PSS tuning results as well as block diagrams given by OEM mainly M/s BHEL. Also he informed that it is very difficult to persuade M/s BHEL to visit the site and perform PSS testing.
Members requested NERPC to take up this issue with higher management of NEEPCO for speedy resolution.

Members agreed with the procedure followed in other regions and recommended for OCC approval. However it was felt that the procedure may have to be modified depending on different make of machines and OEM recommendation.

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Annexure-I

List of Participants in the Special Meeting held on **28/05/2018**

SN	Name & Designation	Organization	Email/Contact No.
1.	Shri S.C. De, Asst. GM	NERLDC	scde@posoco.in
2.	Shri Ankit Jain, Sr. Engineer	NERLDC	ankitjain@posoco.in
3.	Shri Jerin Jacob, Engineer	NERLDC	jerinjacob@posoco.in
4.	Shri Subhash Kumar	NERLDC	Subhash.tran@posoco.in
5.	Shri Pynshai, AEE	MePTCL	9774247457
6.	Shri K. Kynjing, AE	MePTCL	-
7.	Shri Joypal Roy, Sr. Manager(E/M)	NEEPCO	Joypal.roy@rediffmail.com
8.	Shri A.K. Sarmah, DM(E/M)	NEEPCO	Khandong.neepco@rediffmail.com
9.	Shri F. Iqbal, DD	NERPC	-
10.	Shri S. Mukherjee, AEE	NERPC	8794277306

FRAMEWORK FOR REGISTRATION OF GENERATING UNITS

1. Background

Section 74 of Electricity Act, 2003 & and Regulation 4 & 5 of CEA (Furnishing of statistics, returns and information) Regulations, 2007, even though mandates every licensee, generating company, or person(s) generating electricity for its or his own use to furnish the statistics, returns or other information relating to generation, transmission, distribution, trading to CEA, the complete data/information is not made available to CEA particularly from Captive Power Plants and RE Generators. Even in case of some conventional electricity generating units of IPP's, information is sometimes made available to CEA only at the time of commissioning of the electricity generating unit.

Hence, mandatory registration of all the electricity generating units, above a specified capacity, through a National Level Data Registry System, by assigning each of them a unique registration number, is the need of the hour so that generating capacity of all the electricity generating units in India is available with CEA and captured in CEA's data base.

2.0 Uniqueness of Registration Number

The registration number to be assigned by CEA shall be a unique for each generating unit in the country and the registration number once assigned to a generating unit would not be changed. The status of generating unit may change (planned/ under construction/ commissioned/retired etc.). Even if the generating unit retires, its registration number would not be assigned to any other generating unit.

3.0 Applicability

3.1 The following category of generating units are required to obtain the unique registration number:

i) All the conventional grid connected electricity generating units (whether in Central Sector, State Sector, Private Sector, IPP's, Joint Venture etc.) in the country whether coal based, gas based, liquid fuel based, Hydro Power based or nuclear, if the capacity of the electricity generating unit is 500 kW (0.5 MW) and above.

ii) All the electricity generating units of grid-connected captive power plants, if the capacity of the electricity generating unit is 500 kW (0.5 MW) and above.

iii) All the Grid - connected Renewable Energy (RE) generators, if the capacity of RE generating unit is 500 kW (0.5 MW) or above. This also includes grid-connected roof-top solar installations.

iv) All the stand alone (off-grid) generating units, if the capacity of generating unit is 500 kW (0.5 MW) or above.

v) All the generating units supplying power to neighbouring countries, irrespective of whether these generating units are connected to the Indian Electricity Grid or not.

3.2 For existing grid connected electricity generating units, including grid connected captive and RES generating units, the registration number would be required for injecting power in the grid.

3.3 For under construction electricity generating units and generating units in conceptualisation stage, which includes grid connected captive and RES generating units, the registration number would be required while applying for grid connectivity. However, if grid connectivity has already been obtained or applied by these generating units, the registration number would still be required for physical injection of power in the grid.

4.0 Procedure of Registration

4.1 The registration number would be generated online by the generating companies/project developers, after filling in certain details.

4.2 The Generating Companies would have to register themselves in e-Registration portal of CEA on CEA's website (www.cea.nic.in) after filling in necessary details viz. name of the generating company, sector etc. in a format designed for the purpose. They can choose any user id and password while registering their generating units. Alternatively, user ID may be the name of the Company.

4.3 Using the user id and password generated in step 4.2, generating companies can enter the details of their generating units one by one and generate unique registration number for each generating unit. The unique registration number shall be a 10 digit numeric identification number in the format XXXXXXXXXX. The first digit will indicate whether it is Generating Company, Transmission Company or Distribution Company (Generating Company -1; Transmission Company -2; Distribution Company -3). In case of Generating Company the second digit will indicate the type of generating unit (Hydro-1/Thermal-2/Nuclear-3/RES-4). Digits from 3-10 (8 digits) would be the unique registration number of the generating unit.

All the information associated with a generating unit will be linked with this unique registration number. All the associated information like location of the generating unit, fuel type, technology (sub critical, supercritical, ultra-supercritical, off-shore wind, on-shore wind, roof top solar, solar thermal, floating solar etc.), installed capacity, sector (central, state, private, JV), utility or captive, grid connected or off -grid etc. will be available in the database and will be visible to the authorised persons, once the registration number is entered.

4.4 The generating companies / project developers would submit the following data/information at the time of registering their generating units.

4.4.1 Existing Generating Units

4.4.1.1 Mandatory Information to be filled at the time of registration

- Name of the generating unit
- Capacity of the Generating unit in MW
- State, Location & Address (including District) of the Generating Unit.
- Latitude & Longitude of the Generating Unit.
- Name of Owner (s) along with contact details including telephone, mobile, e-mail and fax.

- Name and contact details of person, including telephone, mobile, e-mail and fax number, to be contacted for clarifications, if required.
- Sector, whether Central/State/Private/JV
- Whether the generating unit is grid connected or off-grid
- Fuel type of generating unit (Coal/lignite/gas/diesel/HFO/Other Liquid Fuel/nuclear/hydro/solar/wind/ biomass/Coal Reject /Wind-Solar Hybrid etc.).
- Type of technology viz. Sub-critical/super-critical technology/ultra-super-critical technology in case of coal based generating unit; OCGT, CCGT, Gas Engines etc. etc. in case of gas based generating unit.
- Type of hydro viz. ROR, Pondage, Storage, Pumped Storage.
- Date of commissioning of the generating unit
- Date of Commercial Operation (COD) of the generating unit
- Fuel linkage/ source of fuel, if applicable
- Name of the Industry/Installation, in case of Captive Generating units

4.4.1.2 Information to be furnished subsequently

- Implementing Agency
- BTG Supplier in case of thermal generating units
- E&M, HM equipment supplier in case of Hydro generating units
- Type of hydro turbine viz. Pelton, Francis, Kaplan, Bulb, any other
- Ramp Up/ Down rate of the generating unit
- Minimum technical loading of the generating unit
- Whether the generating unit is connected to ISTS or State Grid
- Voltage level at which generating unit is connected to the ISTS/State Grid

4.4.2 Generating units under construction

4.4.2.1 Mandatory Information to be filled at the time of registration

- Name of the generating unit
- Capacity of the Generating unit in MW
- State, Location & Address (including District) of the Generating Unit.
- Latitude & Longitude of the Generating Unit.
- Name of Owner (s) along with contact details including telephone, mobile, e-mail and fax.
- Name and contact details of person, including telephone, mobile, e-mail and fax number, to be contacted for clarifications, if required.
- Sector, whether Central/State/Private/JV
- Whether the generating unit is grid connected or off-grid
- Fuel type of generating unit (Coal/lignite/gas/diesel/nuclear/hydro/solar/ wind/biomass/Coal Reject /Wind-solar hybrid etc.).
- Type of technology viz. Sub-critical/super-critical technology/ultra-super-critical technology in case of coal based generating unit; OCGT, CCGT etc. in case of gas based generating unit.

4.4.3.2 Information to be furnished subsequently

- BTG Supplier in case of thermal generating units
- E&M, HM equipment supplier in case of Hydro generating units
- Type of hydro turbine viz. Pelton, Francis, Kaplan, Bulb, any other.
- Likely source of fuel, if applicable.
- Ramp Up/ Down rate of the generating unit
- Minimum technical loading of the generating unit
- Whether the generating unit is proposed to be connected to ISTS or State Grid
- Voltage level at which generating unit is proposed to be connected to the ISTS/State Grid

5.0 Role of different Divisions of CEA in registration process.

Information in respect of most of the generating units is already available in CEA in different Divisions based on the work being handled by them. For example, data of existing generating units is maintained by PDM Division, CEA; data of under construction hydro generating units is maintained by HPM Division, CEA; data of under construction thermal generating units is maintained by TPM Division, CEA etc. Through the registration process, a unique ID would be assigned to each generating unit. Registration of different class (existing, under construction, planned etc.) of generating units would be handled by different Divisions of CEA who are dealing with respective class (existing, under construction, planned etc.) of generating units and are having expertise in the respective field.

5.1 Existing generating units (utilities)

- ***Nodal Division for registration of Existing Generating Units (Utilities) - PDM Division, CEA.***

The data of existing generating units is being maintained by PDM Division, CEA. As data base of existing generating units is also being maintained by OPM Division, CEA, for monitoring electricity generation, PDM Division, CEA, may associate with OPM Division, CEA, in this regard so that the data base being maintained by both the Divisions is uniform. These Divisions may seek clarification from the project developers, if necessary. To make changes like uprating/deration/retirement, the project developer would have to follow the process being followed at present. For example, to retire a generating unit, the project developer should furnish approval letter from the Board of Directors of the Company along with relevant supporting documents, if any, to CEA. The generating unit would then be removed by CEA from its installed capacity database.

The prime responsibility of PDM/OPM Division (in regards to existing generating units):

- To check that the on-line data of existing generating units as submitted by Generating Companies/project developers matches with the data already available/ being maintained in CEA in terms of name, capacity, location, fuel type, developer, sector etc. of generating units.
- To see that data duplicity is not there.
- To see that all the existing generating units as per CEA database are registered. If not, communicate with the concerned persons.

- Type of hydro viz. ROR, Pondage, Storage, Pumped Storage
- Letter of Award (LoA) Date {(a) BTG package for thermal generating units; (b) Main Civil, E&M and HM packages in case of Hydro generating units}
- Expected commissioning date of the generating unit
- Expected Date of Commercial Operation (COD) of the generating unit
- Fuel linkage/ source of fuel, if applicable
- Type of technology viz. Sub-critical/super-critical technology/ultra-super-critical technology in case of coal based generating unit
- Name of the Industry/Installation, in case of Captive Generating units

4.4.2.2 Information to be furnished subsequently

- Implementing Agency
- BTG Supplier in case of thermal generating units
- E&M, HM equipment supplier in case of Hydro generating units
- Type of hydro turbine viz. Pelton, Francis, Kaplan, Bulb, any other.
- Ramp Up/ Down rate of the generating unit
- Minimum technical loading of the generating unit
- Whether the generating unit is connected to ISTS or State Grid
- Voltage level at which generating unit is connected to the ISTS/State Grid

4.4.3 Generating units in conceptualisation stage

4.4.3.1 Mandatory Information to be filled at the time of registration

- Name of the generating unit
- Capacity of the Generating unit in MW
- State, Location & Address (including District) of the Generating Unit.
- Latitude & Longitude of the Generating Unit.
- Name of Owner (s) along with contact details including telephone, mobile, e-mail and fax.
- Name and contact details of person, including telephone, mobile, e-mail and fax number, to be contacted for clarifications, if required.
- Sector, whether Central/State/Private/JV
- Fuel type of generating unit (Coal/lignite/gas/diesel/nuclear/hydro/solar/ wind/biomass/Coal reject/Wind-solar Hybrid etc.).
- Whether the generating unit is grid connected or off-grid.
- Type of technology viz. Sub-critical/super-critical technology/ultra-super-critical technology in case of coal based generating unit; OCGT, CCGT etc. in case of gas based generating unit.
- Type of hydro viz. ROR, Pondage, Storage, Pumped Storage.
- Likely Letter of Award (LoA) date.
- Expected commissioning date of the generating unit, if available.
- Name of the Industry/Installation, in case of Captive Generating units

Subsequently, when a generating unit is commissioned, details of generating unit would be passed on to PDM & OPM Divisions, CEA, for further necessary action.

5.4 Data of RE Generators

- ***Nodal Division for registration of RE based Generating Units (Utilities as well as Captive) - RES Development Division, CEA***

Data of RE Generators (utilities & captive), existing, under construction as well as planned, would be maintained by RES Development Division, CEA.

5.5 Captive Generating units

- ***Nodal Division for registration of Captive Generating Units (excluding RE based Captive Generating Units) - PS&LF Division, CEA***

Data of Captive Generating Units (excluding RE based Captive Generating Units), existing, under construction as well as planned, would be maintained by PS&LF Division, CEA.

5.6 Maintaining the e-registration portal and ensuring smooth operation of the same

- The e-registration portal would be designed and maintained by IT Division, CEA.

6.0 Operationalisation of the scheme-Action to be taken by CEA/CERC/SERCs /JERC's /Forum of Regulators (FOR)

6.1 E-Registration portal and the Format for registration would be required to be designed on CEA's website in such a way that all the information could be filled on-line by the Generating companies in the prescribed format which would automatically go to the concerned Divisions of CEA for information and for monitoring (e.g. in case of Thermal projects, the information would go to TPM/TPP&D, in case of Renewable projects, the information would go to RES Development Division etc.).

(Action: IT Division, CEA, in association with TPM I&II, HPM, TPP&D, HPPA, RES Development, OPM, PDM, PS&LF Divisions).

6.2 Maintenance of e-registration Portal for registration of electricity generating units under National Level Data Registry System. **(Action: IT Division, CEA)**

6.3 In order to make it mandatory for the electricity generating units to obtain the unique registration number from CEA, necessary regulatory provisions/modifications would need to be incorporated in the following:

a) General Grid connectivity conditions of CEA (Technical Standards for Connectivity of the Grid) Regulations, 2007 as amended & CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013.
(Action: GM Division, Legal Division, CEA).

b) Appropriate Regulations of CERC & SERCs by taking up the matter with Forum of Regulators.
(Action: Secretary, CEA in association with RA/Legal Division, CEA)

5.2 Generating units under construction (utilities)

- ***Nodal Division for registration of Under Construction Thermal & Nuclear Generating Units - TPM I & II Divisions, CEA***
- ***Nodal Division for registration of Under Construction Hydro Generating Units - HPM Division, CEA***

Data of under construction generating units is maintained by TPM/HPM Divisions. Data of under construction generating units along with critical milestones, as submitted on-line by the project developers at the time of registration, would be analysed and maintained by TPM/HPM Divisions of CEA.

The project developer/generating Company would update the progress of construction of his project on CEA's website from time to time. Once the generating units is commissioned, the project developer would update the status of generating unit from "under construction" to "Commissioned" and submit relevant documents (on-line) to CEA as a proof of having commissioned the generating unit. Similarly, once the generating unit achieves Commercial Operation, the project developer would update its status on CEA's website and submit relevant documents (on-line) to CEA.

Once the generating unit is commissioned, the data of generating unit would be passed on to PDM/OPM Division, CEA, for further necessary action.

The responsibility of TPM & HPM Division, CEA, would be:

- To check that the on-line data of under construction generating units as submitted by Generating Companies, matches with the data already available/being maintained in TPM/HPM Divisions in terms of name, capacity, location, progress of construction, fuel type etc. of generating units.
- To see that data duplicity is not there.
- To see that all the under construction generating units as per CEA database are registered. If not, communicate with the concerned persons after a pre-specified time.
- To examine/monitor the progress of under construction generating units based on the periodic updates submitted by the project developers.

5.3 Generating units in conceptualisation stage (utilities)

- ***Nodal Division for registration of Planned (in conceptualisation stage) Thermal & Nuclear Generating Units- TPP&D Division, CEA***
- ***Nodal Division for registration of Planned (in conceptualisation stage) Hydro Generating Units- HPPA Division, CEA***

Data of generating units in conceptualisation stage, including its different milestones, would be maintained by TPP&D/HPPA Divisions of CEA, as these Divisions are already maintaining data of such generating units and have the necessary expertise in this field.

Once the generating unit qualifies for under construction status, relevant details of the generating unit would be passed on to TPM/HPM Division, CEA, for further necessary action.

c) CEA (Furnishing of statistics, returns and information) Regulations, 2007.
(Action: Secretary, CEA in association with PDM/RA/Legal Division, CEA),

7.0 The scheme would be implemented from the date from which the necessary logistics/enabling-provisions for implementation of the scheme would be ready, which may take about 6 months. The date from which the scheme is to be implemented would be intimated to all the stakeholders in due course.

8.0 Registration of Transmission & Distribution System

The registration process is to be first started for generating units. The information to be collected and format of registration number for transmission/distribution system would be designed subsequently.

8.1 Transmission System

The registration of transmission system (existing, under construction and planned) and data submitted by developers of transmission system would be analysed and maintained by PSPM Division of CEA, who have expertise in this area. The data to be collected, relevant formats for data collection and the format of registration number shall be devised by PSPM Division separately as and when the registration process of Transmission system is conceptualised.

8.2 Distribution System

The registration of Distribution System (existing, under construction and planned) and data submitted by developers of Distribution System would be analysed and maintained by DP&D Division of CEA, who have expertise in this area. The data to be collected, relevant formats for data collection and the format of registration number shall be devised by DP&D Division separately as and when the registration process of Distribution System is conceptualised.

ANNEXURE - D.39

ANALOG AND DIGITAL DATA STATUS OF POWERGRID/ISGS

Date 04.06.18

Sl. No.	RTU STATION	ANALOG DATA	DIGITAL DATA
1.	BALIPARA	400 kV Bongaigaon line 1 data is suspect. Data of 220 kV Balipara - Sonabil Line 1 and line 2 are wrong.	F_R3_R (BONGA_PG LINE 2 REACTOR), F_R4_R (BONGA_PG LINE 1 REACTOR), F_R2_R (BNC_PG LINE 1 REACTOR), E_05 CB data suspect.
2.	BONGAIGAON	400/220 kV ICT is WRONG, 80 MVAR Bus reactors suspect and 400 kV Bongaigoan-New Siliguri Line 1 data wrong.	
3.	DIMAPUR	All data ok except Bus data of 220 kV and 132 kV Buses.	All data wrong.
4.	IMPHAL	All data suspect	All data suspect
5.	JIRIBAM	All data ok except 132 kV Bus 1 Voltage wrong	
6.	KOLASIB	All data suspect.	All CB suspect.
7.	MISA		F_04 (400/220 kV ICT 1), B_03_R (Tertiary Reactor 3), E_L3 (Kopili-3), E_07 (220 kV B/C), F_01 (BALIPARA_PG Line 2), B_01_R (Tertiary Reactor 1), B_02_R (Tertiary Reactor 2), E_L1, E_L2, E_L3, E_L4, E_L5, E_L6, E_L7, E_L8, E_L9, E_06 data suspect.
8.	MARIANI	All data ok except MVAR of all Lines	
9.	BNC (HVDC)	Firing Angle of pole 1 & 2, 400 kV Ranganadi-BNC Line I & II position swapped at BNC end, SUBAN_NH 3(BNC to SUBAN Line3) MW&MVAR Data Suspect, 132 kV Transfer Bus Data Suspect.	F_01(ICT-1), F_02(Tie between ICT-1 & ICT-2), F_03(ICT-2), F_04(SUBAN-4), F_4R_R(SUBAN-4 Reactor), F_05(Tie between SUBAN-3 & SUBAN-4), F_06(SUBAN-3), F_R3_R(SUBAN-3 Reactor), F_R2_R(SUBAN-2 Reactor), F_R1_R(SUBAN-1 Reactor), F_08(Tie Between SUBAN-1 & SUBAN-2), F_09(SUBAN-1),F_13(Filter-3), F_14(Filter-3 main), F_23(pole-1), F_2W(Tie between bus-3 &4), F_1W(Tie between Bus-1 &2), F_25(Bus reactor-2),F_26(Tie Between Bus Reactor-2 & Ranga-1), F_28(Pole-2 Bus-4) , F_29(Pole-2 Bus-2), F_31(Tie Between Ranga-2 & Balip-2), F_36(Tie Between Balip-1 & Balip-3), F_38(Filter-2), F_39(Tie Between Filter-2 & Filter-3), F_40(Filter-1), F_42(Tie Between Balip-4 & Bus Reacxtor-1), F_43(Bus Reactor-1), D_01(ICT-1 132 KV side), D_02(ICT-2 132 KV Side), D_03(BNC-1), D_04(BNC-2)
10.	ROING	All data suspect.	All data suspect.
11.	TEZU	All data suspect.	All data suspect.

12.	**SILCHAR**	AZARA and Killing line reactors connection reversed.	
13.	**AIZWAL**	All data ok except Bus 1 data	
14.	**KOPILI**	Bus frequency and 220/132 kV 160MVA ICT 1 data is suspect	D_L4 (Khandong_NO Line 1), E_05 (220/132 kV 160 MVA ICT) data Suspect.
15.	**DOYANG**	All data suspect.	All CB suspect.
16.	**RANGANADI**	All data ok except Mvar Values of units	D_L6, D_L7, D_G1,D_06, D_08,F_L2,F_02 SUSPECT
17.	**KOPILI EX NO**	33 KV bus voltage suspect, 132 kV Bus 2 Voltage suspect, 220 kV Bus 4 & 3 voltage data wrong, XFMR_S ED_T1 Data wrong.	D_06 (ICT-1).
18.	**RC NAGAR**	Bus 2 frequency suspect.	
19.	**LOKTAK**	Bus 1 Frequency & Voltage, 132/33 kV ICT All Data Suspect	D_G3(Unit 3), D_G2(Unit 2), D_L3(132 kV Imphal Line), D_L1(132 kV Rengpa Line), D_06 (132/33 kV ICT)
20.	**ZIRO**	All data suspect.	All CB suspect.

Voice Communication:

The following ULDC phones are not working

1. Kohima (23640116)
2. Kathalguri (23640154)
3. Palatana (23640127)
4. Ranganadi (23640119)
5. Dimapur (23640142)
6. NTPC, BgTPP.
7. 400kV Byrnihat/Killing

Expected date for installation of VOIP
(as per 141st OCCM).

1. Palatana, OTPC – by Nov'18
2. 400kV Silchar - by Nov'18
3. Ziro, Roing, Tezu and Pasighat -
   By Nov'18 (PG) & AP (under R&M)