Minutes

of

147th OCC Meeting

Date: 02.08.2018

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 147th OCC Meeting held on 20th July, 2018 at ERPC, Kolkata

List of participants is at **Annexure-A.**

Member Secretary, ERPC chaired the meeting. He welcomed all the participants to the meeting. He informed that ERPC Secretariat is arranging workshops on Flexibility in Generation & Scheduling of Thermal Power Stations to reduce emissions, Draft DSM Amendment, PoC Mechanism, RTDA and Genus meters in July 2018. He advised all the constituents to go through ERPC website http://erpc.gov.in for details and advised to nominate suitable engineers for fruitful discussion.

Item no. 1: Confirmation of minutes of 146th OCC meeting of ERPC held on 15.06.2018

The minutes of 146th OCC meeting were uploaded in ERPC website and circulated vide letter dated 03.07.2018 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 146th OCC meeting.

PART A : ER GRID PERFORMANCE

Item no. A1: ER Grid performance during June, 2018

The average consumption of Eastern Region for June- 2018 was 456.3 Mu. Eastern Region achieved maximum energy consumption of 488 Mu on 19thJune - 2018. Total Export schedule of Eastern region for June - 2018 was 1716.1 Mu, whereas actual export was 1450.9Mu.

ERLDC may present the performance of Eastern Regional Grid covering the following:

1. **Frequency profile**
2. **Over drawal/under injection by ER Entities:** Over drawl figure of West Bengal and Odisha from 01-07-2018 to 07-07-2018 are shown below:

State	West Bengal		Odisha	
Date	Over Drawl (MU)	Max. Over Drawl (MW)	Over Drawl (MU)	Max. Over Drawl (MW)
01-07-2018	4.056579	543.9598	1.515301	454.6628
02-07-2018	1.405784		1.18451	732.7228
03-07-2018	4.207434	543.7326	1.580814	493.2611
04-07-2018	3.618164	434.8629	0.944288	387.0954
05-07-2018	2.459644	455.2968	2.681334	490.8415
06-07-2018	5.600231	592.7963	1.135233	420.9483
07-07-2018	4.977565	871.715	1.799373	383.0183

3. **Performance of Hydro Power Stations during peak hours**
4. **Performance of ISGS during RRAS**
5. **Reactive Power performance of Generators**
6. **Restricted Governor /Free Governor Mode Operation of generators in ER**

Deliberation in the meeting

ERLDC presented the performance of the Eastern Region grid during June 2018. Presentation is enclosed at ***Annexure- A1****.*

ERLDC informed that Odisha and West Bengal had overdrawn from the Grid for significant times during June and July, 2018.

OCC advised Odisha and West Bengal to plan their generation to balance the load by maximizing the availability of their internal generation and arranging procurement of power through STOA/ MTOA/ Power Exchange.

West Bengal informed that they had been continuously buying power from Market.However, due to uncertainty of availability of Farakka unit 5 & 6 and sudden drop in generation of Chuka HEP, they were compelled to draw from Grid. West Bengal agreed to avoid overdrawal from the Grid.

Odisha informed that they had been purchasing power from Market and had been utilizing URS power. However, due to outage of ISGS generators and low water reservoir levels in Odisha, they were compelled to draw from Grid. Odisha agreed to avoid overdrawal from the Grid.

OCC opined that all the utilities in the region should be allowed to avail URS power instead of restricting it among the beneficiaries of that particular ISGS plants. This would benefit both generators and utilities.

ERLDC submitted a Report on Restricted Governor /Free Governor Mode Operation of generators in ER which is enclosed at Annexure-A1.6.

OCC advised all the concerned generators to take necessary action to improve the performance.

7. **Less DC declaration by NTPC during evening peak hours:**

It has been observed that few ISGS stations for instance – FSTPP,TSTPP has persistently revised their DC during evening peak hours to a lower value than that of off peak hours for reasons like coal stock, quality, mill availability issues etc. This goes against the spirit of **Section 6.5.19 of IEGC** 2010 which reads –

> "While making or revising its declaration of capability, except in case of Run Off the River (with up to three hour pondage) hydro stations, the ***ISGS shall ensure that the declared capability during peak hours is not less than that during other hours***. However, exception to this rule shall be allowed in case of tripping/re-synchronisation of units as a result of forced outage of units."

Many times real time operators have denied such downward DC revision. To avoid such scenario, NTPC stations are advised to assess the parameters that influence DC(coal stock, quality, mill availability etc) well before, so as to ensure the declared capability during peak hours is not less than that during other hours.

NTPC (Farakka and Talcher) may please deliberate.

Deliberation in the meeting

NTPC informed that they requested for DC revision due to problem associated with receipt of low quality coal.

OCC advised NTPC to declare DC faithfully.

It was opined by OCC that ERLDC should closely observe the DC of the ISGS including the revision therein. In the event of emergence of a definite pattern in DC declaration which is in contravention of the CERC regulation, action accordingly may be taken.

8. Low Frequency Oscillation (LFO) observed at Talcher and nearby nodes on 3rd and 4th July 2018.

Low frequency oscillation of 0.2 Hz was observed in Talcher and nearby nodes on 3rd July'18 between 21:30 -21:46 Hrs and 4th July'18 between 19:07-19:11 hrs. The oscillation was prominent in the Eastern region near Talcher based on the analysis of pan India synchrophasor data. Talcher bus voltage from PMU for both days are given below in fig 1 and 2 where oscillation can be observed. Oscillations were more prominent in magnitude near Talcher followed by other nearby station indicating some nearby local phenomenon or generator hunting at Talcher. Based on analysis of Eastern region SCADA data, it was found that there was a large variation in the MW and MVAR of Talcher Unit 3 on 3rd July 2018 and Talcher Unit 6 on 4th July '18 during the period of oscillation. This can be observed from figure 3 and 5. Further after the intimation of the above, NTPC Talcher have informed that their unit has hunted due to equipment malfunction during the period. This can be observed from the unit MW and MVAr plot from fig 4 and 6.

Issues of Concern for OCC :

1. **Non-Intimation by NTPC to ERLDC in Real time :**It has been decided in the 144th OCC (Item B.3) that any unit observing hunting in their units must immediately inform ERLDC/SLDC. However, there was no intimation from Talcher on these oscillation and on probe from ERLDc, they intimated that their unit were having issues. This is not desirbale in view of the system securty as such forced oscillation can result in catestrophic widescale oscillation across Indian grid and further damage.
2. **Reason for the Oscillation in Units :** The reason as inimated by NTPC vide email dt.0-07-18 was the IP Control valve hunting due to malfunction however, the exact reason behind the malfunction is still not explained.
3. **PSS tuning of Generating Plants in Eastern region :** The PSS tuning in eastern region is long pending issue. It may kindly be seen that several such cases of LFO has originated in Eastern region in the recent past and in order to reduce the magnitude by damping of such oscillation, PSS tuning of generating units in eastern region is utmost required.

NTPC May kindly deliberate on the above two issues and action taken thereafter. All ISGS/IPP/SSGS/ State IPP may also kindly share the Status of PSS tuning their units to ERLDC/ERPC (Yes/No, Date of Tuning, Tuning response Plots).

Deliberation in the meeting

ERLDC explained the incidences with detailed presentation. Presentation is enclosed at Annexure-A1.8. ERLDC informed that in 144th OCC, it was decided that all the hunting events must immediately be informed to ERLDC/SLDC. However they had not received any information from NTPC.

NTPC informed that low frequency oscillations were initiated in Talcher# unit 3 on 3rd July 2018 due to tuning coil problem. The coil has been replaced and no oscillations had been observed thereafter.

NTPC explained that on 4th July 2018, IBCB 2 of Talcher Unit 6 was stuck up. As a result, oscillations were observed in the generator output. IBCB 2 had been taken into service after servicing and no oscillations were observed thereafter.

OCC once again requested all the generators to pass on the information to ERLDC immediately without any delay, if any oscillation is observed in their units.

OCC advised all Generators to tune the PSS of their units of above 100 MW capacity in Compliance to CERC Regulation and CEA Grid Standard.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Status of projects funded under PSDF schemes

In the PSDF review meeting, it was advised to RPCs to monitor the status of all the projects funded by PSDF. Therefore, constituents are requested to update the status of projects which are being funded by PSDF in the desired format.

A. Projects approved:

SN	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	PSDF grant approved (in Rs.)	Amount drawn till date (inRs.)	Latest status
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14	April 2018	108.6 Cr	18.26 Cr.	100 % Supply is Completed 100 % Erection is completed Claim is submitted for releasing of 22.27 Cr., the same is yet to be received.
2		Renovation & modernisation of transmission system for relieving congestion in Intra-State Transmission System.	22-05-17	25 months from date of release of 1st instalment	70.13	21.03 Cr	Order has been placed for 96.44 Cr.
3		Installation of switchable reactor at 400kV & shunt capacitors at 33kV	22-05-17	19 months from date of release of 1st instalment	43.37	6.59 Cr	Order has been placed for 12.53 Cr.
4	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station	*10.04.17*	*March 2018*	1.39 Cr	1.25 Cr	*The implementation would be completed by July 2018.*
5		Upgradation of Protection and SAS			23.48	2.348 Cr	Fresh tendering is in progress.
6	OPTCL	Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.	10.05.15	30.11.18	162.5 Cr.	37.79 Cr	Total contract awarded for Rs. 51.35 Cr
7		Implementation of OPGW based reliable communication at 132kV and above substations	15.11.2017		25.61 Cr.		Agreement signed on 03.01.2018
8	OHPC	Renovation and up-gradation of protection and control system of 4 nos.OHPC substations.		*U.Kolab-March 19 Balimela-Feb 2019 U.Indravati-Jan 19 Burla-Nov 2018, Chiplima Dec 2018*	*22.35 Cr.*	2.235 Cr	Tendering under progress.
9	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharshariff, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone& 132/33 kV GSS Kataiya	11/5/2015	31.07.2018	64.02 crore	56.04 crore	85% of work has been completed. Contract awarded for Rs.71.37 Cr till date.

10		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016	12th March 2019	18.88 crore	Nil	Work awarded for all GSS.
11		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.	02.01.17	31st March 2018	49.22 Cr.		75% work completed for seven no. GSS as part of R & M work. Revised DPR is to be submitted for rest 5 no. GSS.
12	JUSNL	Renovation and up-gradation of protection system	*September 2017*	*2 years*	*138.13 crores*		LOA issued to PRDC on 22ndMarch 2018 for monitoring the project. Tendering is in progress.
13	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation	02.01.17	01.06.2019	25.96 Cr	2.596 Crore on 01.06.2017	Work awarded for 28.07 Cr.
14		Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC	27.11.17	24 Months from the date of release of fund.	140.5 Cr.	1st installment of 14.05 Cr. received on 21.12.2017	Work awarded for 6.45 Cr.
15	POWERGRID	Installation of STATCOM in ER		June 2018	*160.28 Cr*	*16.028 Cr*	Work is in progress, expected to complete by June 2018. STATCOM at Rourkela has been commissioned.
16	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16	Project is alive from 30th October 2017	20 Cr.	4.94 Cr. + 9.88 Cr.	1) Protection Database Project has been declared 'Go live' w.e.f. 31.10.17. 2) Pending training on PDMS at Sikkim and 3rd training on PSCT has been also completed at ERPC Kolkata.
17a	ERPC	Training for Power System Engineers					The proposal was approved by Appraisal Committee. The proposal was sent to CERC. CERC has sought some queries from the Appraisal Committee. The matter shall be taken up by the Appraisal Committee during its next meeting.
17b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents					

B. Projects under process of approval:

SN	Name of Constituent	Name of Project	Date of Submission	Estimated cost (in Rs.)	Latest status
1	Sikkim	Renovation &Upgradation of Protection System of Energy and Power Department, Sikkim.	09-08-17	68.95 Cr	Scheme was examined by TSEG. Inputs sought from entity. Sikkim submitted the relevant information.
2		Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim	09-08-17	25.36 Cr	Scheme was examined by TSEG. Inputs sought from entity. Sikkim submitted the relevant information.
3	JUSNL	Reliable Communication & Data Acquisition System upto 132kV Substations.	23-08-17	102.31 Cr	Scheme was examined by TSEG. Inputs sought from entity. Scheme has been revised as suggested by TSEG and it would be submitted within a week.
4	OPTCL	Installation of 125 MVAR Bus Reactor along with construction of associated bay each at 400kV Grid S/S of Mendhasal, Meramundali& New	28-08-17	31.94 Cr	Scheme was examined by TSEG. Inputs sought from entity. OPTCL submitted the relevant information.

		Duburi for VAR control &stabilisation of system voltage			

C. Projects recently submitted:

SN	Name of Constituent	Name of Project	Date of Submission	Estimated cost (in Rs.)	Latest status
1	WBSETCL	Implementation of Integated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal	22-12-17	25.96 Cr	
2	OPTCL	Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha	22-12-17	3.26 Cr	
3	OPTCL	Protection upgradation and installation of SAS for seven numbers of 220/132/33kV Grid substations (Balasore, Bidanasi, Budhipadar, Katapalli, Narendrapur, New-Bolangir&Paradeep).	20.02.2018	41.1 Cr.	

Respective constituents may update the status.

Deliberation in the meeting

Respective constituents updated the status as mentioned in above table.

Item No. B.2: Automatic Under Frequency Load Shedding (AUFLS) -NPC

In 2nd NPC meeting held on 16th July 2013 it was decided to implement the following load shedding scheme:

AUFLS	Frequency (Hz)	Load relief in MW					
		NR	WR	SR	ER	NER	Total
Stage-I	**49.2**	2160	2060	2350	820	100	7490
Stage-II	**49.0**	2170	2070	2360	830	100	7530
Stage-III	**48.8**	2190	2080	2390	830	100	7590
Stage-IV	**48.6**	2200	2100	2400	840	100	7640
	Total (MW)	**8720**	**8310**	**9500**	**3320**	**400**	**30250**

In 7th NPC held on 7th September 2017, it was agreed that there is need for review of the quantum of load shedding and introduction of additional slabs/stages of frequency.

NPC vide letter dated 30th May 2018 informed that considering the grid size and assuming Power Number of 7000, the following two options are proposed:

Option 1:

AUFLS scheme with 4 stages of frequency viz. 49.2, 49.0, 48.8 & 48.6 Hz

AUFLS	Frequency (Hz)	Load relief in MW					
		NR	WR	SR	ER	NER	Total
Stage-I	**49.2**	3920	3360	3170	1380	170	12000
Stage-II	**49.0**	3950	3380	3190	1380	170	12070
Stage-III	**48.8**	3970	3400	3210	1390	170	12140
Stage-IV	**48.6**	4000	3430	3230	1400	170	12230
	Total (MW)	**15840**	**13570**	**12800**	**5550**	**680**	**48440**

Option 2:

AUFLS scheme with 4 stages of frequency viz. 49.4, 49.2, 49.0 & 48.8 Hz

AUFLS	Frequency (Hz)	Load relief in MW					
		NR	WR	SR	ER	NER	Total
Stage-I	**49.4**	3900	3340	3150	1370	170	11930
Stage-II	**49.2**	3920	3360	3170	1380	170	12000
Stage-III	**49.0**	3950	3380	3190	1380	170	12070
Stage-IV	**48.8**	3970	3400	3210	1390	170	12140
	Total (MW)	**15740**	**13480**	**12720**	**5520**	**680**	**48140**

NPC sought the views of RPCs on the review of quantum of load shedding and stages of frequency.

In 146th OCC, Constituents agreed to examine both the options and send their feedback/comments to ERPC secretariat within ten days.

Comments from DVC, WBSETCL and JUSNL have been received.

Members may discuss.

Deliberation in the meeting

OCC in principle agreed for raising frequency stages of AUFLS scheme viz. 49.4, 49.2, 49.0 and 48.8 Hz except DVC and WBSETCL.

DVC and WBSETCL would like to continue with the existing frequency stages. However, DVC and WBSETCL stated that they had no objection if the upward revision of frequency stages is agreed in NPC.

Regarding quantum of load shedding, OCC opined that sufficient quantum of radial feeders might not be available for AUFLS scheme as some of the radial feeders are already covered under ADMS scheme and islanding scheme. OCC felt that 63% raise in total quantum of load shedding w.r.t 2013 may not be appropriate. Raise in quantum of load shedding might be considered as 30% for first two years and rest 33% for next two years.

Item No. B.3: Reactive Energy Charge calculation i.r.o. Subhasgram(PGCL) S/S--WBSETCL

WBSETCL has requested for exclusion of MVarh drawal from Subhasgram(PGCL) / MVarh injectin to Subhasgram (PGCL) S/S by West Bengal for calculation of weekly Reactive charge account with the E.R. pool.

400/220 KV Subhasgram(PGCL) sub-stn. is embedded within STU network of West Bengal state control area. It is not connected to any CTU/ ISTS/ ISGS sub-stn. of Eastern Region. Rather this standalone PGCL S/S is connected only with West Bengal load buses of Jeerat, Subhasgram, Newtown, KLC Bantala and EMSS(CESC) and West Bengal generation buses of Sagardighi TPP and Haldia Energy Ltd. Whatever lagging reactive power is drawn from SubhasGram(PGCL) S/S by STU load buses at low voltage (<97%) is mostly supplied by state generators like SgTPP and HEL through PGCL Subhasgram buses. Subhasgram (PGCL) S/S has no reactive power supplying equipment like synchronous condenser, SVC etc., rather it consumes some reactive energy to supply magnetizing current of its 5 nos. 400/220kv ICTs.

Same logic may be applicable to leading MVar injection to SubhasGram(PG) S/S by STU S/S as lightly loaded CTU-STU tie lines generates capacitive MVar. As Subhasgram(PG) has no bus reactor, it has no contribution towards absorbing any reactive power to reduce system voltage in

high voltage scenario. Generators of Haldia Energy limited and Sagardighi TPP are operated to absorb reactive power from SubhasGram(PG) during high voltage.

So charging any amount to West Bengal on account of MVarh drawal from Subhasgram(PG) S/S at low voltage (below 3%) or MVarh injection to Subhasgram(PG) S/S at high voltage (above 3%) seems not justified considering exchange of reactive power with Subhasgram(PGCL) is not exchange between West Bengal and regional grid.

WBSETCL may elaborate.

Members may discuss.

Deliberation in the meeting

As suggested by ERLDC, OCC decided that the methodology adopted by the other regions for computation of Reactive Energy Charges would be implemented in the Eastern Region with immediate effect.

It was also decided that ERPC and ERLDC would study the WBSETCL proposal. If considered necessary, a separate meeting would be convened to deliberate the issue.

Item No. B.4: Shutdown clearance of 400 kV IBEUL – Jharsuguda D/C to start construction of OPGC MGR Corridor under crossing locations

The issue of time limit extension for diversion works of 3 nos. towers of 400 kV IBEUL – Jharsuguda D/C at 4 nos. crossing locations to facilitate construction works of OPGC MGR Corridor had been revised several times since June, 2017 onwards. Finally, ERPC, on the advice of CEA allowed the extension time limit up to 31.05.2018.

While OPGC was ready to start the construction works of MGR line from June, 2018 IBEUL reported one extension tower collapsed at location no. 45 on 29.04.2018, which would require 2 months' time for its restoration. In order to take the stock of the present status of ongoing works of the respective organisations, ERPC convened a Special meeting on 01.06.2018, wherein M/s OPGC pleaded to start the construction works of MGR line by opening of the conductor of the spans at the crossing points. Since the restoration of IBEUL line (under S/D) was not going to take place within 2 months and OPGC is ready to start the works in all respect, OPGC requested shutdown clearance of the line vide letter dated 02/07/2018.

In view of the facts, ERPC informed concerned utilities to attend the 147th OCC Meeting scheduled to be held on 20.07.2018 to discuss and finalise the issue.

In the meanwhile an email addressed to OPGC with a copy to ERPC has been received from IBEUL wherein it has been intimated that *"IBEUL is under financial stress because of which the Company has been referred to NCLT under section 7 of Insolvency and Bankruptcy Code (IBC) by project lenders. The hearing for the same is scheduled for 16th July 2018 before NCLT, Hyderabad. Under these circumstances, the Company is unable to commit itself to make any financial commitments since all its dues to the creditors will be governed by the provisions of the IBC. Thus completion of balance works of the diversion of the 400 KV IBEUL-SNG DC Line at the four Railway Crossings of OPGC has been held up and IBEUL is in a fix and not in position to make any progress and make any commitment to any authority. However considering the urgency of work of OPGC for commissioning of their expansion project, I would request you to kindly convene a meeting in OPGC office at Bhubaneswar involving your site engineers and IBEUL to resolve the issues."*

Members from SLDC, OPTCL, IBEUL and OPGC may please deliberate and finalise.

Deliberation in the meeting

Powegrid Odisha confirmed that breakers and isolators of 400KV IBEUL-Jharsuguda(PG) D/C line are opened from Jharsuguda(PG) end and the line earth switches are closed.

It was informed that IBEUL vide mail dated 19th July 2018 confirmed that breakers and isolators of 400KV IBEUL-Jharsuguda(PG) D/C line are opened from IBEUL end and the line earth switches are closed. IBEUL added that OPGC might be preceded ahead with their work.

OPGC noted.

Item No. B.5: Installation of PMU for observation of the dynamic performance of STATCOMs--ERLDC

Four STATCOMs (Rourkela, Jeypore, Kishenganj, New Ranchi) are being commissioned in the Eastern Region to improve the dynamic var compensation in the grid and for the improvement of the transient stability. STATCOM is a dynamic VAR compensation device and provides the fast reactive support to the grid during transient as well steady state operation. In order to analyze the dynamic performance of STATCOM (STATCOM+ MSR /MSC) during day-to-day operation, it is desired to install PMU on the Coupling Transformer of the STATCOM as a part of the URTDSM project.

37th ERPC decided the followings:

i) Power Grid shall first explore the possibilities by diverting the unutilized PMUs under URTDSM project and would complete the work on urgent basis.

ii) If adequate no. of PMUs are not available under URTDSM project, balance PMUs will be implemented under project "Upgradation of SCADA / RTUs / SAS in the Central sector stations and strengthening of OPGW network".

Powergrid may update.

Deliberation in the meeting

ERLDC informed that spare connection was available at 765kV Ranchi S/s which could be used for integration of Ranchi STATCOM. Since PMUs available at Ind Bharat and Monnet S/s could not be shifted due prevailing administrative issues, PMUs at Tenughat and Patratu might be diverted for STATCOM integration at Rourkela, Jeypore and Kishanganj S/s.

ERLDC added that the same had been communicated to Powergrid.

Powergrid informed that they were exploring all possibilities to provide PMU on the Coupling Transformer of the STATCOM.

Item No. B.6: Allocation of sufficient power from tie lines during Shrawani Mela—JUSNL

Shrawani Mela at Deoghar and Basukinath is going to start from 21.07.2018 to 22.08.2018. Piligrims from all parts of the country will visit during this period.

In order to provide reliable power to Deoghar and Dumka, JUSNL is planning to draw power from following tie lines:

- 30-35 MW through 132kV Deoghar-Sultanganj of BSPTCL
- 55-60 MW through 132kV Jamtara-Maithon of DVC
- 30-35 MW through 132kV Kahalgaon(BSPTCL)-Lalmatia of BSPTCL

In addition to tie all incoming 220kV source to Dumka and Lalmatia should also remain available during the above period.

Members may discuss.

Deliberation in the meeting

JUSNL updated that Shrawani Mela would start from 27.07.2018 to 30.08.2018. JUSNL requested for constituents support to provide continuous reliable supply of power to Deoghar and Basukinath.

BSPTCL and DVC updated the status as follows:

- 30-35 MW through 132kV Deoghar-Sultanganj of BSPTCL----*BSPTCL agreed*
- 55-60 MW through 132kV Jamtara-Maithon of DVC---*DVC informed that at present power flow is restricted to 20 MW. DVC agreed to explore.*
- 30-35 MW through 132kV Kahalgaon(BSPTCL)-Lalmatia of BSPTCL---*BSPTCL informed that at present power flow is restricted to 10 MW. BSPTCL agreed to explore.*

Item No. B.7: Requirement of 220/132 KV 160 MVA Transformer at 220/132 KV Dehri I Gaurichak S/s-BSPTCL

In the SSCM meeting held recently at ERPC, BSTPCL informed that one 160 MVA transformer is required at 220/132 KV Dehri *I* Gaurichak GSS of BSPTCL. BSPTCL has requested that, if any spare transformer of the above specifications is available in Eastern Region Pool, the same may be allotted to BSPTCL for above GSS on prevailing terms & conditions.

SSCM referred the issue to 147th OCC Meeting.

BSPTCL may explain.

Powergrid may respond.

Deliberation in the meeting

Powergrid informed that 1x160 MVA, 220/132 KV regional spare transformer is available at Siliguri and 1x100 MVA, 220/132 KV transformer is available at Purnea.

Powergrid added that 2x100 MVA, 220/132 KV transformer would be available as spare at Muzzaffarpur in August 2018.

OCC advised BSPTCL to place the request to Powergrid as per their requirement and convenience of transportation.

Item No. B.8: Request for drawal of power through 132kV Dalkhola(WB)-Baisi(BSPHCL) in radial mode--BSPTCL

In the 6th SSCM meeting held at ERPC Kolkata, it was informed by BSTPCL that, because of severe floods in Kishanganj area, they needed approx 20 MW power from Dalkhola on urgent basis to meet local loads of Baisi.
In the above meeting, WBSETCL was advised to explore to charge 132kV Dalkhola(WB)-Baisi(BSPHCL) in radial mode at the earliest to provide power to Baisi.

WBSETCL agreed to look into.

It was decided to review the issue in 147th OCC Meeting scheduled to be held on 20th July 2018 at ERPC, Kolkata.

BSPTCL and WBSETCL may update.

Deliberation in the meeting

WBSETCL agreed to give 25 MW power through132kV Dalkhola(WB)-Baisi(BSPHCL) line in radial mode as a temporary arrangement.

Item No. B.9: FLEXIBILITY IN GENERATION & SCHEDULING OF THERMAL POWER STATIONS TO REDUCE EMISSIONS-MOP, GOI ORDER

MoP vide letter No. 23/70/2017-R&R dated 05.04.2018 published a detailed mechanism of allowing Flexibility in Generation and Scheduling of Thermal Power Stations to reduce emissions. Subsequently, CEA vide its letter No. 7/X/VIP/GM/2018/923-27 dated 12.06.2018 requested all RPCs to make necessary changes in Energy Accounting to implement the above mentioned mechanism.

The concept of flexible utilization of coal as introduced by the Central Govt in year 2016, allows the use of coal within its basket in optimal manner. This avoids unnecessary coal transportation and reduces the power generation cost. In a similar manner, it has been decided by MoP that there should be some flexibility in Generation and Scheduling of Thermal Power Stations so that Discoms are able to meet their RPO without facing any additional financial burden.

Further, due to large scale integration of Grid connected renewable, which is generally infirm in nature, there is a need for balancing power to maintain security & stability of the Grid. Such balancing has to be done by Discoms and Generators both. This flexibility will provide optimum use of RE by Power Generators and help reduce emissions.

The issue was discussed in 38th TCC/ERPC Meeting wherein, MS, ERPC informed that a workshop would be arranged at ERPC, Kolkata.

Accordingly, a workshop is scheduled to be held at ERPC Kolkata on 27.07.2018.

TCC advised all the constituents to nominate concern officers for detailed deliberation. Based on the discussion in the workshop, ERPC Secretariat, if necessary, would write a letter to CEA highlighting the issues needed to be addressed before implementation of the said mechanism.

Members may note.

Deliberation in the meeting

OCC advised all the constituents to nominate concerned officers for detailed deliberation in the workshop.

Item No. B.10: Providing relevant data by Power Utilities I Stations in National Power Portal.

CEA vide letter dated 26th June 2018 informed that National Power Portal (NPP) (URL: npp.gov.in), has been launched by Hon'ble Minister of Power on 14th November, 2017. NPP is modified and more user-friendly data portal than the existing Information Management System (IMS) in CEA. Reports prepared from NPP are of vital importance for Power Sector data analytics in order to frame policies, regulations , future road-map for Power Sector etc. at Central as well as at State level. Accordingly, all power utilities have been issued user ID and password, either organisation-wise or station-wise, based on their request , for providing their data on NPP.

NPP has replaced IMS since 1st June, 2018. A Circular (which is available in Circular Section of CEA Website, i.e. cea.nic.in) has been issued by CEA to all power utilities/stations on 14.06.2018 for providing their data online in NPP only.

In this regard, letters/mails have been issued to Utilities to provide their data online through NPP. A letter dated 20.06.2018 was also issued to all SLDC, requesting them to direct the power utilities I stations under their purview for providing data on NPP.

Any issue/problem faced by utilities may kindly be communicated to itcea@nic.in, npp.support@gov.in, ceopm-cea@gov.in and if required, IT Division, CEA may be contacted on 011-26732368 or 011-26732303

CEA requested to pursue the power utilities *I* stations under their purview for providing data on NPP. Further, a workshop/presentation may be arranged if required in each region in which IT Division, CEA will provide a brief demonstration regarding data entering process and report generation into NPP.

Members may note and comply.

Deliberation in the meeting

Members noted for compliance.

Item No. B.11: Implementation of Web based PSP report in ERLDC

ERLDC is currently preparing PSP report on daily basis which contains ISGS/IPP schedule & actual generated energy, inter-regional tie line energy exchange, energy consumption of states and energy generated by state generators (including DVC), voltages of important substations etc. The content in the report is being used by MOP, States and various other agencies for data compilation and preparation of other reports. This report is prepared during night shift hours as per the energy data submitted by all ISGS/IPPs, states, transmission licensees to ERLDC. Generally ERLDC received data from all users by 02:00 Hrs of night in different reporting formats(Ex-cell, Word, Mail, Over phone etc..) and prepared PSP report by 0400 hrs which is uploaded in ERLDC website and sent to MOP. However, due to submission of data in different formats by the users, it is very difficult compile and validates such data during night hours before preparation of the PSP report.
To improvise the data reporting system, a new web based PSP reporting portal has been developed, wherein generators, transmission licensees& states can log-in to the portal and submit their energy data. Beta version of this software is already installed at ERLDC and parallel testing is going on. The new PSP web based portal will be operationalized with effect from 00:00 hrs of 01st August, 2018.
In this regard all generators, transmission licensees& states are requested to nominate one nodal person to ERLDC in erldcso@posoco.in, who will co-ordinate with ERLDC nodal person and their nightshift executives to fill energy data. In the meantime it is requested to all generators, transmission licensees& states to instruct their night shift operators to enter the energy data using their user credential in ERLDC PSP web portal. Individual user id and password will be shared to respective nodal co-ordinators/ control room through mail.

Nodal Persons from ERLDC side:

1. Shri TusharRanjanMohapatra - (9433041873)
2. Shri Chandan Mallick – (9007059660)

Members may note.

Deliberation in the meeting

ERLDC informed a new web based PSP reporting portal has been developed, wherein generators, transmission licensees& states can log-in to the portal and submit their energy data. Username and password will be issued to all the concern utilities. Beta version of this software is

already installed at ERLDC and parallel testing is going on. The new PSP web based portal will be operationalized with effect from 00:00 hrs of 01st August, 2018.

OCC advised all the utilities to nominate a nodal officer to ERLDC vide mail: erldcso@posoco.in *and submit the relevant data in PSP reporting portal.*

Item No. B.12: TWO DAYS' WORKSHOP AT UPPER KOLAB / BALIMELA, ODISHA

In 37th ERPC Meeting, it was decided to organise a two days' workshop at Upper Kolab / Balimela, Odisha covering emerging issues in the Power Sector (1st day) and Black Start & Restoration Procedure (2nd day). OPGC, OHPC, GRIDCO, DISCOMS of Odisha, TSTPS, Powergrid Odisha etc. would be invited as participants for the above workshop.

Members may note.

Deliberation in the meeting

It was informed that the workshop would be held in August/September 2018 tentatively.

Item No. B.13: Agenda point related to reporting of grid events by users, STU, CTU and SLDC to RLDC

As per IEGC section 5.9.4 (b) and 5.9.6 (a), all users, STU, CTU and SLDC are to send written report to RLDC for the events notified by IEGC section 5.9.5. Format of draft written report as per IEGC section 5.9.6 (c). All users, STU, CTU and SLDC are requested to send flash report in given format to **erldcprotection@posoco.in/ erldccr@posoco.in/ erpcprotection@gmail.com** followed by events mentioned in IEGC section 5.9.5.

Members may comply.

Deliberation in the meeting

ERLDC elaborated that flash report for events occurred in STU also needed to be submitted to ERLDC.

OCC advised STU, CTU, IPPs and SLDC to send flash report as per the format enclosed at ***Annexure-B13*** *to* ***erldcprotection@posoco.in/ erldccr@posoco.in/ erpcprotection@gmail.com****.*

Item No. B.14: Agenda point related to load forecasting by SLDC

For better grid management and shutdown planning, RLDCs needs to do short term load forecasting. Accuracy and effectiveness of load forecasting depend on input data. As per current practice, day ahead load forecasting is being done at ERLDC by analysing trend previous days demand. However, for further tuning and better accuracy of load forecasting result, demand estimation from SLDCs are to be done at their end and same need to be shared with ERLDC for estimation of Eastern Region demand.

Member may discuss and Beneficiaries/States/SLDCs may share their demand forecasting methods.

Deliberation in the meeting

OCC advised all the SLDCs to share the relevant demand forecasting data to ERLDC.

PART C: ITEMS FOR UPDATE

Item no. C.1: Status of UFRs healthiness installed in Eastern Region

UFR Healthiness Certification for the month of June, 2018 has been received from CESC, WBSETCL, DVC, BSPTCL and JUSNL.

OPTCL may submit.

Deliberation in the meeting

OPTCL submitted the healthiness certificate.

Item no. C.2: Status of Islanding Schemes healthiness installed in Eastern Region

At present, the following islanding schemes are in service:

1. CESC as a whole Islanding Scheme, CESC
2. BkTPS Islanding Scheme, WBPDCL
3. Tata Power Islanding Scheme, Haldia
4. Chandrapura TPS Islanding Scheme, DVC
5. Farakka Islanding Scheme, NTPC

In 108th OCC meeting, respective constituents agreed to certify that the islanding schemes under their control area are in service on monthly basis.

The healthiness certificate for Islanding Scheme for June, 2018 has been received from CTPS, DVC, NTPC, West Bengal, JUSNL and CESC.

WBPDCL may submit.

Deliberation in the meeting

OCC advised WBPDCL to submit the healthiness certificate.

Item no. C.3: Status of Implementation of islanding schemes in ER

1. Islanding scheme at Bandel TPS-WBPDCL

In 145th OCC, WBPDCL informed that the implementation at Power station would be completed by May 2018. Implementation part at Substation for load segregation would be done by WBSETCL.

In 38th TCC Meeting, WBPDCL informed that the implementation at Power station has been completed.

WBSETCL informed that implementation part at Substation end for load segregation would be completed by 10th July 2018.

WBPDCL and WBSETCL may update.

Deliberation in the meeting

WBSETCL informed that implementation part at Substation end for load segregation would be completed by end of July 2018.

2. Islanding scheme at IbTPS- OPGC

The islanding scheme was discussed in 68th PCC Meeting held on 18-06-2018. PCC opined that the draft scheme submitted by Odisha was three years old and the draft scheme is needed to be reviewed with existing network configuration.

PCC decided to discuss the islanding scheme in next PCC Meeting and advised OPTCL to submit all the relevant details to ERPC and ERLDC.

Members may note.

Deliberation in the meeting

It was informed that OPTCL had submitted the revised islanding scheme based on updated network configuration and power flows in 69th PCC Meeting. It was decided that ERLDC and ERPC would study and finalize the islanding scheme in next PCC Meeting.

3. Islanding scheme at Kanti TPS - KBUNL

The islanding scheme was discussed in 68th PCC Meeting held on 18-06-2018.

After detailed deliberation, PCC in principle agreed with the following islanding scheme at Kanti TPS:

- Stage II units (2x195 MW) of Kanti TPS will be islanded with station load of 40 MW and radial load of 150 MW (approx.) of 220kV Kanti TPS-Gopalganj D/C line.

- Once the grid frequency falls to 48.2 Hz, the PLC at Kanti TPS would initiate the islanding process after 500 ms time delay.

Members may note.

Deliberation in the meeting

Members noted.

Item no. C.4: Healthiness of SPS existing in Eastern Region

The Status of healthiness certificate for June, 2018 is given below:

Sl. No.	Name of the SPS	Healthiness certificate received from	Healthiness certificate not received from
1.	*Talcher HVDC*	*NTPC, Powergrid, GMR, & JITPL*	*NIL*
2.	*Rangpo*	*Chuzachen*	*Powergrid, Dikchu, Teesta-III, Dansenergy*
3.	SPS of 132 kV Muzaffarpur-Dhalkebar D/C	*Powergrid*	*Nil*
4.	SPS in CESC system	*CESC*	*Nil*
5.	SPS for Power Export to Bangladesh	*Powergrid*	*Nil*
6.	SPS at Chuzachen	*Chuzachen*	*Nil*

In 145th OCC,ERLDC informed that generation relief provided by the generators was not sufficient during SPS Operation on HVDC Talcher-Kolar Pole 1 tripping on 16-05-2018 15:34 Hrs. ERLDC elaborated the event with detailed presentation.

OCC advised Powergrid to submit a report on frequent tripping of only pole 1.

OCC opined that a Committee was already formed to study the SPS issues related to HVDC Talcher-Kolar. OCC advised the Committee to analyze this event and place the report in OCC Meeting.

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

OCC advised other constituents to comply.

Item no. C.5: Low-Frequency Oscillation (LFO) observed At Durgapur and nearby nodes on 05th APRIL 2018 from 14:21 hrs to 14:28 hrs.

Low-frequency oscillation of 0.1 Hz was observed in Durgapur and nearby nodes on 05th April 2018 from 14:21 hrs to 14:28 hrs. The oscillation was prominent in the Eastern region near Durgapur only based on the synchrophasor data analysis. Plot of Durgapur bus voltage based on PMU data is shown in the figure below where oscillation can be clearly observed. No significant oscillation was recorded by any other PMU during the said period, indicating some nearby local phenomenon or generator hunting. On further analysis of Eastern region SCADA data, large variations in the MW and MVAR of Sagardighi Unit 4 was noticed during the same time period.

In 144th OCC, ERLDC informed that similar incident was occurred earlier on 22nd July 2017 at 22:47 Hrs, Low Frequency Oscillations of frequency 0.083 Hz were observed in Sagardighi Unit 4 and WBPDCL has not submitted any report.

ERLDC added that oscillations in electrical parameters like voltage & frequency would impact tnearby generators by increasing wear and tear. Therefore, ERLDC has requested for following actions:

- WBPDCL should submit a report.
- All Generating Units must intimate the RLDC/SLDC immediately if any such hunting/vibration is observed in Units (Cause/Effect).
- All Generating Units must Submit the one second or finer resolution data of MW/MVAr for all units to RLDC/SLDC
- PSS Tuning of all Generating Units above 100 MW must tune their PSS in Compliance to CERC Regulation and CEA grid Standard.

WBPDCL informed that oscillations were observed due to problem in Governor of Sagardhigi unit#4. WBPDCL added that the unit is under shutdown and they are investigating the root cause.

OCC advised WBPDCL to submit a report for both the incidences occurred on 05 April'18 and 22nd July 2017 along with the action taken.

WBPDCL vide letter dated 1st May2018 informed that unwanted oscillations in Sagardighi unit-4 was observed due to suspected malfunctioning of the governing system of the machine, which in turn oscillated the EHC output. The issue has been brought to the notice of BHEL and WBPDCL maintenance department for immediate rectification of the problem. WBPDCL also informed that during the ongoing shutdown period of U#4 control valve's pilot cleaning, calibration and thorough operation checking w.r.t EHC output will be done to identify and resolve the issue.

In 146th OCC, WBPDCL informed that BHEL engineers had visited the site and attributed turbine vibration as the reason for low frequency oscillation. The necessary work for corrective measures is in progress. They will submit the detailed report after completion of the work.

WBPDCL may update.

Deliberation in the meeting

WBDPCL informed that the unit #4 was synchronized after attending the turbine vibration problem by BHEL engineers.

OCC advised WBPDCL to submit a detailed report to ERPC and ERLDC on the issues related to turbine vibration and the corrective action taken to resolve the issues.

Item no. C.6: Restoration of 132 kV Sonenagar (BSPTCL) – Rihand(UPPCL) inter regional link

In 146th OCC, BSPTCL informed that the shutdown was taken from 15th June, 2018 to 27th June, 2018 and the line would be restored by end of June 2018.

OCC advised BSPTCL to review the protection settings as per the new configuration in coordination with Rihand end.

BSPTCL may update.

Deliberation in the meeting

BSPTCL informed that re-conductoring of the line is in progress and the line would be restored by end of July 2018.

Item no. C.7: Implementation of Automatic Demand Management Scheme (ADMS)-ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	3 months Feeders identified. Implemented by June 2018	F <49.9 AND deviation > 12 % or 150 MW
4	Jharkhand	1. System Frequency < 49.9 Hz AND deviation > 12 % or 25 MW 2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW	9 Months Tendering for RTU installation is in progress. Implemented by May 2018	Condition 1: Block I feeders will be selected for load shedding Condition 2: Block I & II feeders will be selected for load shedding Condition 3: Block I, II & III feeders will be selected for load shedding

5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval.	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators
6.	Sikkim			Sikkim informed that they have submitted a proposal to PSDF Committee for installation of OPGW cables which is under approval stage. Sikkim added that ADMS scheme would be implemented after installation of OPGW.

In 142nd OCC, it was opined that uniform logic should be implemented for all the states. OCC decided to review the logic of ADMS after implementation of the scheme by all the states.

In 38th TCC, Bihar informed that they are interacting with CHEMTROL but CHEMTROL is not responding. After detailed deliberation, ERLDC and PGCIL agreed to extend the necessary support to Bihar for implementation of the same.

DVC and West Bengal not yet received any report on operation of ADMS.

Members may update.

Deliberation in the meeting

ERLDC informed that following are the incidences in the month of June 2018 which satisfies the ADMS operation criteria for West Bengal:

Instances satisfying ADMS logic for West Bengal (12% or 150 MW Deviation)

Time	Frequency	WB Schedule	WB Actual	Deviation
14-06-18 20:23	49.68	2851	3015	164
14-06-18 20:24	49.68	2851	3029	178
18-06-18 22:28	49.68	3310	3495	186
18-06-18 22:29	49.68	3310	3490	180
29-06-18 19:16	49.68	2049	2341	292
29-06-18 19:17	49.68	2049	2333	284
29-06-18 19:18	49.68	2049	2310	261

WBSETCL informed that ADMS logic issues had been rectified on 15th June 2018 and ADMS has successfully operated on 18th and 29th June 2018.

OCC advised WBSETCL to submit the relevant details to ERLDC.

Item no. C.8: Unreliable operation at Motihari (DMTCL) SS

400/132kV Motihari S/Stn is of critical importance as the two high capacity inter-regional lines (400kVBarh-Gorakhpur Qd. Moose D/C) link E. Region with N. Region at this S/Stn. The Barh-Motihari D/C Qd. Moose line is essential for reliable power evacuation from Barh STPS of 2X660MW capacity. Motihari S/Stn is also responsible for meeting about 200MW load, considering Bihar and Nepal together.

As on date main CB of 125MVAR bus reactor-1, line isolator of 400kV Gorakhpur-2 line along with main and tie CBs of this line are out of service due to problem in gas duct. 400 kV Motihari – Gorakhpur – II was out of service due to unavailability of both bays at Motihari S/S.

In 144th OCC, it was decided to pursue the issue with DMTCL and decided to discuss the issue in 66th PCC Meeting scheduled to be held on 25th April 2018.

In 145th OCC, DMTCL informed that 400kV Motihar-Gorakhpur D/C line is under outage due to non-availability of GIS spares.

DMTCL added that the line would be restored within a month.

OCC advised DMTCL to expedite the work to restore the line at the earliest.

In 38th TCC, DMTCL informed that three bays, which are under outage, would be in service by 20th July 2018.

DMTCL may update.

Deliberation in the meeting

DMTCL informed that three bays along with 400kV Motihar-Gorakhpur D/C line bays would be in service within 7 days.

Item no. C.9: Restoration of 400kV MPL-Maithon D/c lines

At around 5:21 hrs on 10th May 2018, both 400kV MPL-Maithon line-1 and 2 tripped on line to earth and phase to phase fault. Later upon physical inspection from MPL end, it was found that 3 towers namely 63, 64 and 65 have collapsed at 2 kms from MPL periphery. Being a double circuit tower both Maithon-1 and 2 are not available henceforth.

MPL requested to take urgent action for restoration of MPL-Ranchi line-1 on high priority and confirm the tentative time of line restoration.

In 145th OCC, Powergrid informed that restoration of 400kV MPL-MRBL line-1 and 2 using ERS towers is not possible as the damaged tower was at river crossing and the line would be restored only by 15th July 2018.

MPL vide mail dated 12th July 2018 informed that 400kV MPL-Maithon Ckt-1 & Ckt-2 successfully charged on 11th July @ 02:45 hrs.

Members may note.

Deliberation in the meeting

MPL informed that 400kV MPL-Ranchi line 2 was out of service for 26 hrs due to conductor snapping on 24th June 2018. MPL requested Powergrid to ensure the reliability of the line.

Item no. C.10: Flexible jumpering arrangement for bypassing substations, prone to inundation during monsoon, for ensuring continuity of important corridors and power evacuation from power stations—ERLDC

In 136th OCC, ERLDC explained that the flexible jumpering arrangement may be done for 400 kV Binaguri-Kisheenganj-N.Purnea D/C and 400kV Binaguri-Alipurduar-Bongaigaon D/C lines for bypassing the LILO points i.e. 400kV Kishanganj(PG) and Alipurduar(PG) S/s so that the same lines may be directly connected during the emergencies like flood situations at LILO points. The possibility may be explored as these elements are very important in terms of hydro power evacuation and long outages of these elements may endanger the grid security. The other such elements (LILOed at Dalkhola, Motihari (DMTCL) etc) may also be explored which are under threat during flood and other emergencies.

In 146th OCC, Powergrid informed that the jumpering arrangement was completed at 400 kV Kishanganj S/s. Powergrid added that they need shutdown for jumpering arrangement at Alipuarduar.

PGCIL may update. DMTCL may update the actions taken for Motihari S/S.

Deliberation in the meeting

ERLDC informed that Motihari(DMTCL) s/s may be excluded from flexible jumpering arrangement as Bihar loads are connected to the substation.

Item no. C.11: Repair/Rectification of tower at location 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines - Powergrid

Powergrid informed that their patrolling team has observed bent in part of tower no. 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines which may further degrade the condition of tower.

In 141st OCC, Sikkim informed that rectification of the tower has been taken up with Gati. The work would be completed by 2nd week of February 2018.

In 37th TCC, it was decided that Sikkim would give a comprehensive proposal to PGCIL within one week regarding handing over of the relevant segments of the line to PGCIL. Thereafter, PGCIL and Sikkim would sit together and sort out the issues involved therein.

In 145th OCC, Sikkim informed that the proposal had been sent to State Govt. for approval.

In 38th TCC, Sikkim informed that State Govt. for approval is pending.

Powergrid and Sikkim may update.

Deliberation in the meeting

Sikkim representative was not available in the meeting.

Item no. C.12: Status of Installation of STATCOM in Eastern Region

In the 15th meeting of SCM it was agreed to install STATCOM in combination with mechanically switched Reactors (MSR) and Capacitors (MSC) and co-ordinated control mechanism of MSCs and MSRs at Ranchi, Rourkela, Jeypore and Kishanganj substations in Eastern Region.

The matter was again discussed in the 28th ERPC/TCC meeting held on 12th -13th September, 2014 at Goa, wherein, it was decided that POWERGRID may go ahead with implementation of the STATCOM project in Eastern Region with debt – equity ratio of 70:30 funding. The debt part should be refunded through PSDF and Equity Component (30%) to be funded by POWERGRID to be recovered through regulated tariff mechanism. CTU should initiate the process of availing fund from PSDF.

Powergrid updated the latest status as follows:

Sl No	Location /Sub-Station of POWERGRID in ER	STATCOM - Dynamic Shunt Controller (MVAr)	Mechanically Switched Compensation Sl. (MVAr)		Latest status
			Reactor (MSR)	Capacitor (MSC)	
1	Rourkela	±300	2x125		*In service from March 2018.*
2	Kishanganj	±200	2x125		*70% civil work completed. 30% switchyard equipment supplied. Expected to*

					complete by December 2018
3	Ranchi(New)	±300	2x125		*Commissioned on 12th July 2018*
4	Jeypore	±200	2x125	2x125	*Commissioned on 30th June 2018*

Powergrid may update.

Deliberation in the meeting

Powergrid updated the status as mentioned in above table.

Item no. C.13: 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar&Pandiabil S/s

PGCIL has already commissioned the 2x315MVA 400/220kV Bolangir S/s by LILOing of 400kV Meramandali-Jeypore S/C line and 400/220 kV Keonjhar S/s with an objective of supplying power from ER grid to its adjoining areas in Odisha.

In last OCC, OPTCL updated the completion schedule of inter-connecting system as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA 400/220kV Bolangir S/s**	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	*Only 7 towers left (Severe ROW problem).**By December, 2018.***
2.	**400/220kV Pandiabil Grid S/s:**	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	By Dec, 2018.
3.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By Aug, 2018.
b.	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By 2019. The work is yet to be started.

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as mentioned in above table.

Item no. C.14: 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj&Dhanbad

In lastOCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj(POWERGRID)–Latehar220kVD/c	By April, 2019.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	The line expected to be completed by May, 2018 but – Garhwa 220kV is expected to be completed by Dec 2018.
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	The line would be charged as per original configuration by 31st July 2018. At present, Daltonganj (PG) has been connected to Daltonganj (JUSNL) at 132kV through existing 220 kV Latehar-Daltonganj line as stop gap arrangement till completion of the line.
D	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Tendering is in progress. Expected to be completed by October 2019
2	**Chaibasa400/220kVS/s**	
A	Chaibasa(POWERGRID)–Noamundi220kVD/c	Not yet started
3	**Dhanbad400/220kVS/s**	

A	LILO of Govindpur–Jainamore/TTPS 220kVD/c at Dhanbad	ROW issues.Target date November 2018.

JUSNL may update.

Deliberation in the meeting

JUSNL updated the status as mentioned in above table.

Item no. C.15: 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In lastOCC, *WBSETCL updated the latest status as follows:*

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA, 400/220kV Alipurduar sub-station**	
a.	Alipurduar (POWERGRID) – Alipurduar (WBSETCL) 220kV D/c (***Twin moose***)	*The line was commissioned on 6th June 2018.*
2.	**2x500MVA, 400/220kV Rajarhat---**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching, ROW problem
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	ROW problem
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	ROW problem
3	**Subashgram400/220kVS/s**	
a	Subashgram–Baraipur220kVD/cline	Feb 2019, 50% of work has been completed.

WBSETCL may update.

Deliberation in the meeting

WBSETCL updated the status as mentioned in above table.

Item no. C.16: Update on status of telemetry

CERC vide order dated 28.02.2016 on Petition No. 007/SN/2014 directed NLDC and respective RLDCs to update the status of telemetry every month at their respective websites and take up the issue of persistent non-availability of data from Generating Stations/substations at RPC meetings for appropriate action.

ERLDC may present. Members may update.

Deliberation in the meeting

*ERLDC has placed the latest status of telemetry, which is enclosed at **Annexure-C16**.*

OCC advised all the constituents take appropriate action to ensure data availability to ERLDC.

Item no. C.17: Failure of Real time telemetry

a) In geographically located area of North Bengal and Sikkim to ERLDC:

In 142nd OCC, M/s East North Interconnection Company Limited (ENICL) informed that OPGW is already available in the line but laying of approach cable inside the POWERGRID sub-stations & termination at both end to communication Mux is pending. ENICL added that the same is under discussion at their end for early implementation of the same.

In 143rd OCC, ENCIL updated that termination of OPGW would be completed by end of June 2018.

Powergrid informed that the link would be in service by end of July 2018 subjected to termination of OPGW link.

ENCIL &POWERGRID may update

Deliberation in the meeting

ENCIL representative was not available in the meeting.

Item no. C.18: Transfer capability determination by the states

In order to ensure, safe and secure operation of the grid, the states should carry out the power system study for operational planning and power transfer capability through their respective transmission links with the rest of the grid.

It was decided in the NPC meeting that to begin with, power system study for assessment of operational limits / power transfer capability for each state will be done by the concerned RLDC in association with concerned SLDC. Monthly TTC /ATC will be uploaded by the SLDCs at their respective websites and also communicated to concerned RLDC & NLDC subsequently.

BSPTCL has neither declared TTC nor has provided updated base case in last six months.

BSPTCL and Sikkim may update the status.

Deliberation in the meeting

ERLDC informed that Bihar and Sikkim engineers attended the training on computation of TTC/ATC.

Bihar informed that they would compute TTC/ATC from next month on wards.

Sikkim representative was not available in the meeting.

Item no. C.19: Replacement of GPRS communication with Optical Fiber for AMR

In ER, 80% meters are connected through Automated Meter Reading (AMR). At present the communication system used for data transfer from each location is GPRS. It has been observed that many locations are not communicating with AMR system due to poor/no GPRS signal. Many substations have their own optical fiber which is also used for the LAN network of respective stations. TCS has successfully connected 02 locations (Subhasgram-PG and Binaguri-PG) in ER-II with PGCIL intranet and these two locations are smoothly reporting to AMR system after connecting with PGCIL LAN. The proposed network will not only provide better communication but alsoreduce the cost of GSM.

In 37th CCM, POWERGRID informed that the replacement of GPRS communication of the Remaining 34 locations would be completed by August 2018.

POWERGRID may please update the progress.

Deliberation in the meeting

POWERGRID informed that the replacement of GPRS communication of the Remaining 34 locations would be completed by August 2018.

Item no. C.20: Accounting of state drawl from Substation of PGCIL/ISTS Licensee in ER

As per Clause 7(1) (C) of CEA (Installation and Operation of Meters) Regulations, 2006 &its subsequent amendments, Main Meters for drawl computation through ICT should be installed on HV side of ICT and meters installed on LV side of ICT should be considered as Standby meters .

In view of the above it is proposed that Sate drawl from PGCIL/ISTS Licensee S/S may be computed by using the meter installed on HV side of ICTs in line with CEA regulation.

In 146th OCC, Powergrid informed that the SEM installation in ER-I stations has been completed and the same at ER-II stations would be completed by June 2018. Powergrid(Odisha) informed they will complete the SEM installation by July,2018.

However locations in ER-I for ex, Purnea, Banka, Lakhisarai, and Ranchi are still pending.

A List of Time drifted Meters installed at ICTs at PGCIL S/station in ER was prepared by ERLDC from AMR system and vide letter dated 04.07.18, PGCIL was requested for replacement of the same.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the list had been received from ERLDC and the replacement of SEMs is in progress.

Item no. C.21: Meter related issues

1. **Less recording by Bidhanagar WBSETCL end meter**

Meter No NP-6485-A installed at Bidhanagar end of 220 Waria (DVC) Line-2 is recording almost negligible data compared to Waria end meter since 11:15 Hrs of 16.03.2018. Subsequently ERLDC vide mail dated 28.03.18 and 03.04.18 (with a copy to PGCIL) requested WBSETCL to check CT/PT connection and Value measuredbythe said meter. However the problem is still persisting and WBSETCL energy accounting is done with Waria DVC end meter.

In 144th OCC, WBSETCL was advised to resolve the issues at the earliest.

In 145th OCC, it was informed that the issue would be resolved by 23rd June 2018.

In 146th OCC, it was informed that the meter has been installed but the data could not be recorded due to cable problem.

WBSETCL/PGCIL may please further update.

Deliberation in the meeting

It was informed that the issue had been resolved.

2. **Error between the Main and Check energy meter of 400kV Tala-Siliguri Feeder-I & IV (Siliguri end).**

The percentage error between the Main and Check energy meter of 400kV Tala-Siliguri Feeder-I and IV at Siliguri end is found to be beyond permissible limit at 18.93% and 1.93 % respectively for the month of June 2018**.** As per PPA the percentage error should not exceed ±0.6%. The check energy meter pertaining to DGPC/THP has been tested on 20th January, 2018 and the error was found to be within the permissible limit.

There was abnormal difference between energy send from Tala end and received at Siliguri end on 8th,9th,10th& 11th of June, 2018 due to loose connection in main energy meter of 400kV Tala-Siliguri Feeder I. The energy recorded by check energy meter couldn't be considered due to high error as mentioned above.

Therefore, PTC/POWERGRID is requested to test/replace the energy meter at the earliest.

DGPC may explain.

Deliberation in the meeting

Powergrid informed that energy reading might be accumulated due to capacitive charging during idle charging time. Powergrid agreed to take necessary action.

Powergrid suggested that, in the interest of early resolution of the issues, necessary information might be furnished directly to Powergrid without waiting for OCC.

DGPC informed that the percentage error between the Main and Check energy meters installed in 132kV side of 80MVA ICT 1 & 2 at Jigmeling was observed to be abnormally high. DGPC gave a presentation on the issue, which is enclosed at Annexure-C21.2. DGPC requested ERPC Secretariat to write a letter to PTC for necessary corrective action.

OCC observed that in most of the instances the reading of Main and Check meters is almost matching with reverse polarity as such it is requested DGPC to ensure the polarity.

ERPC Secretariat would write a letter to PTC to coordinate with Powergrid to resolve the issue.

3. Reverse Polarity of Lakhisarai BSPTCL end meter

Meter No NP-8670-A installed at Lakhisarai (BSPTCL) is showing reverse polarity since 08.06.18. Reverse polarity was observed after Line was charged after taking shut down. Matter of Reverse Polarity was enquired from BSPTCL and it was informed that, Polarity was reversed by them to match import and export with their own meter. BSPTCL was requested to restore the Polarity as it was earlier. However the problem is still persisting.

BSPTCL may please update.

Deliberation in the meeting

It was informed that the issue had been resolved.

Item no. C.22: Mock Black start exercises in Eastern Region – ERLDC

Tentative Schedule for mock black start exercise for FY 2018-19 is given below:

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2018	*Completed on 8th June,2018*	Last Week of January2019	
2	Maithon	1stweek of June 2018	*Completed on 6th June,2018*	1stWeek of February2019	
3	Rengali	2ndweek of June 2018	*Planned in August,2018.*	Last week of November 2018	
4	U. Indarvati	3rdweek ofJune 2018	*Planned in August,2018.*	2ndweek of February2019	

5	Subarnarekha	1stweek of October 2018		1stweek of January2019	
6	Balimela	3rdweek of October 2018		1stweek of March 2019	
7	Teesta-V	2ndweek of Nov 2018	Done on 3rd May 2018	Last week of February2019	
8	Chuzachen	Last Week of May2018	In May 2018	2nd week of January2019	
9	Burla	Last Week of June 2018	*Completed on 7th June,2018*	Last week of February2019	
10	TLDP-III	1st Week of June 2018	After Monsoon	2ndWeek of January2019	
11	TLDP-IV	Last Week of June 2018	After Monsoon	1st Week of February2019	
12	Teesta-III	Last week of Oct 2018		First Week of March 2019	
13	Jorthang	First Week of May 2018		First Week of Feb 2019	
14	Tasheding	2nd Week of May 2018		2nd Week of Feb 2019	
15	Dikchu	3rd Week of May 2018		3rd Week of Feb 2019	

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Item no. C.23: Schedule for reactive capability tests

In last OCC, Members updated the status and informed the schedule as follows:

- AdhunikTPS(both units) – Unit #1 done on 27.10.2016 and submitted the testing report of unit #1. Unit #2 would be in service from April 2018.
- JITPL(both units) – done testing of unit#1 and agreed to send the report. After the emergent inspection of OEM(BHEL). Unit #2 testing would be done in July 2018
- Barh TPS – Vibration problems will be attended during overhauling. The testing would be done after overhauling in December 2019.
- Raghunathpur – Coal not available
- GMR (Three units) – *Reactive Capability test for Unit 1 & 2 was done on 18th May 2018.*

Members may update.

Deliberation in the meeting

JITPL informed that they have done the testing of Unit #1 and sent the relevant reports to ERPC and ERLDC. Unit #2 testing would be done in September 2018.

OCC advised other generators to plan for reactive capability testing.

Item no. C.24: Installation of PMUs in Eastern Region under URTDSM project

LOA for installation of PMUs in Eastern Region under URTDSM project was awarded to M/s Alstom on 15th January 2014. The contract has to be completed in all respect within 24 months from the award. The status of implementation may be informed since PMU data is very much important to real time shift operator for analyzing the security of the grid.

POWERGRID informed that air-conditioning and lighting arrangement in PDC control room at SLDC-Howrah was not yet provided by WBSETCL for PDC installation. The requirement of air-conditioning and lighting in PDC control room at SLDC-Howrah was intimated to WBSETCL during survey on November-2014 but the same is not yet provided. The matter has also been discussed in 20th SCADA O&M meeting held on 15th December 2017 wherein WBSETCL intimated that the same would be done on priority.

OCC advised WBSETCL to provide the air-conditioning and lighting in PDC control room at SLDC-Howrah at the earliest.

Regarding Patratu, it was decided that NTPC and JUSNL would sit together and sort out the issue by March, 2018.

In 143rd OCC, WBSETCL informed that the air-conditioning and lighting in PDC control room at SLDC-Howrah by July 2018.

Regarding Patratu, NTPC and JUSNL informed that they would settle the issues in April, 2018.

POWERGRID may update the status.

Deliberation in the meeting

Members noted for compliance.

Item no. C.25: Flexible Operation of thermal power stations- Identification of pilot projects--CEA

Central Electricity Authority vide letter dated 16th February 2018 informed that a special Task Force was constituted under IGEF Sub-Group-I for enhancing the flexible operation of existing coal-fired power plants. The committee has recommendd for implementation of measures for 50%, 40% and 25% minimum load in thermal power stations. The measures for 50% minimum load operation requires no investment or minimal investment. (Report is available on CEA website under TRM division)

Subsequently, a meeting was held under the chairmanship of Member (Thermal) on 8th February 2018 where in it was decided that 55% minimum load operation would be implemented nationwide in first phase. Furher, Six units, including two units of NTPC and one unit each from DVC, GSECL, APGENCO, MSPGCL, would be taken up for 55% minimum load operation on pilot basis as 55% minimum load operation in line with the CERC notification dated 6th April 2016 and 5th May 2017 (IEGC 4th Amendment).

In 142nd OCC, NTPC informed all the units of NTPC were capable of 55% minimum load operation. DVC informed that they were planning to implement at DSTPS.

In 37th TCC, DVC informed that they would demonstrate the capability of 55% minimum load operation for one unit of DSTPS by March 2018.

In 144th OCC, DVC informed that an exercise to test 55% minimum load operationhad been conducted at DSTPS recently. The details of the test results, as and when received,would be shared with OCC members.

In 146th OCC, DVC informed that they could bring down their machine up to 60 % without oil support and with the available quality of coal.

In 38th TCC, DVC assured that the necessary demonstration to bring down their machine up to 55% would be done by July 2018.

DVC may update.

Deliberation in the meeting

DVC informed that the necessary demonstration to bring down their machine up to 55% would be done by July 2018.

Item no. C.26: Issuance of TOC for DSTPS-RTPS OPGW link by DVC

In 19th SCADA O & M meeting held on 7th April 2017 at ERLDC, Kolkata, POWERGRID had informed that they were not able to complete the OPGW work in DSTPS – RTPS in DVC Sector under Microwave Replacement Package due to severe ROW issue. POWERGRID further informed that they had mobilized the team several times but work could not be completed due to heavy ROW / compensation issues related to TL construction resulting non-completion of 2 nos. OPGW drum (approx. 9 Km) out of total 69.182 Km. POWERGRID again informed that this issue was discussed in various forums but the solution could not be provided by DVC. DVC informed that they are not able to resolve the issue as this was an old ROW / compensation issue related to TL construction. OPGW work in this link could not be completed due to ROW/Compensation issues since September-2013.

In 36th ERPC meeting, matter was deliberated and DVC informed that they would try to resolve ROW issues by 31st October-2017. Otherwise they would provide the necessary certificate.

In 20th SCADA O&M meeting held on 15th December-2017, POWERGRID informed that DVC had not yet issued TOC for this link. DVC confirmed that they will issue TOC and request for a letter from POWERGRID. POWERGRID issued the request letter on 20.12.2017. However, ToC is yet to be issued by DVC.

In 37th TCC, DVC informed that the ROW issue would likely to be resolved after the Panchayat Election of West Bengal.

In 38th TCC, DVC assured that the issue would be resolved by July 2018. In case the issue is not resolved MS, ERPC will take up the matter with DVC for early resolution of the issue.

DVC may update.

Deliberation in the meeting

DVC informed that they had taken up the issue with appropriate administration and the issue would be resolved soon.

PART D:: OPERATIONAL PLANNING

Item no. D.1: Anticipated power supply position during August'18

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of August'18 were prepared by ERPC Secretariat on the basis ofProvisional LGBR for 2015-16 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-D.1**.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of August 2018 after incorporating constituents' observations is given at **Annexure-D.1***.*

Item no. D.2: Shutdown proposal of transmission lines and generating units for the month of August'18

Members may finalize the Shutdown proposals of transmission lines and generating stations for the month of August 18.

Shutdown proposals of generating stations:

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
Jharkhand	TVNL, Tenughat	2	210	02.08.18	27.08.18	26	Overhauling
DVC	DSTPS	2	500	10.08.18	04.09.18	26	AOH (Blr, LPT Gen)
ODISHA	TTPS	6	110	01.08.18	20.08.18	20	Boiler Overhaul
WBPDCL	Bakreswar TPS	3	210	28.08.18	26.09.18	30	Boiler Overhauling
	Bandel TPS	5	215	01.08.18	22.08.18	22	Boiler Overhauling
	Santaldih TPS	6	250	01.08.18	25.08.18	25	Capital Overhauling
NTPC	FSTPP	6	500	10.08.18	13.09.18	35	Boiler, TG, ESP
	KhSTPP	5	500	01.08.18	04.09.18	35	Boiler, TG
	TSTPS	6	500	20.08.18	13.09.18	25	Boiler+LPT+Boiler & Turbine RLA
BRBCL	Nabinagar TPP	1	250	05.08.18	30.08.18	26	Boiler OH incl. Turbine LP Rot., Gen. Rot. Checking etc.
IPP	MPL	2	525	15.08.18	15.09.18	32	AOH

ERLDC may place the list transmission line shutdown. Members may confirm.

Deliberation in the meeting

Approved maintenance programme of generators as follows:

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
DVC	DSTPS	2	500	01.08.18	26.08.18	26	AOH (Blr, LPT Gen)
WBPDCL	Bakreswar TPS	2	210	25.07.18	26.08.18	30	Boiler Overhauling
	Santaldih TPS	6	250	25.08.18	24.09.18	30	Capital Overhauling
NTPC	FSTPP	6	500	20.08.18	23.09.18	35	Boiler, TG, ESP
BRBCL	Nabinagar TPP	1	250	05.08.18	30.08.18	26	Boiler OH incl. Turbine LP Rot., Gen. Rot. Checking etc.

NTPC informed that shutdown of Farakka U#2 was taken from 16th July 2018 for 25 days.

Approved maintenance programme of transmission elements for the month of August 2018 is given at **Annexure-D.2.**

1. **Kahalgaon Unit-4 Overhauling.**

Unit-4 shall be under shutdown from 6th Aug 2018 to 12th Aug 2018 for boiler/turbine related jobs.

Members may note.

Deliberation in the meeting

Members noted.

2. **Overhauling of Talcher STPS unit 2 and 6 –NTPC**

- Unit 2 shutdown from 1st August 2018 to 15th Aug 2018 for 15 days.
- Unit 6 shutdown from 20th August 2018 to 31st Aug 2018 for 12 days.

Members may approve.

Deliberation in the meeting

OCC advised NTPC to discuss with beneficiaries and finalize the dates with an intimation to ERPC and ERLDC.

3. **Emergency shutdown in 400kV KhSTPS Switchyard during July-Aug'18 for 400kV BUS splitting work**

S.N.	Line Description	Date	Period	400 KV Bus details
1.	400 KV Kh-Lakhisarai#1 line	*16/07/2018*	09:30 hrs to 17:30 hrs	400 KV Bus#1
2.	400 KV Kh-Farakka#3 line	*18/07/2018*	09:30 hrs to 17:30 hrs	
3.	400 KV Kh-Maithon#2 line	*19/07/2018*	09:30 hrs to 17:30 hrs	
4.	400 KV Kh-Farakka#2 line	*20/07/2018*	09:30 hrs to 17:30 hrs	
5.	400 KV Kh-Banka#1 line	*21/07/2018*	09:30 hrs to 17:30 hrs	
6.	400 KV Kh-Barh#2 line	*23/07/2018*	09:30 hrs to 17:30 hrs	
7.	400KV/132KV ICT#2	*24/07/2018*	09:30 hrs to 17:30 hrs	400 KV Bus#2
8.	400KV/132KV ICT#1	*25/07/2018*	09:30 hrs to 17:30 hrs	
9.	400 KV Kh-Lakhisarai#2 line	*26/07/2018*	09:30 hrs to 17:30 hrs	
10.	400 KV Kh-Banka#2 line	*27/07/2018*	09:30 hrs to 17:30 hrs	
11.	400 KV Kh-Farakka#4 line	*01/08/2018*	09:30 hrs to 17:30 hrs	
12.	400 KV Kh-Maithon#1 line	*02/08/2018*	09:30 hrs to 17:30 hrs	
13.	400 KV Kh-Farakka#1 line	*03/08/2018*	09:30 hrs to 17:30 hrs	
14.	400 KV Kh-Barh#1 line	*04/08/2018*	09:30 hrs to 17:30 hrs	
15.	400 KV Bus#1 (On continuous basis)	08/08/2018 (09:30 hrs) to 10/08/2018 (17:30 hrs)		
16.	400 KV Bus#2 (On continuous basis)	16/08/2018 (09:30 hrs) to 18/08/2018 (17:30 hrs)		

Members may approve.

Deliberation in the meeting

OCC approved the shutdown as per the list given in **Annexure-D.2.**

4. Shutdown of 220kV STPS-New Bishnupur D/C

In 67th PCC, DVC informed that repeated faults were occurred at same location due to touching of Earth wire of 220kV STPS-New Bishnupur line to 400kV Ranchi-Raghunathpur line conductors.

This was due to insufficient clearance between 400kV Ranchi-Raghunathpur and 220kV STPS-New Bishnupur lines.

DVC added that they are planning to resolve the clearance problem during next opportunity shutdown.

Members may approve.

Deliberation in the meeting

WBSETCL informed that unit #6 of Santaldih TPS would be under shutdown from 25th August 2018 for 30 days and DVC may take shutdown of 220kV STPS-New Bishnupur D/C line during this period.

5. Expeditious commissioning of 400kV FSTPS – Baharampur (Twin HTLS) D/C line--ERLDC

In 38th TCC Meeting, WBSETCL agreed to allow the shutdown from 17.07.2018 (06:00 Hrs) to 26.07.2018 (17:00 Hrs).

Powergrid and WBSETCL may update.

Deliberation in the meeting

Powergrid submitted the tentative schedule of shutdown as agreed by WBSETCL:

Sl.	Date	Name of Line/Eqpt proposed for SD	Shutdown Purpose
1.	17.07.2018	Sagardighi-Berhampur I	For bay stability work at Sagardighi (**already approved**)
	18.07.2018	400kV Bus-II at Sagardighi	For bus bar stability work for 430 bay at Sagardighi (**already approved**)
2.	19.07.2018 to 26.07.2018	Existing Farakka-Berhampur circuit	For completing LILO work at Sagardighi. (**During this period, Berhampur-Jeerat will be in service**)
3.	26.07.2018		Farakka-Sagardighi II line will be taken into service.
4.	27.07.2018	400kV Bus-II at Sagardighi	For bus bar stability test of 435 bay at Sagardighi
5.	28.07.2018	400kV Bus-I at Sagardighi	For Bus Bar integration of 434 bays at Sagardighi.
6.	29.07.2018 to 30.07.2018	Berhampur-Jeerat line	For completing Sagardighi – Jeerat connection.
7.	30.07.2018		Sagardighi-Jeerat section will be charged. **Existing Farakka-Bhp-Jeerut line will become Farakka-Sagardighi-Jeerut**

Powergrid informed that shutdown period may be slightly varied depending on the monsoon and site conditions.

Item no. D.3: Prolonged outage of Power System elements in Eastern Region

(i) Thermal Generating units:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s)	Outage
1	KAHALGAON	BIHAR	NTPC	3	210	ANUUAL OVERHAULING	6-Jul-18
2	BARAUNI	BIHAR	BSPHCL	6	105	R & M WORK	17-Mar-12
3	KOLAGHAT	WEST BENGAL	WBPDCL	3	210	POLLUSION CONTROL PROBLEM	23-Feb-17
4	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17
5	MEJIA	WEST BENGAL	DVC	7	500	ANNUAL OVERHAULING	7-Jul-18
6	KAHALGAON	BIHAR	NTPC	6	500	**TG VIBRATION**	5-Jul-18
7	MTPS STG II	BIHAR	KBUNL	1	195	**PROBLEM IN BOILER FEED PUMP**	26-Jun-18
8	VEDANTA	ODISHA	GRIDCO	1	600	STATOR PROTECTION	19-May-18
9	VEDANTA	ODISHA	GRIDCO	2	600	PROBLEM IN BOILER	8-Feb-18
10	KBUNL STG-I	BIHAR	BSPHCL	2	110	BOILER TUBE LEAKAGE	11-Mar-18
11	TENUGHAT	JHARKHAND	JUVNL	1	210	**hydrogen leakage due to seal il pressure drop**	22-Jun-18
12	**DPL**	**WEST BENGAL**	WBPDCL	**7**	**210**	**VIBRATION OF APH ZONE**	**3-Jul-18**
13	MEJIA	WEST BENGAL	DVC	6	250	**STATOR EARTH FAULT**	15-Mar-18
14	**WARIA**	**WEST BENGAL**	**DVC**	**4**	**210**	**HIGH TEMP/MAINTEANCE**	**9-Jul-18**
15	SAGARDIGHI	WEST BENGAL	WBPDCL	2	300	**COAL SHORTAGE**	4-Jul-18
16	RAGHUNATHPUR	WEST BENGAL	DVC	1	600	**COAL SHORTAGE**	1-Jun-18
17	KOLAGHAT	WEST BENGAL	WBPDCL	1	210	**COAL SHORTAGE**	10-May-18
18	NABINAGAR	BIHAR	BRBCL	2	250	**COAL TRANSPORTATION PROBLEM**	11-Apr-18

(ii) Hydro Generating units:

Sr. No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	BURLA	5	37.5	R & M WORK	25.10.2016

2	BURLA	6	37.5	R & M WORK	16.10.2015
3	CHIPLIMA	3	24	R & M WORK	15.10.2015
4	BALIMELA	1	60	R & M WORK	05.08.2016
5	BALIMELA	2	60	R & M WORK	20.11.2017
6	BALIMELA	7	75	Governor & Guide vane problem	12.10.2017
7	U.KOLAB	2	80	Repair of MIV & Draft tube gate leakage	28.05.2017

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage Date	Reasons for Outage
1	220 KV BALIMELA - U' SILERU	OPTCL / APSEB	10.03.18	LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18
2	220 KV BUDHIPADAR - KORBA II	OPTCL / POWERGRID	07.05.18	TO CONTROL CRITICAL LOADING ON 220KV KORBA EAST & DSPM NETWORK IN CHHATTISGARH(kept open from Korba end)
3	400 KV MOTIHARI- GORAKHPUR - II	POWERGRID	07.04.18	SF6 GAS DUCT LEAKAGE IN MAIN AND TIE BAY ;
4	400 KV BARH-MOTIHARI-I	POWERGRID	15.06.18	Y-N FAULT/CLEARNCE REDUCED AS WATER LEVEL IN GANDAK RIVER HAS INCREASED.
5	400 KV BARH-MOTIHARI-II	POWERGRID	28.06.18	SWITCHED OFF DUE TO INCREASE IN LEVEL OF GANDAK RIVER
6	400 KV IBEUL JHARSAGUDAD/C	IBEUL	29.04.18	TOWER COLLAPSE AT LOC 44,45
7	400 KV BUS 3 AT JARSUGUDA	POWERGRID	09.07.18	SF6 LEAKAGE IN BUS DUCT
8	220 KV RENGALI(PG)-RENGALI(GRIDCO)-I	POWERGRID	07.07.18	CB TRIP COIL BURNT AT RENGALI PG END REPORTED WHILE CLOSING ON 11.07.08

(Reported as per Clause 5.2(e) of IEGC)

** Transmission licensees whose line were out due to tower collapse/ bend, may please update the detail restoration plan and as on date work progress status in OCC.

Also Monthly progress report to be submitted to ERLDC/ERPC till restoration of the element.

Members may update.

Deliberation in the meeting

Members noted.

Item no. D.4: Additional agenda

1. Updation of Operating Procedure of ERLDC

The Operating Procedure of Eastern Regional power system, developed and maintained by ERLDC in accordance with section 5.1(f) of the IEGC, has been updated taking into consideration the developments that have taken place in the regional power system during the last one year including the amendments incorporated in the IEGC so far by Hon'ble CERC. Draft Operating Procedure of Eastern Region with following major changes was circulated to all the stakeholders via email dated 3rd July 2018 for review and comments.

- Chapter 10:- Which, deals with wide area monitoring system is added
- The format for First time charging of elements are updated
- For frequency and line loading control, kick-in of RRAS service is introduced

- List of the feeder to be disconnected for controlling overdwarl has been updated as per information available in 143 OCC meeting
- AMR architecture is described in a more detailed manner
- List of 400 kV Substations which are GIS is documented
- All annexures are updated and renumbered to make it inline with Chapter Number.

Comments were received from DVC, Odisha and West Bengal. Draft procedure is finalized after incorporating/clarifying the comments. The updated operating procedure of Eastern Region Can be downloaded from following link:-https://erldc.in/documents/

Members may note

Deliberation in the meeting

Members noted.

PART E::ITEMS FOR INFORMATION

The following agenda items are placed for information and necessary compliance:

Item No. E.2: Restricted Governor /Free Governor Mode Operation of generators in ER

CERC vide their letter dated 05-06-2017 desired to know the present status of RGMO/FGMO response of all eligible thermal and hydro units. Accordingly ERLDC vide letter no.ERLDC/SS/FGMO/2017 dated 07-06-17 requested all concerned power stations and SLDCs to provide updated status of FGMO/ RGMO of units under their control.

The latest status of the RGMO/FGMO of ER generators is enclosed in **Annexure-E1**.

Generators may update.

Item No. E.3: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

The activity of the preparation of Crisis Management Plan for countering the cyber attacks and its implementation including the Mock Drills, audits etc. is being monitored by CEA regularly in line with crisis management plant of Ministry of Power. Power Utilities (including generation, transmission & distribution utilities) of eastern region are to furnish regularly the updated status to on the same to Chief Engineer, Distribution Planning & Development Division, CEA.

In 142nd OCC, ERLDC informed that, in line with Enquiry Committee Recommendation, cyber security audit is being conducted on regular basis for SCADA system installed at ERLDC and SLDC as well but cyber security audit for telecom infrastructure installed in Eastern Region is not being carried out.

OCC advised all the constituents to conduct the cyber security audit on telecom infrastructure installed in Eastern Region. It is further advised that compliance / mitigation of the points observed during the audit should also be completed for improvement of the telecom infrastructure in ER.

In 37th TCC meeting, it was decided that a workshop would be conducted by CEA at ERPC for further benefit of ER Constituents.

In 144th OCC, ERLDC informed that they have already conducted a workshop with the help of NPTI, Durgapur on 21st March 2018.

A workshop on cyber security was conducted by CEA at ERPC, Kolkataon 09-05-2018.

As suggested by CEA, a format would be circulated among ER constituents for furnishing the information of the their respective systems for discussion in OCC Meeting. The format is enclosed at **Annexure-E2**.

OCC advised all the constituents to submit the information to ERPC as per Annexure-E2.

Item No. E.4: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

In 84th OCC meeting all constituents were requested to interact with BIS with intimation to ERPC and get certified as per CEA direction.

As per the information received from the constituents the following generators certified with IS 18001:

- All NTPC stations in Eastern Region
- Teesta, NHPC

- All OHPC generating units
- All CESC generating units
- All units of WBPDCL
- DGPC units

Item No. E.5: Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.

The status of DR/EL and GPS as updated in previous OCCs is enclosed at **Annexure-E.4**.

Constituents are also requested to furnish their list of new DR/EL which are not included in the list.

TeestaUrja Limited vide letter dated 8th September 2017 informed that Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipments are available at Teesta III HEP.

Item No. E.6: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

CEA vide letter dated 21.07.2017 requested to send the status of state-wise availability of ERS towers and requirement of ERS towers.

In 136th OCC, MS, ERPC informed that CEA vide letter dated 21.07.2017 has sought the latest status on ERS. Therefore, OCC advised all constituents to send the updated status to ERPC secretariat vide mail (mserpc-power@nic.in).

Latest status is enclosed at **Annexure- E.5**.

In 138th OCC, WBSETCL informed that they are having total 10 ERS towers, 5 at Arambagh and 5 at Gokharno.

In 139th OCC, JUSNL informed that they are having eight 220/132kV ERS towers at following locations:

- Hatia – 3 nos
- Ranchi – 2 nos
- Dumka – 3 nos

Item No. E.7: Status of 1st Third Party Protection Audit:

The compliance status of 1st Third Party Protection Audit observations is as follows:

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	46	85.19
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	49	72.06
Odisha	59	42	71.19
JUSNL	34	25	73.53
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

** Pending observations of Powergridare related to PLCC problems at other end.*

The substation wise status of compliance are available at ERPC website (Observations include PLCC rectification/activation which needs a comprehensive plan).

In 118th OCC, all the constituents were advised to comply the pending observations at the earliest. All the STUs informed that most of the observations are related to funding from PSDF. DPRs have been submitted to PSDF committee.

Members may comply.

Item No. E.8: DATA FOR GEOSPATIAL ENERGY PORTAL OF NEETI AAYOG--CEA

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 etc.

CEA sought the information of name, voltage level, capacity, longitude and latitude of 33kV and 66 kV substations and lines.

The information may be shared with CEA vide email: cedpd-cea@gov.in.

Members may comply.

Item No. E.9: Commissioning of new transmission elements in Eastern Region

The details of new units/transmission elements commissioned in the month of June - 2018 based on information furnished by the constituents are depicted below:

Monthly commissioning List of Tansmission element and generators: June 2018					
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	500 MW HVDC Bheeramara Block 2	Bangladesh	08-06-2018	15:22	Testing
2	100 MVAR VSC II at Jepore	PGCIL	09-06-2018	16:35	First time charge for testing
3	220kV Darbhanga(DMTCL)-Darbhanga(BSPTCL)-I	BSPTCL	12-06-2018	16:06	
4	220kV Darbhanga(DMTCL)-Darbhanga(BSPTCL)-II	BSPTCL	13-06-2018	17:07	Anti-theft charging upto Dead end tower of Darbhnaga (BSPTCL)
5	125MVAR Bus Reactor II at Baripada	PGCIL	28-06-2018	18:45	404/398 kV
6	400kV Dikchu-Rangpo	PGCIL	30-06-2018	14:45	
7	132KV DALKHOLA-ISLAMPUR#2 (R.L-59KM)	WBSETCL	13.06.2018	18:47	
8	132KV DALKHOLA-ISLAMPUR#1 (R.L-59KM)	WBSETCL	13.06.2018	18:48	
9	132/33KV 50MVA TR#1 at Islampur	WBSETCL	13.06.2018	18:49 (HV) 18:53 (LV)	

10	132/33KV 50MVA TR#2 Islampur	WBSETCL	13.06.2018	18:48 (HV) 18:53 (LV)	
11	33KV MB, 100KVA ET#1,2, 33KV PT#1 &2, 315KVA STN TR#1 &2 Islampur	WBSETCL	13.06.2018	18:53	
12	132KV ISLAMPUR-TCF PS3 #1 & 2 (R.L : 40KM*2)	WBSETCL	13.06.2018	18:57	
13	132/33KV 20MVA TR#2 (MAKE: BHARAT BIJLEE, VECTOR GR. YNd1) at BIRPARA 132/33KV SUB-STN	WBSETCL	14.06.2018	17:36	
14	132/33KV 20MVA TR#1 (MAKE: BHEL, VECTOR GR. YNd1) at BIRPARA 132/33KV SUB-STN		28.06.2018	20:26	

Item No. E.10: Checklist for submission of updated data for Protection Database

The network data in Protection Database needs to be updated on regular basis on account of commissioning of new elements in the CTU as well as STU networks. Accordingly, a checklist has been prepared which is enclosed in **Annexure-E9**.

All the constituents are requested to submit the checklist on monthly bases in every OCC/PCC meetings.

In 139th OCC, all the constituents were advised to submit the data to ERPC vide mail (mserpc-power@nic.in) as per the checklist for last three months.

OCC advised all the constituents to submit the data to ERPC vide mail (mserpc-power@nic.in) as per the checklist for last three months.

Constituents may comply.

Item No. E.11: UFR operation during the month of June'18

System frequency touched a maximum of 50.24 Hz at 07:58Hrs of 12/06/18 and a minimum of 49.59Hz at 22:20Hrs of 19/06/18.Hence, no report of operation of UFR has been received from any of the constituents.

Item No. E.12: Grid incidences during the month of June, 2018

Sl No	Date	Time	Affected System	Summary	GD/ GI
1	25-05-2018	16:30	OPTCL	At 16:30 Hrs R ph LA blasted in 220 KV Jaynagar-Laxmipurckt I at Jaynagar which led to remote end tripping of some 220 KV ckts and backup overcurrent/reverse zone clearing of some ckts from Jaynagar end. As a result, 220 KV Jaynagar substation became dead and due to loss in evacuation paths,160 MW in Upper Kolab(unit 1 and 3) and 268 MW in Balimela(Unit 3,4,5,6,7,8) tripped.	GD-I

2	26-05-2018	12:06	BSPTCL	At BODHGAYA GSS, Total power failed after tripping of both 220 KV Gaya(PG)-Bodhgaya ckt-1 and 2 at 12:06 Hrs from Gaya (PG) end.	GD-I
3	28-05-2018	21:41	BSPTCL	220 KV Gaya Bodhgaya d/c tripped from Gaya(PG) end only on 3-Ph Fault, zone III . Actually fault was in 220 KV Bodhgaya-Khizersarai-I line. During anti-theft charging of the said line 220 KV Gaya Bodhgaya d/c tripped from Gaya(PG) end.	GD-I
4	28-05-2018	19:04	WBSETCL & BSPTCL	At 19:04 hrs R-N fault took place in 400 KV Malda-Purnea-2 line and during A/R attempt Bus bar protection operated at Malda 400 KV and all the element tripped. Then Dalkhola B/C tripped in O/C and 220 kV Purnea-Purnea D/C and 220 kV Kishangunj-Dalkhola D/C tripped in DEF leading to wide spread blackout at Malda,Dalkhola and Purnea.	GD-I
5	30-05-2018	18:22	ISTS	220 kV Ranchi - Hatia D/C tripped in R-B fault at 18:22 hrs. At same time 220 kV Hatia - Patratu D/C tripped on overreaching the fault resulting interruption of power at 220/132 kV Hatia S/S and its surrounding areas	GD-I
6	31-05-2018	18:43	ISTS	Total power failure occurred at Daltongunj after tripping of 400 kV Sasaram - Daltongunj D/C at 18:43 hrs on R-N and B-N fault respectively.	GD-I

Item No. E.13: Non-compliance of directions issued by SLDC

Vide clause no 5.5.1.(c)(h) of IEGC, non-compliance of SLDC directions by SEB/Distribution licenses/bulk consumers to curtail overdrawal are to be reported to ERLDC for incorporating the same in weekly report to be prepared and published by ERLDC.

All SLDCs are to inform ERLDC the instances of non–compliance of SLDC directions by SEB/Distribution licenses/bulk consumers to curtail overdrawal, within two days after the day of operation.

No report from any constituent has yet received. Hence, ERLDC would be considering 'Nil' report for all constituents for June18.

Meeting ended with vote of thanks to the chair

****

Annexure-A

Participants in 147th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 10:30 hrs Date: 20.07.2018 (Friday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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Participants in 147th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 10:30 hrs Date: 20.07.2018 (Friday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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60	C. K. Halder	ACE, WB SLDC	9434910379		

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Participants in 147th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 10:30 hrs Date: 20.07.2018 (Friday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
61	Preetam Banerji	SE/WBSEDCL	9432140765	preeban72@gmail.com	
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Power System Operation Corporation Ltd.

147th OCC Meeting


At ERPC, Kolkata

20th July, 2018

ER Grid Performances

ERLDC POSOCO

Highlights for the month of June-18

Frequency Profile

Average Freq:- 49.98 Hz

Avg FVI: - 0.049

Lowest FVI:- 0.018

Max- 50.24Hz on 12th Jun' 18

Min- 49.59 Hz on 19th Jun' 18

77.08% of the time freq was with in IEGC Band

Peak Demand

ER: 22690 MW on 18th June 2018 at 20:44 hrs

% Growth in Average Demand Met w.r.t. last year- 11.21%

BSPHCL : 4843 MW ; ON 22/06/18
JUVNL: 1139 MW; ON 14/06/18
DVC: 3039 MW; ON 29/06/18
GRIDCO: 4609 MW; ON 19/06/18
WB: 8896 MW; ON 18/06/18
SIKKIM: 88 MW; ON 05/06/18

Energy met

Max. 488 MU on 19th *June 2018*

%Growth w.r.t. last year on Max energy 11.26%

Avg. 456 MU in June *2018*

%Growth w.r.t. last year on Avg. energy : 9.7%

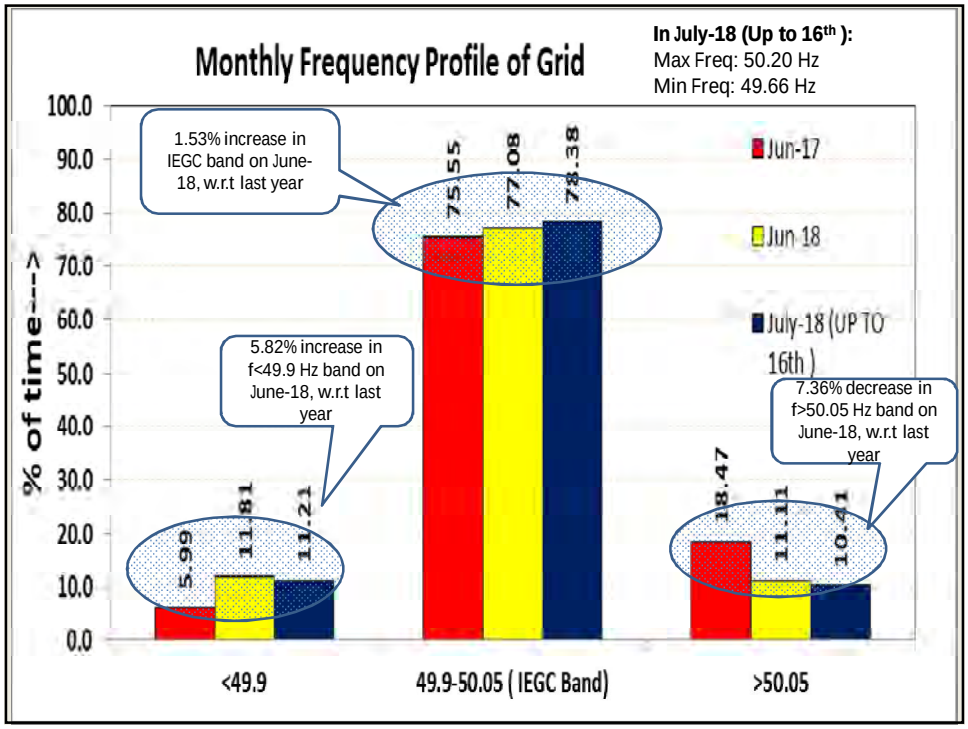
New Element

Generating Units-NIL

Open Access

STOA transactions approved -259 nos.

Energy Approved- 1054.6 MUs



New Elements commissioned during the month:

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	500 MW HVDC Bheeramara Block 2	Bangladesh	08-06-2018	15:22	Testing
2	STATCOM (2*100MVAR VSC, 2*125MVAR MSR, 2*125MVAR MSC) at Jepore	PGCIL	30-06-18	18:30	Trial run starts on 27-06-18
3	220kV Darbhanga(DMTCL)-Darbhanga(BSPTCL)-I	BSPTCL	12-06-2018	16:06	
4	220kV Darbhanga(DMTCL)-Darbhanga(BSPTCL)-II	BSPTCL	13-06-2018	17:07	Anti-theft charging upto Dead end tower of Darbhnaga (BSPTCL)
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6	400kV Dikchu-Rangpo	PGCIL	30-06-2018	14:45	
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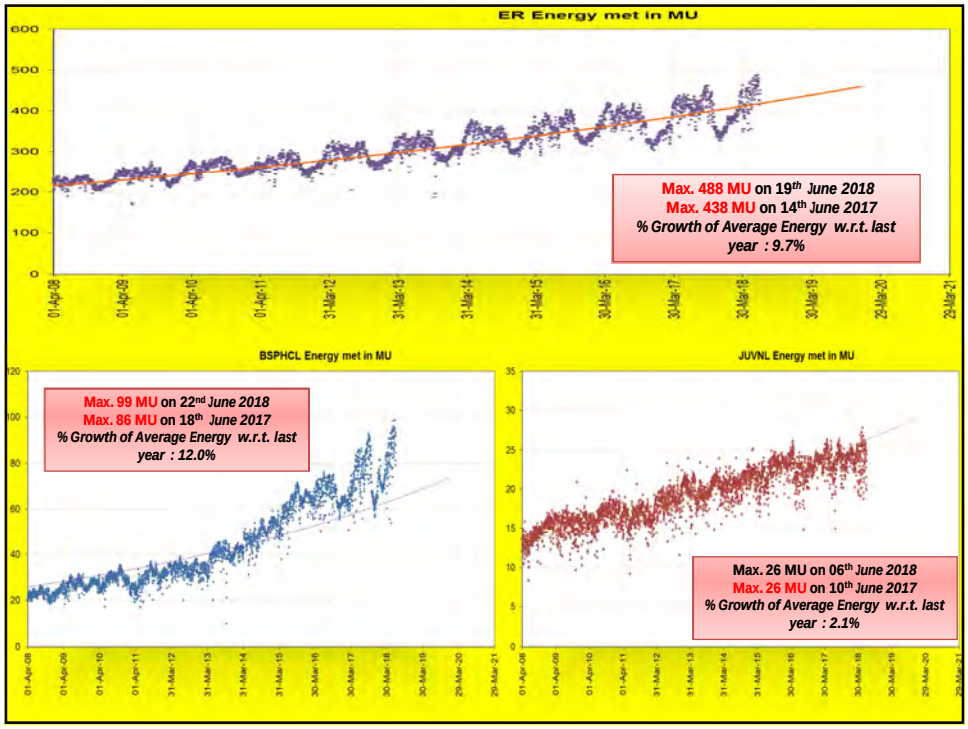
14	132/33KV 20MVA TR#1 (MAKE: BHEL, VECTOR GR. YNd1) at BIRPARA 132/33KV SUB-STN		28.06.2018	20:26	

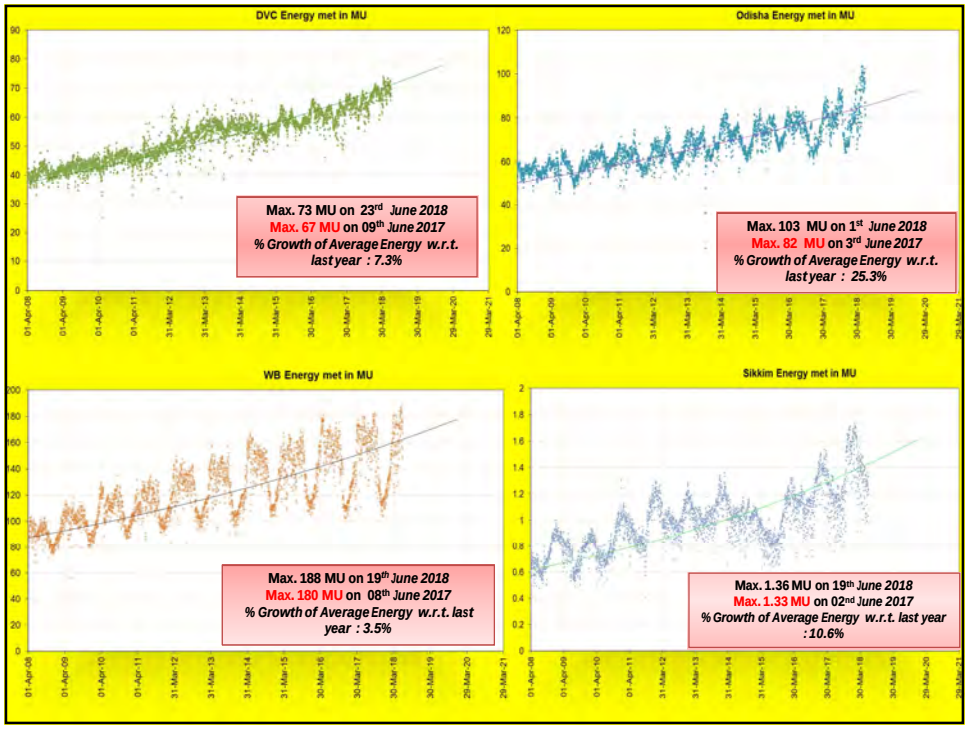
So Far Highest Demand

Constitute	Demand (in MW)	Date	Time	Dmd met on 18th June'18 (max dmd met day)
Bihar	4932	13-July-18	21:26	4806
DVC	3536	12-July-18	20:57	2922
Jharkhand	1319	19-May-18	20:58	1082
Odisha	4785	24-May-18	19:37	4459
W. Bengal	8896	18-June-18	23:06	8896
Sikkim	117	28-Oct-16	18:59	79
ER	22690	18-June-18	20:44	22690

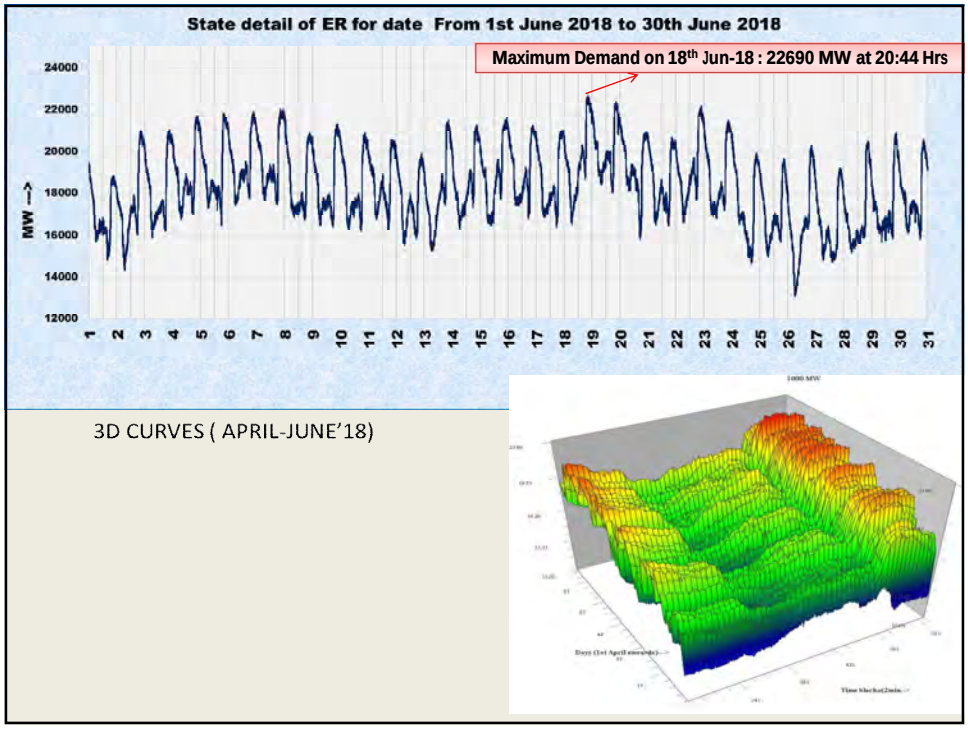
So Far Highest Energy Consumption

Constitute	Energy consumption (in MUs)	Date	Energy met on 18th June'18 (max dmd met day)
Bihar	99.9	14-July-18	92.6
DVC	75.8	12-July-18	64.5
Jharkhand	27.8	19-May-18	21.8
Odisha	103.5	24-May-18	93.8
West Bengal	188.5	19-Jun-18	179.1
Sikkim	2.1	07-Dec-17	1.4
ER	488	19-Jun-18	469


ER Energy met in MU
Max. 488 MU on 19th June 2018
Max. 438 MU on 14th June 2017
% Growth of Average Energy w.r.t. last year : 9.7%
BSPHCL Energy met in MU
Max. 99 MU on 22nd June 2018
Max. 86 MU on 18th June 2017
% Growth of Average Energy w.r.t. last year : 12.0%
JUVNL Energy met in MU
Max. 26 MU on 06th June 2018
Max. 26 MU on 10th June 2017
% Growth of Average Energy w.r.t. last year : 2.1%

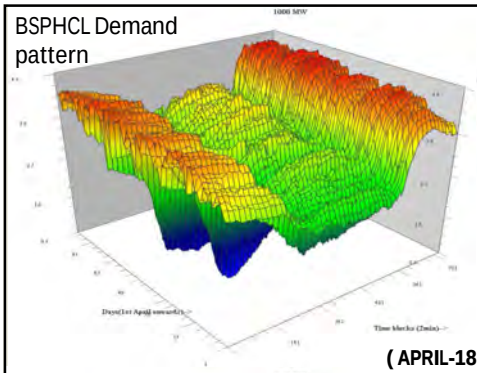

DVC Energy met in MU
Max. 73 MU on 23rd June 2018
Max. 67 MU on 09th June 2017
% Growth of Average Energy w.r.t. last year : 7.3%
Odisha Energy met in MU
Max. 103 MU on 1st June 2018
Max. 82 MU on 3rd June 2017
% Growth of Average Energy w.r.t. last year : 25.3%
WB Energy met in MU
Max. 188 MU on 19th June 2018
Max. 180 MU on 08th June 2017
% Growth of Average Energy w.r.t. last year : 3.5%
Sikkim Energy met in MU
Max. 1.36 MU on 19th June 2018
Max. 1.33 MU on 02nd June 2017
% Growth of Average Energy w.r.t. last year :10.6%

3D VIEW OF ER DEMAND PATTERN (APR-18 to Jun-18)

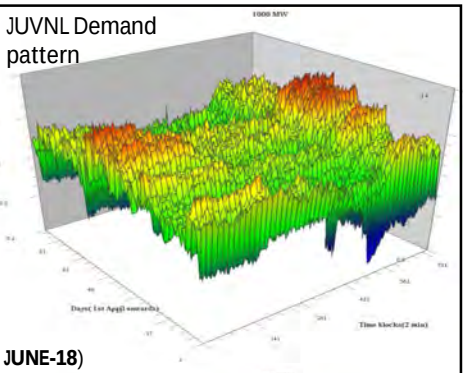


3D CURVES (APRIL-JUNE'18)

BSPHCL Demand pattern

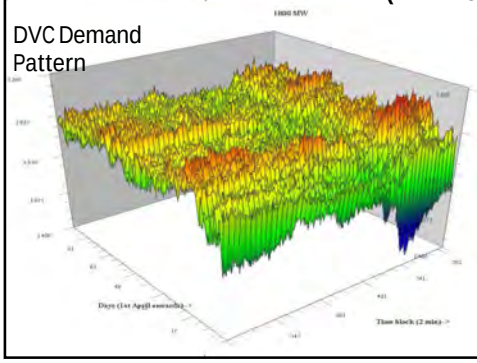


JUVNL Demand pattern

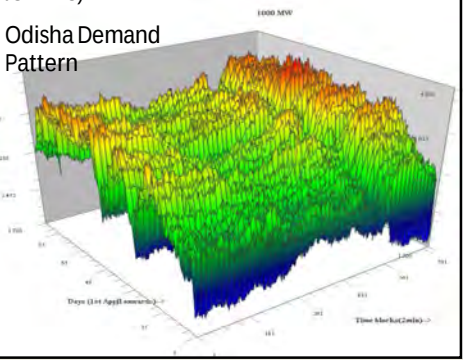


(APRIL-18 to JUNE-18)

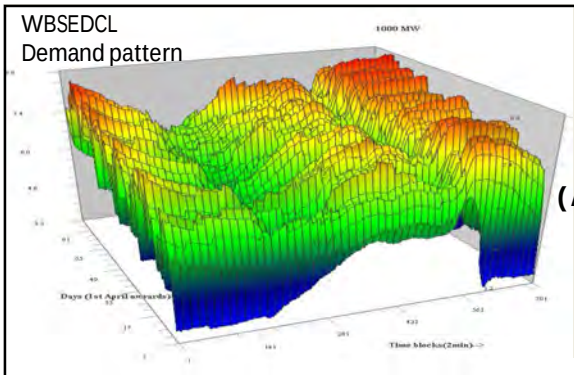
DVC Demand Pattern



Odisha Demand Pattern

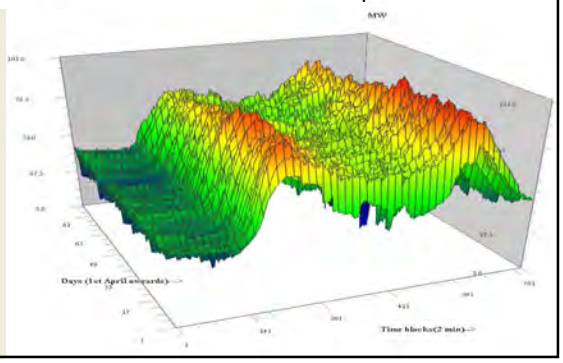


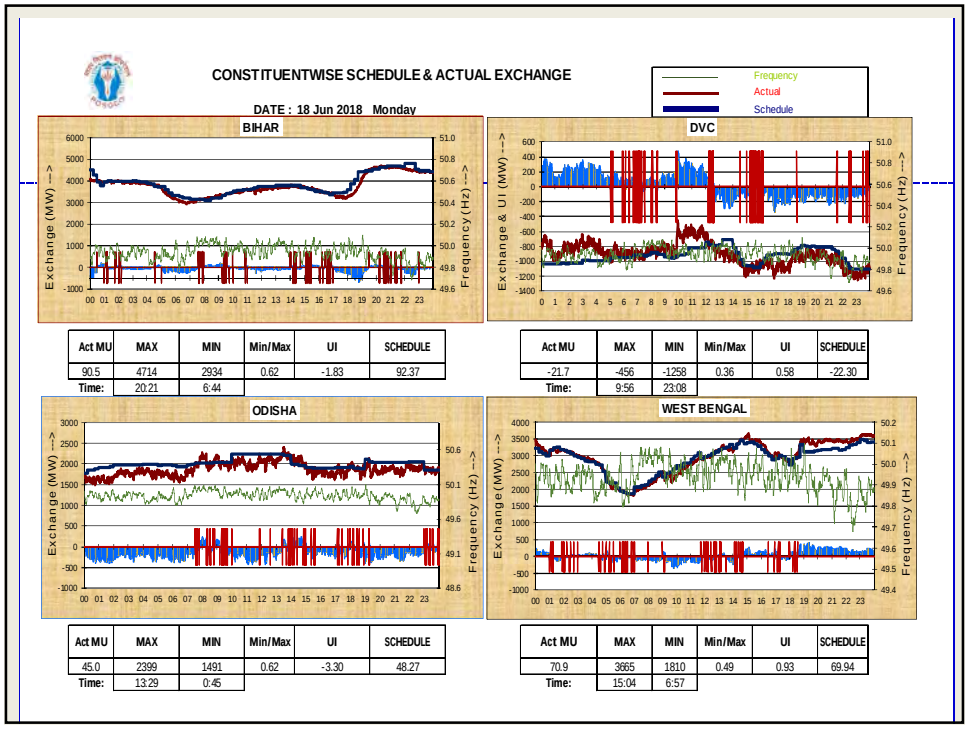
WBSEDCL Demand pattern



(APRIL-18 to JUNE-18)

Sikkim Demand pattern



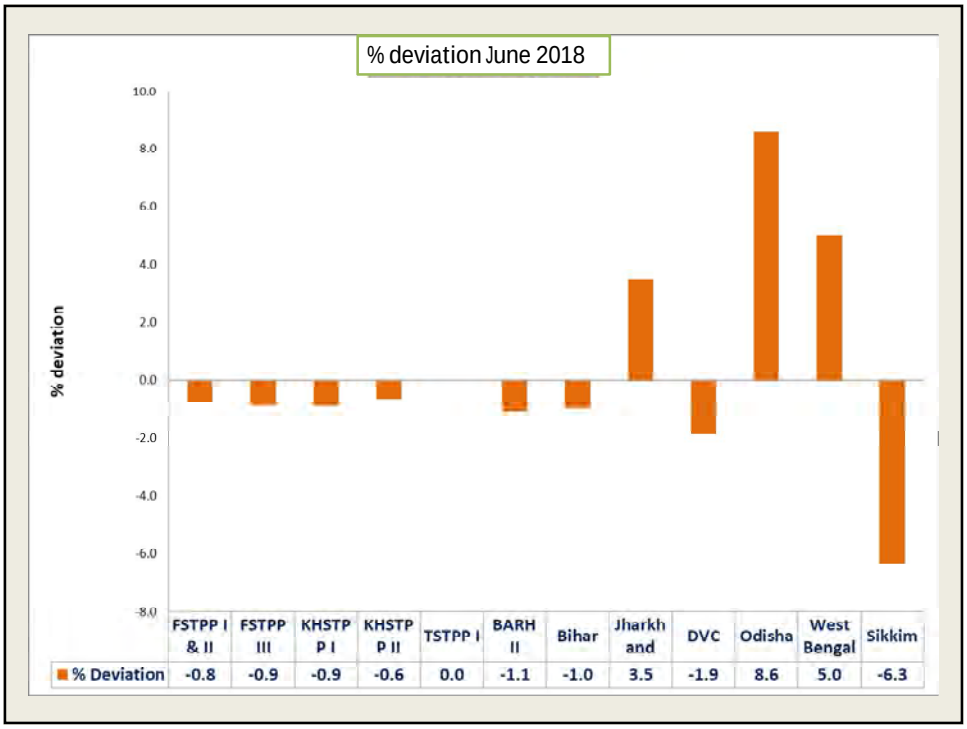


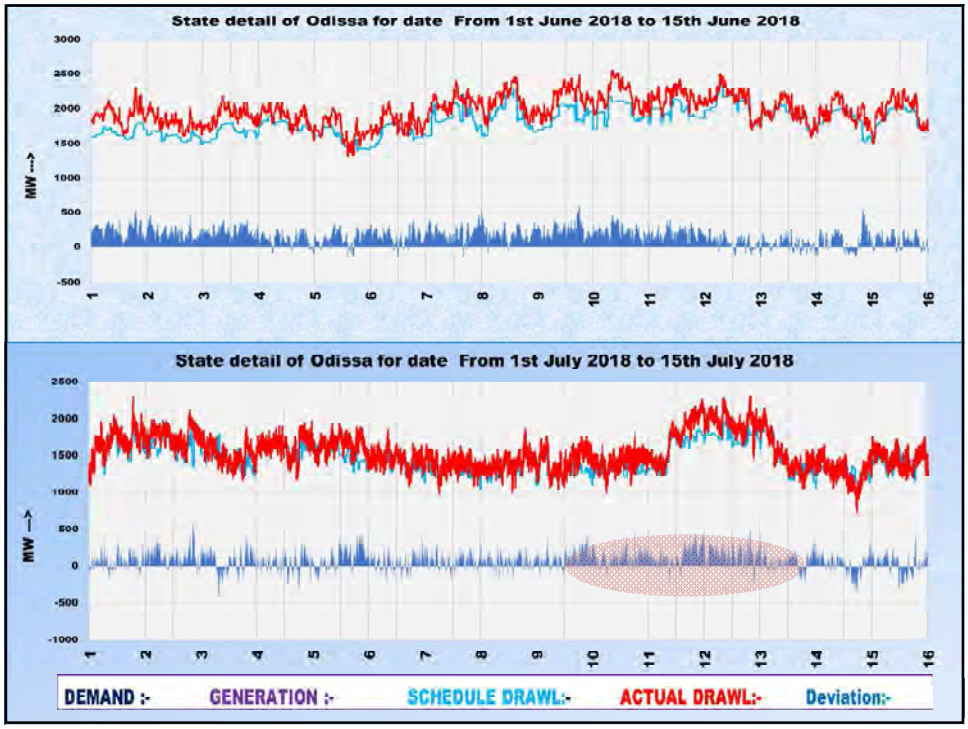
Over Drawl / Under Injection by ER Entities

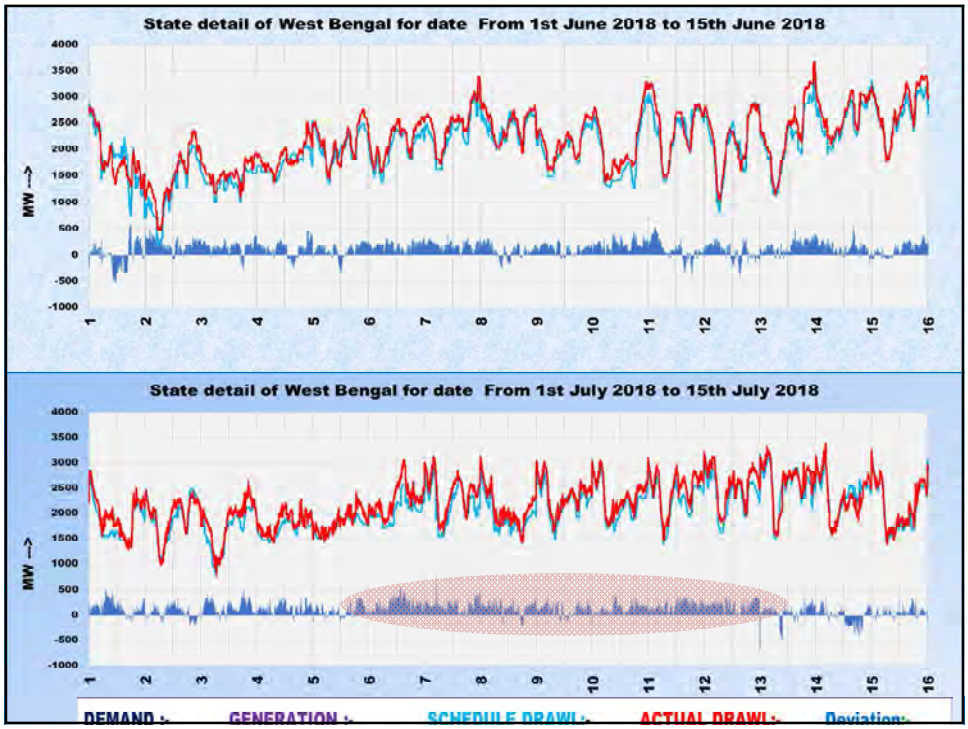
Non-compliance of direction issued by SLDC

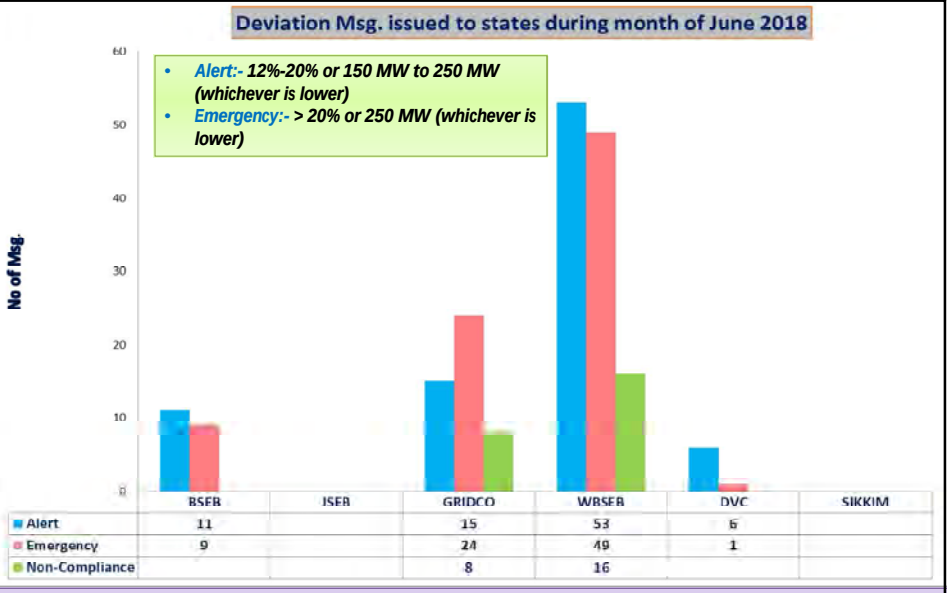
June-2018 Schedule Vs Actual Drawl

	Schedule (Mu)	Actual (Mu)	Deviation (Mu)	Daily Avg. Dev (Mu)	% Deviation (Daily Average)
Bihar	2636	2610	-25	-0.8	-1.0
Jharkhand	529	548	19	0.6	3.5
DVC	-1079	-1059	20	0.7	-1.9
Odisha	**1304**	**1416**	**112**	**3.6**	**8.6**
West Bengal	**1505**	**1581**	**76**	**2.4**	**5.0**
Sikkim	40	37	-3	-0.1	-6.3
FSTPP I & II	932	925	-7	-0.2	-0.8
FSTPP III	235	233	-2	-0.1	-0.9
KHSTPP I	453	449	-4	-0.1	-0.9
KHSTPP II	680	675	-4	-0.1	-0.6
TSTPP I	590	590	0	0.0	0.0
BARH II	801	793	-9	-0.3	-1.1




State detail of Odissa for date From 1st June 2018 to 15th June 2018
MW --->
State detail of Odissa for date From 1st July 2018 to 15th July 2018
MW --->
DEMAND :-
GENERATION :-
SCHEDULE DRAWL:-
ACTUAL DRAWL:-
Deviation:-

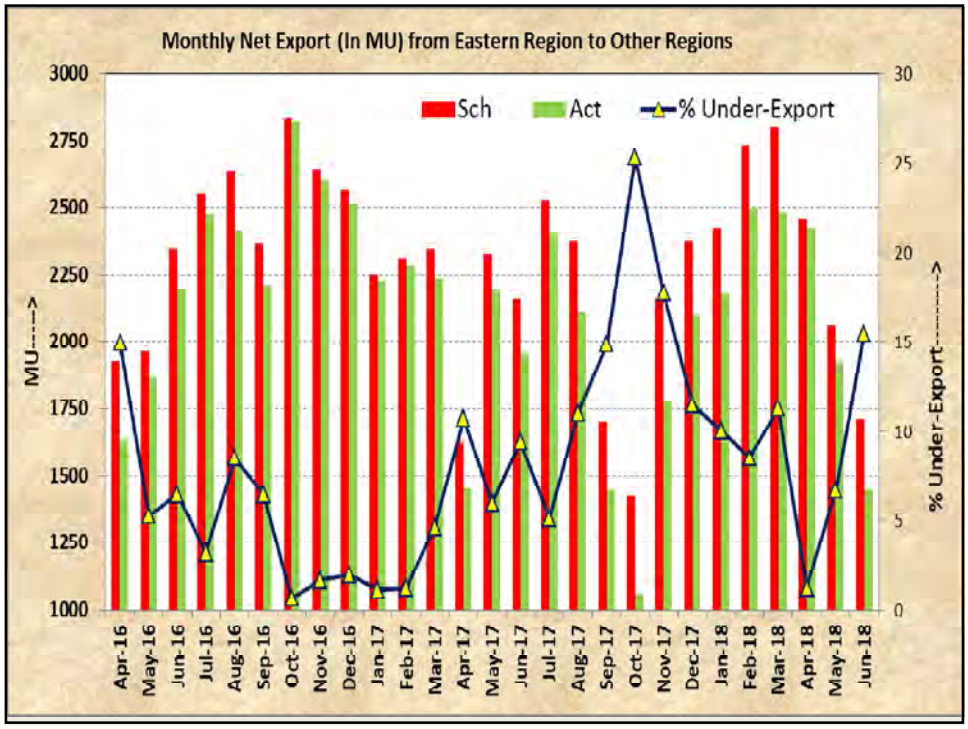

State detail of West Bengal for date From 1st June 2018 to 15th June 2018
MW --->
State detail of West Bengal for date From 1st July 2018 to 15th July 2018
MW --->
DEMAND :-
GENERATION :-
SCHEDULE DRAWL:-
ACTUAL DRAWL:-
Deviation:-



- **Total Number of Deviation violation and zero crossing violation messages issued during June-2018 :- 254**
- **Deviation Violation Messages :- 201 & Zero Crossing Violation :- 53**

Regulatory action has been taken for over drawl

1. 220kV Rengali-Rengali-I opened on 05/07/18 at 20:36Hrs.
2. 220kV Dalkhola-Dalkhola-I opened on 05/07/18 at 20:45 Hrs.
3. Baripada 220/132kV ICT-I opened on 05/07/18 at 21:05 Hrs.
4. 220kV Dalkhola-Dalkhola-I opened on 06/07/18 at 10:26 Hrs.
5. 132kV Birpara-Birpara-I opened on 06/07/18 at 15:40 Hrs.
6. 220kV Baripada-Balasore-I opened on 17/07/18 at 22:13 Hrs.
7. Baripada 220/132kV Baripada ICT-II opened on 18/07/18 at 21:37 Hrs.



Mis-declaration of DC by ISGS Generators

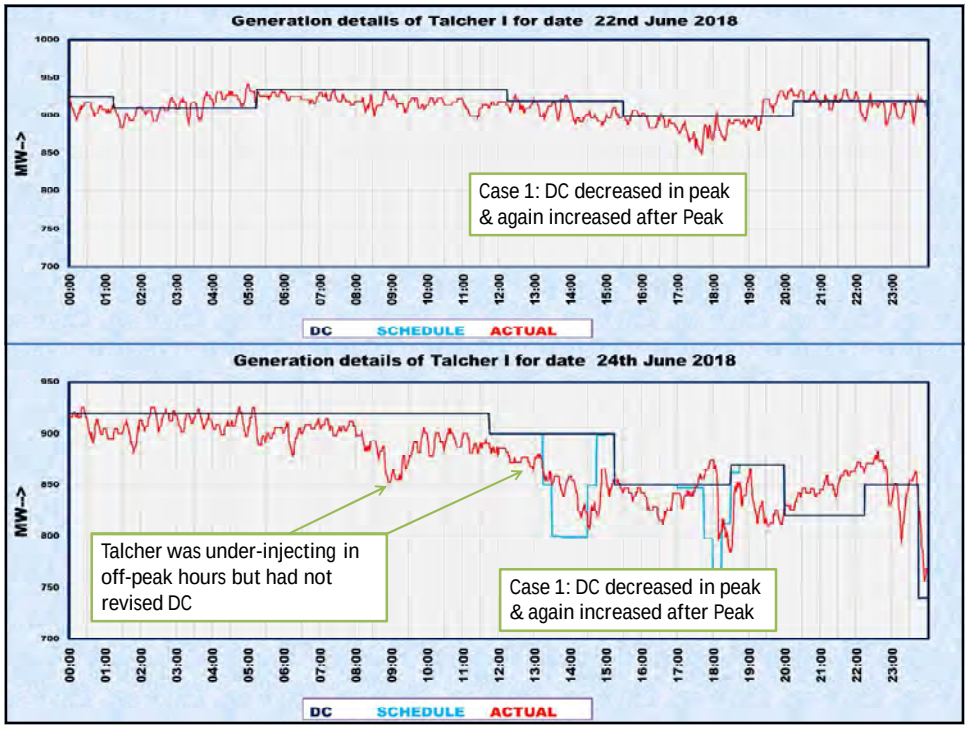
Mis-declaration of DC by ISGS Generators

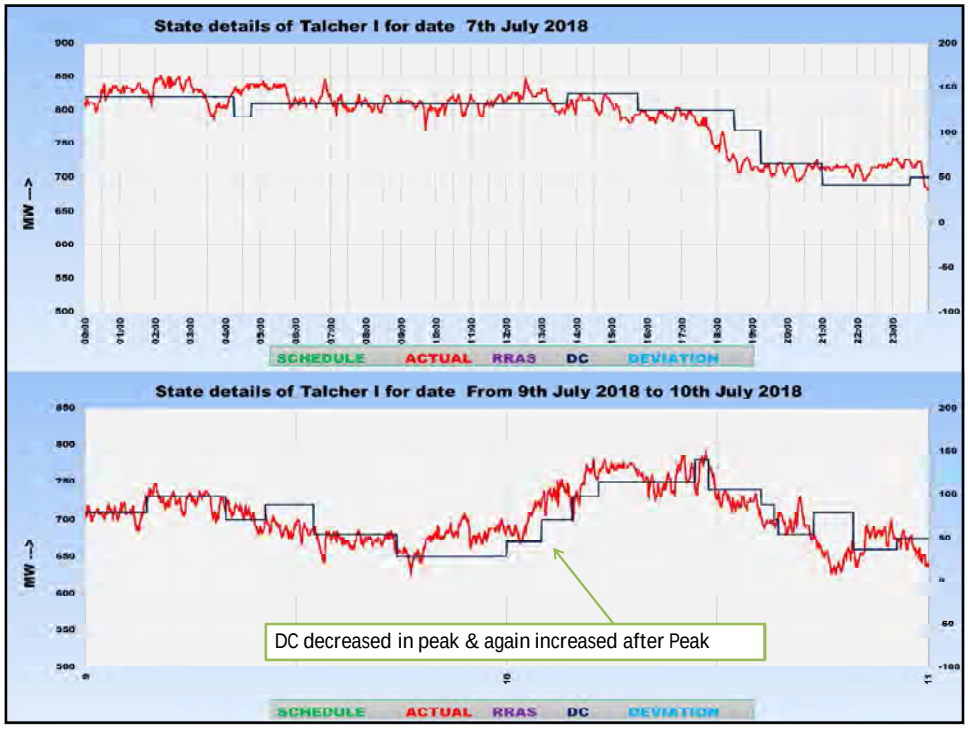
As per IEGC, 2010 6.4.17

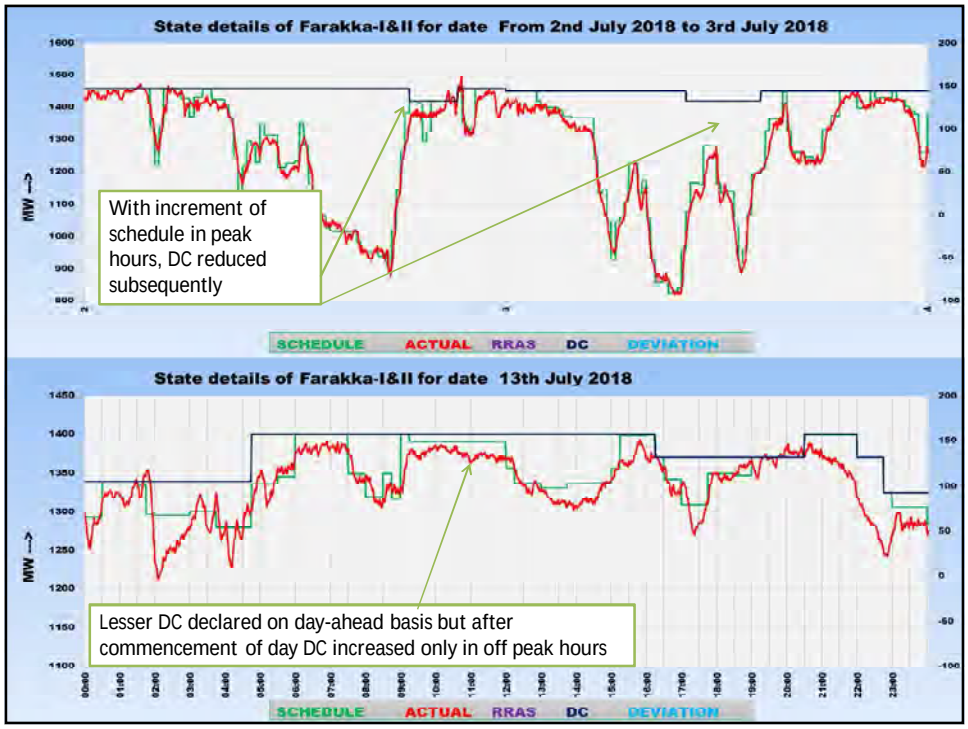
"----,the ISGS shall ensure that the declared capability during peak hours is not less than that during other hours. However, exception to this rule shall be allowed in case of tripping/re-synchronisation of units as a result of forced outage of units."

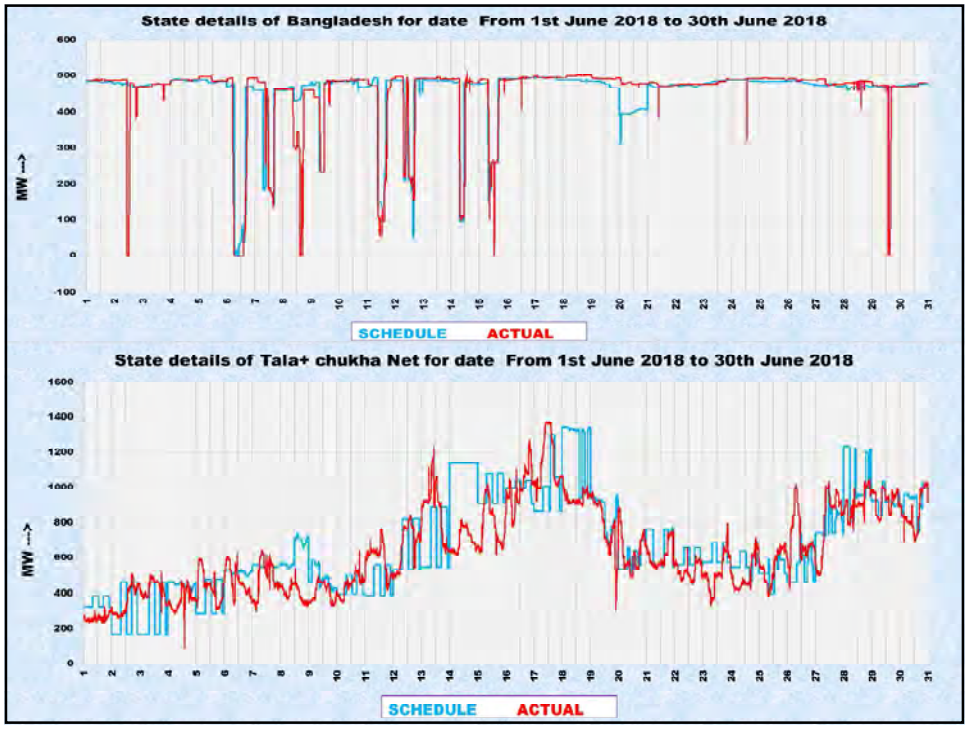
But some different pattern has been observed during declaration of DC by ISGS:

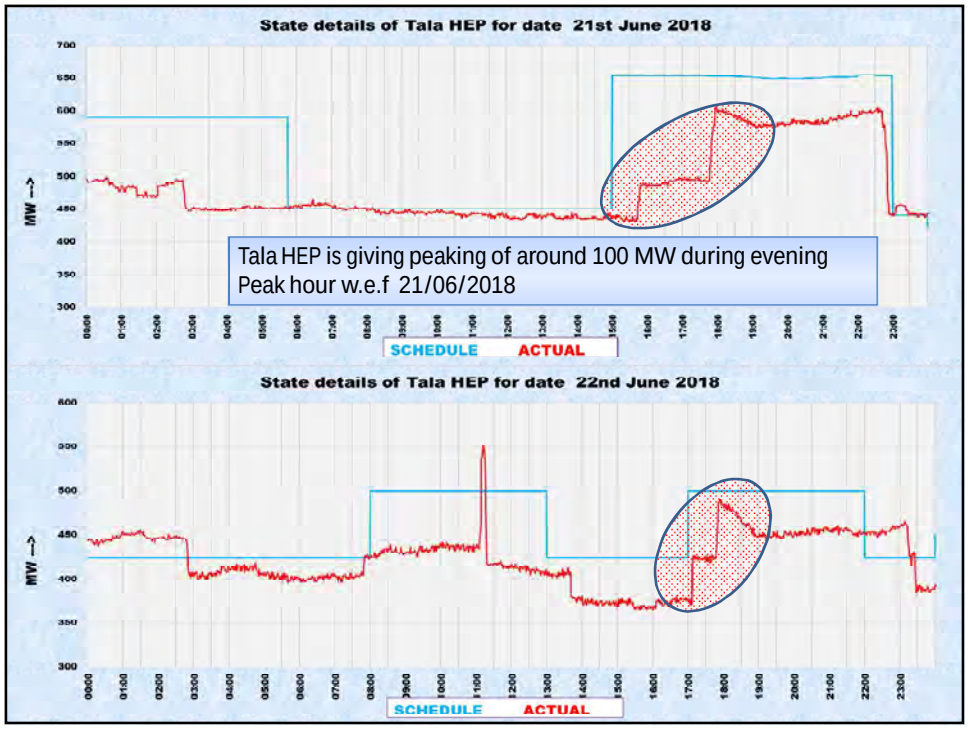
1. Initially declared higher DC during peak Hour and subsequently reduced DC before peak hour.
2. Lesser DC declared on day-ahead basis but after commencement of day DC increased only in off peak hours.




State details of Talcher I for date 7th July 2018
MW --->
SCHEDULE ACTUAL RRAS DC DEVIATION
State details of Talcher I for date From 9th July 2018 to 10th July 2018
MW --->
DC decreased in peak & again increased after Peak
SCHEDULE ACTUAL RRAS DC DEVIATION

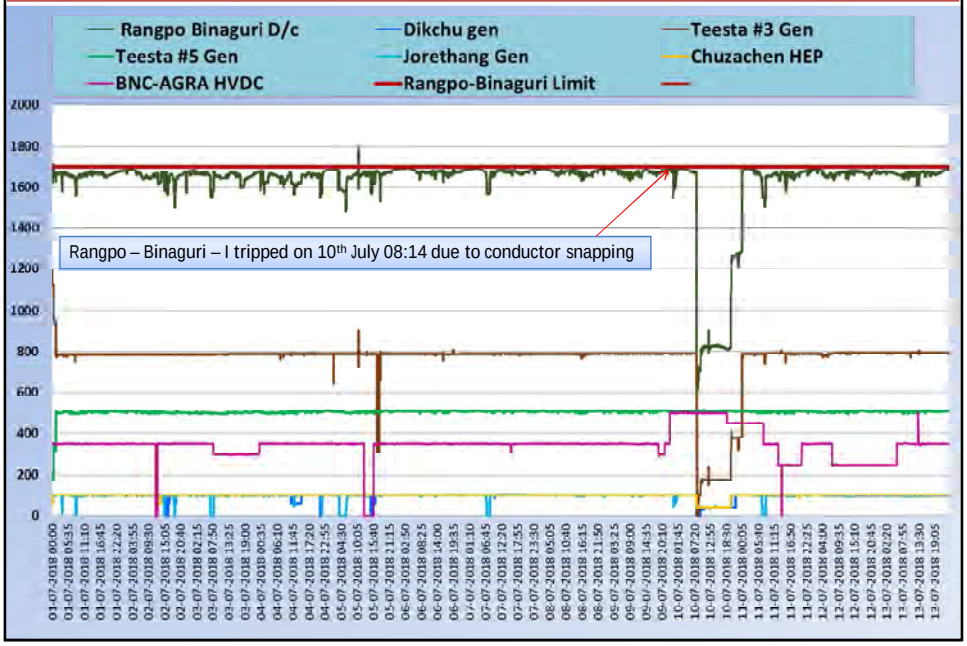

State details of Farakka-I&II for date From 2nd July 2018 to 3rd July 2018
MW --->
With increment of schedule in peak hours, DC reduced subsequently
SCHEDULE ACTUAL RRAS DC DEVIATION
State details of Farakka-I&II for date 13th July 2018
MW --->
Lesser DC declared on day-ahead basis but after commencement of day DC increased only in off peak hours
SCHEDULE ACTUAL RRAS DC DEVIATION


State details of Bangladesh for date From 1st June 2018 to 30th June 2018
MW --->
SCHEDULE
ACTUAL
State details of Tala+ chukha Net for date From 1st June 2018 to 30th June 2018
MW --->
SCHEDULE
ACTUAL

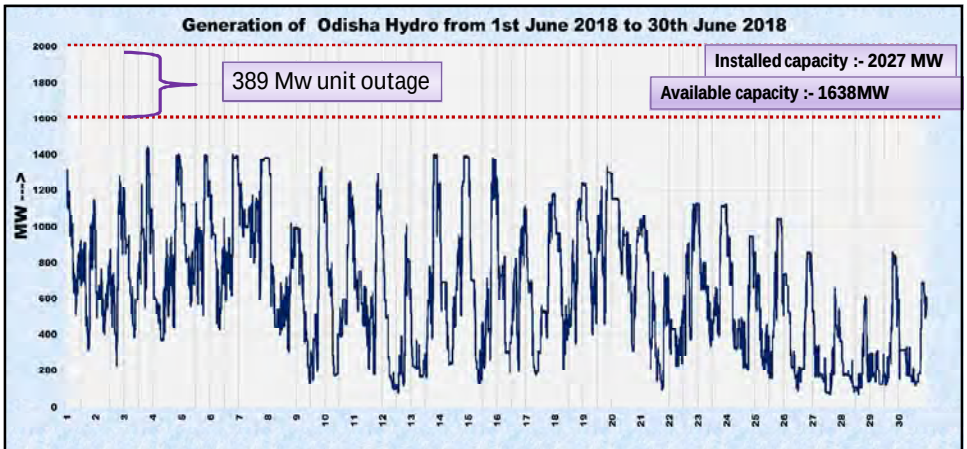

State details of Tala HEP for date 21st June 2018
MW --->
Tala HEP is giving peaking of around 100 MW during evening Peak hour w.e.f 21/06/2018
SCHEDULE
ACTUAL
State details of Tala HEP for date 22nd June 2018
MW --->
SCHEDULE
ACTUAL

Rangpo – Binaguru – D/C loading Pattern

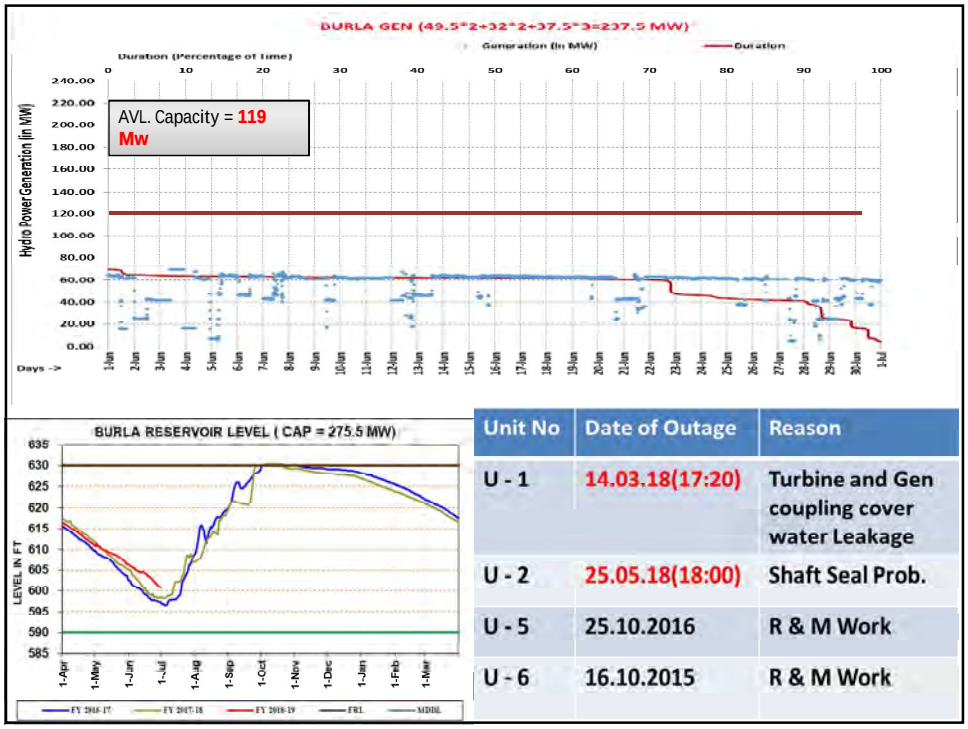
Rangpo – Binaguri D/C & Generation Pattern of Generators in Sikkim 01-07-2018 to 14-07-2018



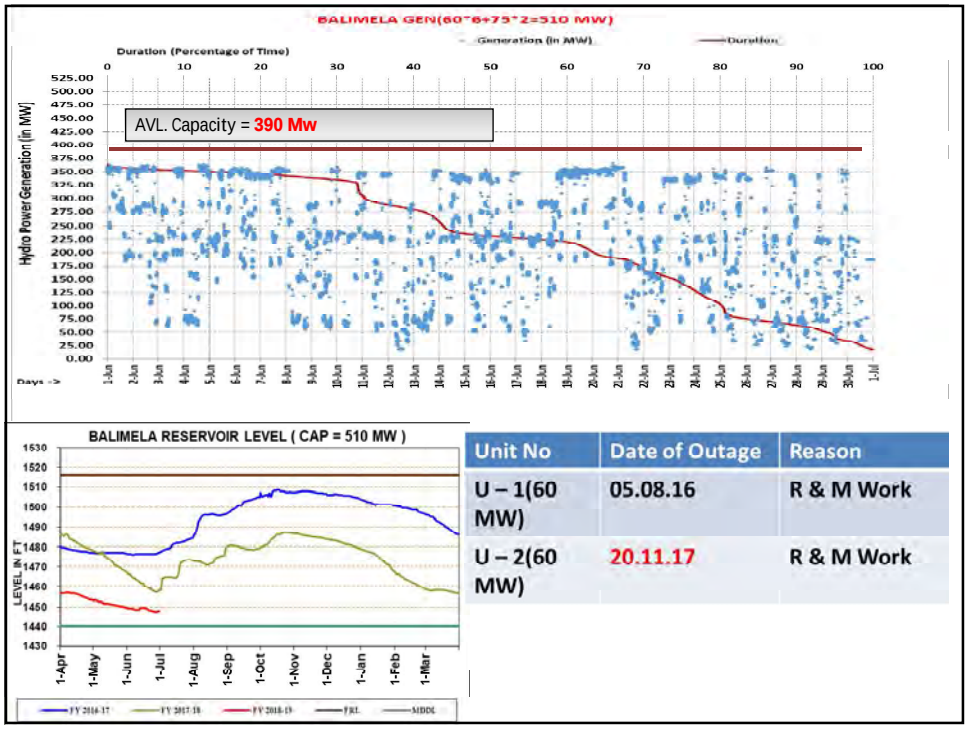
State Hydro Generators Performance



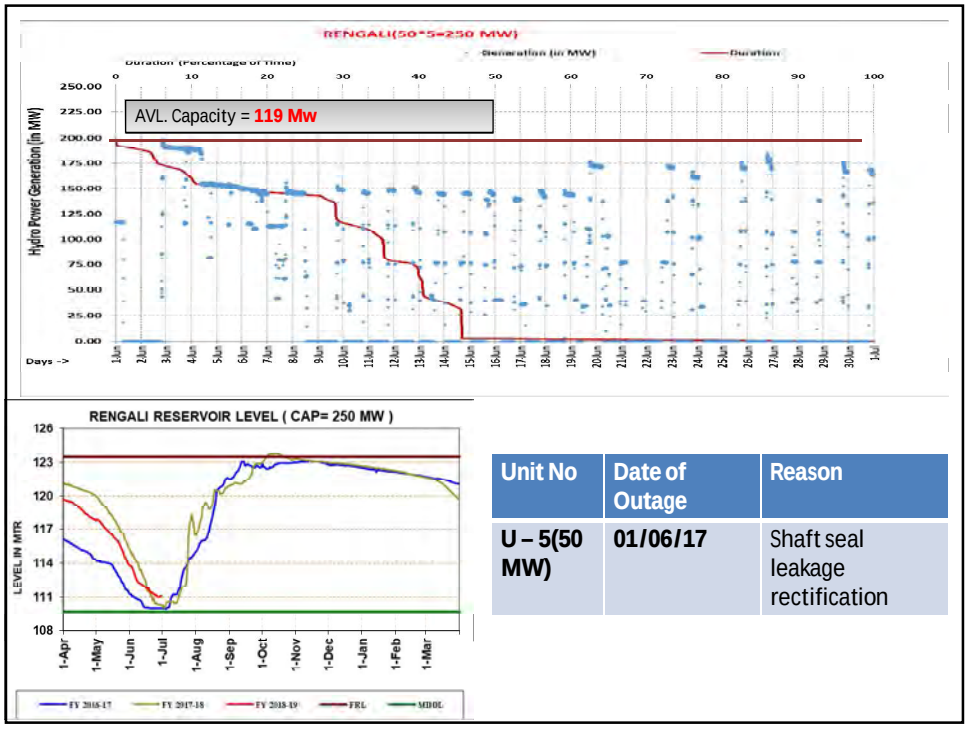
	Long Outage	Forced Outage
Burla	75 : U-5(37.5 mw), U-6(37.5 mw)	90: U-1(49.5 mw), U-2(49.5 mw)
Chipilima	24 :U-3 (24mW)	
Balimela	120 : U-1(60 mw) U-2(60Mw)	
Up Kolab	80 : U-2(80 Mw)	
	294	90



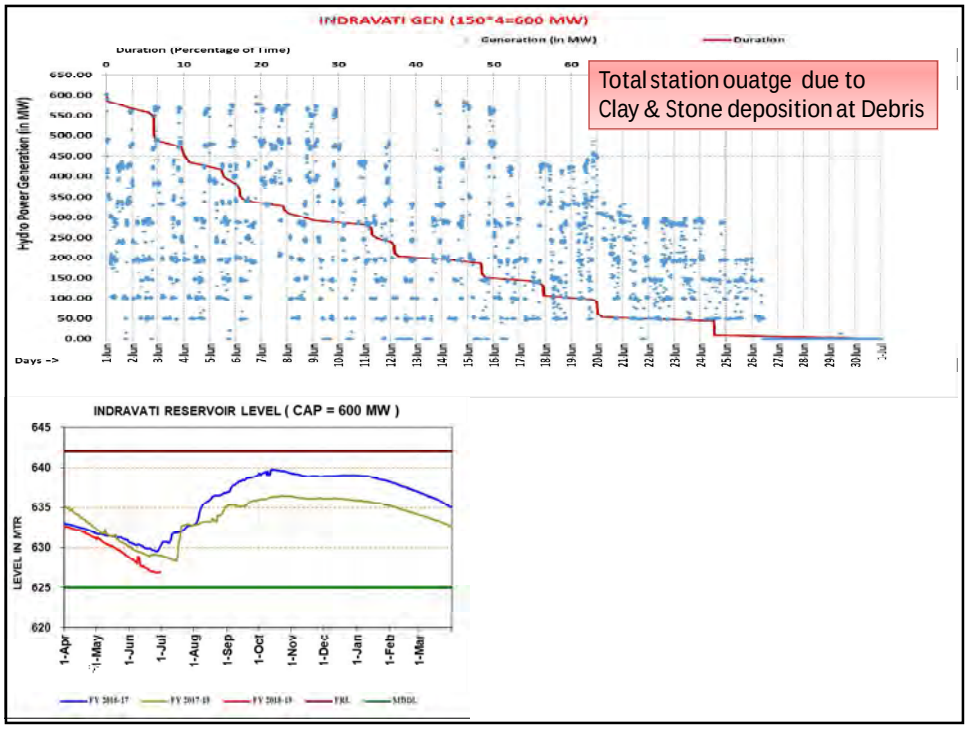
Unit No	Date of Outage	Reason
U - 1	14.03.18(17:20)	Turbine and Gen coupling cover water Leakage
U - 2	25.05.18(18:00)	Shaft Seal Prob.
U - 5	25.10.2016	R & M Work
U - 6	16.10.2015	R & M Work

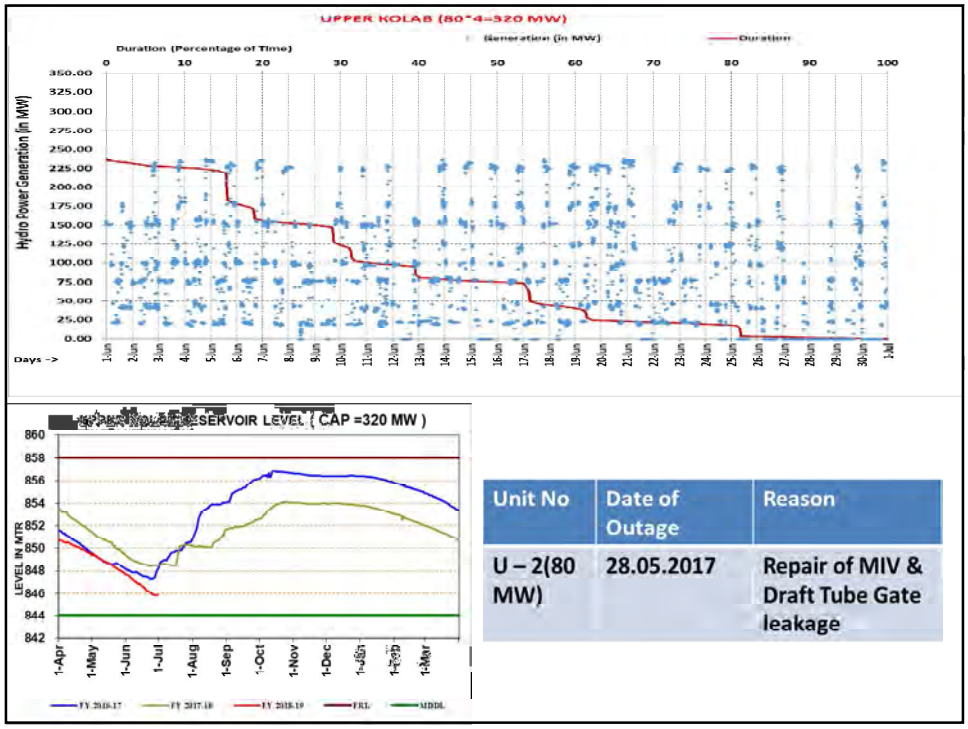


Unit No	Date of Outage	Reason
U – 1(60 MW)	05.08.16	R & M Work
U – 2(60 MW)	20.11.17	R & M Work

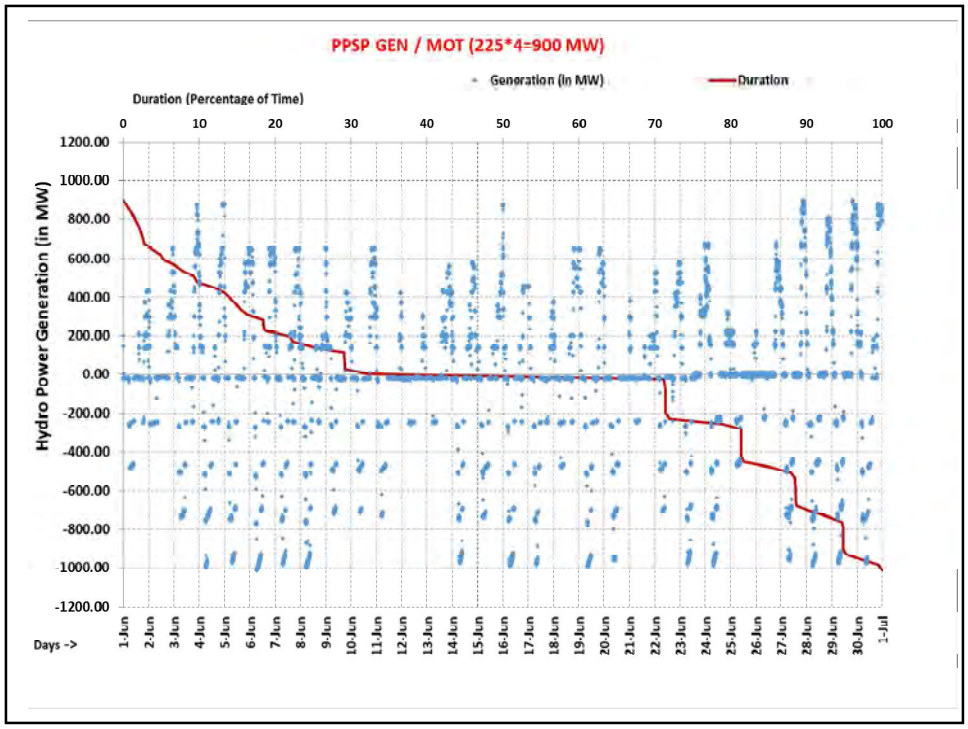


Unit No	Date of Outage	Reason
U – 5(50 MW)	01/06/17	Shaft seal leakage rectification





Unit No	Date of Outage	Reason
U – 2(80 MW)	28.05.2017	Repair of MIV & Draft Tube Gate leakage



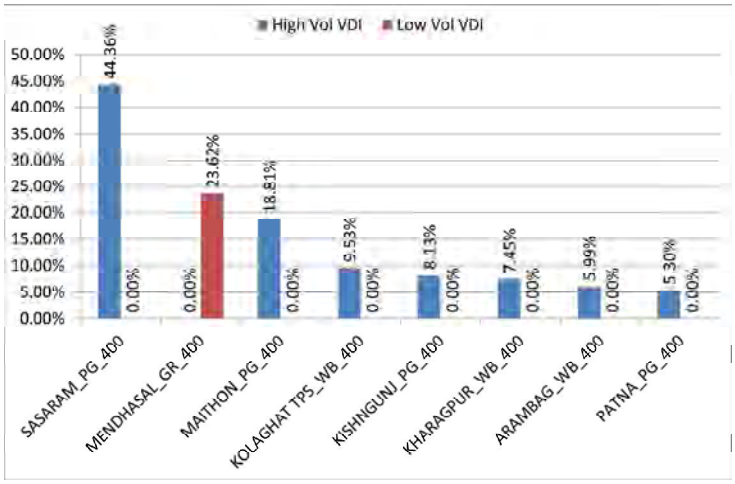
Statistics of VDI of various S/S in Eastern Region for June, 2018

Statistics of VDI of various S/S* in Eastern Region for June, 2018

% of time	No of S/S having voltage higher than IEGC limit for ...	No of S/S having voltage lower than IEGC limit for ...	No of S/S having voltage not in IEGC band for ...
100%	0	0	0
>= 50% but < 100%	0	0	0
>= 30% but < 50%	1	0	1
>= 10% but < 30%	1	1	2

* For all S/S at 400 kV and above voltage level where voltage data were available in SCADA for considerable amount of time

% of time voltage outside IEGC band

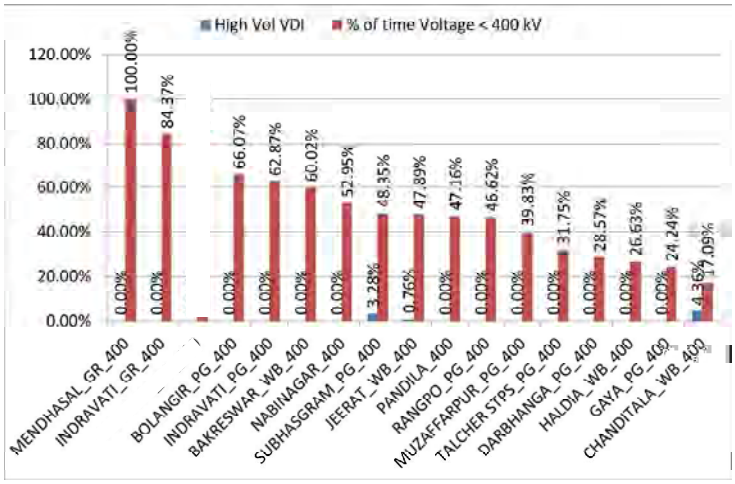


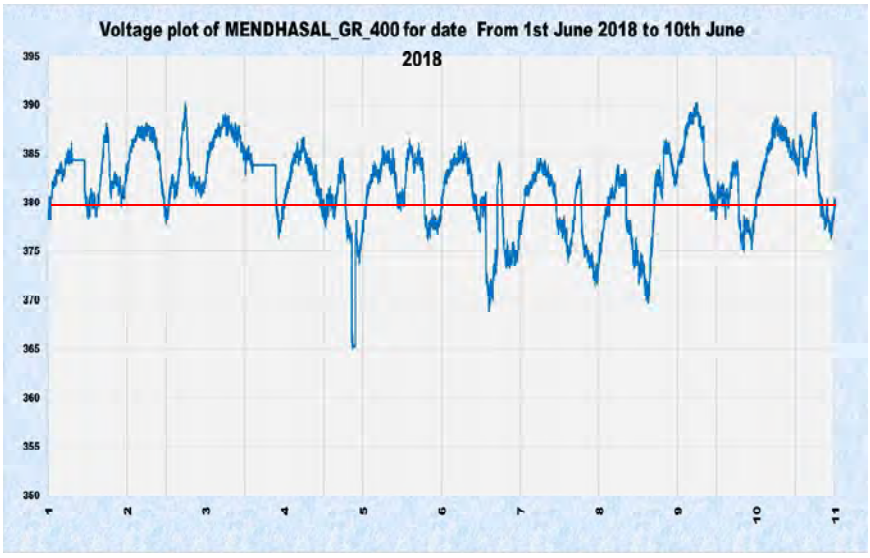
Statistics of voltage of various S/S having voltage <400 kV* in Eastern Region for June, 2018

% of time	No of S/S having voltage <400 kV for …
100%	1
>= 50% but < 100%	7
>= 30% but < 50%	5
>= 10% but < 30%	13

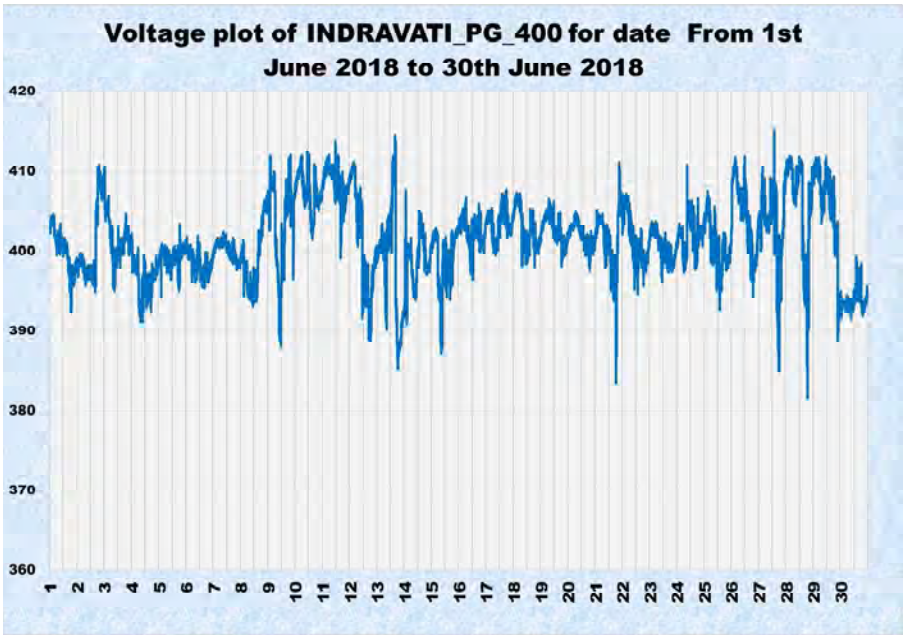
* For all S/S at 400 kV voltage level where voltage data were available in SCADA for considerable amount of time

% of time voltage <400 kV* in Eastern Region for June, 2018





Data were not available for rest of the month


Voltage plot of INDRAVATI_PG_400 for date From 1st June 2018 to 30th June 2018
420
410
400
390
380
370
360
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30


Thank you!

Poor Governor Response from the Generators

In the Eastern Region

Objective: Analysis of Governor Response (RGMO/FGMO) of Eastern Region Generators for FRC reported events in Indian Grid

Reference: In the Last TCC/ERPC meeting, it was decided that ERLDC would analyze the governor response of generators and submit a report on the performance of RGMO/FGMO in the Units to ERPC/TCC committee for deliberation.

Relevant Regulatory Provision:

- **IEGC 5.2.f. i:** All Coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above shall be operated under restricted governor mode of operation.
- **IEGC 5.2.g:** Facilities available with/in load limiters, Automatic Turbine Runup System (ATRS), Turbine supervisory control, coordinated control system, etc., shall not be used to suppress the normal governor action in any manner and no dead bands and/or time delays shall be deliberately introduced. Provided that periodic checkups 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.
- **IEGC 5.2.i :** The recommended rate for changing the governor setting, i.e., supplementary control for increasing or decreasing the output (generation level) for all generating units, irrespective of their type and size, would be one (1.0) per cent per minute or as per manufacturer's limits. However, if frequency falls below 49.8 Hz, all partly loaded generating units shall pick up additional load at a faster rate, according to their capability

- **CERC order 47/MP/2012 dated 03-05-2013 :** Para 10 of the order state that "We again directs that all generating stations shall comply with the regulation 5.2.f of the Grid Code and failing which appropriate proceeding shall be initiated against them for non-compliance with the provisions of the Grid Code and directions of the commission."

- **CERC Terms and conditions of Tariff regulation 2014:**
  - **Regulation 24(2)-(iv):** the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the

Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system.

- **Regulation24(2)-(v):** as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

Introduction: During the Month of April- May 2018, Three events have occurred for which Frequency Response Characteristic have been analyzed pan India. The details of the three events and the overall response of eastern region have been summarized in the below table 1.

Table 1: Region Wise Frequency Response Characteristic (FRC) for the last three events

Event	Net Frequency Drop after Gen/Load Response (Hz)	NR	ER	WR	SR	NER*
Event 1 At Kotra in WR (3090 MW Gen Loss)	0.287	24.7%	**13.4%**	25.7%	21.1%	0.0%
Event 2 at Lalitpur in NR (1100 MW Gen Loss)	0.055	41.2%	**24.5%**	38.5%	26.1%	24.6%
Event 3 at DSTPS in ER (900 MW Gen Loss)	0.054	19.8%	**48.8%**	24.1%	35.2%	0.0%
Average Response for the three events	-	28.6%	**28.9%**	29.4%	27.5%	8.2%

The Frequency Plots for the three events is given in annexure 1 for reference. It can be observed from the above table that during the major event 1 i.e. Generation of more than 3000 MW at Kotra in Western Region, the FRC of Eastern Region is quite low. Further, during the second event also it was not adequate. While in the third event where the event has occurred in the eastern region, the response was better.

While the FRC of the constituents were also calculated for the three events and it is provided in table 2. The analysis of table 2 is indicative of the fact that Jharkhand and Orissa response is good; however, when the data was analyzed it was found that demand was on reducing trend during the event leading to the high response. Response from other constituents observed is quite low.

Table 2: Eastern Region Constituent Wise Frequency Response Characteristic (FRC) for the last three events

Event	Bihar	Jharkhand	DVC	OPTCL	WB	SIKKIM
Event 1 At Kotra in WR (3090 MW Gen Loss)	2.33%	28.59%	11.92%	28.17%	7.63%	-3.56%
Event 2 at Lalitpur in NR	-44.82%	131.14%	-28.76%	220.95%	37.29%	42.26%
Event 3 at DSTPS in ER (900 MW Gen Loss)	79.93%	368.08%	43.31%	61.06%	-12.26%	-265.96%
Average Response	12.48%	175.94%	8.83%	103.39%	10.89%	-75.76%

In order to analyze the RGMO/FGMO performance of all ISGS and IPP substation, detailed analysis was carried out first using SCADA data available at ERLDC. Based on the Analysis of SCADA data it was observed that very few units where RGMO/FGMO is applicable are providing the response in order to improve the frequency stability. The outcome of the analysis is presented in table 3 for ISGS and IPP. The detailed plots are attached in annexure 2.

Table 3: Governor Response of Central Sector Units observed from SCADA data at ERLDC in the last three events

Nil Response Generating Units	1-15 % Response generating Units	Suspected Response Generating units
JITPL	MPL (1.83 %)	Talcher St 1
Farakka St 3	Farakka St 1 & 2 (5.38 %)	GMR
Barh	Kahalgaon St 2 (7.4 %)	
Teesta 5	Adhunik (8.54 %)	
Sterlite	Talcher St 2 (11.91 %)	
Teesta 3	Kahalgaon St 1 (14.5%)	
Mejia	Chandrapura B (15 %)	
Mejia B		
DSTPS-Andal		
Koderma TPS		
Nabinagar		
Waria		

Apart from these, ERLDC has also analyzed the response of the State generating station also and found that their response is also inadequate. The details of state control area generating stations are given in table 4. It can be observed that only a few units like Tenughat, Budge Budge, and HEL have only provided the response.

Table 4: Governor Response of Central Sector Units observed from SCADA data at ERLDC and as submitted by SLDC and generators in the last three events

Nil & Negative Response Generating Units		1-15 % Response generating Units
Bakreshwar	Santaldih	Budge Budge (1.66 %)
Indravati	PPSP	HEL
Kolaghat	IB TPS	Tenughat (23 %)
Bakreshwar	Rengali	
Sagadighi	Burla	
Santaldih	Upper Kolab	
DPL	Bandel Unit 5 (Negative response)	
Balimela Hydro		

This statistic of poor FRC of ER grid in event 1 and 2 and non-satisfactory response of the most of the generating units of Eastern region generator was deliberated and discussed in details with all the SLDC/Generating stations and utilities in 145th and 146th OCC meeting and concern were raised on improving the governor response during frequency related event. Further, it was also informed to all generating entities that any issue in providing the governor response to submit the issues in detail to ERPC/ERLDC. Further, in order to check the generating unit wise response governor response, it was decided in the 144th , 145th and 146th OCC that all RGMO/FGMO complied generating station will submit one second or better resolution data to ERLDC. **However, most of the generating stations have not submitted the required details event after multiple communication and request from ERLDC thus non-compliance of relevant CERC and CEA Regulations on data submission for event analysis**. Based on the submitted details by the generating units, their unit wise response has been analyzed and details are given in table 5.

Table 5: Governor Response Analysis of Generating Units based on High-resolution data submitted to ERLDC.

Entity	Event 1	Event 2	Event 3	Remarks Based on Analysis of Governor Response
Barh Unit 4 and 5	1 second data	1 second data	1 second data	Response to be improved and Unit to be run at Load in order that Margin has to be maintained for Governor response
Kahalgaon Stage 2	1 second data	1 second data	1 second data	Response is observed in Unit 5 and 6 but not in unit 7. Observed response varying widely and is below 30 %. In addition the RGMO response is being withdrawn quickly

Farakka Stage 3 (Unit 6)	1 second data	1 second data	1 second data	Response is observed in Unit 6 during event 1 and 2. Observed response is between 6- 9 % . In addition the RGMO response is being withdrawn quickly in 20 seconds.
MPL Unit 1 and 2	Submitted technical limitation	Satisfactory response not observed	Satisfactory response not observed	Response has to be tuned and Governor Response margin has to be kept
Sagardighi Unit 1,2,3	1 second data resolution issue	1 second data resolution issue	1 second data resolution issue	No governor response in Unit 1. Inadequate Response are observed in Unit 2 and 3 and the response is being withdrawn in next 10 second.
Bandel Unit 5	1 second data	1 second data	1 second data	Negative or No response
Budge Budge Unit 1,2,3	1 second data	1 second data	1 second data	Response is observed for 10 seconds and withdrawn in next 2 seconds
DPL Unit 8	10 seconds data	Data is not in proper format		Response could not be ascertained based on data
Bakreshwar Unit 4	1 second data	1 second data	1 second data	Response could not be ascertained based on data
Santaldih Unit 5 and 6	1 second data	1 second data	1 second data	No response
HEL Unit 1 and 2	1 Second Data	1 Seocnd Data	1 Seocnd Data	Adequate Response observed during event 1 and 3 however, the response was withdrawn quickly. Response to be withdrawn as per the rate given in IEGC in case of non-sustainable operation at that level.

Based on the above table it can be observed that generating units like Barh, MPL have shown response but were not satisfactory which need detailed deliberation and improvement. The governor response of HEL (Haldiya) unit 1 and 2 were found to be satisfactory and the same has been explained in figure 1. However, the response-withdrawn rate has to be in accordance of IEGC i.e. 1 % per minute in case the sustainable operation is not possible after governor response. Even with one-second data from Generator DCS, it was observed that the resolution is not proper and need correction from generator end in order to analyze the governor response.

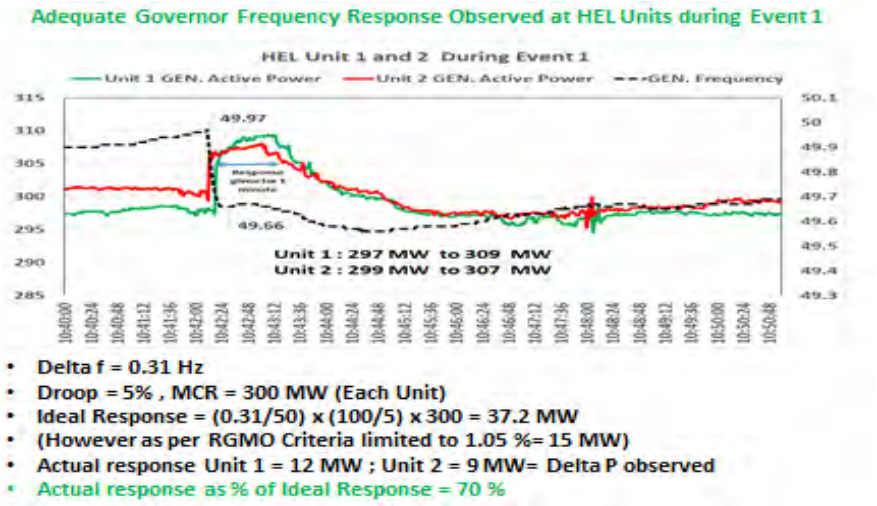


Figure 1: Response of Haldiya Unit 1 and 2 during Event 1

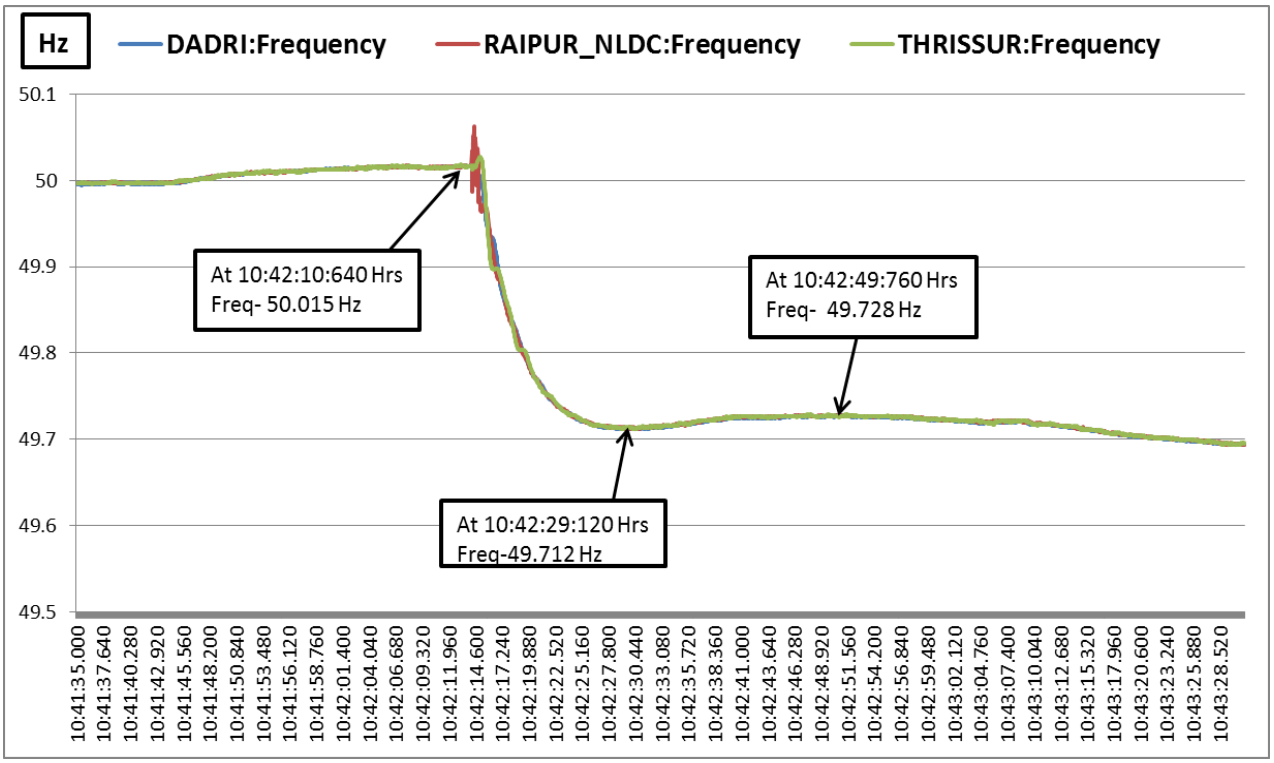
Conclusion: Thus based on the above report on FRC and Governor response analysis it can be observed that the overall response observed in the generating units of eastern region is below the satisfactory level. Based on the information available and SCADA data analysis, it can be inferred that most of the Generating units have not kept their governor in RGMO or FGMO mode. This is not desirable in view of the grid reliability and frequency stability. Further, these also attract the non-compliance of Indian Electricity Grid Code 5.2 for Governor Response.

The above details also suggest that there is a need of testing of the governor of the units as per the IEGC 5.2.g in order to ensure adequate governor response from the generating units which are not providing the response.

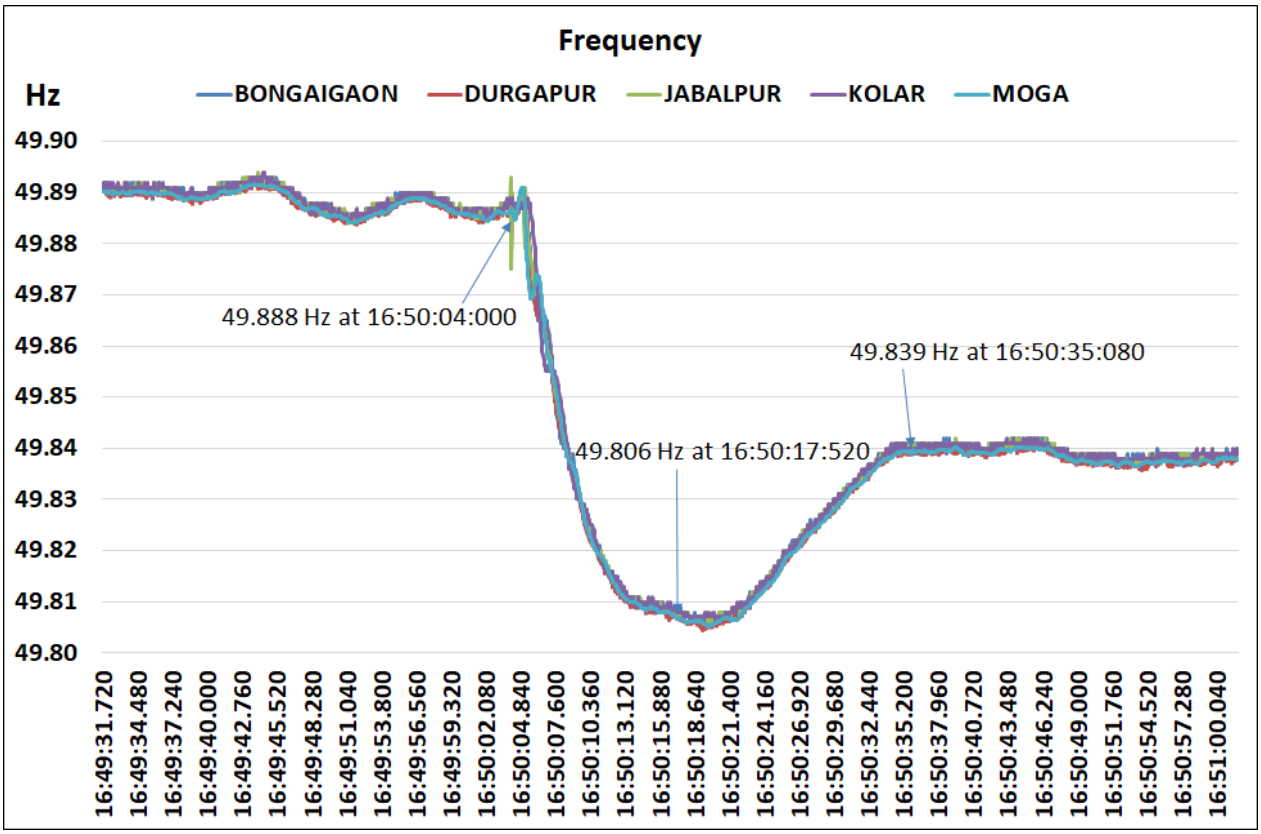
In addition, several of the units which have providing response have withdrawn the response provided (Increase in generation as per RGMO/FGMO) at a fast rate which is also not desirable as the purpose of governor response during frequency related event is not served. The Withdrawal of generation should be done in accordance with IEGC 5.2.i.

Annexure 1:

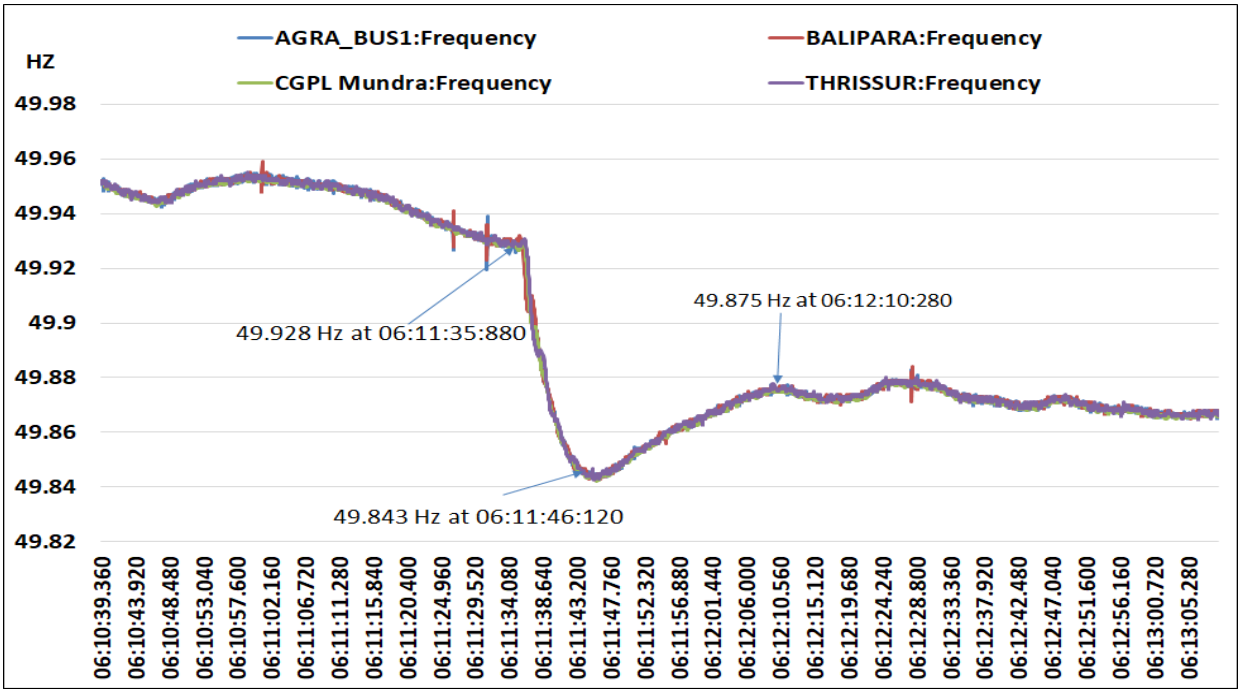
1. Frequency for Event 1: Kotra



2. Frequency for Event 2: Lalitpur



3. Frequency for Event 3: DSTPS Andal



Frequency Drop until Nadir Point during:

1. Event 1 : 0.31 Hz
2. Event 2: 0.082 Hz
3. Event 3: 0.085 Hz

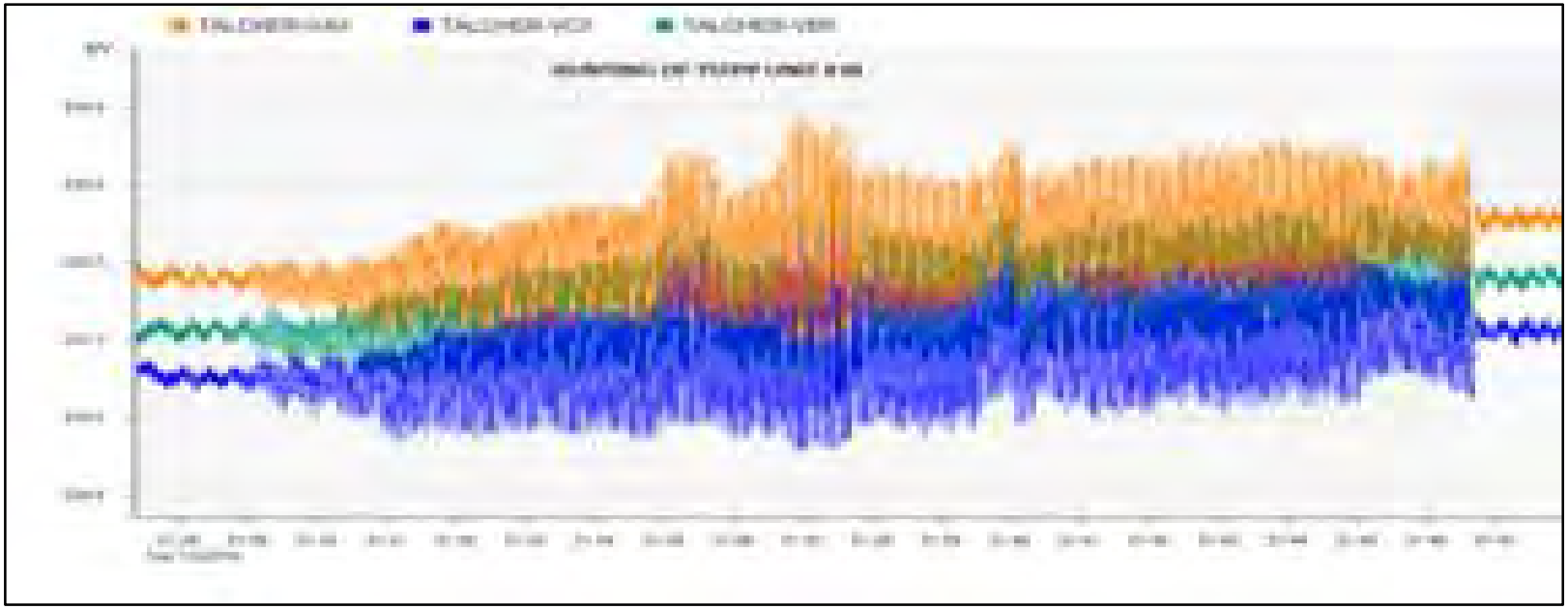
Agenda : Low Frequency Oscillation on 03rd and 4th July

Event:

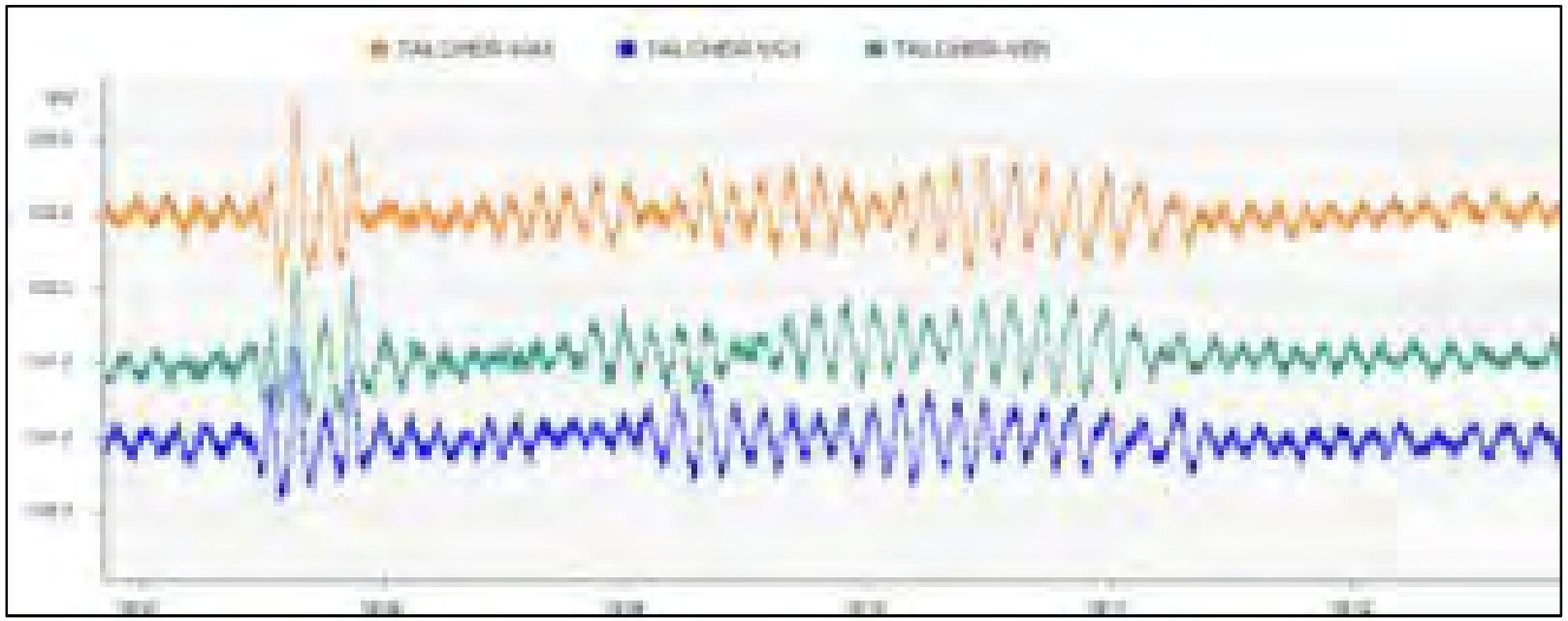
- LFO observed in ER Grid near Talcher
- Date : 03rd July 2018 21:30 – 21:46 hrs and 04th July 2018 19:07 – 19:11 hrs
- Large variation in MW/MVAr from Talcher unit III in 03rd July's event and from Talcher unit VI in 04th July's event
  - 03rd July's event lasted for around 16 minutes
- Oscillation Observability: ER Grid with Maximum Amplitude at Talcher.

Observation :

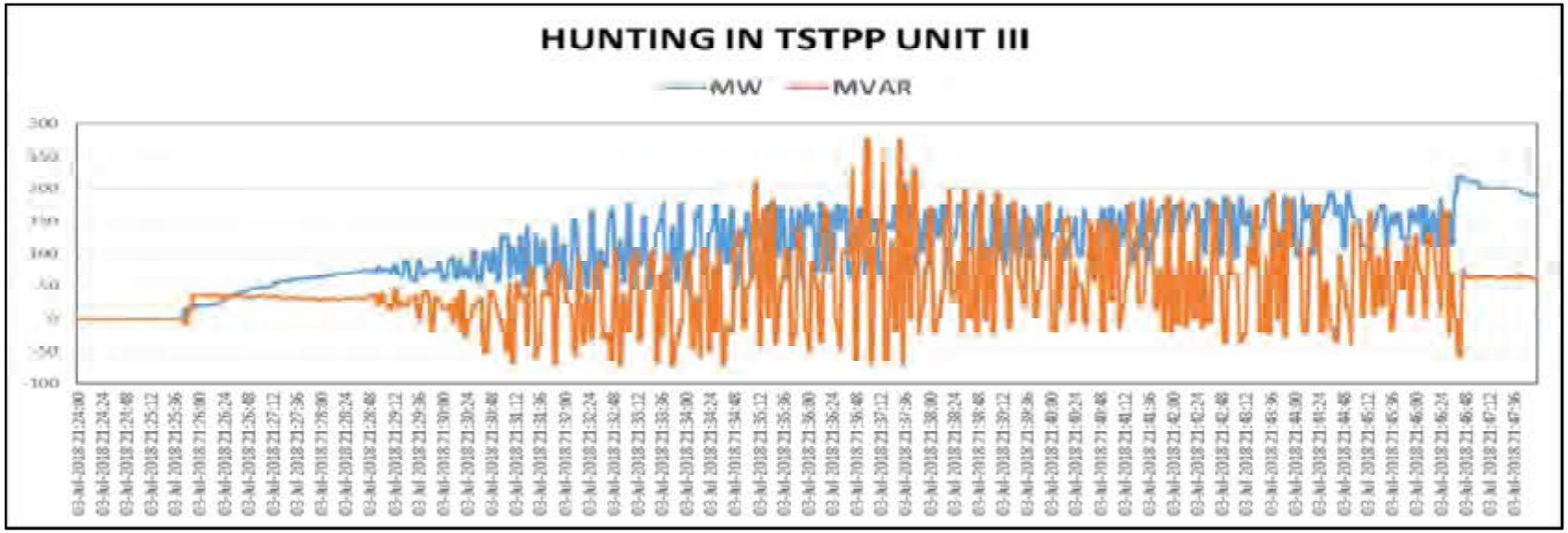
- No Major Switching/Tripping in the Indian Grid.
- PMU data provided also supported that Highest Magnitude observed at Talcher
- All generators near Talcher were analyzed for variation in MW/MVAR
- Large Fluctuation Observed only in MW and MVAR of Talcher unit III in 03rd July's event and from Talcher unit VI in 04th July's event



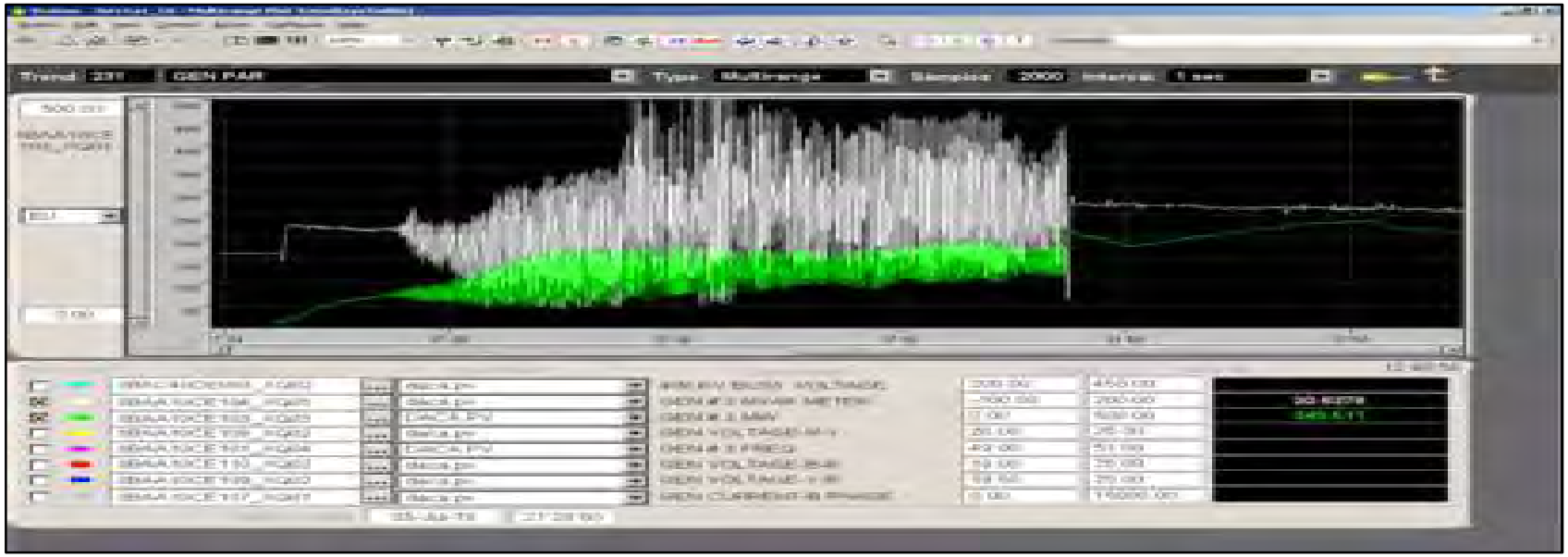
Talcher Bus Voltage from PMU indicating oscillation on 3rd July' 18.



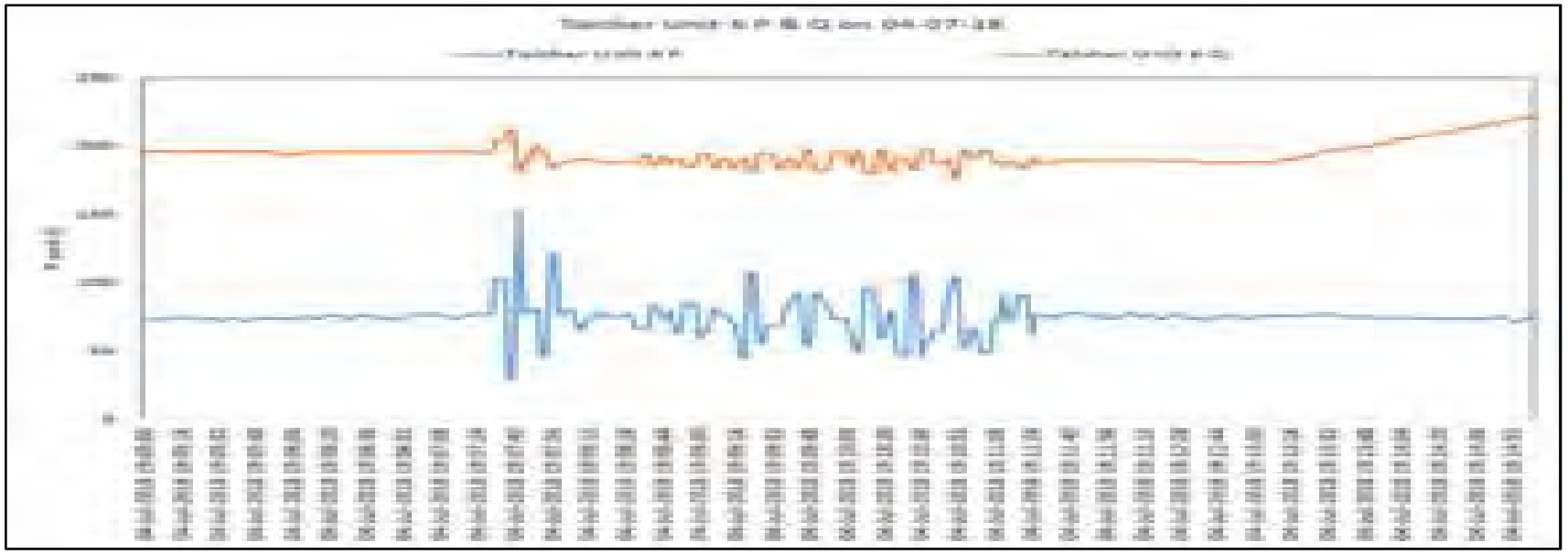
Talcher Bus Voltage from PMU indicating oscillation on 4th July' 18)



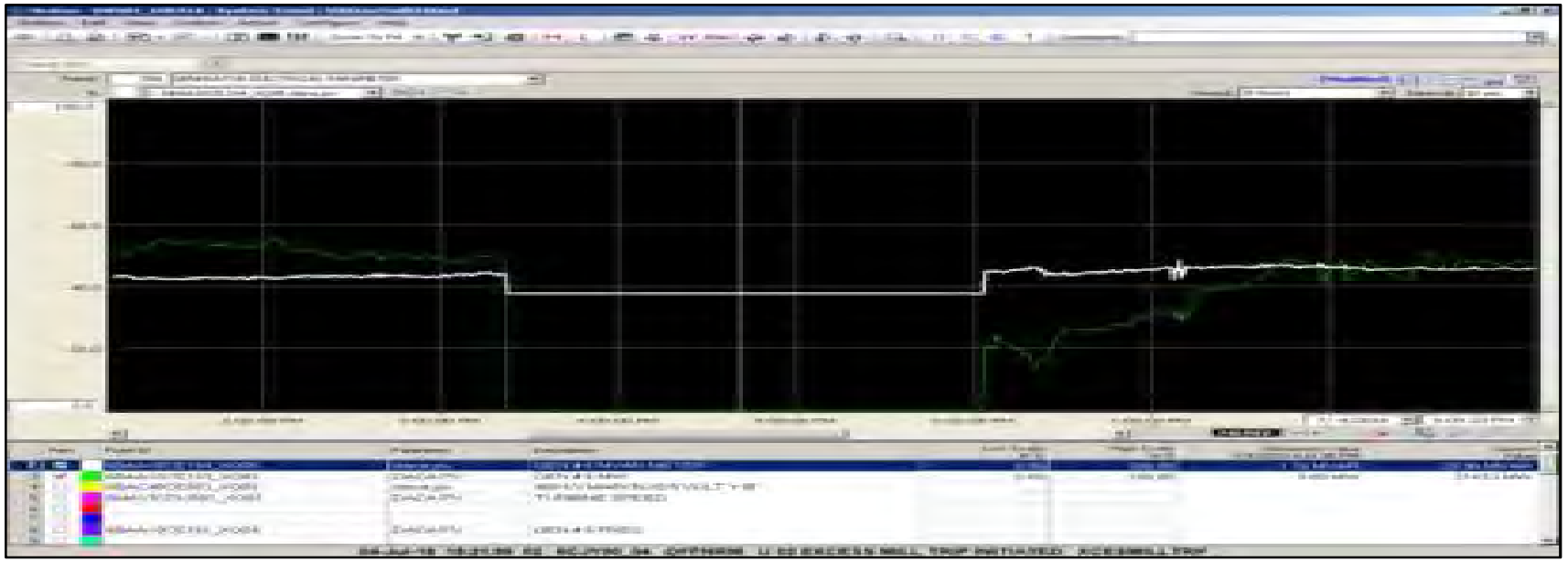
MW/MVAr Plot of Talcher Unit 3 on 3rd July 18 (From SCADA)



MW/MVAr Plot of Talcher Unit 3 on 3rd July 18 (From NTPC).



MW/MVAr Plot of Talcher Unit 6 on 4th July 18 (From SCADA)



MW/MVAr Plot of Talcher Unit 6 on 4th July 18 (From NTPC)

Reason :

- NTPC vide email dt.09-07-18 stated that for both units the IP Control valve hunting due to malfunction has caused oscillation.
- However, the exact reason behind the malfunction is still not explained..

Cause of Concern :

1. Non-Intimation by NTPC to ERLDC in Real time :

- **Decision taken in 144th OCC (Item B.3): All the hunting events must immediately be informed to ERLDC/SLDC**
- **But no information from TSTPP in this case.**
  - **On probe from ERLDC, they intimated that their unit were having issues**
  - **Not desirable in view of the system security as such forced oscillation can result in catestrophic widescale oscillation across Indian grid and further damage.**

2. PSS tuning of Generating Plants in Eastern region :

This is a long pending issue. It may kindly be seen that several such cases of LFO has originated in Eastern region in the recent past and in order to reduce the magnitude by damping of such oscillation, PSS tuning of generating units in eastern region is utmost required.

Impact of Forced Oscillation by the units in Indian Power System:

- **Impact of One unit Hunting: Can Result in Grid Scale Low frequency Oscillation.**
  - Previous Cases Observed of Similar Nature
    1. **Kahalgaon Unit 6 :** Hunting of Governor
    2. **DSTPS Unit 2 :** Hunting of Governor (in 2013), Boiler Feed Pump Trip (2018)
    3. **Tarapur Unit 3 :** ESCV Valve Malfunction
    4. **Sipat Unit 4 :** Toggling of Plant Power Control
    5. **Kothagudam Unit :** Plant level hunting
    6. **Rihand Stage-II Units :**Digital Control system Software problem
    7. **MAPS Unit 2 :** Mal-operation of over speed limiting gear
    8. **Kaiga Unit 2:** Malfunctioning of AVR
    9. **Sagardighi unit 4**: Turbine problem (Two ocassions)

Course Of Action Required :

1. **Talcher:** To submit a report on the issue and action taken.
2. **All Generating Unit :** Must intimate the RLDC/SLDC immediately if any such hunting/vibration is observed in Units (Cause/Effect).
3. **PSS Tuning :** All Generating Units above 100 MW must tune their PSS in Compliance to CERC Regulation and CEA grid Standard.

Annexure:B13

Flash Report

1. **Date and time of the Incident:**
2. **Antecedent Conditions:**
   - **i. Frequency:**
   - **ii. Demand Met:**
     Pre incidence Demand Met:
   - **iii. Lines/units/elements under shutdown :**
   - **iv. Weather condition:**

3. **Details of tripping (Along with cause of the event and relay flag, whatever available)**:

Sl. No.	Area/ Region	LOSS OF LOAD(MW)	LOSS OF GENERATION (MW)
1			

4. **Action Taken/Remedial measures taken:**
5. **Restoration details:**
6. **Duration of the disturbance:**
7. **Amount of energy unserved:**

Copy to : MS, ERPC

SCE

Central Sector

- **Data not available:**
  - Lalmatia NTPC (since 01-01-2018)
  - DMTCL Motihari (since 01-07-2018)
- Elementary Data outage:
  - Barh NTPC (status and Isolator of Patna 1 & 2 , Kahalgaon #2 feeder)
- **VOIP for following station not yet provided:**
  - Indravati , Jeypore

Non availability of SCADA data above 220 kV Level

WBSETCL

- Following 220 kV station data not available:
  - TLDP 4 220kV
  - TLDP 3 220kV
  - Dharampur 220kV (Not yet integrated)
  - Hura 220kV
  - Dalkhola 220kV
  - Bantala 220kV
  - Alipurduar 220kV (Not yet integrated)

Non availability of SCADA data above 220 kV Level

BIHAR

- Kishanganj 220kV (Not yet integrated)
- Samastipur New 220kV
- Sonenagar 220kV (Intermittent)

Odisha

- Nalco 220kV (Partial data available)

JHARKHAND

- Hatia New 220 (Data not reporting)
- Dumka 220 (Not yet integrated)

Druk Green Power Corporation Limited
(a DHI company)

DrukGreen

80 MVA ICT 1 at Jigmeling for 2017

	COMPARATIVE STATEMENT OF MAIN AND CHECK METER						
SN	Month	Meter Serial Number		Main	Check	Difference	% Error
		Main	Check				
1	Jan	SIE56609	NP-8630-A	7.159	-7.167276	-14.326	-200.12
2	Feb			4.243	4.25016	0.007	0.17
3	Mar			6.381	29.51424	23.133	362.53
4	Apr			6.168	-6.172848	-12.341	-200.08
5	May			8.919	-8.91756	-17.837	-199.98
6	Jun			14.367	-14.349	-28.716	-199.88
7	Jul			28.512	74.17636	45.664	160.16
8	Aug			24.817	11.20914	-13.608	-54.83
9	Sep			27.162	88.64352	61.482	226.35
10	Oct			21.499	-21.49204	-42.991	-199.97
11	Nov			13.027	22.969764	9.943	76.32
12	Dec			9.529	-9.537732	-19.067	-200.09

Druk Green Power Corporation Limited
(a dhi company)

DrukGreen

80 MVA ICT 2 at Jigmeling for 2017

	COMPARATIVE STATEMENT OF MAIN AND CHECK METER						
SN	Month	Meter Serial Number		Main	Check	Difference	% Error
		Main	Check				
1	Jan	SIE56613	NP-8631-A	7.208	-7.2123	-14.420	-200.06
2	Feb			4.27	4.2714	0.001	0.03
3	Mar			6.446	-6.4071	-12.853	-199.40
4	Apr			6.213	-6.2125	-12.426	-199.99
5	May			8.981	27.025	18.044	200.91
6	Jun			14.46	-14.443	-28.903	-199.89
7	Jul			28.792	72.302	43.510	151.12
8	Aug			24.829	-24.81	-49.639	-199.92
9	Sep			26.989	10.076	-16.913	-62.67
10	Oct			21.115	13.849	-7.266	-34.41
11	Nov			12.767	-12.765	-25.532	-199.98
12	Dec			93.03	-9.3037	-102.334	-110.00

Druk Green Power Corporation Limited
(a DHI company)

DrukGreen

80 MVA ICT 1 & 2 at Jigmeling for 2018

	COMPARATIVE STATEMENT OF MAIN AND CHECK METER						
SN	Month	Meter Serial Number		Main	Check	Difference	% Error
		Main	Check				
1	Jan	SIE56609	NP-8630-A	7.099	7.1110	0.012	0.17
2	Feb			6.049	-6.0508	-12.100	-200.03
3	Mar			7.129	-7.4965	-14.626	-205.16
4	Apr			5.974	30.3770	24.403	408.49
5	May			10.483	-10.4853	-20.968	-200.02
6	Jun			15.492	-15.497	-30.989	-200.03
1	Jan	SIE56613	NP-8631-A	6.847	29.1486	22.302	325.71
2	Feb			5.866	-5.8673	-11.733	-200.02
3	Mar			6.933	-6.9277	-13.861	-199.92
4	Apr			5.786	-5.7893	-11.575	-200.06
5	May			10.249	-10.2456	-20.495	-199.97
6	Jun			15.208	20.790	5.852	36.71

Annexure-D.1

Anticipated Power Supply Position for the month of
Aug-18

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	4500	2592
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	346	184
		- Central Sector	3111	1896
	iii)	SURPLUS(+)/DEFICIT(-)	-1043	-512
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1150	770
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	262	118
		- Central Sector	790	467
	iii)	SURPLUS(+)/DEFICIT(-)	-98	-185
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2780	1725
	ii)	NET POWER AVAILABILITY- Own Source	4953	2719
		- Central Sector	313	208
		Long term Bi-lateral (Export)	1443	1074
	iii)	SURPLUS(+)/DEFICIT(-)	1044	128
4		**ODISHA**		
	i)	NET MAX DEMAND	4100	2604
	ii)	NET POWER AVAILABILITY- Own Source	3282	1837
		- Central Sector	1198	723
	iii)	SURPLUS(+)/DEFICIT(-)	379	-44
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6220	3663
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	6220	3663
	iv)	NET POWER AVAILABILITY- Own Source	3214	1939
		- Import from DPL	-54	0
		- Central Sector	3016	1731
	v)	SURPLUS(+)/DEFICIT(-)	-44	7
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	274	181
	ii)	NET POWER AVAILABILITY	220	146
	iii)	SURPLUS(+)/DEFICIT(-)	-54	-35
5.3		**CESC**		
	i)	NET MAX DEMAND	1880	1065
	ii)	NET POWER AVAILABILITY - OWN SOURCE	765	503
		FROM HEL	540	348
		FROM CPL/PCBL	45	0
		Import Requirement	530	214
	iii)	TOTAL AVAILABILITY	1880	1065
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8374	4909
	ii)	NET POWER AVAILABILITY- Own Source	4199	2588
		- Central Sector+Others	4131	2079
	iii)	SURPLUS(+)/DEFICIT(-)	-44	-242
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	33
	ii)	NET POWER AVAILABILITY- Own Source	2	0
		- Central Sector+Others	158	101
	iii)	SURPLUS(+)/DEFICIT(-)	75	68
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	20377	12633
		Long term Bi-lateral by DVC	1443	1074
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	22744	12919
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	914	-795

Annexure-D2

EASTERN REGIONAL LOAD DESPATCH CENTRE
KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 147TH OCC MEETING OF ERPC

		FROM		TO					
SL. No	**NAME OF THE ELEMENTS**	**DATE**	**TIME**	**DATE**	**TIME**	**REMARKS**	**S.D availed BY**	**Reason**	**SUBJECT TO CONSENT FROM AGENCY**
1	765 kv BUS-I SUNDARGARH	23-07-2018	09:00	23-07-2018	18:00	ODB	ER-II/Odisha/Sundargarh	Stringing of jack bus of 765 kv Raipur Ckt -I,II for line under construction head	NLDC
2	400 KV Purnia Biharsharif Ckt 2(ENICL)	24-07-2018	12:00	24-07-2018	14:00	ODB	OGPTL	TREE CUTTING WORK	
3	315 MVA ICT-I AT BOLANGIR	24-07-2018	09:00	24-07-2018	11:00	ODB	ER-II/Odisha/Bolangir	installation of energy meter IV side	
4	765 kv BUS-IISUNDARGARH	24-07-2018	09:00	25-07-2018	18:00	ODB	ER-II/Odisha/Sundargarh	Dismantling shifting & reerection of 765 KV bus earth switch to a new location for	NLDC
5	Non Auto mode of A/R in 400 KV Talcher-Rourkela Line-1	25-07-2018	09:00	10-08-2018	17:00	ODB	ER-II/Odisha/Rengali	for PID Test	
6	765 KV Angul-Jharsuguda line -II	25-07-2018	08:00	05-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	Strengthening of "A" type delta towers	NLDC
7	400KV BARIPADA - PANDIABILI LINE	27-07-2018	08:00	27-07-2018	18:00	ODB	ER-II/Odisha/CUTTACK TLM	Maintenance work of accumulated S/D nature defects of lines under Cuttack TL	
8	400KV PANDIABILI - MENDHASAL CKT#-I	27-07-2018	08:00	27-07-2018	18:00	ODB	ER-II/Odisha/CUTTACK TLM	Maintenance work of accumulated S/D nature defects of lines under Cuttack TL	GRIDCO
9	400KV DUBURI - PANDIABILI LINE	28-07-2018	08:00	28-07-2018	18:00	ODB	ER-II/Odisha/CUTTACK TLM	Maintenance work of accumulated S/D	GRIDCO
10	400KV PANDIABILI - MENDHASAL CKT#-II	28-07-2018	08:00	28-07-2018	18:00	ODB	ER-II/Odisha/CUTTACK TLM	Maintenance work of accumulated S/D	GRIDCO
11	400KV S/C FARAKKA - SAGARDIGHI T/L	30-07-2018	08:00	30-07-2018	18:00	ODB	Powergrid, ER-II	For stringing between location no- 13/0 - 14/0 of 400 KV Farakka -Behrampur D/c line	WB
12	400 KV Farakka- Gokarna-I	30-07-2018	10:00	31-07-2018	18:00	ODB	Powergrid, ER-II	For AMP work and CC ring rectification work at tower no-763 with jumper tightening work. Modification / wielding of mechanical interlock in isolators.	WB
13	400KV Sundargarh-Raigarh Line-2&4	30-07-2018	08:00	31-07-2018	17:00	ODB	ER-II/Odisha/Sundargarh	For tree /Bamboo cutting at span 426-427 and S/D related defects rectification works. **The shutdown has already been approved in 146th**	NLDC
14	765/400 KV 1500 MVA ICT-I AT SUNDARGARH	30-07-2018	09:00	30-07-2018	18:00	ODB	ER-II/Odisha/Sundargarh	PROVIDING INSULATION SLEEV ON 33 KV	NLDC
15	400KV BUS-II at Alipurduar	01-08-2018	09:00	01-08-2018	17:00	ODB	Powergrid, ER-II	AMP work	
16	400 KV Farakka- Kahalgaon-I line	01-08-2018	10:00	01-08-2018	18:00	ODB	Powergrid, ER-II	For bay stability testing after augmentation of Isolator &	
17	400 KV Farakka- Gokarna-II	01-08-2018	10:00	02-08-2018	18:00	ODB	Powergrid, ER-II	For AMP work and pilot insulator erection at tower no-4. Modification / wielding of mechanical interlock in isolators.	WB
18	220kV ICT-1 Bay (206) at Maithon	01-08-2018	09:00	04-08-2018	18:00	OCB	Powergrid, ER-II	overhauling of 220kV CB (make-CGL). During the shut down the load of 220kV side shifted to TBC and no	
19	400KV TBC at Malda	01-08-2018	08:00	31-08-2018	17:00	OCB	Powergrid, ER-II	ERSS-XVIB BAY UPGRADATION	
20	220KV TBC at Malda	01-08-2018	08:00	31-08-2018	17:00	OCB	Powergrid, ER-II	ERSS-XVIB BAY UPGRADATION	
21	132KV Rangit - Kurseong	01/08/18	09:00	02/08/18	15:00	ODB	Powergrid, ER-II	95-96 conductor damaged in bottom phase 61-62 conductor damaged in bottom Phase	WB
22	400kV HVDC North side Converter Tnx Main Bay at Pusauli	01-08-2018	09:00	03-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
23	400/220kV 500MVA ICT-I at Pusauli	01-08-2018	09:00	02-08-2018	18:00	OCB	POWERGRID-ER-1	Shifting of transformer for Transformer Retrofitting Work	BSEB
24	220kv Bus Copuler Bay (20352) at Ranchi	01-08-2018	10:00	01-08-2018	17:30	ODB	POWERGRID-ER-1	AMP	
25	400KV MAIN BAY OF 400KV MALDA-I at New Purnea	01-08-2018	10:00	04-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	
26	400/220KV 500MVA ICT1 AT PATNA	01-08-2018	08:00	01-08-2018	17:30	ODB	POWERGRID-ER-1	TO ATTTEND THE COMMISSIONING PUNCH POINTS	BSEB
27	765KV Bus-2 at Sundargarh	01-08-2018	09:00	03-08-2018	18:00	**OCB**	ER-II/Odisha/Sundergarh	Dismantling, shifting and re-erection of 765 Bus E/s to a new location for casting of	NLDC
28	400 kV 402 keonjhar-315 MVA ICT-I Tie Bay at Baripada	01/08/18	08:30	01/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
29	765kV, 3*80MVAR Line Reactor-1 at Angul	01-08-2018	09:00	01-08-2018	18:00	ODB	ER-II/Odisha/Angul SS	B-Phase Reactor to be taken in service in place of Spare Reactor as a routine	NLDC
30	400KV BUS-1 ALONG WITH NTPC-HVDC Feeder 2 TALCHER	01-08-2018	09:00	01-08-2018	17:00	ODB	ER-II/Odisha/HVDC Talcher	AMP Works	NLDC
31	400 kV JEYPORE-GAJUWAKA-I LINE	01-08-2018	09:00	02-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Rectification of Shut Down Nature of Defects	NLDC
32	Auto reclose of 400KV Rengali-Idrawati Line in non -auto mode	01-08-2018	08:00	31-08-2018	18:00	ODB	ER-II/Odisha/Balangir	For PID Scaning	NLDC
33	A/R Switch is to be kept at non auto mode at both end in 400 KV Rourkela-Sundargarh - I	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	
34	A/R Switch is to be kept at non auto mode at both end in 400 KV Sundargarh-Raigarh - I	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	NLDC
35	A/R Switch is to be kept at non auto mode at both end in 400 KV Rourkela-Sundargarh - II	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	

36	A/R Switch is to be kept at non auto mode at both end in 400 KV Sundargarh - Raigarh - II	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	NLDC
37	A/R Switch is to be kept at non auto mode at both end in 400 KV Rourkela-Sundargarh - III	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	
38	A/R Switch is to be kept at non auto mode at both	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	NLDC
39	A/R Switch is to be kept at non auto mode at both end in 400 KV Rourkela-Sundargarh - IV	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	
40	A/R Switch is to be kept at non auto mode at both end in 400 KV Sundargarh - Raigarh - IV	01-08-2018	08:00	31-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For PID Testing of Porcelin Insulators	NLDC
41	400kV D/C Sundargarh - Sterlite (VEDANTA) Line - A/R Non Auto mode	01-08-2018	08:00	10-08-2018	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP141/0-AP142/0.(VEDANTA Limited Tower nos 1/2-2/0). To keep Auto Reclose in Non Auto mode for Hot line crossing.	
42	400kV D/C SUNDARGARH - IND Bharat Energy Utkal Limited Line - A/R Non A	01-08-2018	08:00	10-08-2018	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP141/0-AP142/0.(IND BHARAT Energy (UTKAL) Limited Tower nos 03 - 04)	
43	Jeerat: 400KV MB#1 WITH B/C & JEERAT- SUBHASGRAM Line	01-08-2018	07:00	01-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
44	400 KV BUS-1 & 2 at CHANDAWA	01-08-2018	10:00	08-08-2018	17:00 Hrs	OCB	POWERGRID-ER-1	for the erection of 406 bay of north karanpura AT Chandawa	NLDC
45	400KV 80Mvar BUS Reactor at Baharampore	02-08-2018	09:00	20-08-2018	17:00	OCB	Powergrid, ER-II	For connection of existing 80Mvar BUS Reactor	NLDC
46	400KV BUS-I at Baharampore	02-08-2018	09:00	02-08-2018	17:00	ODB	Powergrid, ER-II	For jumper connection during conversion of 409 future Bay into Line bay of 400KV Berhampore Farakka Ckt-I line under bay construction work	NLDC
47	400 KV Farakka- Kahalgaon-III line	02-08-2018	10:00	02-08-2018	18:00	ODB	Powergrid, ER-II	For connecting bay-34 (Tie Bay of 400 KV Farakka-Kahalgaon-III) from line side after augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-	
48	400kV Daltonganj- Sasaram-2	02-08-2018	10:00	02-08-2018	18:00	ODB	POWERGRID-ER-1	63 Mvar line Reactor dismantling work.	BSEB
49	400kV Main Bay of ICT-I at Pusauli	02-08-2018	09:00	04-08-2018	18:00	OCB	POWERGRID-ER-1	To attend Gas Leakage in Breaker.	
50	400KV Main Bay of New Ranchi-2 at Ranchi	02-08-2018	10:00	02-08-2018	17:30	ODB	POWERGRID-ER-1	AMP	
51	400/220KV 315 MVA ICT2 AT PATNA	02-08-2018	08:00	31-08-2018	17:30	OCB	POWERGRID-ER-1	RETROFITTING OF EXISTING 315 MVA ICT WITH 500 MVA ICT	BSEB
52	400KV BUS-2 ALONG WITH NTPC-HVDC Feeder 1	02-08-2018	09:00	02-08-2018	17:00	ODB	ER-II/Odisha/HVDC Talcher	AMP Works	NLDC
53	400 kV 315 MVA ICT-I Main Bay at Baripada	02/08/18	08:30	02/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
54	765KV 240MVAr Bus Reactor-1 at Sundargarh	02-08-2018	09:00	02-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Shifting of Spare Reactor to B-Phase reactor	NLDC
55	765kV D/C Jharsuguda-Dharamjaygarh Line (Ckt-1 & 2)	02-08-2018	08:00	04-08-2018	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP 129D/0- AP129E/0 (PGCIL tower Nos: 19/0-19/1)	NLDC
56	JEERAT: 400/220KV 315MVA TR #1	02-08-2018	07:00	02-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
57	125 MVAR BR#1 at Binaguri	03-08-2018	12:00	03-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	
58	315 MVA ICT#1 at Binaguri	03-08-2018	09:00	03-08-2018	17:00	ODB	Powergrid, ER-II	AMP WORK and relay upgradation	
59	400KV S/C FARAKKA - DURGAPUR-I T/L	03-08-2018	08:00	03-08-2018	18:00	ODB	Powergrid, ER-II	For stringing between location no- 10/0 to 11/0 of 400 KV Farakka -Behrampur D/c line	
60	400 KV BUS-II of NTPC Farakka	03-08-2018	10:00	03-08-2018	18:00	ODB	Powergrid, ER-II	For connecting BUS isolator of bay no-24 & 35 to BUS-II (After augmentation of BUS Isolator from 2000A to 3150	
61	400/220kV 315MVA ICT-II at Pusauli	03-08-2018	09:00	01-09-2018	18:00	OCB	POWERGRID-ER-1	For Transformer Retrofitting Work	BSEB
62	400kV HVDC North side Filter Main Bay at Pusauli	03-08-2018	09:00	03-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
63	765KV 240MVAr Angul L/R-4 at Sundargarh	03-08-2018	09:00	03-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Shifting of R-Ph Reactor to Spare reactor for attending oil leakage of R-Phase Reactor	NLDC
64	160 MVA ICT#1 at Baripada	03/08/18	09:00	03/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP and CT JB replacement works	
65	765kV, 3*80MVAR Line Reactor-2 at Angul	03-08-2018	09:00	03-08-2018	18:00	ODB	ER-II/Odisha/Angul SS	Y-Phase Reactor to be taken out of service for attending oil leakage problem by full	NLDC
66	400 KV Jeypore-Rengali Tie Bay (402) at Indravati	03-08-2018	08:00	03-08-2018	18:00	ODB	ER-II/Odisha/Indravati	AMP work of 400 KV Jeypore-Rengali Tie Bay (402)	
67	50MVAR LR at Indravati	03-08-2018	08:00	03-08-2018	18:00	ODB	ER-II/Odisha/Indravati	AMP work of 50MVAR LR.Power flow will be interrupt for this shutdown .	
68	400 kV JEYPORE-GAJUWAKA-II LINE	03-08-2018	09:00	04-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Rectification of Shut Down Nature of Defects	NLDC
69	400KV BUS-3 ALONG WITH NTPC-HVDC Feeder 4	03-08-2018	09:00	03-08-2018	17:00	ODB	ER-II/Odisha/HVDC Talcher	AMP Works	NLDC
70	315 MVA ICT#1 AT ROURKELA	03-08-2018	09:00	03-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	OVERHAULING OF MECHANICALLY JAMMED 42389B & 42489 T ISOLATOR	
71	JEERAT: 400/220KV 315MVA TR #2	03-08-2018	07:00	03-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
72	220KV Siliguri-Dalkhola-I	03-08-2018	08:00	03-08-2018	14:00	ODB	ER-II	jumper rectification work	
73	220KV Siliguri-Dalkhola-I	03-08-2018	08:00	03-08-2018	14:00	ODB	ER-II	jumper rectification work	
74	220 KV D/C Sagardighi-Gokarna Transmission line .	04-08-2018	09:00	05-08-2018	17:00	ODB	Powergrid, ER-II	Stringing work (crossing) from loc no-60/0 to 61/0 of 400 KV D/C Twin HTLS Farakka-Berhampore T/L under Transmission line construction work	WB

75	400 KV S/C Faraka-Berhampore/Jeerat T/L .	04-08-2018	09:00	05-08-2018	17:00	ODB	Powergrid, ER-II	Stringing work (crossing) from loc no-60/0 to 61/0 of 400 KV D/C Twin HTLS Farakka-Berhampore T/L under Transmission line construction work	WB
76	125 MVAR BR#2 at Binaguri	04-08-2018	12:00	04-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	
77	400 KV BUS-I of NTPC Farakka	04-08-2018	10:00	04-08-2018	18:00	ODB	Powergrid, ER-II	For disconnecting BUS isolator of bay no-22 & 33 from BUS-I (For augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
78	400KV Rangpo-Teesta 3 Line	04-08-2018	08:00	08-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work	AFTER RETURN OF 400KV DIKCHI-RANGPO
79	50 MVAR BR-1 AT JAMSHEDPUR	04-08-2018	09:30	04-08-2018	17:30	ODB	POWERGRID-ER-1	BR1 Y PHASE AIR CELL REPLACEMENT WORK	
80	400kV North Converter Tnx_Filter Tie Bay at Pusauli	04-08-2018	09:00	04-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
81	400kV HVDC East side Converter Tnx Main Bay at Pusauli	04-08-2018	09:00	06-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
82	400/132kv 200 MVA ICT-1 at Lakhisarai	04-08-2018	08:00	05-08-2018	18:00	ODB	POWERGRID-ER-1	Checking of Air Cell & AMP	BSEB
83	400KV BUS-4 ALONG WITH NTPC-HVDC Feeder 3	04-08-2018	09:00	04-08-2018	17:00	ODB	ER-II/Odisha/HVDC Talcher	AMP Works	NLDC
84	132kV main BUS at Baripada	04/08/18	09:30	04/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Bus CVT JB replacement	GRIDCO
85	765KV Bus Reactor-2 at Sundargarh	04-08-2018	09:00	04-08-2018	12:00	ODB	ER-II/Odisha/Sundergarh	Replacement of OTI sensor in Y-Phase Reactor	NLDC
86	400 KV Talcher- Rourkela CKT #1 Line	04-08-2018	09:00	05-08-2018	17:00	ODB	ER-II/Odisha/Rengali	For AMP and Attending Line defects and to replace defected insulators found during	
87	400KV ARAMBAG-DURGAPUR	04-08-2018	07:00	01-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
88	132 KV Malda-PGCIL circuit-1	04-08-2018	08:00	04-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
89	400KV JHARSUGUDA-RKL-II	04-08-2018	08:00	04-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh	MAINT WORK	
90	400 KV Binaguri-Purnea Ckt-1	05-08-2018	09:00	10-08-2018	17:00	ODB	Powergrid, ER-II	Porcealin insulator replacement by polymer insulator.	
91	63.5 MVAR Tala#1 LR with Line at Binaguri	05-08-2018	12:00	05-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	NLDC
92	400KV S/C FARAKKA - DURGAPUR-II T/L	05-08-2018	08:00	05-08-2018	18:00	ODB	Powergrid, ER-II	For stringing between location no- 8/0 to 9/0 of 400 KV Farakka -Behrampur D/c line	
93	400 KV Farakka- Kahalgaon-I line	05-08-2018	10:00	05-08-2018	18:00	ODB	Powergrid, ER-II	For disconnecting bay-22 (Main Bay of 400 KV Farakka-Kahalgaon-I) from line side for augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
94	Main Bay of 400 KV Farakka- Kahalgaon-I (Bay-22)	05-08-2018	10:00	25-08-2018	18:00	OCB	Powergrid, ER-II	For augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
95	220kV ICT-2 Bay (213) at Maithon	05-08-2018	09:00	08-08-2018	18:00	OCB	Powergrid, ER-II	overhauling of 220kV CB (make-CGL). During the shut down the load of 220kV side shifted to TBC and no power interruption	
96	220kV Main Bus-I at Pusauli	05-08-2018	08:00	05-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	
97	Bolangir Line Main Bay (415) at Jeypore	05-08-2018	09:30	05-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works	
98	765 KV SNG-DHARAMJAYGARH - I & II	05-08-2018	08:00	06-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	1. S/D related works like C C Ring tightening,cotter pin inclusion, Jumper	NLDC
99	220kV Korba-Budhipadar Line Ckt-3	05-08-2018	08:00	07-08-2018	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP 104A/0-AP105/0.(PGCIL tower Nos: 345N-346N)	NLDC
100	132 KV Malda-PGCIL circuit-2	05-08-2018	08:00	05-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
101	132 KV S/C Gokarna-Sonar Bangla T/L & 132 KV S/C Lalgola-Sonar Bangla T/L (Both Ckt)	06-08-2018	09:00	07-08-2018	17:00	ODB	Powergrid, ER-II	Stringing work (crossing) from loc no-4/0 to 5/0 of LILO of 400 KV S/C Farakka-Jeerat at Sagardighi T/L under Transmission line	WB
102	63.5 MVAR Tala#2 LR with Line at Binaguri	06-08-2018	12:00	06-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	NLDC
103	220kv Bus coupler at Dalkhola	06-08-2018	08:00	06-08-2018	17:00	ODB	Powergrid, ER-II	AMP WORK	
104	400 KV Farakka- Kahalgaon-III line	06-08-2018	10:00	06-08-2018	18:00	ODB	Powergrid, ER-II	For disconnecting bay-34 (Tie Bay of 400 KV Farakka-Kahalgaon-III) from line side for augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-	
105	Tie Bay of 400 KV Farakka- Kahalgaon-III (Bay-33 & 34)	06-08-2018	10:00	25-08-2018	18:00	OCB	Powergrid, ER-II	For augmentation of Isolator & CT from 2000A to 3150 A in bay-34 & for installation of new equipment in Bay-33 under ERSS-XV projects.	SUBJECT TO RETURN OF MAIN BAY AT FSTPP
106	132KV Rangpo-Melli line	06-08-2018	08:00	10-08-2018	17:00	ODB	Powergrid, ER-II	Line AMP works	SIKKIM
107	3X80 MVAR, 765 KV B/R-II AT NEW RANCHI	06-08-2018	08:00	06-08-2018	18:00	ODB	POWERGRID-ER-1	Switching of R-phase reactor with spare after stability	NLDC
108	400kV Allahabad L/R Bay at Pusauli	06-08-2018	09:00	06-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	SWITCHABLE?
109	765/400kV 1500MVA ICT at Pusauli	06-08-2018	08:00	06-08-2018	18:00	ODB	POWERGRID-ER-1	AMP work, No Powerflow in 765kV Fatehpur Line	NLDC
110	220kV Main Bus-II at Pusauli	06-08-2018	08:00	06-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	
111	400kv TIE BAY OF 80MVAR B/R & Ragunathpur-III at Ranchi	06-08-2018	10:00	06-08-2018	17:30	ODB	POWERGRID-ER-1	AMP	
112	400KV MAIN BAY OF 400KV MUZAFFARPUR-I at New Purnea	06-08-2018	10:00	08-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	
113	400 kV PATNA-KISHANGANJ CKT1 & 400KV BIHAR SARIF-MUZAFFARPUR CKT 1	06-08-2018	08:00	06-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV BSF-MUZ LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
114	400KV PATNA- BALIA -1	06-08-2018	08:00	08-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC

115	400kV Sundargarh-Rourkela Ckt #4 at Sundargarh	06-08-2018	09:00	06-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Rectification of phase to ground clearance issue of Bushing to wave trap jumper under	
116	160 MVA ICT#2 at Baripada	06/08/18	08:30	06/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
117	400KV Bus-I at Keonjhar	06-08-2018	09:00	11-08-2018	18:00	ODB	ER-II/Odisha/Keonjhar	Stringing of Jack Bus over Bus-I for 125 MVAR Reactor	
118	125MVAR BUS REACTOR#1 AT ROURKELA	06-08-2018	09:00	06-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	COMMISSIONING OF CSD IN ITS TIE BAY CB (42352 CB) & OVERHAULING OF	
119	Main bay of Pandiabili CKT-1 at Mendhasal	06-08-2018	08:30	06-08-2018	17:00	ODB	ER-II/Odisha/Pandiabili GIS	Maintenance of ISOLATOR at Mendhasal	
120	JEERAT: 400/220KV 315MVA TR#3	06-08-2018	07:00	06-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
121	765 KV Angul-Jharsuguda line -I	07-08-2018	08:00	09-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	Strengthening of "A" type delta towers	NLDC
122	400KV Alipurduar-Bongaigaon-I	07/08/18	08:00	07/08/18	18:00	ODB	Powergrid, ER-II	AMP work	NLDC
123	63.5 MVAR Tala#4 LR with Line at Binaguri	07-08-2018	12:00	07-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	
124	400kv Maithon- Durgapur # 1 Line	07-08-2018	09:00	07-08-2018	17:30	ODB	Powergrid, ER-II	Jumper rectification	
125	765kV S/C Gaya-Balia line	**07-08-2018**	09:00	**08-08-2018**	18:00	ODB	POWERGRID-ER-1	Tower erection work for 765/400 kV ICT-4 under GE package	NLDC
126	400kV Allahabad Main Bay at Pusauli	07-08-2018	09:00	07-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
127	220kV Pusauli-Dehri	07-08-2018	08:00	07-08-2018	13:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	BSEB
128	220kV Pusauli-Ara	07-08-2018	13:00	07-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	BSEB
129	400kV HVDC East side Converter Tnx_Filter Tie Bay at Pusauli	07-08-2018	09:00	09-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
130	400 kV Ranchi-Sipat CKT-I	07-08-2018	09:00	07-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
131	400 kV PATNA-KISHANGANJ CKT1 & 400KV BIHAR SARIF-MUZAFFARPUR CKT 2	07-08-2018	08:00	07-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV BSF-MUZ LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
132	400 KV Banka - Biharsharif - II	07-08-2018	11:00	07-08-2018	17:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
133	Main bay of Pandiabili CKT-2 at Mendhasal	07-08-2018	08:30	07-08-2018	17:00	ODB	ER-II/Odisha/Pandiabili GIS	Maintenance of ISOLATOR at Mendhasal	
134	160 MVA ICT#1 at Baripada	07/08/18	08:30	07/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	LA replacement work	GRIDCO
135	400kV Sundargarh-Raigarh Ckt #4 at Sundargarh	07-08-2018	09:00	07-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Rectification of phase to ground clearance issue of Bushing to wave trap jumper under	NLDC
136	220 KV OPTCL # 2 Line at Rengali	07-08-2018	09:00	07-08-2018	12:00	ODB	ER-II/Odisha/Rengali	For Additional earthing of LA and attending Hotspot	GRIDCO
137	**400KV Kahalgaon-Lakhisarai Line-1**	07-08-2018	09:30	07-08-2018	17:30	**ODB**	**KAHALGAON**	**PM works & relay testing**	
138	JEERAT: 400/220KV 315MVA TR#4	07-08-2018	07:00	07-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
139	80 MVAR switchable ALPD LR#1 at Binaguri	08-08-2018	12:00	08-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	
140	220KV FARAKKA-LALMATIA T/L	08-08-2018	08:00	08-08-2018	18:00	ODB	Powergrid, ER-II	For stringing between location no- 5/0 to 6/0 of 400 KV Farakka -Behrampur D/c line	JSEB
141	132KV Rangit Ramam Line	08/08/18	09:00	08/08/18	15:00	ODB	Powergrid, ER-II	Loc no 72 top Phase PG clamp used in jumper is to be removed	WB
142	400 KV NRNC - Ranchi Ckt-2	08-08-2018	09:00	08-08-2018	18:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
143	400 KV BUS-I AT NEW RANCHI	08-08-2018	08:00	08-08-2018	18:00	ODB	POWERGRID-ER-1	Bus bar stability of bay 416 under statcom	NLDC
144	400kV JAMSHEDPUR-APNRL-1	08-08-2018	09:30	08-08-2018	17:30	ODB	POWERGRID-ER-1	LINE BAY AMP WORK	
145	765 /400 KV 1500MVA ICT-III at Gaya ss	**08-08-2018**	09:00	**10-08-2018**	18:00	ODB	POWERGRID-ER-1	Tower erection work for 765/400 kV ICT-4 under GE package	NLDC
146	400kV Allahabad_Fut Tie Bay at Pusauli	08-08-2018	09:00	08-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
147	400/220kV 500MVA ICT-I at Pusauli	08-08-2018	08:00	07-08-2018	12:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	BSEB
148	220kV Pusauli-Ara	08-08-2018	12:00	08-08-2018	16:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	BSEB
149	220kV Pusauli-Nadhokhar	08-08-2018	16:00	08-08-2018	20:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	BSEB
150	400 kV Ranchi-Sipat CKT-II	08-08-2018	09:00	08-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
151	400 kV PATNA-KISHANGANJ CKT 2 & 400KV BIHAR SARIF-MUZAFFARPUR CKT 1	08-08-2018	08:00	08-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV BSF-MUZ LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
152	400 KV BSF - BALIA CKT- I	08-08-2018	08:00	08-08-2018	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
153	400 KV Talcher- Rengali CKT # 1 Line	08-08-2018	09:00	08-08-2018	17:00	ODB	ER-II/Odisha/Rengali	For AMP and Attending Line defects.	
154	765KV Bus-1 at Sundargarh	08-08-2018	09:00	08-08-2018	18:00	ODB	ER-II/Odisha/Sundergarh	Stringing of jack bus of 765KV Raipur Ckt-1&2 for commissioning of the lines under	NLDC
155	400 kV 404 Baripada-Kharagpur Line Main Bay at Baripada	08/08/18	08:30	08/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	

156	400Kv Jeypore-Bolangir S/c line	08-08-2018	07:00	08-08-2018	18:00	ODB	ER-II/Odisha/Bhawanipatna TL	AMP of Line	NLDC
157	765 KV SNG-DHARAMJAYGARH - III & IV	08-08-2018	08:00	12-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	Maintenance works and coonection with new portion of balance line (Under	NLDC
158	Tie bay of Pandiabili CKT-1&2 at Mendhasal	08-08-2018	08:30	08-08-2018	17:00	ODB	ER-II/Odisha/Pandiabili GIS	Maintenance of ISOLATOR at Mendhasal	
159	220kV Korba-Budhipadar Line Ckt-3-A/R Non Auto Mode	08-08-2018	08:00	20-08-2018	18:00	ODB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL), To keep the auto reclosure in OFF mode-for Hot line crossing	NLDC
160	Jeerat: 400KV MB#2 WITH B/C & JEERAT-BKTPP Line	08-08-2018	07:00	08-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
161	400 KV BUS-1 at New Purnea	08-08-2018	10:00	08-08-2018	17:00 Hrs	ODB	POWERGRID-ER-1	Connection of new GARAKKA and FARAKKA BAYS with existing BUS-I	
162	400KV Alipurduar-Siliguri-I	09/08/18	08:00	09/08/18	18:00	ODB	Powergrid, ER-II	AMP work	
163	80 MVAR sitchable ALPD LR#2at Binaguri	09-08-2018	12:00	09-08-2018	13:00	ODB	Powergrid, ER-II	Proving PRD Rain Canopy to prevent mal operation due to moisture ingres	
164	315 MVA ICT#2 at Binaguri	09-08-2018	09:00	09-08-2018	17:00	ODB	Powergrid, ER-II	AMP WORK and relay upgradation	
165	220kV Bus-1 at Maithon	09-08-2018	09:00	11-08-2018	18:00	OCB	Powergrid, ER-II	Overhauling work of 220kV CB. During shut down there will be no POWER Interruption and all the fedder will connected through Bus-2	DVC
166	220KV BUS-1 at Powergrid,Rangpo	09-08-2018	08:00	11-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates)	
167	220KV Rangpo-NEW MELLI-I	09-08-2018	08:00	11-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates)	
168	765kV S/C Gaya-Varanasi line-II	**09-08-2018**	09:00	**10-08-2018**	18:00	ODB	POWERGRID-ER-1	Tower erection work for 765/400 kV ICT-4 under GE package	NLDC
169	400/220 KV 500MVA ICT-I at Gaya S/S	**09-08-2018**	09:00	**10-08-2018**	18:00	ODB	POWERGRID-ER-1	For Bay Extension work for 400/220 kV ICT- III under Techno package	BSEB
170	400kV Varanasi L/R Bay at Pusauli	09-08-2018	09:00	09-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
171	400kV East Side Bus-I at Pusauli	09-08-2018	08:00	09-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	NLDC
172	400KV L/R BAY OF 400KV MUZAFFARPUR-I at New Purnea	09-08-2018	10:00	11-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	SWITCHABLE?
173	400 kV Main Bus-2 at Lakhisarai	09-08-2018	10:00	09-08-2018	14:00	ODB	POWERGRID-ER-1	AMP	
174	400 kV PATNA-KISHANGANJ CKT 2 & 400KV BIHAR SARIF-MUZAFFARPUR CKT 2	09-08-2018	08:00	09-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV BSF-MUZ LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
175	400KV PATNA- BALIA -2	09-08-2018	08:00	11-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
176	400 KV BSF - BALIA CKT- II	09-08-2018	08:00	09-08-2018	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
177	400kv Mendhasal- Pandiabili CKT-1	09-08-2018	08:30	09-08-2018	17:00	ODB	ER-II/Odisha/Pandiabili GIS	Maintenance of Line ISOLATOR at Mendhasal	GRIDCO
178	315MVA ICT-II at Baripada	09/08/18	09:30	09/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO
179	765KV Sundargarh-Darlipali(NTPC)#1at Sundargarh	09-08-2018	09:00	09-08-2018	18:00	ODB	ER-II/Odisha/Sundergarh	Modification of Line side Jumpering from quard to twin to reduce load on CVT under	NLDC
180	400 KV Talcher- Rengali CKT # 2 Line	09-08-2018	09:00	09-08-2018	17:00	ODB	ER-II/Odisha/Rengali	Attending Hotspot and Additional earthing of LA	
181	400 kV Jeypore-Indravati S/C Line	09-08-2018	09:00	10-08-2018	18:00	ODB	ER-II/Odisha/Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line	NLDC
182	400KV TALCHER#2 & CHAIBASA#2 TIE BAY (BAY NO.-408) AT ROURKELA	09-08-2018	09:00	09-08-2018	18:00	OCB	ER-II/Odisha/Rourkela	FOR ARRESTING SF6 GAS LEAKAGE FROM R-PH & B-PH OF 40852 CB.	
183	400KV, BUS-I at Balangir	09-08-2018	09:00	10-08-2018	18:00	ODB	ER-II/Odisha/Balangir	Jumpring work for new 125 MVAR Bus Reactor Bay	
184	765kV, 3*80MVAR Srikalulam Line Reactor-1 at Angul	09-08-2018	10:00	09-08-2018	18:00	ODB	ER-II/Odisha/Angul SS	R-Phase Reactor to be taken in service in place of Spare Reactor as a routine changeover.	NLDC
185	400KV JEERAT-NEW CHANDITALA#	09-08-2018	07:00	09-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
186	400KV D/C FARAKKA - KAHALGAON -(I & II) T/L	10-08-2018	08:00	11-08-2018	18:00	ODB	Powergrid, ER-II	For stringing between location no- 4/0 to 5/0 of 400 KV Farakka -Behrampur D/c line	
187	400KV Maithon-Right Bank # 1 Line	10-08-2018	08:00	17-08-2018	18:00	OCB	Powergrid, ER-II	Re conductoring work	
188	220KV New Melli-JLHEP Line-I	10/08/18	10:00	10/08/18	17:30	ODB	Powergrid, ER-II	To fixed the Bird Guard in Wave trap (As per SIR)	
189	400KV Andal-Jamshedpur-I	10-08-2018	08:00	11-08-2018	17:00	ODB	Powergrid, ER-II	Earthwire repairing work	DVC
190	400 KV SGTPP-BERHAMPUR-III & 400 KV FARAKKA-JEERAT TL	10-08-2018	08:00	12-08-2018	17:00	OCB	ER-II	CONSIDERING IMPLEMENTATION OF INTERIM ARRANGEMENT-I & MOVING TO INTERIM ARRANGEMENT-II. AFTER	WB
191	400kV TATA-BARIPADA	10-08-2018	09:30	10-08-2018	09:30	ODB	POWERGRID-ER-1	Defective insulator replacement work	DVC
192	400kV TIE BAY OF APNRL 1 AND FUTURE AT JAMSHEDPUR	10-08-2018	09:30	10-08-2018	17:30	ODB	POWERGRID-ER-1	AMP WORK TO BE CARRIED OUT	
193	400kV Varanasi Main Bay at Pusauli	10-08-2018	09:00	10-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	

194	400kV East Side Bus-II at Pusauli	10-08-2018	08:00	10-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	NLDC
195	400kV North Side Filter Main Bay at Pusauli	10-08-2018	09:00	12-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
196	400 kV PATNA-KISHANGANJ CKT 1 & 400KV KAHALGAON - BARH CKT 1	10-08-2018	08:00	10-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV KAH-BAR LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
197	400KV BOKARO-KODERMA-I	10-08-2018	10:00	10-08-2018	16:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	DVC
198	400KV BSF - KODERMA CKT-I	10-08-2018	08:00	10-08-2018	18:00	ODB	POWERGRID ER-I	For Rectification of Jumper Spacer Cap, CC Ring, Jumper N/B/ Arcing horn, Repairing of Conductor Cut etc	DVC
199	220 KV ICT # 2Main Bay (Bay No-202) at Rengali	10-08-2018	09:00	14-08-2018	17:00	OCB	ER-II/Odisha/Rengali	For CB Overhauling Work	
200	765KV Sundargarh-Darlipali(NTPC)#2at Sundargarh	10-08-2018	09:00	10-08-2018	18:00	ODB	ER-II/Odisha/Sundergarh	Modification of Line side Jumpering from quard to twin to reduce load on CVT under	NLDC
201	220 kV BUS-I at Baripada	10/08/18	09:30	10/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT JB replacement works	GRIDCO
202	400 KV UIHEP-BR Tie Bay (411) at Indravati	10-08-2018	08:00	10-08-2018	18:00	ODB	ER-II/Odisha/Indravati	AMP work of 400 KV UIHEP-BR Tie Bay (411)	
203	400kv Mendhasal- Pandiabili CKT-2	10-08-2018	08:30	10-08-2018	17:00	ODB	ER-II/Odisha/Pandiabili GIS	Maintenance of Line ISOLATOR at Mendhasal	GRIDCO
204	400KV JEERAT- BERHAMPUR#	10-08-2018	07:00	10-08-2018	15:00	ODB	WBSETCL	Prepuja maintenance	
205	400 KV Binaguri-Purnea Ckt-2	11-08-2018	09:00	16-08-2018	17:00	ODB	Powergrid, ER-II	Porcealin insulator replacement by polymer insulator.	
206	220 kV Maithon-Kalyaneswari 1 line	11-08-2018	09:00	11-08-2018	18:00	ODB	Powergrid, ER-II	Replacement of Isolator Arm to ensure operation from NTAMC	DVC
207	220KV New Melli-JLHEP Line-II	11/08/18	10:00	11/08/18	17:30	ODB	Powergrid, ER-II	To fixed the Bird Guard in Wave trap (As per SIR)	
208	400kV Varanasi_Fut Tie Bay at Pusauli	11-08-2018	09:00	11-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
209	400kV North Side Bus-I at Pusauli	11-08-2018	08:00	11-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	NLDC
210	80 MVAR Bus Reactor at Lakhisarai	11-08-2018	08:00	12-08-2018	18:00	ODB	POWERGRID-ER-1	For checking/rectification of alignment of Bus Reactor Isolator	SWITCHABLE?
211	400 kV PATNA-KISHANGANJ CKT 1 & 400KV KAHALGAON - BARH CKT 2	11-08-2018	08:00	11-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV KAH-BAR LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
212	400KV BOKARO-KODERMA-II	11-08-2018	10:00	11-08-2018	16:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	DVC
213	400KV Jeypore - Bolangir Line	11-08-2018	09:00	12-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Rectification of Shut Down Nature of Defects	NLDC
214	Non Auto mode of A/R in 400 KV Talcher-Rourkela Line-2	11-08-2018	09:00	31-08-2018	17:00	ODB	ER-II/Odisha/Rengali	for PID Test	
215	407 Baripada-Duburi Line Main Bay at Baripada	11/08/18	08:30	11/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
216	765KV Main Bay-713 of Angul CKt-2 at Sundargarh	11-08-2018	08:00	11-08-2018	18:00	ODB	ER-II/Odisha/Sundergarh	AMP Work	NLDC
217	400KV Maithon-Gaya 1 line	12-08-2018	09:00	12-08-2018	18:00	ODB	Powergrid, ER-II	retrofitting of Differetial relay of LR	
218	400\220kV 315 MVA ICT-2 at powergrid,Rangpo	12-08-2018	08:00	15-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work	
219	400KV Andal-Jamshedpur-II	12-08-2018	08:00	13-08-2018	17:00	ODB	Powergrid, ER-II	Earthwire repairing work	DVC
220	400kV North Side Bus-II at Pusauli	12-08-2018	08:00	12-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	NLDC
221	400KV TALCHER#1 TIE BAY (BAY NO.-405) AT ROURKELA	12-08-2018	09:00	12-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	OVERHAULING OF MECHANICALLY JAMMED 40589B ISOLATOR	
222	400 Kv Bus-4 at Durgapur	13-08-2018	09:00	13-08-2018	17:00	ODB	Powergrid, ER-II	Isolator Droper connection with Bus in ERSS-XVII(SPML)	
223	400KV Maithon-Gaya 2 line	13-08-2018	09:00	13-08-2018	18:00	ODB	Powergrid, ER-II	retrofitting of Differetial relay of LR	
224	400KV Main bay of NPPSP-II AT NEW RANCHI	13-08-2018	08:00	13-08-2018	18:00	ODB	POWERGRID-ER-1	AMP 2018-19	
225	400/220 KV 315MVA ICT-II at Gaya S/S	**13-08-2018**	09:00	**13-08-2018**	18:00	ODB	POWERGRID-ER-1	For Bay Extension work for 400/220 kV ICT- III under Techno package	BSEB
226	400kV HVDC East side Converter Tnx Main Bay at Pusauli	13-08-2018	09:00	13-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
227	HVDC along with AC Bypass	13-08-2018	08:00	13-08-2018	18:00	ODB	POWERGRID-ER-1	To attend Isolator Misalignment Problem	NLDC
228	765/400kV, 1500MVA, ICT for regular changeover in 06 month	13-08-2018	09:00	15-08-2018	18:00	OCB	POWERGRID-ER-1	02 days for stability test and changing of Delta connection in LV side and 01 day for idle charging	NLDC
229	400kV East Side Filter Main Bay at Pusauli	13-08-2018	09:00	15-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
230	400KV L/R BAY OF 400KV MUZAFFARPUR-II at New Purnea	13-08-2018	10:00	16-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	SWITCHABLE?
231	400 kV PATNA-KISHANGANJ CKT 2 & 400KV KAHALGAON - BARH CKT 1	13-08-2018	08:00	13-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV KAH-BAR LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
232	765KV Main Bay-716 of Angul CKt-1 at Sundargarh	13-08-2018	08:00	13-08-2018	18:00	ODB	ER-II/Odisha/Sundergarh	AMP Work	NLDC
233	220 kV BUS-II at Baripada	13/08/18	09:30	13/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT JB replacement works	GRIDCO
234	ICT-I (3x 105 MVA) at Jeypore	13-08-2018	10:30	13-08-2018	12:30	ODB	ER-II/Odisha/Jeypore	For changing ICT-I combination form Unit-I,III, IV to Unit-II , III & IV for charging Unit-II	NLDC

235	400KV, BUS-II at Balangir	13-08-2018	09:00	14-08-2018	18:00	ODB	ER-II/Odisha/Balangir	Jumpring work for new 125 MVAR Bus Reactor Bay	GRIDCO
236	**400kV Fkk-Malda Line-2**	13-08-2018	09:00	14-08-2018	17:00	**ODB**	**FARAKKA**	**CT,CB and relay testing**	
237	400kV HVDC East side Filter Main Bay at Pusauli	14-08-2018	09:00	14-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
238	765/400kV 1500MVA ICT Main Bay at Pusauli	14-08-2018	09:00	14-08-2018	18:00	ODB	POWERGRID-ER-1	AMP work	NLDC
239	400 Kv PATNA-KISHANGANJ CKT 2 & 400KV KAHALGAON - BARH CKT 2	14-08-2018	08:00	14-08-2018	17:30	ODB	POWERGRID-ER-1	Fixing of Insulation sleeves on Power line Xing point of 400KV PTN KSG LINE WITH 400 KV KAH-BAR LINE	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
240	220KV JEYPORE-JEYNAGAR-I Line	14-08-2018	09:30	14-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV Jeynagarl TBC Isolator)	GRIDCO
241	400kV Baripada-Kharagpur line	14/08/18	09:30	14/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	LA replacement work	WB
242	765KV 1500MVA ICT-1 at Sundargarh	14-08-2018	09:00	14-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Shifting of R-Phase ICT to spare ICT to attend oil leakage of R-Phase ICT	NLDC
243	400KV Berhampore Farkka-II main bay and Tie Bay (Bay no-412 & 411)	15-08-2018	09:00	19-08-2018	17:00	OCB	Powergrid, ER-II	PLCC commissioning under bay construction work under ERSS XV	
244	400kV East Converter Tnx_Filter Tie Bay at Pusauli	15-08-2018	09:00	15-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
245	765KV 1500MVA ICT-2 at Sundargarh	15-08-2018	09:00	15-08-2018	13:00	ODB	ER-II/Odisha/Sundergarh	Shifting of B-Phase ICT to spare ICT to attend oil leakage of B-Phase ICT	NLDC
246	132kV Baripada- Bangriposi line	15/08/18	09:30	15/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT JB replacemnet works	GRIDCO
247	132KV Bus of Gangtok S/s	16-08-2018	09:00	16-08-2018	12:00	ODB	Powergrid, ER-II	All bus isolator AMP and 132KV Bus AMP, proper alignment checking of all Bus isolator	SIKKIM
248	220\132 Kv 100 MVA ICT-2 at powergrid,Rangpo	16-08-2018	08:00	19-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work	
249	400/220kV, 315MVA ICT-3 AT JAMSHEDPUR	16-08-2018	09:30	16-08-2018	17:30	ODB	POWERGRID-ER-1	CSD TESTING WORK	
250	400kV Biharsharif-I L/R Bay at Pusauli	16-08-2018	09:00	16-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
251	400/132kv 200 MVA ICT-2 & 80 MVAR Bus Reactor at Lakhisarai	16-08-2018	08:00	19-08-2018	18:00	ODB	POWERGRID-ER-1	Fire wall Construction, Checking of Aircel of ICT-2	
252	315MVA ICT-I at Baripada	16/08/18	09:00	16/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP and CT JB replacement works	GRIDCO
253	Main Bay-707 & Tie Bay-708 of 765KV Sundargarh-Angul CKt-3 at Sundargarh	16-08-2018	09:00	18-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Line side Jumpering & Checking of Protection for Commissioning of 765KV	NLDC
254	400 KV Bus Reactor # 1 at Rengali	16-08-2018	09:00	16-08-2018	17:00	ODB	ER-II/Odisha/Rengali	For AMP Work	SWITCHABLE?
255	765kV, 3*110MVAR Bus Reactor-1 at Angul	16-08-2018	09:00	16-08-2018	18:00	ODB	ER-II/Odisha/Angul SS	B-Phase Reactor to be taken out of service for attending oil leakage problem by full	NLDC
256	220KV JEYPORE-JEYNAGAR-II Line	16-08-2018	09:30	16-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV Jeynagarll TBC Isolator)	GRIDCO
257	400KV Bus-II at Keonjhar	16-08-2018	09:00	22-08-2018	18:00	ODB	ER-II/Odisha/Keonjhar	Stringing of Jack Bus over Bus-II for 125 MVAR Reactor	
258	50 MVAR BR#1 & 125 MVAR BR#2 at Durgapur	17-08-2018	09:00	17-08-2018	17:00	ODB	Powergrid, ER-II	AMP WORK and relay upgradation	
259	66 KV Bus of Gangtok S/s	17-08-2018	09:00	17-08-2018	12:00	ODB	Powergrid, ER-II	All bus isolator AMP and 132KV Bus AMP, proper alignment checking of all Bus isolator is	SIKKIM
260	220KV Alipurduar-Salakati-I	17-08-2018	08:00	18-08-2018	17:00	ODB	Powergrid, ER-II	Conductor repairing work	
261	400kV Biharsharif-I Main Bay at Pusauli	17-08-2018	09:00	17-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
262	220KV Ranchi- Hatia Line-1	17-08-2018	10:00	17-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
263	400KV MAIN BAY OF 400/220KV 500MVA ICT-II AT NEW PUNEA	17-08-2018	10:00	20-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	
264	400 kV PATNA-KISHANGANJ J CKT 1	17-08-2018	08:00	17-08-2018	17:30	ODB	POWERGRID-ER-1	E/W RECTIFICATION OF PAT-KSG#1 AT XING POINT OF 400 PAT-BALIA 1&2	AFTER RESTORATION OF BINAGURI KISHENGANJ PURNA LINE
265	400 kV PATNA-BALIA -1	17-08-2018	09:00	17-08-2018	12:00	ODB	POWERGRID-ER-1	E/W RECTIFICATION OF PAT-KSG#1 AT XING POINT OF 400 PAT-BALIA 1&2	NLDC
266	400 kV PATNA-BALIA-2	17-08-2018	13:00	17-08-2018	16:00	ODB	POWERGRID-ER-1	E/W RECTIFICATION OF PAT-KSG#1 AT XING POINT OF 400 PAT-BALIA 1&2	NLDC
267	400KV BSF - LKS CKT -I	17-08-2018	08:00	17-08-2018	18:00	ODB	POWERGRID ER-I	For Rectification of Jumper Spacer Cap, CC Ring, Jumper N/B/ Arcing horn, Repairing of Conductor Cut etc	
268	ICT-I (3x 105 MVA) at Jeypore	17-08-2018	09:30	17-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV ICT I TBC Isolator)	GRIDCO
269	765KV Bus-2 at Sundargarh	17-08-2018	09:00	19-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of structure & busduct of 765KV GIS bus sectionalizer under construction	NLDC
270	500MVA ICT #3 at Baripada	17/08/18	09:30	18/08/18	17:30	OCB	ER-II/Odisha/BARIPADA S/S	PRD replacement works	GRIDCO
271	400 KV UIHEP-Indravati Main Bay (412) at Indravati	17-08-2018	08:00	17-08-2018	18:00	ODB	ER-II/Odisha/Indravati	AMP work of 400 KV UIHEP-Indravati Main Bay (412)	
272	220 KV Bus Coupler Bay (204 Bay) at Balangir	17-08-2018	09:00	17-08-2018	18:00	ODB	ER-II/Odisha/Balangir	AMP For 204 CB and 204 CT	
273	400 KV Rourkela-Sundargarh - I	17-08-2018	08:00	17-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For S/D related works like C C Ring tightening,cotter pin inclusion, VD	
274	**400KV Kahalgaon-Lakhisarai Line-2**	17-08-2018	09:30	17-08-2018	17:30	**ODB**	**KAHALGAON**	**PM works & relay testing**	
275	**400kV Fkk-Sagardighi**	17-08-2018	09:00	18-08-2018	17:00	**ODB**	**FARAKKA**	**CT,CB and relay testing**	WB
276	400KV KTPP-ARAMBAG	17-08-2018	07:00	17-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
277	220 kV Maithon-Kalyaneswari 2 Line at Maithan	18-08-2018	09:00	18-08-2018	18:00	ODB	Powergrid, ER-II	Replacement of Isolator Arm to ensure operation from NTAMC	

278	400KV Maithon-Right Bank # 2 Line	18-08-2018	08:00	27-08-2018	18:00	OCB	Powergrid, ER-II	Re conductoring work	
279	400kV Biharsharif-I _ & ICT-II Tie Bay at Pusauli	18-08-2018	09:00	18-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
280	220KV Ranchi-Hatia Line-2	18-08-2018	10:00	18-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
281	400 KV Bus Reactor # 2 at Rengali	18-08-2018	09:00	18-08-2018	17:00	ODB	ER-II/Odisha/Rengali	For AMP Work	
282	220 kV Bus -II at Jeypore	18-08-2018	09:30	18-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Jeynagar I	GRIDCO
283	220KV Alipurduar-Salakati-II	19-08-2018	08:00	20-08-2018	17:00	ODB	Powergrid, ER-II	Conductor repairing work	NLDC
284	220 kV Bus -II at Jeypore	19-08-2018	09:30	19-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Jeynagar II	GRIDCO
285	400 kV 406 Main Bay of 315 MVA ICT-II Baripada	19/08/18	09:30	19/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
286	400 kv Bus-1 at Durgapur	20-08-2018	09:00	20-08-2018	17:00	ODB	Powergrid, ER-II	busbar protection checking by ABB engineer	
287	66KV Gangtok- Bulbulay (Line#1) Feeder	20-08-2018	10:00	20-08-2018	18:00	ODB	Powergrid, ER-II	Over Current Relay Replacement Relay retrofitting	SIKKIM
288	400\220kV 315 MVAICT -1 at powergrid,Rangpo	20-08-2018	08:00	24-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work	
289	220 KV Rangpo-Tashding line	20-08-2018	08:00	23-08-2018	17:00	ODB	Powergrid, ER-II	Line AMP works	
290	400kV Biharsharif-II L/R Bay at Pusauli	20-08-2018	09:00	20-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
291	400kV BSF-I_ICT-II Tie Bay at Pusauli	20-08-2018	09:00	22-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	
292	220KV Ranchi-Chandil Line-I	20-08-2018	10:00	20-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
293	400KV PATNA- BALIA -3	20-08-2018	08:00	22-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
294	400 KV BUS-II AT BANKA	20-08-2018	09:00	21-08-2018	18:00	ODB	POWERGRID ER-I	Erection of IPS tube & Stringing of jumper for future(BR-2) bay by M/s GE T&D.	
295	Main Bay-710 & Tie Bay-711 of 765KV Sundargarh-Angul CKt-4 at Sundargarh	20-08-2018	09:00	22-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Line side Jumpering & Checking of Protection for Commissioning of 765KV	NLDC
296	400 kV 412 Main Bay of Baripada-TISCO Line at Baripada	20/08/18	09:30	20/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
297	220 kV Bus -II at Jeypore	20-08-2018	09:30	20-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of ICT- I	GRIDCO
298	**Maintenance work for ICT-2**	20-08-2018	09:30	25-08-2018	18:00	**OCB**	**BARH**	**Annual testing of ICT 2**	
299	**Maintenance work for ICT-2 BAY Equipments**	20-08-2018	09:30	25-08-2018	18:00	**OCB**	**BARH**	**Annual testing of Bay Equipments**	
300	**400kV Fkk-Dgp-1**	20-08-2018	09:00	22-08-2018	17:00	**OCB**	**FARAKKA**	**Shunt Reactor Relay dismantling, retrofitting and commissioning**	
301	66KV Gangtok Tadong (Line#2) Feeder	21-08-2018	10:00	21-08-2018	18:00	ODB	Powergrid, ER-II	CT tan delta and Line Isolator and Transfer Bus Isolator AMP and Over Current Relay	SIKKIM
302	400kv Maithon- Durgapur # 2 Line	21-08-2018	09:00	21-08-2018	17:30	ODB	Powergrid, ER-II	Jumper rectification	
303	400KV Binaguri-Bongaigaon-I	21-08-2018	08:00	21-08-2018	17:00	ODB	Powergrid, ER-II	Conductor repairing work	NLDC
304	400kV Daltonganj- Sasaram-1	21-08-2018	10:00	21-08-2018	18:00	ODB	POWERGRID-ER-1	LINE REACTOR-1 CSD (Main & Tie) ON LOAD COMMISSIONING WORK.	BSEB
305	765 /400 KV 1500MVA ICT-I at Gaya ss	**21-08-2018**	09:00	**21-08-2018**	18:00	ODB	POWERGRID-ER-1	Tower erection work for 765/400 kV ICT-4 under GE package	NLDC
306	400kV Biharsharif-II Main Bay at Pusauli	21-08-2018	09:00	21-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
307	220KV Ranchi-Chandil Line-2	21-08-2018	10:00	21-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
308	220KV BAY OF 400/220KV 500MVA ICT-II AT NEW PURNEA	21-08-2018	10:00	24-08-2018	18:00	OCB	POWERGRID-ER-1	CB opertaing mechanism mid life overhaulling work	
309	400 KV Sundargarh - Raigarh - II & IV	21-08-2018	08:00	22-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	For tree /Bamboo cutting between Loc No. 426 & 427 and complinace of defects	NLDC
310	220 kV Bus -II at Jeypore	21-08-2018	09:30	21-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Bus Coupler	GRIDCO
311	400 kV Baripada-Duburi Line Reactor at Baripada	21/08/18	09:30	21/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
312	765KV Bus-1 at Sundargarh	21-08-2018	09:00	23-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of structure & busduct of 765KV GIS bus sectionalizer under construction	NLDC
313	400KV ROURKELA-SUNDARGARH#2	21-08-2018	08:00	21-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	RE-FIXING OF JUMPER BOLT, CC RING BOLT, VD, FIXING OF SPLIT PINS FOUND IN CROSS	
314	400Kv Indravati-Rengali S/c Line	21-08-2018	07:00	23-08-2018	18:00	ODB	ER-II/Odisha/Bhawanipatna TI	For attending camera patrolling defects and changing displaced Rigid spacers in tension	NLDC
315	**400KV Kahalgaon-Barh Line-2**	21-08-2018	09:30	21-08-2018	17:30	**ODB**	**KAHALGAON**	**PM works & relay testing**	
316	400KV Alipurduar-Siliguri-II	22/08/18	08:00	22/08/18	18:00	ODB	Powergrid, ER-II	AMP work	
317	66KV Gangtok Lagyap (Line#3) Feeder	22-08-2018	10:00	22-08-2018	18:00	ODB	Powergrid, ER-II	CT tan delta and Line Isolator and Transfer Bus Isolator AMP and Over Current Relay	SIKKIM
318	400KV Binaguri-Bongaigaon-II	22-08-2018	08:00	22-08-2018	17:00	ODB	Powergrid, ER-II	Conductor repairing work	NLDC
319	400/220kV 315 MVA ICT-1 AT DALTANGANJ	22-08-2018	10:00	22-08-2018	18:00	ODB	POWERGRID-ER-1	400/220kV, 315 MVA, ICT-1 CSD (Main & Tie) On load commissioning work.	BSEB
320	765 /400 KV 1500MVA ICT-II at Gaya ss	**22-08-2018**	09:00	**22-08-2018**	18:00	ODB	POWERGRID-ER-1	Tower erection work for 765/400 kV ICT-4 under GE package	NLDC

321	400kV Biharsharif-II & BR-I Tie Bay at Pusauli	22-08-2018	09:00	22-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	
322	400kV Varanasi Main Bay (East Side) at Pusauli	22-08-2018	09:00	22-08-2018	18:00	ODB	POWERGRID-ER-1	AMP work	NLDC
323	400KV Tie bay of 400KV Khalgaon-II & FUTURE AT BANKA	22-08-2018	09:00	28-08-2018	18:00	OCB	POWERGRID ER-I	Commissioning work of 400kv Bus Reactor-II at Banka S/S by M/s GE T&D.	
324	400KV ROURKELA-SUNDARGARH#4	22-08-2018	08:00	22-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	RE-FIXING OF JUMPER BOLT, CC RING BOLT, VD, FIXING OF SPLIT PINS FOUND IN CROSS	
325	220 kV 211 Bay of 500 Mva ICT#3 at Baripada	22/08/18	09:30	22/08/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
326	220 kV Bus -I at Jeypore	22-08-2018	09:30	22-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Jeynagar I	GRIDCO
327	400 KV KTPP-NEW CHANDITALA	22-08-2018	07:00	22-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
328	125 MVAR BR#3 at Durgapur	23-08-2018	09:00	23-08-2018	17:00	ODB	Powergrid, ER-II	AMP WORK and relay upgradation	
329	400kV Daltonganj- Sasaram-2 line	23-08-2018	10:00	23-08-2018	18:00	ODB	POWERGRID-ER-1	LINE REACTOR-2 CSD (Main & Tie) ON LOAD COMMISSIONING WORK.	BSEB
330	400kV HVDC North side Converter Tnx Main Bay at Pusauli	23-08-2018	09:00	23-08-2018	18:00	ODB	POWERGRID-ER-1	For Compressor Overhauling Work	NLDC
331	400kV Biharsharif-II_BR-I Tie Bay at Pusauli	23-08-2018	09:00	25-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	
332	400KV PATNA- BALIA -4	23-08-2018	08:00	25-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
333	220 kV Bus -I at Jeypore	23-08-2018	09:30	23-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Jeynagar II	GRIDCO
334	765kV, 3*80MVAR Line Reactor-2 at Angul	23-08-2018	09:00	23-08-2018	18:00	ODB	ER-II/Odisha/Angul SS	R-Phase Reactor to be taken out of service for attending oil leakage problem by full	NLDC
335	400KV ROURKELA-RANCHI#1 MAIN BAY (428) AT ROURKELA	23-08-2018	09:00	23-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	TO ARREST SF6 GAS LEAKAGE IN R-PHASE OF 42852 CB.	
336	**400kV Bus Reactor-2**	23-08-2018	09:00	25-08-2018	17:00	**OCB**	**FARAKKA**	**Reactor Relay dismantling, retrofitting and commissioning**	
337	132KV Gangtok-Rangpo Line	24-08-2018	10:00	24-08-2018	18:00	ODB	Powergrid, ER-II	Over Current Relay Replacement Relay retrofitting & Line AMP work	SIKKIM
338	400KV Bus 1 at Maithan	24-08-2018	09:00	24-08-2018	18:00	ODB	Powergrid, ER-II	Replacement of Bus isolator arm of 400Kv Maithon-Kahalgaon 1 Bay to ensure operation from NTAMC	
339	765 KV New Ranchi - Dharamjaygarh -2	24-08-2018	09:00	24-08-2018	18:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	NLDC
340	400KV Ranchi-Maithan RB-I	24-08-2018	10:00	24-08-2018	17:30	ODB	POWERGRID-ER-1	For installation of Insulation sleeve at Power Line Crossing Point of All Four Lines	
341	400KV Ranchi-Maithan RB-II	24-08-2018	10:00	24-08-2018	17:30	ODB	POWERGRID-ER-1	For installation of Insulation sleeve at Power Line Crossing Point of All Four Lines	
342	400KV Ranchi-Maithan-I	24-08-2018	10:00	24-08-2018	17:30	ODB	POWERGRID-ER-1	For installation of Insulation sleeve at Power Line Crossing Point of All Four Lines	
343	400KV Ranchi-Ragunathpur-I	24-08-2018	10:00	24-08-2018	17:30	ODB	POWERGRID-ER-1	For installation of Insulation sleeve at Power Line Crossing Point of All Four Lines	DVC
344	125 MVAR Bus Reactor at Jeypore	24-08-2018	09:00	24-08-2018	10:00	ODB	ER-II/Odisha/Jeypore	For STATCOM Post commissioning Test of External Reactive device switching	
345	400 KV KTPP-KHARAGPUR #1	24-08-2018	07:00	24-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
346	400 KV Farakka- Kahalgaon-I line	25-08-2018	10:00	25-08-2018	18:00	ODB	Powergrid, ER-II	For connecting bay-22 (Main Bay of 400 KV Farakka-Kahalgaon-I) from line side after augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-	
347	132KV Gangtok-Chuzachen Line	25-08-2018	10:00	25-08-2018	18:00	ODB	Powergrid, ER-II	Over Current Relay Replacement Relay retrofitting	SIKKIM
348	400KV Bus 2 at Maithan	25-08-2018	09:00	25-08-2018	18:00	ODB	Powergrid, ER-II	Replacement of Bus isolator arm of 400Kv Maithon-Mejia 1 Bay to ensure operation from NTAMC	
349	400\220kV 315 MVAICT -4 at powergrid,Rangpo	25-08-2018	08:00	29-08-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work	
350	400KV NEW PURNEA-MALDA LINE-I	25-08-2018	10:00	25-08-2018	18:00	ODB	POWERGRID-ER-1	Replacement of Auto reclose relay, testing and commisioning.	
351	400 KV BSF - VNS CKT -I	25-08-2018	08:00	05-09-2018	18:00	ODB	POWERGRID ER-I	Diversion of Railway xing in Lic. No. 94-96	NLDC
352	400 KV BSF - VNS CKT -II	25-08-2018	08:00	05-09-2018	18:00	ODB	POWERGRID ER-I	Diversion of Railway xing in Lic. No. 94-97	NLDC
353	400 KV BSF - SSRM CKT -I	25-08-2018	08:00	05-09-2018	18:00	ODB	POWERGRID ER-I	Diversion of Railway xing in Lic. No. 84-86	
354	400 KV BSF - SSRM CKT -II	25-08-2018	08:00	05-09-2018	18:00	ODB	POWERGRID ER-I	Diversion of Railway xing in Lic. No. 84-87	
355	765 kV Sasaram - Fatehpur	25-08-2018	08:00	31-08-2018	18:00	ODB	POWERGRID NR-III	A Type Suspension Tower (537 Nos) Delta configurartion Strengthening work., at Allahabad	NLDC
356	315 MVA ICT-II at Jeypore	25-08-2018	12:00	25-08-2018	13:00	ODB	ER-II/Odisha/Jeypore	For STATCOM Post commissioning Test of External Transformer Switching	GRIDCO
357	Tie Bay-708 of 765KV Angul L/R-3 at Sundargarhh	25-08-2018	09:00	27-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of CB in Main Bay-709 of 765KV Raipur Line-1 for commissioning of the line under construction head	NLDC
358	400KV CHAIBASA#1 MAIN BAY (BAY NO.-416) AT ROURKELA	25-08-2018	09:00	25-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	REPLACEMENT OF DEFECTIVE AUXILIARY SWITCH ASSEMBLY OF 41652 CB.	
359	765 KV Angul-Jharsuguda Bay (III & IV)	25-08-2018	08:00	25-08-2018	17:00	ODB	ER-II/Odisha/Sundargarh TLM	Coonection of 765 KV Angul-Jharsuguda line (III & IV) for line charging	NLDC
360	400 KV Farakka- Kahalgaon-III line	26-08-2018	10:00	26-08-2018	18:00	ODB	Powergrid, ER-II	For connecting bay-34 (Tie Bay of 400 KV Farakka-Kahalgaon-III) from line side after augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-	
361	400KV Maithon- Kahalgaon 1 Line	26-08-2018	09:00	26-08-2018	18:00	ODB	Powergrid, ER-II	Retrofitting of Differetial relay of LR	
362	Binaguri-Purnea D/C (After Bypass arrangement of Kishengunj)	26-08-2018	08:00	28-08-2018	18:00	OCB	Powergrid, ER-II	S/D FOR RETURNING OF BYPASS ARRANGEMENT AT KISHENGUNJ AND NORMAL RESTORATION OF FOUR	NLDC

363	220 kV Bus -I at Jeypore	26-08-2018	09:30	26-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of ICT- I	GRIDCO
364	132KV / 66KV 50 MVA ICT#2 Gangtok	27-08-2018	09:00	27-08-2018	19:00	ODB	Powergrid, ER-II	Over Current Relay Replacement Relay retrofitting,Back up impedance relay	SIKKIM
365	400KV Maithon- Kahalgaon 2 Line	27-08-2018	09:00	27-08-2018	18:00	ODB	Powergrid, ER-II	retrofitting of Differetial relay of LR	
366	400kV 125MVAR Bus Reactor-II at Pusauli	27-08-2018	09:00	27-08-2018	18:00	ODB	POWERGRID-ER-1	AMP work	
367	400KV Ranchi - Rouerkela Ckt-1	27-08-2018	10:00	27-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
368	400KV NEW PURNEA-MALDA LINE-II	27-08-2018	10:00	27-08-2018	18:00	ODB	POWERGRID-ER-1	Replacement of Auto reclose relay, testing and commisioning.	
369	220 kV Bus -I at Jeypore	27-08-2018	09:30	27-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Bus Coupler	GRIDCO
370	400KV CHAIBASA#1 TIE BAY (BAY NO.-417) AT ROURKELA	27-08-2018	09:00	27-08-2018	18:00	ODB	ER-II/Odisha/Rourkela	MODIFICATION IN THE A/R CIRCUIT OF 41752 CB.	
371	**400kV/220kV Auto Transformer**	27-08-2018	09:00	29-08-2018	17:00	**OCB**	**FARAKKA**	**400kV and 220kV side relay dismantling , retrofitting and conmmissioning**	AFTER SHRAVANI MELA
372	400 KV BUS-I of NTPC Farakka	28-08-2018	10:00	28-08-2018	18:00	ODB	Powergrid, ER-II	For connecting BUS isolator of bay no-22 & 33 to BUS-I (After augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
373	500MVA ICT #1 at Maithan	28-08-2018	06:00	28-08-2018	18:00	ODB	Powergrid, ER-II	On load testing of CSD , Rectification of MOG	
374	400KV Maithon-Right Bank # 1 Line	28-08-2018	08:00	31-08-2018	18:00	OCB	Powergrid, ER-II	Re conductoring work	
375	400kV HVDC North side Converter Tnx_Filter Tie Bay at Pusauli	28-08-2018	09:00	30-08-2018	18:00	OCB	POWERGRID-ER-1	For Breaker Drive overhauling and Bay AMP work	NLDC
376	400KV NEW PURNEA-MUZAFFARPUR LINE-I	28-08-2018	10:00	28-08-2018	18:00	ODB	POWERGRID-ER-1	1. Replacement of Auto reclose relay, testing and commisioning. 2. Erection of BPI at Liine Isolator.	
377	400 kV PATNA-BRH CKT – II & 400KV KHL BARH CKT-I	28-08-2018	08:00	28-08-2018	15:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
378	Tie Bay-711 of 765KV Angul L/R-4 at Sundargarh	28-08-2018	09:00	30-08-2018	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of CB in Main Bay-712 of 765KV Raipur Line-2 for commissioning of the line	NLDC
379	220KV JEYPORE-JEYNAGAR-I Line	28-08-2018	09:30	28-08-2018	17:00	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV Jeynagarl 89C Isolator) & R-ph CVT	GRIDCO
380	400kv KTPP-KHARAGPUR #2	28-08-2018	07:00	28-08-2018	14:00	ODB	WBSETCL	Prepuja maintenance	
381	220KV D/C SLG-DLK -I	29-08-2018	08:00	31-08-2018	17:00	OCB	Powergrid, ER-II	S/D required for shifting Anchor-1 on pile through installation of ERS Tower.Presently	
382	220KV D/C SLG-DLK -II	29-08-2018	08:00	31-08-2018	17:00	OCB	Powergrid, ER-II	S/D required for shifting Anchor-1 on pile through installation of ERS Tower.Presently	
383	132KV / 66KV 50 MVA ICT#1 Gangtok	29-08-2018	09:00	29-08-2018	19:00	ODB	Powergrid, ER-II	Over Current Relay Replacement Relay retrofitting, Back up impedance relay	SIKKIM
384	400 KV Ranchi - Chandawa Ckt-2	29-08-2018	09:00	29-08-2018	18:00	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
385	63MVAR Biharsharif-II L/R at Pusauli	29-08-2018	09:00	29-08-2018	18:00	ODB	POWERGRID-ER-1	AMP work	
386	400KV NEW PURNEA-MUZAFFARPUR LINE-II	29-08-2018	10:00	29-08-2018	18:00	ODB	POWERGRID-ER-1	1. Replacement of Auto reclose relay, testing and commisioning.	
387	400 kV PATNA-BRH CKT – I & 400KV KHL BARH CKT-II	29-08-2018	08:00	29-08-2018	15:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
388	220KV JEYPORE-JEYNAGAR-II Line	29-08-2018	09:30	29-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV Jeynagarll 89C Isolator)	GRIDCO
389	**Maintenance work for Barh Patna Line-2**	29-08-2018	09:30	30-08-2018	18:00	**OCB**	**BARH**	**Attending defects of isolator & annual testing of Bay equipments**	
390	400KV BUS-I AT NEW PURNEA	30-08-2018	10:00	30-08-2018	18:00	ODB	POWERGRID-ER-1	Bay extension work of 400KV Gokarna-Farraka.	
391	400KV PATNA BARH -III & 400KV BARH MOTIHARI -I	30-08-2018	08:00	30-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
392	ICT-I (3x 105 MVA) at Jeypore	30-08-2018	09:30	30-08-2018	13:30	ODB	ER-II/Odisha/Jeypore	For Isolator Retrofitting works (220KV ICT I 89C Isolator)	GRIDCO
393	400KV NEW PURNEA-SILIGURI LINE-I	31-08-2018	10:00	31-08-2018	18:00	ODB	POWERGRID-ER-1	1. Replacement of Auto reclose relay, testing and commisioning. 2. Erection of BPI at Liine Isolator.	
394	400KV PATNA BARH -IV & 400KV BARH MOTIHARI -II	31-08-2018	08:00	31-08-2018	17:30	ODB	POWERGRID-ER-1	REPLACEMENT OF FLASHED PORCELAIN INSULATORS WITH POLYMER INSULATORS	
395	400 kV Jeypore-Indravati S/C Line	31-08-2018	09:00	31-08-2018	17:30	ODB	ER-II/Odisha/Jeypore	For replacement of 400KV B-ph Line CVT	NLDC

Outages approved in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	outages proposed in	Reason	Remarks
		Date	Time	Date	Time				
1	400 kV Bongaigaon-New Siliguri-1	25-Jul-18	08:00	25-Jul-18	16:00	Daily	NERPC	For testing of Line reactor	
2	MUZAFFARPUR-ER (400KV)-GORAKHPUR-PG (400KV)1	23-Aug-18	10:00	23-Aug-18	16:00	DAILY	NRPC	For testing of Autoreclose Protection Relay after Retrofitment of Obselete Siemens make AR relay with new numerical AR Relay	
3	MUZAFFARPUR-ER (400KV)-GORAKHPUR-PG (400KV)II	24-Aug-18	10:00	24-Aug-18	16:00	DAILY	NRPC	For testing of Autoreclose Protection Relay after Retrofitment of Obselete Siemens make AR relay with new numerical AR Relay	
4	220kV Korba-Budhipadar circuit 3	05-Aug-18	07:00	07-Aug-18	18:00	continuous	WRPC	Overhead stringing works of U/C 765kV D/C Raipur-Sundergarh Line	
5	220kV Korba-Budhipadar circuit 3	08-Aug-18	07:00	20-Aug-18	18:00	continuous	WRPC	AR OFF : To carry out Overhead Hotline stringing of U/C 765kV D/C Raipur-Sundergarh Line	
6	765kV D/C Jharsuguda-Dharamjaygarh ckt 1 & 2	02-Aug-18	08:00	04-Aug-18	18:00	continuous	WRPC	Overhead stringing works of U/C 765kV D/C Raipur-Sundergarh Line	
7	South Bus - 1 at Gazuwaka SS	28-Jul-18	09:00	28-Jul-18	18:00	Daily	SRPC	AMP & RTV Coating Works	TTC curtailment in ER-SR 300MW.
8	EaSt Bus - 1 at Gazuwaka SS	30-Jul-18	09:00	30-Jul-18	18:00	Daily	SRPC	RTV Coating Works	TTC curtailment in ER-SR 300MW.
9	South Bus - 2 at Gazuwaka SS	02-Aug-18	09:00	02-Aug-18	18:00	Daily	SRPC	AMP	TTC curtailment in ER-SR 300MW.