Minutes

of

134th OCC Meeting

Date: 11.07.2017

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 134th OCC Meeting held on 23rd June, 2017 at ERPC, Kolkata

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

PART A

Item no. 1: Confirmation of minutes of 133rd OCC meeting of ERPC held on 26.05.2017

The minutes of 133rd OCC meeting were uploaded in ERPC website and circulated vide letter dated 12.06.2017 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 133rd OCC meeting.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Commissioning of new transmission elements in Eastern Region

In 118th OCC, it was informed that the network diagram of eastern region needs to be updated on regular basis on account of commissioning of new elements in the CTU as well as STU networks.

OCC advised all the constituents to update the list of newly commissioned power system elements to OCC on monthly basis so that ERLDC/ERPC can update the network diagram on regular basis.

The list of new Transmission Elements commissioned/charged during **May, 2017** as informed by ERLDC is given below:

1) 315MVA ICT-I at Meramundali charged for the first time after replacement at 17:18hrs of 04/05/17.
2) *132/33 kV, 2X20 MVA Areraj GSS charged with LILO of one circuit of 132 KV Gopalganj-Bettia line for first time on 18.5.2017.*
3) *132/33 kV, 2X10 MVA Balia GSS charged with 132 KV Begusarai-Balia (S/C); 37.33 Km line for first time on 06.5.2017*
4) *132/33 kV, 2X50 MVA Ramgarh GSS charged with LILO of 132 KV Pusouli (new)-Mohania ; 17.5 Km line for first time on 26.5.2017*
5) *132/33 kV, 2X20 MVA Maharajganj GSS charged with 132 KV Musrakh-Maharajganj DCSS; 16.9 Km line for first time on 25.5.2017*
6) *132/33 kV, (1X10+1x50) MVA Manjhaul GSS charged with 132 KV Begusarai-Manjhaul (S/C); 21.654 Km line for first time on 18.5.2017*

Other constituents may update.

Deliberation in the meeting

Bihar and OPTCL updated the status as follows:

1) *220kV Atri-Pandiabil line charged on 19.05.2017*
2) *220kV Pandiabil-Puri (Samangara) line charged on 20.05.2017.*

Item No. B.2: 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.

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 (in Rs.)	Status as updated in 134th OCC
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14		120.67 Cr	11.04 Cr.	95 % Supply Completed
2	WBSETCL	Transmission System improvement of WBSETCL					
3	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	10.05.17	162.5 Cr.	16.25 Cr + 8.91 Cr	***Total contract awarded for Rs. 51.35 Cr***
4	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16		20 Cr.	4.94 Cr. + 9.88 Cr.	1) Hardware supplied and installed. 2) SAT completed for pilot state 3) **Protection database management software (PDMS) put in live w.e.f. 30.03.17.** 4) ***Training on PDMS organised at Odisha, ERPC & Bihar.***
5	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharsharif, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone & 132/33 kV GSS Kataiya	11/5/2015	Feb'2017	64.22 crore	23.68 crore	Project is on going. ***Contract awarded for Rs.71.37 Cr till date.***
6		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016		18.88 crore		Approved (triparty agreement among NLDC, Govt. of Bihar & BSPTCL is in under process)
7		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.					Recommendation of appraisal committee is awaited. Estimated cost 54.69 crore.
8	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation			25.96		Approved by Ministry of Power
9		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			140		Appraisal committee has recommended. It will be placed in next monitoring Committee meeting.
10	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station			1.39 Cr		***MOP vide letter dated 16.05.17 has issued the sanction for grant of Rs. 1.39 Cr.***
		Upgradation of Protection and SAS			26.09		Approved by Ministry of Power
11	OHPC	Renovation and up-gradation of protection and control system of 4 nos OHPC substations.			***2.54 Cr***		***MOP has issued the sanction letter for PSDF grant.***
12a	ERPC	Training for Power System					The proposal was

		Engineers					examined by the Techno Economic sub group of PSDF and advised to submit revised proposal with consideration of views of the group.
12b		Training on Integration of Renewable Energy resources					The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal only for training at NORD POOL Academy with consideration of views of the group.
12c		*Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents*					

In 35th ERPC meeting, CE-NPC, CEA informed that grant has been allotted to Powergrid for installation of STATCOM but no update on the progress have been received from Powergrid.

Powergrid informed that project has already been awarded and they will submit the details to PSDF Nodal Agency and NPC.

In 131st OCC, Powergrid informed that they will submit the details shortly.

Respective constituents may update.

Deliberation in the meeting

Members updated the status as above.

It was informed that MoP has issued the letter for sanction of grant for Bandel islanding scheme and renovation & up-gradation of OHPC substations.

Item No. B.3: OPERATIONAL LOAD FLOW STUDY FOR OFF-PEAK PERIOD (WINTER LEAN PERIOD)

In 128th OCC for lean off-peak load flow study, OCC finalized the date and time as follows

- 13.00 Hrs of 28th December,2016.
- 02:00 Hrs of 29th December,2016

In 130th OCC, PRDC informed that they will submit the report by end of March, 2017.
The report is available at ERPC website (www.erpc.gov.in)

Further OCC advised PRDC to carry out another load flow study in the first week of May, 2017 tentatively for 4th and 5th May, 2017 for 19:00 and 20:00 Hrs. Therefore, all utilities have to record data for four instances.

OCC advised all the constituents to note the date and timings for recording the data and send it to ERPC/PRDC.

In 133rd OCC, PRDC informed that load flow studies of Summer Peak Condition (4th and 5th May, 2017) for 19:00 and 20:00 hrs, they have received data from BSPTCL and CESC. Data pending for rest of the utilities for the mentioned time stamps is tabulated below:

States	***State wise Load Generation data received (%)***		
	Data Received for both time interval	*Only 04th May-17*	*Only 05th May-17*
Bihar	*Data received*		
Jharkhand(DVC data pending)	*38.36%*	*38.36%*	*38.36%*

Odisha	*18.25%*	*24.60%*	*21.43%*
Sikkim	*0.00%*	*0.00%*	*0.00%*
West Bengal(WBSETCL+DVC data pending)	*16.67%*	*16.67%*	*16.67%*

OCC advised DVC, Odisha, Sikkim and WBSETCL to submit the data at the earliest.

PRDC may update.

Deliberation in the meeting

PRDC presented the status of load flow data received from the constituents. The presentation is enclosed at Annexure-B3.

PRDC informed that as per the data received from ER constituents and ERLDC SCADA snapshot the demand of 20 Hrs of 4th May, 2017 is observed as more appropriate for Peak load flow analysis.

OCC advised PRDC to carry out Peak load flow studies with the above data.

Further, it was informed that the login ID and Password for access of PDMS has been issued to the respective members as nominated by the authorities.

OCC advised constituents to verify their respective data and give their feedback.

Item No. B.4: Status of UFRs healthiness installed in Eastern Region

UFR Healthiness Certification for the month of May, 2017 has been received from CESC, JUSNL, WBSETCL, DVC, and BSPTCL.

OPTCL and may update.

Deliberation in the meeting

OCC advised OPTCL to submit the healthiness certificate.

Item No. B.5: Healthiness of SPS existing in Eastern Region

GMR, JITPL, Vedanta, CESC, Chuzachen, NTPC & Powergrid-Odisha have submitted the healthiness certificate for the month of May, 2017.

Powergrid ER-II may submit the healthiness certificate for May 2017.

Deliberation in the meeting

OCC advised Powergrid ER-II to submit the healthiness certificate.

OCC advised Sikkim HEPs to submit the healthiness certificate of Rangpo SPS.

Item No. B.6: Furnishing of data for Merit Order Web Portal – CEA

During the Power Minister's Conference held on 3rd and 4th May 2017, at New Delhi, it was decided to develop a web portal/mobile app in about a month's time with a view to having transparency in Merit order scheduling & dispatch and ensuring most economic system operation.

In the conference Hon'ble Union Minister for Power requested all the States/UTs to submit the requisite data to CEA immediately. A number of States have already submitted the required data. However, the same is still awaited from others.

ERPC vide mail dated 14.04.17, 25.04.17 & 15.05.17 has requested all the ER constituents to submit the above information.

A meeting was convened by CEA to discuss the matter regarding the data and the issues related to the development of merit order web portal/mobile app on 17th May, 2017.

In 133rd OCC, OCC advised SLDCs of Bihar, DVC, Odisha and West Bengal to submit the data to CEA as per the format available in the CEA portal. The format is also available in ERPC website.

Subsequently, a meeting was convened by CEA through VC on 15.06.2017. It was requested that in place of six formats, the simplified Proforma in excel format may be submitted on a regular basis, in monthly and daily formats, with immediate effect preferably from 16.06.2017. The new format and guidelines for filling the merit order Proforma is available at ERPC website (www.erpc.gov.in).

Accordingly, it is requested to submit the data in prescribed formats via e-mail at kvsbaba@posoco.in/ ukverma@posoco.in, harish.rathour@gmail.com with a copy to gmcea@nic.in & mserpc-power@nic.in.

On this regard, it is to inform that POSOCO has developed the facility for online uploading of monthly & daily data related to Merit Order Dispatch Portal, by the SLDCs. NLDC (POSOCO) has already communicated via email to all the SLDCs, their respective User IDs & Passwords and the procedure for online filling & uploading of data. All the SLDCs to start submitting the above data to NLDC online immediately.

In case of any doubt / clarification, Shri Harish Kr Rathour (NLDC) may be contacted at his Mobile No.9873918443. The procedure for online uploading of data for the portal is enclosed at Annexure-B6 and also available in ERPC website.

Members may update.

Deliberation in the meeting

*OCC advised all the constituents to follow the procedure given in **Annexure-B6** and submit the data to NLDC online.*

Item No. B.7: Status of Islanding Schemes of Eastern Region

B.7.1. Status of commissioned Islanding Schemes 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 May, 2017 has been received from CTPS, DVC, BkTPS, Tata Power and CESC.

NTPC, Farakka & JUSNL may submit the healthiness certificate for FSTPS Islanding Scheme.

Deliberation in the meeting

NTPC, Farakka submitted the healthiness certificate.

OCC advised JUSNL to submit the healthiness certificate of the UFR and PLCC system related to Farakka islanding scheme at their end.

B.7.2. Bandel Islanding Scheme, WBPDCL

As per the latest status available in PSDF web site the scheme was approved for an amount of Rs.1.39 crore by the Monitoring Committee on 10.04.2017.

Ministry is yet to issue the approval letter.

WBPDCL may update the latest status.

Deliberation in the meeting

WBPDCL informed that MoP has issued the sanction letter for grant of PSDF.

OCC advised WBPDCL to award the contract at the earliest and update the status.

Item No. B.8: Auxiliary Normative Loss of Generating Station--ERLDC

As per the Terms and Conditions of Tariff (TCT) regulation 2014-19, the normative auxiliary energy consumption of the thermal generating units is defined in percentage and the value varies with unit size, Boiler feed pump type and the cooling mechanism used. The Auxiliary energy consumption for different unit size as per TCT-2014-19 is as follows:

Capacity of the unit (MW)	**Aux. Energy Consumption (%)** *(With Natural Draft cooling tower or without cooling tower)*	Remarks
200 MW	8.5	
300/330/350/500 MW	5.25	Steam driven boiler feed pumps
	7.75	Electrically driven boiler feed pumps

For thermal generating stations with induced draft cooling towers, the norms shall be further increased by 0.5%.

As per above, normative auxiliary consumption of any generating station is not defined in the TCT 2014-19. Normative Dc of the generating station is arrived by adding normative DC of each units on bar. Normative Dc of any unit is installed capacity less normative auxiliary consumption as defined in TCT 2014-19.

e.g FSTPP Stg- I & II have 3 units of 200 MW and 2 units of 500 MW. Normative auxiliary energy consumption of 200 MW units is 8.5 % and 500 MW unit is 5.25 % as per TCT 2014-19. Accordingly, normative DC for 200 MW unit is 183 MW and for 500 MW unit is 473.75 MW and the normative DC of the station is 1496.5 MW [(183*3) + (473.75*2)]. In case of any unit outage, normative DC of the station is summation of normative DC of units on bar. For outage of Unit – 5 of FSTPP Stg – I&II, normative DC is 1022.75 MW [(183*3) + (473.75*1)]. This process is followed at ERLDC for calculation of Normative DC of the generating station. However, as per NTPC, Farakka, auxiliary energy consumption of FSTPP Stg- I & II to be considered for normative DC calculation is 6.47 % for the full station irrespective of units on bar. If we consider the case outage of unit – 5 at FSTPP Stg – I&II, the normative DC of the station as per NTPC understanding is 1028.8 MW (1100*(100-6.47)/100) considering 6.47 % as station auxiliary

consumption, whereas as per TCT 2014-19, normative DC of the station should be 1022.75 MW [(183*3) + (473.75*1)] considering unit wise normative auxiliary consumption. In this regard, the procedure for auxiliary normative consumption considered for calculation of normative DC of the station needs to be finalized for all the generating station.

NTPC, FSTPP may explain and Members may discuss.

Deliberation in the meeting

NTPC informed that for tariff petition of FSTPS for 2014-19 also they have considered 6.47 % as station auxiliary consumption so the same may be considered.

After detailed discussion, OCC felt that the auxiliary consumption of Farakka, NTPC station is to be considered for scheduling purpose as per the tariff petition 2014-19 as filed by NTPC.

Item No. B.9: Disparity in DC declaration of TSTPP Stg I & II to ERLDC --ERLDC

It has been observed that since last few days NTPC, Talcher Stg - I is declaring less DC during peak hours compare to its DC for the other period of the day. However, the same trend has not been observed in case of Talcher Stg – II DC, which is declared to SRLDC.

ERLDC may present the details and NTPC, Talcher may explain.

Deliberation in the meeting

ERLDC explained with a presentation that NTPC is declaring less DC during peak hours. Moreover, the DC reduction of stage-I is more compared to stage-II (Presentation is enclosed at Annxure-B9).

NTPC clarified that the coal linkage for Stage-I & Stage-II are different and they are getting coal from different sources and because of poor coal quality they are unable to maintain the DC. Also the number of mills In Stage-I is 5 whereas in Stage-II it is 10.

Therefore, the reduction In DC during peak hours may be a coincidence but not intentional however, they will look into the matter.

OCC advised ERLDC to observe the DC pattern of TSTPC St-I &II for another one week and even after if the same trends continues, take suitable action as per CERC regulations.

Item No. B.10: ENABLING OF 3-PHASE AUTO RECLOSE AT 132 KV NORTH BENGAL AND SIKKIM AREAS TO MINIMIZE ELEMENT OUTAGES DUE TO TRANSIENT FAULTS -- Powergrid

During rainy season In North Bengal and Sikkim area, high element outages observed of 132 KV level. Mainly from past experience it is observed that 90% of the fault is of Single Phase to Ground fault and transient in nature. However as per general practice 132 KV level CB's are of mechanically ganged and any single phase fault also causing tripping of all three phases.

To make system more dynamic it is prudent to go for, three phase auto reclosure for any single phase Fault in the 132 KV lines. Only by introduction of A/R facility line availability may be increased in the tune of 90% i.r.o present situations. POWERGRID proposed to implement the same however other constituents as well as ERLDC may give respective views. Upon concurrence detailed road map for Implementation will be given.

In 132nd OCC, Powergrid informed that in North Bengal and Sikkim area most of the time the 132 kV lines were tripping on transient fault and the system can be saved by implementing 3-phase auto-reclosure scheme.

OCC discussed the matter in detail and agreed in principle for implementation of 3-pase auto-reclosure scheme for 132 kV lines. Further, it was decided that the implementation would start with North Bengal and Sikkim area.

Further, OCC advised Powergrid to submit a report on the status of PLCC/telemetry, A/R facility etc. for both ends of each 132 kV lines of North Bengal and Sikkim area.

In 133rd OCC, Powergrid informed that as a pilot project they are implementing the 3-phase auto-reclosure scheme for 132kV Rangpo-Gantok line.

OCC agreed and further advised Powergrid to submit a report on the status of PLCC/telemetry, A/R facility etc. for both ends of each 132 kV lines of North Bengal and Sikkim area.

Powergrid agreed.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the 3-phase auto-reclosure scheme for 132kV Rangpo-Gantok line will be implemented by July 2017.

OCC advised Powergrid to submit a report on the status of PLCC/telemetry, A/R facility etc. for both ends of each 132 kV lines of North Bengal and Sikkim area.

Item No. B.11: Restoration of PLCC system of important JUSNL ties

I) 220 KV Chandil –Santaldih line

In 130th OCC meeting, JUSNL intimated that PLCC for 220 kV Chandil-Santaldih line has been tested and commissioned successfully on 25.01.17.

WBPDCL informed that the PLCC was activated but the auto-reclosure could not be put into service as the R-Ph pole of Circuit Breaker is not getting closed during auto-reclosure operation. The same is taken up with the OEM (i.e. ABB) and they will be rectifying the CB.

In 35th TCC, WBPDCL informed that overhauling of the R-ph pole of CB will be done by 15th March 2017. Subsequently, auto-reclosure feature will be enabled.

In 132nd OCC, WBPDCL informed that though the overhauling of the R-ph pole of CB was completed, the auto-reclosure could not be put into service as there was some problem in Main-2 relay of line. The same is taken up with the OEM (i.e. ABB).

WBPDCL informed that the work will be completed by May, 2017.

In 133rd OCC, WBPDCL informed that the work is getting delayed as they are not getting proper response from Schnider and GE, however the work will be completed within a week.

II) 220 KV Ramchandrapur-Joda line

In 130th OCC meeting, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned within a week. JUSNL informed that the Ramchandrapur end is ready in all respect for implementation of PLCC.

In 35th TCC, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned by March 2017.

In 131st OCC, WBPDCL informed that shutdown was proposed on 31st March, 2017 to complete

the work.

In 132nd OCC, OPTCL informed that the PLCC panels have been commissioned and will be put in service after completion of testing.

In 133rd OCC, OPTCL informed that the panels will be commissioned by June, 2017.

JUSNL/WBPDCL/OPTCL may update.

Deliberation in the meeting

WBPDCL informed that the work is getting delayed as they are not getting proper response from Schnider and GE, however the work will be completed within a week.

OPTCL informed that the panels will be commissioned by June, 2017.

OCC advised OPTCL and WBPDCL to take the issue seriously and implement the auto reclose scheme at the earliest as CERC may take some suo motu action against non-completion of said PLCC links.

Item No. B.12: Implementation of Automatic Demand Management Scheme (ADMS)

In special PRM held on 7th June, 2016, Chemtrols provided the following status of DO implementation:

Constituent	Target by June end	Actual
Bihar	50	67
DVC	12	17
WBSETCL	10	65**
Jharkhand	2	2

(**As per the WB instruction, In all RTUs of WB the DO cable has been terminated in the C&R Panel TBs. WBSETCL testing Team to further extend the connections to the trip relays)

In 133rd OCC, ERLDC informed that DVC has submitted the scheme.

WBSETCL informed that they have implemented the scheme in some sub-stations and they have submitted the details to ERPC/ERLDC.

Bihar informed that they have not yet decided the feeders.

OCC advised Bihar and JUSNL to send the scheme details to ERLDC.

Constituents were advised to share the details of the scheme implemented by them such as logic considered for shedding, feeders along with their voltage levels covered in the scheme and quantum of relief expected from each feeder, communication medium used, device used at sub-station level, whether there is provision for rotational selection of feeders etc.

*Subsequently, BSPTCL has submitted the scheme which is placed at **Annexure-B.12**.*

Constituents may update present status of implementation ADMS.

Deliberation in the meeting

Members noted.

Item No. B.13: Concerned members may update the latest status.

B.13.1. Status of construction of 400 kV Sterlite-Jharsuguda D/C sections

35th ERPC decided to extend the dead line for removal of LILO up to 15.04.2017 and advised Vedanta to strictly adhere to the schedule for commissioning of the dedicated line in all aspects.

Further, ERPC authorised CTU to open the LILO on 16.04.2017.

In 131st OCC, Vedanta submitted the item wise schedule.

Subsequently, GRIDCO vide letter dated 13.04.17 has requested for extending the LILO connectivity till 30.06.2017.

In 132nd OCC, GRIDCO/OPTCL intimated that the line is expected to be completed by 31st May, 2017 in all respects. But keeping in view of peak summer the LILO may be allowed to continue till 30th June, 2017 to support the OPTCL system.

In view of above, OCC agreed to extend the interim LILO connectivity till 30th June, 2017.

It was also decided that the LILO may be disconnected on 1st July, 2017.

In 133rd OCC, OPTCL updated the latest status as follows:

Activities	Nos	Status as updated in 35th TCC	Status as updated in 133rd OCC	Remarks
Tower Foundation	64	64	**64**	Completed
Tower Erection	64	59	**63**	
Stringing /OPGW Cabling & Testing	20.5 Km	9 km completed	**15 km completed**	
Sub station Bay	2	Bay construction completed	Testing going on	

GRIDCO/OPTCL assured that the dedicated line will be completed by mid of June, 2017 and the LILO may be disconnected on 01.07.2017.

OCC advised OPTCL and Vedanta to complete the work at the earliest and no further extension will be granted for removal of LILO.

Members may discuss.

Deliberation in the meeting

OPTCL updated the status as follows:

Activities	Nos	Status as updated in 35th TCC	Status as updated in 134th OCC	Remarks
Tower Foundation	64	64	**64**	Completed
Tower Erection	64	59	**64**	Completed
Stringing /OPGW Cabling & Testing	20.5 Km	9 km completed	**16 km completed**	
Sub station Bay	2	Bay construction completed	Testing going on	

OPTCL informed that the construction of the dedicated line would be completed by 15th July, 2017 in all respects.

Further, GRIDCO/OPTCL added that 7 No. of towers of 400KV Vedanta-Meramundali D/C line have been severely damaged due to whirlwind and cyclonic storm on 15-06-2017 night between Location No.7-0 to 8-0. As a result, GRIDCO could not avail State share of power through the said line and is solely dependent on LILO connectivity to avail IPP power from M/s. Vedanta Limited.

In view of the above, GRIDCO/OPTCL requested that the disconnection of interim LILO connectivity scheduled on 01-07-2017 for M/s. Vedanta Ltd may please be deferred until the restoration work of Vedanta-Meramundali line and commencement of power supply to the State through this line.

After detailed deliberation, OCC agreed to extend the LILO connectivity till 15th July, 2017. It was also decided that the removal of LILO could be reviewed subject to the completion of dedicated line as per the latest schedule i.e. by 15th July, 2017.

B.13.2. Status of Bus Splitting schemes in Eastern Region

A. Bus Splitting of Powergrid Sub-stations

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at 400 kV Maithon, Durgapur & Biharsariff S/Ss or ER. The latest status on the same are:

- 400 kV Maithon ---Completed
- 400 kV Durgapur--Completed
- 400 kV Biharshariff—Physical work has been completed.

In 130th OCC, Powergrid informed that physical bus splitting at 400kV Biharshariff S/s has been completed. Protection part is yet to be completed.

Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.

In 132nd OCC, Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by April, 2017.

During third party protection of 400kV Maithon S/s on 18th May 2017, it was observed that bus splitting scheme at 400kV Maithon S/s has been commissioned but not in service. Powergrid and ERLDC may place the action plan to commence the split bus operation.

In 133rd OCC, Powergrid informed that CTU approval is needed to make the bus splitting scheme operational.

Powergrid and ERLDC may update.

Deliberation in the meeting

It was informed that the bus splitting scheme at 400 kV Maithon & Biharshariff will be operationalized after the getting the consent from CTU.

B. Bus Splitting of Kahalgaon STPS Stage I&II, NTPC

In 24th ERPC meeting held on 27.04.2013, ERPC advised NTPC to go ahead with the bus-splitting scheme as it is a technical requirement for safe, secure operation of the grid.

In 32nd TCC, NTPC informed that they are going ahead with the implementation of Bus Splitting of Kahalgaon STPS Stage I&II and the implementation is expected to be completed by December, 2018.

In 126th OCC, NTPC has given the present status as follows:

- 400/132kV Switchyard package - bid opened on 14.03.16. Awarded on 04.05.2016.
- Site levelling – Site levelling work has been completed.
- Transformer package and Shunt reactor– have been awarded.

In 35th TCC, NTPC informed that the work is in progress as per the schedule and the bus splitting will be completed by December, 2018.

In 133rd OCC, NTPC informed that the bus splitting will be implemented by December, 2018.

NTPC may update.

Deliberation in the meeting

NTPC informed that the bus splitting will be implemented by December, 2018.

B.13.3. 11KV Auxiliary power supply of 400KV Berhampore Powergrid Substation.

In 34th TCC, WBSEDCL informed that the construction of dedicated line has been delayed due to ROW issues. The same has been resolved now and the construction of dedicated line will be completed by December, 2016.

WBSEDCL added that cable needs to be laid out for highway crossing for which cost estimate will be given to Powergrid within a week.

Powergrid agreed to do the payment after receiving the estimate.

In 130th OCC, WBSEDCL informed that the requisite amount has been received from Powergrid and the work will be completed by 15th March, 2017.
In 131st OCC, WBSEDCL informed that the work will be completed by the end of March,2017.
In 132nd OCC, WBSEDCL informed that line is ready and will be commissioned by next week after completion of testing.

In 133rd OCC, WBSEDCL informed that one testing report is awaited which will be received within a week, on receipt of report line will be commissioned.

WBSEDCL/Powergrid may update.

Deliberation in the meeting

WBSEDCL informed that one testing report is awaited which will be received within a week, on receipt of report the line will be commissioned.

B.13.4. Run-back scheme of Sasaram 500MW HVDC B-t-B converter -- ERLDC

It is understood that the following run–back schemes are functional for the 500 MW B-t-B HVDC converter at Sasaram:

1. Tripping of any circuit of 400kV Biharshariff-Sasaram D/C line – reduction of HVDC power order to 250 MW
2. Tripping of both circuits of 400kV Biharshariff-Sasaram D/C line – complete blocking of the HVDC converter.

In this connection it is stated that the above run-back conditions were relevant when 400kV Biharshariff-Sasaram D/C line was the only AC source on the East side bus. However, at present due to existence of 765kV Sasaram-Fatehpur 765kV line along with 765/400kV Sasaram ICT, there would be no loss of AC voltage of the 400kV East bus, even if both circuits of Biharshariff-Sasaram 400kV D/C line trip.

It is to mention that on 19-12-16, the HVDC Sasaram power order had to be reduced to 250MW when 400kV Biharshariff-Sasaram-I was taken under planned shutdown. Thereafter, at 12:43 Hrs, the other 400kV circuit Biharshariff-Sasaram-II tripped due to transmission of DT signal from Biharshariff to Sasaram leading to complete blocking of the converter. However, such blocking was unwarranted as the 765kV Sasaram-Fatehpur line together with the 765/400kV ICT at Sasaram was still in service.

It is therefore suggested that the existing run-back scheme may be activated only when Sasaram 765/400kV ICT or Sasaram-Fatehpur 765kV line is under outage and bypassed under normal conditions. The scheme may be further reviewed when at least two units of Nabinagar TPS commence firm generation.

ERLDC explained the scheme in 128th OCC.

OCC decided to implement the revised scheme and advised Powergid to modify the scheme in coordination with CTU.

In 129th OCC, Powergrid informed that for implementing the scheme there is a requirement of modification in CCU which will be done by the OEM (Alstom). The same will be implemented by March,2017.

In 130th OCC, Powergrid informed that the CCU at Sasaram is old and it is not possible to implement the revised scheme. So, the CCU needs to be changed for implementation of new scheme.

In 131st OCC, ERLDC advised Powergrid to at least block or bypass the existing run back scheme logic for the time being.

Powergrid informed that they will explore the possibilities to bypass the existing scheme.

In 132nd OCC, Powergrid informed that the matter has been taken up with the OEM (i.e. Alstom).

In 133rd OCC, Powergrid informed that the matter has been taken up with the OEM (i.e. Alstom) to explore the possibilities of bypassing the existing scheme.

OCC decided to refer the issue to CTU.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that at this stage it is not possible to bypass the existing run back scheme.

B.13.5. 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 130th 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 Oct, 2017.***
b.	LILO of one circuit of Katapalli-Sadeipalli220 kV D/C line at Bolangir S/S	Charged on 04.05.16
2.	**400/220 kV Keonjhar S/S**	

a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By 2017.
b.	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By 2019.
3.	**400/220kV Pandiabil Grid S/s:**	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	Dec, 2017.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	220kV Atri-Pandiabil completed on 19.05.2017 and 220kV Pandiabil-Puri (Samangara) completed on 20.05.2017.

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status of 1.a. as mentioned in above table.

B.13.6. 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In 125th OCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Chaibasa 400/220kV S/s**	
a.	Chaibasa (POWERGRID) – Chaibasa (JUSNL) 220kV D/c	Completed.
b.	Chaibasa (POWERGRID) – Ramchandrapur (JUSNL) 220kV D/c	July, 2017
2.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By Dec, 2017.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	May, 2018
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Dec, 2018
d	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Matching with S/s
3.	**Dhanbad 400/220 kV S/s: Awarded under TBCB**	
a.	Dhanbad – Dhanbad (Govindpur) (JUSNL) 220kV D/c	Matching with S/s

JUSNL may update.

Deliberation in the meeting

Members noted.

B.13.7. 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In 126th OCC, *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***)	*Existing plan is to be revised due to ROW issues*
2.	**2x500MVA, 400/220kV Rajarhat ---**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	June, 2018
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	June, 2018

WBSETCL may update.

Deliberation in the meeting

Members noted.

Item No. B.14: Third Party Protection Audit

1. 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	37	68.52
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	27	39.71
Odisha	59	38	64.41
JUSNL	34	16	47.06
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

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.

OCC advised all specially JUSNL and BSPTCL to send the revised DPRs at the earliest after clarifying the queries if any.

Members may comply.

Deliberation in the meeting

OCC advised all the constituents to comply the pending observations at the earliest.

2. Schedule for 2nd Third Party Protection Audit:

The latest status of 2nd Third Party Protection audit is as follows:

1) Jeerat (PG) Completed on 15th July 2015
2) Subashgram (PG) Completed on 16th July 2015
3) Kolaghat TPS (WBPDCL)- Completed on 7th August 2015
4) Kharagpur (WBSETCL) 400/220kV - Completed on 7th August 2015
5) Bidhannagar (WBSETCL) 400 &220kV Completed on 8th September, 2015
6) Durgapur (PG) 400kV S/s Completed on 10th September, 2015
7) DSTPS(DVC) 400/220kV Completed on 9th September, 2015
8) Mejia (DVC) TPS 400/220kV Completed on 11th September, 2015
9) 400/220/132kV Mendhasal (OPTCL) Completed on 2nd November, 2015
10) 400/220kV Talcher STPS (NTPC) Completed on 3rd November, 2015
11) 765/400kV Angul (PG) Completed on 4th November, 2015
12) 400kV JITPL Completed on 5th November, 2015
13) 400kV GMR Completed on 5th November, 2015
14) 400kV Malda (PG) Completed on 23rd February, 2016
15) 400kV Farakka (NTPC) Completed on 24th February, 2016
16) 400kV Behrampur(PG) Completed on 25th February, 2016
17) 400kV Sagardighi (WBPDCL) Completed on 25th February, 2016
18) 400kV Bakreswar (WBPDCL) Completed on 26th February, 2016

19) 765kV Gaya(PG) Completed on 1st November, 2016
20) 400kV Biharshariff(PG) Completed on 3rd November, 2016
21) 220kV Biharshariff(BSPTCL) Completed on 3rd November, 2016
22) 400kV Maithon (PG) Completed on 18th May, 2017
23) 132kV Gola (DVC) Completed on 17th May, 2017
24) 132kV Barhi (DVC) Completed on 18th May, 2017
25) 132kV Koderma (DVC) Completed on 18th May, 2017
26) 132kV Kumardhubi (DVC) Completed on 19th May, 2017
27) 132kV Ramkanali (DVC) Completed on 19th May, 2017
28) 220kV Ramchandrapur (JUSNL) Completed on 1st June, 2017
29) 400kV Jamshedpur (PG) Completed on 1st June, 2017
30) 132kV Patherdih (DVC) Completed on 31st May, 2017
31) 132kV Kalipahari (DVC) Completed on 30th May, 2017
32) 132kV Putki (DVC) Completed on 31st May, 2017
33) 132kV ASP (DVC) Completed on 30th May, 2017
34) 132kV Mosabani (DVC) Completed on 2nd June, 2017
35) 132kV Purulia (DVC) Completed on 1st June, 2017

The list of observations for the above sub-stations is already available at ERPC website (www.erpc.gov.in). Respective constituents are requested to comply and submit the report to ERPC for regular update.

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.15: Inspection of Under Frequency Relays (UFR)

UFR testing of following substations was carried out on 31-05-2017

1. 132kV Putki (DVC)
2. 132kV Patherdih (DVC)

*The UFR audit report is placed at **Annexure-B.15**.*

The proposed UFR audit schedule is placed below:

Sl No	Proposed Date	Substation/feeder inspected by the sub-group
1	July, 2017	220/132/33 KV Kalyaneswari of DVC
2		220/132/33 KV New Bishnupur of WBSETCL
3		132/33 KV Old Bishnupur of WBSETCL
4	Aug, 2017	BRS (Liluah S/Stn.) of CESC

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.16: 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.

NTPC communicated their activity of the preparation of Crisis Management Plan for countering the cyber attacks vide letter dated 2nd August, 2013.

In 113th OCC, Member Secretary informed that during interaction with consultants of Grid Study Committee, NLDC agreed that they will plan for conducting workshops on crisis management plan for Cyber Security and few workshops will also be held in Eastern Region.

CESC vide letter dated 22.08.15 had furnished their status of the preparation of Crisis Management Plan (CMP) for Cyber attacks in their system.

CEA is organizing one-day Workshop at ERPC, Kolkata on 29th June, 2017 regarding Cyber Security related issues in Power Sector. Tentative agenda is enclosed at ***Annexure-B.16****.*

Constituents may nominate.

Deliberation in the meeting

It was informed that the workshop has been postponed till further notice as intimated by CEA.

Item No. B.17: 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.

In 85th OCC NTPC informed that, NTPC-Farakka has been certified with IS 18001. Other constituents including OHPC requested to interact with BIS with intimation to ERPC and get certified as per CEA direction. The matter is getting reviewed by highest authorities with top priority.

In 88th OCC NTPC informed that, all NTPC stations in Eastern Region are certified with IS 18001. NHPC informed that, Teesta is also certified with IS 18001. After that, OHPC and CESC informed that their stations are certified with IS18001.

In 104th OCC, WBPDCL informed that Bandel TPS is certified with IS 18001.

OPTCL vide letter No. TB-SO-MISC-9/2010/1914 dated 20.12.2014 had proposed to go for IS 18001:2007 certification as per direction of CEA.

In 113th OCC, CESC informed that Budge-Budge Generating station (3x250 MW) has renewed their certification of BS 18001:2007.

In 121st OCC, it was informed that Kolaghat Generating station of WBPDCL has received certification of IS 18001:2007 from BIS on 29.04.2016.

In 124th OCC, WBPDCL informed that Bakreswar Generating station has received certification of IS 18001:2007 from BIS.

In 130th OCC, WBPDCL informed that Sagardighi Thermal Power Project has also received certification of IS 18001:2007 from BIS in December, 2016.

Members may note and update the status.

Deliberation in the meeting

Members noted.

Item No. B.18: Energy Generation data management from Renewable Energy Sources

RES development Division, CEA has been receiving monthly generation details and installed capacity of Renewable Energy Sources from respective SLDCs and other authorized agencies. Some discrepancies has been found in the data as received by CEA and MNRE.

Constituents are requested to reconcile/confirmed the correct information at the earliest.

In 120th OCC, all the SLDCs were advised to submit the data to CEA as per the format given in **Annexure- B.18** with a copy to ERPC Secretariat.

In 121st OCC, SLDC West Bengal and SLDC Odisha informed that they have submitted the relevant data to CEA.

SLDCs may update.

Deliberation in the meeting

Members noted.

Item No. B.19: Compilation of data for meeting Renewable Energy targets of 175 GW by 2020 -- Reference from MNRE

CEA vide letter dated 29.03.16 has referred Ministry of Power letter no. 23/2/2005-R &R(Vol-XI), dated 22.03.2016 & MNRE letter dated 02.03.2016 regarding compilation of data for meeting Renewable Energy targets of 175 GW by 2020.

Concerned State Utilities /Generating companies are requested to submit data of their respective control areas.

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.20: Data of Peak Demand – Submission of hourly power cut data

The peak demand met figure calculated by CEA is a part of the monthly Power Supply Postion Report prepared by CEA, based on the data provided by five Regional Power committee (RPCs), who in turn collect the data from State / UTs and RLDCs. As per the present methodology being adopted for calculation of States /Regional peak demand met, the figure of peak demand met at any time in the month is taken as peak demand met for the month. For all India monthly peak demand met, the sum of five regional peaks met, which may occur at different points of time is taken.

The above methodology has been reviewed and it has been decided with the approval of Chairperson, CEA that Peak demand Met and Peak Demand in the country should be based on hourly all India demand data. The matter was taken up with POSOCO for getting the hourly data of peak demand met for each month in respect of all the regions in the country in the first week of following month and they have assured to furnish the same. To calculate the demand, data of hourly scheduled and unscheduled power-cuts / load shedding is also required, which is not available with POSOCO.

It is, therefore, requested that hourly figures of scheduled/ unscheduled power cuts/load shedding data may be collected from States / UTs and the same may be sent to CEA every month as per above schedule in the enclosed format, in spread sheet, so that hourly figures of peak demand can be calculated and incorporated in Power Supply Position report.

This data for a month may kindly be sent in the first week of each month, along with PSP data, starting from the data for the month of February, 2015. The format for sending the data of hourly scheduled and unscheduled power-cuts / load shedding has already been circulated.

In 110th OCC meeting, OCC advised all the concerned utilities (BSPTCL, JUSNL, OPTCL, WBSETCL & Sikkim) to send the data of hourly scheduled and unscheduled power-cuts / load shedding by mail to mserpc-power@nic.in latest by first week of each month.

OCC advised all constituents to submit the data also to ERLDC (erldcprotection@gmail.com).

For the month of May, 2017 data has been received from OPTCL, CESC, DVC, WBSETCL, BSPTCL & JUSNL.

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.21: Reasons for demand –supply gap and its variation -- Agenda by NPC

It was deliberated in the 4th NPC meeting that monthly power supply position prepared & published by CEA based on the data furnished by the states reflected shortages in almost all the states. However, a number of those states intimated adequate availability of power. This meant that the deficit / shortage in such states was actually not the deficit in true sense but demand - supply gap due to reasons other than shortage of power. The other reasons for the demand - supply gap could be inadequate availability of power, transmission constraint, distribution constraint, financial constraint etc. The reason for demand –supply gap needed to be clearly mentioned to reflect true picture of power supply position in different states and also to invite attention of various agencies including policy makers to the specific problem areas in the power sector for suitable solution.

It was agreed by all the RPCs to advise the states in their respective regions to intimate broad break-up of demand –supply gap due to various reasons, or at least, the main reason(s) for demand supply in each month.

In 129th OCC, all the constituents are advised to comply.

Members may update.

Deliberation in the meeting

OCC advised all the constituents to comply.

Item No. B.22: Transfer capability determination by the states -- Agenda by NPC

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.

33rd TCC felt that grid operator should have the information on how much power they can export and import and they should restrict to that figures in order to avoid major grid disturbances.

Accordingly, TCC advised all the constituents to place the details in monthly OCC meetings till they upload the information in their respective websites.

130th OCC requested all the SLDCs to compute and send the ATC/TTC figures for the next month in advance along with the details like assumptions, constraints etc.

All the SLDCs were computing the ATC/TTC figures except Bihar.

In 131st OCC, BSPTCL informed that they will submit the ATC/TTC figures at the earliest.

ATC/TTC declared by states for the month of June-2017 is given below:

Sl No	State/Utility	TTC (MW)	RM(MW)	ATC (Import) MW
1	BSPTCL	4311	96	4215
2	JUSNL			
3	DVC	905	52	853
4	OPTCL			
5	WBSETCL	3700	300	3400
6	Sikkim			

Members may update.

Deliberation in the meeting

JUSNL submitted the ATC/TTC figures.

OCC advised OPTCL to submit the ATC/TTC figures at the earliest.

Item No. B.23: Long outage of important transmission elements

a) Non availability of Line Reactor of 400KV Malda-Purnea-I

In 123rd OCC, Powergrid informed that order has been placed for Reactor-1 and it will be commissioned by September, 2016.

In 130th OCC, Powergrid informed that the reactor will be commissioned by end of February,2017.

In 131st OCC, Powergrid informed that the reactor commissioning was delayed due to some vibration issue and now it is expected to be commissioned by April, 2017.

In 132nd OCC, Powergrid informed that the reactor will be commissioned by end of May, 2017.

In 133rd OCC, Powergrid informed that the dispatch got delayed due to commercial issues and it will be dispatched by May, 2017 & commissioned by end of June, 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the reactor is reached at site and will be commissioned by end of July, 2017 subject to availability of shutdown.

b) 400kV Patna-Kishengunj D/C

Tower collapsed at Loc.51 in Kankai river on 26.07.2016 and three nos towers at Loc no 128F/0, 128 G/0 and 128E/0 in Ganga riveron 01.09.2016.

In 129th OCC,Powergrid informed that the work has been awarded.

In 132nd OCC, Powergrid informed that line will be restored by July, 2017.

In 133rd OCC, Powergrid informed that line will be restored by June, 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that line will be restored by 15th July, 2017.

OCC advised Powergrid to submit weekly progress to ERPC and ERLDC.

c) 400kV Purnea-Biharshariff D/C(under outage wef 23/08/16)

Three Nos.Tower (mid river) collapsed.

In 126th OCC, ENICL informed that the final assessment is under progress. The same will be submitted to ERPC and ERLDC.

In 133rd OCC, ENICL informed that line will be restored by last week of June, 2017.

ENICL may update.

Deliberation in the meeting

ENICL informed that line will be restored by 15th July, 2017.

OCC advised ENICL to submit weekly progress to ERPC and ERLDC.

d) 220 kV Waria – Bidhannagar-II

The line is under outage wef 20.08.16 due to collapse of one no of tower collapse.

In 130th OCC, WBSETCL requested DVC for early restoration of line in view of summer peak.

OCC requested DVC to expedite the work.

In 131st OCC, DVC informed that the line will be restored by mid of June, 2017.

In 132nd OCC, DVC informed that the line will be restored by end of May, 2017.

In 133rd OCC, DVC informed that the line will be restored by 15th June, 2017.

DVC may update.

Deliberation in the meeting

DVC informed that the line will be restored by 15th July, 2017.

e) 50MVAR Bus Reactor-I at Farakka (alongwith main and tie bays)

Under shutdown wef 31/05/16 for dismantling from old bay and re-installation in new bay in the dia of FSTPP GT#3.

In 130th OCC, Powergrid informed that the reactor will be charged by 1st week of March, 2017.

In 131st OCC, Powergrid informed that they have requested for shutdown on 22nd and 23rd March, 2017 to complete the work.

In 132nd OCC, NTPC informed that the shutdown will be allowed after completion of overhauling of unit #5 of FSTPS. It was informed that the reactor will be in service by first week of May, 2017.

In 133rd OCC, Powergrid informed that the reactor will be in service by second week of June, 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the reactor will be in service within a week.

Item No. B.24: Accounting of Tertiary Loading Arrangement at PGCIL s/station in ER

Auxiliary consumption of PGCIL EHV AC sub stations are usually met from HT feeders of the state Discom. In few substations of PGCIL, auxiliary consumption is met through tertiary winding (as alternate supply for reliability).

At present State net drawl through PGCIL substation in ER is being computed considering meter installed at feeders after LV side of Transformer. Those sub stations where auxiliary requirement is met through tertiary, States net drawl need to be computed by adding drawl through feeders after LV side of Transformer and auxiliary consumption through tertiary.

In NR, WR & SR, auxiliary power through is already being accounted in states net drawl.

In order to account for the drawl through tertiary for Auxiliary consumption, PGCIL is requested to:

1. Provide list of substations in ER where auxiliary supply is met through tertiary.
2. Install SEM on 33 KV tertiary side of transformers used for auxiliary supply.

131st OCC advised Powergrid to submit the list of substations in ER where auxiliary supply is met through tertiary(both for 33 kV and 11kV level).

Powergrid agreed.

In 132nd OCC, Powergrid ER-I & ER-II submitted the list of substations which is given at ***Annexure- B.24****.*

OCC advised Powergrid-Odisha to submit the list at the earliest.

Further, OCC advised Powergrid to submit the details of all the SEMs connected to tertiary windings and also the SEM readings on regular basis to ERLDC and ERPC.

Details received from Powergrid Odisha are as follows:

S No	Substation	Transformer Tertiary Charged (Yes/No)	SEM Installed in transformer Teritiary (Yes/No)	SEM meter No.
1	765/400KV Angul	Yes	Yes	NP-5942A
2	400/220 KV Keonjhar	YES	YES	NP-7921A
3	400/220 KV Jeypore	YES	YES	NP5965A
4	400/220 KV Rengali	yes	YES	NP0629B
5	400/220 KV Pandiabili GIS	YES	YES	NP7462A

6	400/220/132 KV Baripada	Yes	Yes	NP-5909A
7	400KV Indravati	NA	NA	NA
8	765/400KV Sundergarh	NO	NO	NO
9	400/220 KV Bolangir	YES	YES	NP-7951A
10	400/220 KV Rourkela	NO	NO	NO

In 133rd OCC, Powergrid was advised to send the readings of SEMs connected to tertiary windings to ERLDC regularly for accounting purpose.

Further OCC decided that after getting the SEMs details of all tertiary loadings, ERPC/ERLDC will devise an mechanism for accounting of the tertiary loading arrangement.

Powergrid may update.

Deliberation in the meeting

ERLDC presented the list of substation wise SEM data received from Powergrid as follows:

	List of PGCIL substation with Tertiary Loading in ER							
ER-I								
S. No	***S/Station***	***Loc ID***	***Meter No***	***Make***	***CTR***	***PTR***	***Remarks***	***Data Receipt***
1	*Gaya(765)*	*EM-99*	*NP-7472-A*	*L&T*	*50*	*33000/110*		*No*
2	*Banka*	*ES-88*	*NP-7458-A*	*L&T*	*50*	*33000/110*		*Yes*
3	*Kishanganj*	*ES-90*	*NP-8876-A*	*L&T*	*50*	*33000/110*		*No*
4	*Lakhisarai*	*ES-94*	*NP-8870-A*	*L&T*	*50*	*33000/110*		*Yes*
5	*Patna*	*ES-89*	*ER-1285-A*	*Genus*	*50*	*33000/110*		*Yes*
6	*New Ranchi(765)*	*ES-87*	*NP-8752-A*	*L&T*	*50*	*33000/110*		*Yes*
7	*Ara(220)*						*Detail not rcvd*	*No*
8	*Biharshariff*						*Detail not rcvd*	*No*
9	*Chaibasa*						*Detail not rcvd*	*No*
10	*Jamshedpur*						*Detail not rcvd*	*No*
11	*Muzaffarpur*						*Detail not rcvd*	*No*
12	*New Purnea*						*Detail not rcvd*	*No*
13	*Pusauli*						*Detail not rcvd*	*No*
14	*Ranchi(400/220)*						*Detail not rcvd*	*No*
ER-II & Odhisa Project								
1	*Angul*	*ES-95*	*NP-5942-A*	*L&T*	*1000*	*415/110*		*Yes*
2	*Pandiabili*	*ES-39*	*NP-7462-A*	*L&T*	*1000*	*415/110*		*Yes*
3	*Rangpo (33 kv TRF)*	*ES-96*	*NP-7940-A*	*L&T*	*1000*	*415/110*		*Yes*
4	*Rangpo (11 KV AUX TRF)*	*ES-97*	*NP-7941-A*	*L&T*	*1000*	*415/110*		*Yes*
5	*Sundergarh*	*ES-93*	*ER-1019-A*	*Genus*	*50*	*33000/110*		*Yes*
6	*Birpara*						*Detail not rcvd*	*No*
7	*Baripada*						*Detail not rcvd*	*Yes*

8	*Durgapur*						*Detail not rcvd*	*No*
9	*Maithon*						*Detail not rcvd*	*No*
10	*Siliguri*						*Detail not rcvd*	*No*
11	*Subhashgram*						*Detail not rcvd*	*No*

OCC advised Powergrid to submit the details of pending SEM details connected to tertiary windings and also the SEM readings on regular basis to ERLDC and ERPC for accounting of the tertiary loading arrangement.

Item No. B.25: LILO Connection of Inter-Regional tie line 132 KV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) at NPGC,Nabinagar for providing startup power to NPGC -- BSPTCL

BSPTCL vide letter dated 18.02.17 intimated that LILO connection of inter-regional tie line 132kV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) is urgently required at NPGC, Nabinagar for providing startup power for commissioning of Super Thermal Power Project (3x660MW) Unit # 1 which is expected to be commissioned in March,2017. At present 132kV Sonenagar-Rihand (UP,NR) Circuit-I remain charged on No Load from Sonenagar end & open at Rihand (UP) end.

BSPTCL requested for LILO Connection of 132 KV Sonenagar-Rihand(UP,NR) Circuit-I transmission line at NPGC ,Nabinagar for providing start up power.

In 131st OCC, BSPTCL informed that NPGC, Nabinagar has applied for 65 MVA start up power and initially they will draw around 5-10 MW power through 132 kV Sonenagar-Rihand-I line LILOed at NPGC, Nabinagar. It was also pointed that 132kV Sonenagar-Rihand (UP,NR) Circuit-I is lying idle charged since last 5-6 years and presently it remains charged on no load from Sonenagar end & open at Rihand (UP) end.

Further, BSPTCL added that in order to cater the start up power from Sonenagar end they are strengthening the 132 kV Sonenagar GSS with double moose conductor which will be completed by March, 2017.

It was informed that NPGC, Nabinagar will only draw startup power for commissioning activities through the above LILO as an interim arrangement and injection of power/trial-run will be done after the completion of 400 kV ATS of NPGC, Nabinagar

OCC agreed for commencement of start up power through LILO of 132kV Sonnagar-Rihand-I line at NPGC, Nabinagar as consumer of BSPTCL and as an interim arrangement subject to the consent of NRPC.

Further, it was decided that the now the inter-regional tie-line will be 132 kV NPGC, Nabinagar-Rihand and requested Powergrid to install a new SEM at NPGC, Nabinagar end for accounting purpose.

Subsequently, ERPC vide letter dated 28.03.2017 requested NRPC to do the needful for LILO connection of inter-regional tie line 132kV Sonenagar-Rihand (UP,NR) Circuit-I at NPGC, Nabinagar at the earliest

In 132nd OCC, BSPTCL informed that the LILO part is ready and the strengthening part will be completed by end of April, 2017 however, the consent of NRPC is yet to be received.

Further, it was informed that the new SEM at NPGC, Nabinagar end for accounting purpose has been installed on 20.04.17.

ERPC vide letter dated 09.05.17 has given the confirmation to SLDC, UPPTCL that as per the decision of OCC, NPGC is going to start availing the start up power from BSPTCL by closing

Sonnagar-NPGC 132KV LILO section of 132kV Sonnagar-Rihand-I line keeping the line open at Rihand end. The letter is attached at ***Annexure-B.25.***

In 133rd OCC, BSPTCL informed that Sonnagar-NPGC 132KV LILO section of 132kV Sonnagar-Rihand-I line was charged on 12th May 2017.

ERLDC advised BSPTCL to ensure the data availability of power flow.

BSPTCL/NPGC may update.

Deliberation in the meeting

BSPTCL informed that line flow data will be made available within a week.

ERLDC informed that the station data is also required for NLDC.

OCC advised NPGC and BSPTCL to ensure the data availability.

Item No. B.26: Time correction of SEMs in Eastern Region – Replacement of heavily drifted SEMs

The issue was discussed in 35th TCC/ERPC meetings and it was felt that the meters with severe drift greater than 10 min need to be replaced first and if replacement is done with Genus then readings are to be collected manually using Laptop till interfacing with AMR is completed.

35th ERPC advised Powergrid to replace the 10% of the heavily drifted SEMs with new Genus make meters and monitor the performance of the Genus meters. Powergrid should present this performance before constituents and subsequently the decision on replacement of the other time drifted meters will be taken up.

ERPC also advised Powergrid to place the list of 10% of the heavily drifted SEMs to be replaced with Genus make meters in next OCC meeting.

Subsequently, ERLDC has prepared a list of such SEMs, the same is placed at **Annexure- B.26**.

In 131st OCC, Powergrid informed that they have already started meter replacement work and all highly drifted meters as per list will be replaced by 1st week of April, 2017.

Powergrid also informed that the present list of drifted SEMs were of Powergrid sub-stations which are being replaced. Further, Powergrid agreed to send the weekly data of newly installed SEMs to ERLDC by every Tuesday till the integration of Genus meter with AMR system by TCS,

In 132nd OCC, Powergrid updated the status for ER-II which is enclosed at ***Annexure-B.26A****. ER-I informed that the SEM of Ranchi & Muzaffarpur has been replaced and rest are in progress.*

OCC advised to submit the status for ER-I and Powergrid-odisha.

In 133rd OCC, Powergrid informed that 22 meters were replaced except Purnea.

ERLDC informed that the performance of 22 newly installed meters are satisfactory and suggested that all other meters can be replaced.

OCC advised Powergrid to replace next 10% of heavily drifted meters as per the list.

The list as shared by ERLDC is attached at ***Annexure-B.26C****.*

Powergrid/ ERLDC may update.

Deliberation in the meeting

*Powergrid informed that SEM at Purnea has been replaced and the replacement of SEMs as per the **Annexure-B.26C** will be completed within 2 months.*

OCC advised Powergrid to give the schedule for replacement of SEMs to ERPC and ERLDC.

Item No. B.27: Testing / Calibration of Main and Check Energy Meters -- DGPC

In 132nd OCC, DGPC representative explained the matter and informed that as per their guidelines the energy meters need to be checked/ calibrated at intervals of twelve months as per PPA.

DGPC also requested for the test reports of energy meters which are owned by PTC/Powergrid.

Powergrid informed that as per CEA metering regulations the interval for checking of energy meters is five years.

OCC advised Powergrid to furnish all the relevant documents and last test reports of the meters to DGPC and resolve the matter at the earliest.

DGPC vide mail informed that till date POWERGRID has not submitted the relevant documents of CEA and the last test reports for energy meters.

Further it was learnt that POWERGRID has replaced the main energy meters of 400kV Tala-Siliguri Feeder No. I & IV at Binaguri end on April 21, 2017 and the main energy meters of 220kV Chhukha-Birpara Feeder No. II & III at Birpara end on April 20, 2017 without any intimation to Tala Hydropower Plant (THP), Chhukha Hydropower Plant (CHP)/DGPC. As per sub clause No. 5.3 of Power Purchase Agreement (PPA) "Any change in metering system/methodology shall be carried out with concurrence / mutual agreement between the two parties". Therefore THP and CHP vide letter No. DGPC/THP/SE(O&M)/E-1/2017/855 dated April 28, 2017 (Annexure-A) and letter No. DGPC/CHP/CE/TC-2/2017/1652 dated May 08, 2017 (Annexure-B) has requested PTC to submit the reason for replacement of energy meters by violating the relevant clause of PPA. PTC vide letter No. PTC/MTFG/ERLDC/421 dated May 01, 2017 (Annexure-C) has referred the matter to POWERGRID to provide the reason for replacement of energy meters of 400kV Tala-Siliguri Feeder I & IV at Binaguri end without any intimation to THP especially when POWERGRID during CCM held on February 06, 2017 had intimated that all energy meters at Binaguri end were checked and found OK by POWERGRID.

Therefore DGPC request OCC to persue with PTC/POWERGRID to provide proper justifications for replacement of above energy meters without informing DGPC and to henceforth respect all the provision of PPA and intimate DGPC in advance regarding testing/replacement of their main and check energy meters for all feeders connected to Bhutan system. As informed earlier the non-adherence to the above important clause of PPA shall invite serious audit observation for DGPC.

In 133rd OCC, Powergrid informed that the replacement of above main energy meters at Binaguri S/s were done as per the 35th ERPC/TCC decision as the meters were heavily time drifted. The list was circulated in 130th OCC meeting.

Powergrid added that the same was communicated to PTC.

OCC advised Powergrid to intimate DGPC/Bhutan whenever they intends to do any work/testing related to the meters of the above lines.

Powergrid agreed.

DGPC vide mail dated 19th June 2017 informed that POWERGRID was supposed to furnish necessary copy of CEA guidelines and the last test reports of the energy meters to DGPC by 1st week of May 2017. However till date PTC/POWERGRID has neither submitted the relevant documents of CEA nor the last test reports for energy meters. PTC/POWERGRID is requested to submit the same immediately to enable to take action to amend the PPA accordingly.

Further, during 133rd OCC, the issue of replacement of the main energy meters of 400kV Tala-Siliguri Feeder No. I & IV at Binaguri end and the main energy meters of 220kV Chhukha-Birpara Feeder No. II & III at Birpara end by PTC/POWERGRID without informing DGPC was also raised and PTC/POWERGRID was requested to submit the energy meter details along with the test report for the new replaced Genus make energy meters. The same has not been received till date and it is requested to submit the same immediately for DGPC's record and audit purpose.

DGPC/Powergrid may update.

Deliberation in the meeting

Powergrid informed that test report has been sent on 22nd June 2017.

OCC advised Powergrid to send the relevant CEA regulation to DGPC.

Item No. B.28: Integration of Genus Make meter in AMR-- ERLDC

In Eastern Region, order for procurement of 965 no of SEM's was placed with M/s Genus Power. First Lot of the meters have already been delivered by Genus and 24 meters of Genus make meter has been installed in different substation in ER.

Issue of Integration of Genus make meters in AMR system was discussed in meeting held with PGCIL, ERLDC, M/s Genus, & M/s TCS on 02.03.17 at ERLDC. M/s TCS informed that they have done the AMR integration test with Genus meter and informed that communication with existing Genus meter for AMR integration couldn't be established. Moreover M/s TCS had informed that they will try the subsequent steps for communication with Genus meter and update ERLDC & PGCIL accordingly.

In 132nd OCC, Powergrid informed that as per their communication with M/s TCS, integration of Genus meters in AMR system is possible, but it will take some more time to establish the communication.

In 133rd OCC, Powergrid informed that it will take some more time and asserted it will be done by June, 2017.

Powergrid may please update the status.

Deliberation in the meeting

Powergrid informed that TCS is able to read the Genus make meter data however there are some issues related to baud rate of communication. Testing is in progress at Subashgram. It is expected to be completed by July, 2017.

Item No. B.29: Non Receipt of meter Data -- ERLDC

1. **Motipur & Samastipur in BSPTCL**

220 KV Darbhanga(DMTCL)-Motipur (BSPTCL) D/C Line & 220 KV Darbhanga(DMTCL)-Samastipur (BSPTCL) S/C Line has already been charged and synchronized in April'17. Meter has been installed at BSPTCL end. BSPTCL was requested to send SEM data to ERLDC by every Tuesday. It has been seen that in spite of ERLDC request BSPTCL is not sending the data of Genus Meter installed at Motipur & Samastipur.

In 133rd OCC, ERLDC informed that the Genus meter software is available in ERLDC website and it can be installed in Laptop. The SEM data can be downloaded through Laptop.

BSPTCL agreed to send the SEM data after downloading the software.

ERLDC informed that BSPTCL is sending data of Motipur end but Samastipur end data is still pending.

BSPTCL may update.

Deliberation in the meeting

BSPTCL requested for a Laptop for downloading the meter data.

Powergrid informed that the software can be downloaded in desktop available at Substation.

OCC advised Powergrid to allocate the Laptops to constituents.

2. Jeynagar meter data at OPTCL

Jeynagar end meter NP-5964-A for 220 KV Jeypore(PG) Line-2 is not being sent from OPTCL since last 2 month. Moreover, the above meter is also not reporting in AMR. Matter is already informed to OPTCL as well as PGCIL. In absence of meter data end to end data validation is not possible.

In 133rd OCC, OPTCL & PGCIL were advised to check the SEM and resolve the issue at the earliest.

OPTCL & PGCIL may please respond.

Deliberation in the meeting

OPTCL informed that they are not able to download the meter data due to some problem in meter.

Powergrid agreed to look into.

3. **Chandil meter at JUSNL**

Chandil end meter NP-7434-A of 220 KV Ranchi (PG) Line is not recording any data since last one month. PGCIL Ranchi was requested to check the meter healthiness. However problem is still persisting.

In 133rd OCC, Powergrid informed that SEM is healthy and there may be connection problem.

OCC advised JUSNL to check the meter connections.

JUSNL may update.

Deliberation in the meeting

JUSNL informed that the line is now charged through tie bus and they will verify the connections after shifting the line to Main bus.

Item No. B.30: Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up control centre

The matter for replacement of old RTU in Eastern Region for reporting to back up control centre has been discussed in a special project review meeting held on 14th February 2017 at ERPC & also on 35th TCC/ERPC meeting held on 24th / 25th February 2017, It was also mentioned that there would not be any service support for the old RTUs from POWERGRID after 15 years of operation period. It was accordingly advised to ERLDC to form a committee with POWERGRID as a nodal agency for assessment of such old RTUs vis-a-vis further action plan on replacement. It was also advised to submit a report in the next TCC/ERPC meeting.

The matter for replacement of old RTU in Eastern Region for reporting to back up control centre has been discussed again in 19th SCADA O&M meeting held at ERLDC, Kolkata on 07th April 2017, wherein nomination of nodal person name from OPTCL, WBSETCL, DVC, BSPTCL, JUSNL, POWERGRID ERTS-1, POWERGRID ERTS-2, ERLDC, MPL &Jorethang has been collected.

Nomination from NTPC all stations including Nabinagar, NHPC all stations, Dikchu, Teesta-III, Chuzachen, JITPL, GMR, Ind Bharat & APNRL are yet to be provided. ERLDC has already issued letter ref no: ERLDC / SCADA O&M / 2017/ dated 11.04.2017 for the same. It is requested to provide the nomination from these stations.

OCC requested all the respective members to nominate their representatives at the earliest.

In 133rd OCC, OCC advised NHPC to submit the nomination list at the earliest.

ERLDC informed that a meeting has been scheduled on 09th June 2017 to discuss the above matter and requested all the constituents to send their nominated members to attend the meeting.

Members may update.

Deliberation in the meeting

ERLDC informed that the next meeting will be held in end of July 2017 and the report will be placed in August, 2017.

Item No. B.31: Shifting of communication links for PMUs reporting to ERLDC--ERLDC

Presently, PMUs locations at Farakka, Talcher, Jamshedpur, Ranchi, Binaguri, Durgapur, Rourkela & Jeypore are reporting through Alcatel Mux using E1 – Ethernet convertor at both end. In case of fibre cut between Kasba to ERLDC, all the 8 nos PMUs data stopped reporting to ERLDC (happened on 16/May/2017 from 04:25 Hrs to 12:49 Hrs). There is no redundant path provided for these communication links. So, it is requested POWERGRID to shift these PMUs' communication path / equipment so that the protection path of ULDC network would be used and this type of outage could be avoided. Communication link for Patna PMU is taken from PowerTel. It is also requested to POWERGRID that communication path may also be shifted for Patna PMU so that PowerTel communication could be removed.

In 133rd OCC, PGCIL informed that they will look into the matter.

PGCIL may update.

Deliberation in the meeting

ERLDC informed that work is not yet completed.

Powergrid informed that 8 PMUs communication system have been shifted to ULDC network.

OCC advised ERLDC to send the details of requirement to Powergrid.

Item No. B.32: 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.

In 120th OCC, ERLDC informed that every month they were updating the status and posting at ERLDC website.

133rd OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC.

Members may update.

Deliberation in the meeting

ERLDC presented the latest status of data availability. The presentation is enclosed at ***Annexure-B32****.*

OCC advised all the constituents ensure 100% data availability to ERLDC.

Frequent failure of JITPL data to ERLDC:

Real time SCADA data from JITPL is frequently failing (*May-17: 24% & June-17 (up to 18th): 62%*). It was observed that

- Microwave terminal equipment at Talcher HVDC end is getting hanged quite frequently causing failure of real time data to ERLDC.
- The direct line from JITPL to Angul 765/400 kV pooling station is available but real time SCADA data is yet to be diverted through this path.
- The voice connectivity from JITPL to ERLDC is yet to be provided / integrated with Hot Line Voice Communication installed by M/s Orange.

The same was informed to JITPL several times verbally and through a letter vide ref no: ERLDC/SL/2017-18/621 dated: 3rd May 2017 but it is yet to be diverted / provided.

JITPL may update.

Deliberation in the meeting

JITPL representative was not available in the meeting.

ERLDC informed that SCADA data from JITPL is frequently failing and JITPL is not responding even with repeated persuasions.

OCC advised ERLDC to take suitable action against JITPL and stop entertainment of STOA application till SCADA data is restored.

Item No. B.33: 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.

OCC advised Powergrid to submit a report on latest status of implementation and advised to update the status on every OCC.

In 131st OCC, Powergrid submitted the latest status of PMU installation.

*The updated status as furnished in 132nd OCC by Powergrid is given at **Annexure-B.33**.*

POWERGRID may update the status.

Deliberation in the meeting

*Powergrid informed that the status is same as given in **Annexure-B.33.***

Item No. B.34: 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-B.34**.

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

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.35: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

The latest status of Emergency Restoration System (ERS towers) as well as the future plan of procurement was given at **Annexure- B.35**.

Members may update the latest status.

Deliberation in the meeting

Members noted.

Item No. B.36: Availability of Hot Line Voice Communication--ERLDC

Hot line voice communication from Subashgram, Purnia 220, Baharampur, Biharsarif, Patna, Jeypore, Dalkhola, Birpara, Daltonganj, Kisanganj, Indrabati, Bolangir & Pandiavil are either not yet provided or not working since last couple of days. It is requested to POWERGRID to rectify the same at the earliest.

In 133rd OCC, Powergrid agreed to look into.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that work is in progress.

Item No. B.37: Erection and commissioning of 02 nos. of 220 kV line bays at KBUNL

Presently 220 KV KBUNL- Samastipur (new) (D/C) & 220 KV KBUNL - Motipur (D/C) tr lines have only one 220 KV bays each at KBUNL end since long & due to this one circuit each from KBUNL to Samastipur (new) & KBUNL to Motipur remain unutilised.
Due to unavailability of these bays at KBUNL end, BSPTCL is facing difficulties for synchronising 220 KV line at KBUNL. This results in high voltage during off-peak hours. As observed in system

study taking these circuits in loop at KBUNL will result in increment of 220 kV system voltage (which goes down to 206 kV during peak hours) at Darbhanga (New) by 3-4 kV. So keeping these lines in loop at KBUNL will enhance the reliability and stability of system.

So KBUNL (NTPC) may be instructed to complete the 02 nos. Of 220 kV line bays at KBUNL end at the earliest.

In 133rd OCC, Representative of KBUNL mentioned that contract, for execution of the said job, was awarded to M/S GET Power (Sister concern of M/S Techpro Systems Ltd.). However, due to worsening of financial condition, M/S GET failed to complete the work and left the work in between. KBUNL made all out efforts to get the vendor (M/S GET Power) on job but all its efforts met with little success.

He placed on record that, keeping in view of the fact that complete material for execution of the job was available at site, KBUNL had earlier requested BSPTCL to take up the job as BSPTCL has engaged various agencies for similar type of work. He also mentioned that BSPTCL had earlier agreed to take up the job on deposit basis.

He further mentioned that, KBUNL has started the process of termination of contract to M/S GET Power as well as for award of fresh contract for completion of remaining work. However, keeping in view the urgency of the work and also that awarding fresh contract and mobilization of resources may take some time, KBUNL representative again requested BSPTCL to take up the job on deposit basis.

BSPTCL representative informed that they will send some vendor/contractor for taking up the job.

BSPTCL vide mail dated 17th June 2017 informed that BSPTCL has tried but there other major works besides bay construction work. BSPTCL requested KBUNL to take up this work on its own in their own switchyard. Moreover, this bay construction will also remain helpful for KBUNL for evacuation of its generated power.

KBUNL and BSPTCL may update.

Deliberation in the meeting

BSPTCL requested KBUNL to take up this work on its own in their own switchyard and complete the work at the earliest.

KBUNL vide mail intimated that they acknowledge BSPTCL's concerns in this regard and is looking forward to take-up the work on its own.

However, KBUNL reiterated its constraints that termination of contract to M/S GET Power as well as awarding fresh contract for remaining work is under progress and the same may take time. Expected date of completion will be communicated after award of the contract.

Item No. B.38: Bus and bay strengthening at Purnea (PG)

Reconductoring of 132 kv Purnea (PG)-Purnea (BSPTCL) (T/C) transmission line from Panther to HTLS conductor has already been completed and line is charged. Now each circuit capacity is 1000 Amp. i.e. 200 MW. .

It has been planned to test the line by its loading, which requires compatibility of 132 kV main bus bar, bay etc at either Purnea (PG) and Purnea GSS end.

In BSPTCL for Purnea GSS end order has been awarded for R&M of GSS, which includes the work of bus bar & bay strength. These works are expected to be completed by 30.6.107.

For drawing optimum power at Purnea (PG) end, bus & bay strength must remain sufficient to sustain load.

PGCIL is requested to confirm status of its 132 kV bus bar, bay etc.

Powergrid may update the status.

Deliberation in the meeting

Powergrid informed that 132kV bus bar and bay at Purnea (PG) are not equipped with desired loading 200 MW/ckt and no future argumentation was planned.

OCC advised BSPTCL to interact with CEA/CTU, so that the issue may be discussed in Standing Committee on Transmission Planning of ER.

Item No. B.39: WBSETCL Agenda

1. Web based scheduling page cannot be accessed by any other browser other than google chrome
2. Non publication of ERLDC final schedule since introduction of WEB based scheduling and repeated revision of last revision

In 133rd OCC, ERLDC informed that Google Chrome browser is having advanced features in which user can get maximum features of WBS software. However user can open WBS in other browser with less features. Further, they assured to pursue the issue with the developer.

Members may discuss.

Deliberation in the meeting

ERLDC informed that Google Chrome browser is having advanced features in which user can get maximum features of WBS software.

Regarding non-publication of final schedule, ERLDC informed that the issues will be resolved within 15 days.

Item No. B.40: Statutory clearances of 400kv transmission line of IBEUL at the crossing points over the MGR rail corridor of OPGC

OPGC vide letter dated 03.03.2017 intimated that OPGC is pursuing construction of 2x660MW Thermal Power Plant at Ib-Thermal Power Station in the district of Jharsuguda,Odisha. The plant location is in close proximity to IBEUL's power plant located in the same area. Construction work of OPGC's expansion project is in very advanced state with a scheduled commissioning in 3rd Qr. of FY 2017-18. OPGC's expansion project includes construction of a dedicated rail corridor (MGR) connecting the power plant to its captive coal mines in Sundergarh. The alignment of the MGR has been finalized in 2009 and land acquisition has been completed. The MGR is presently under construction.

IBEUL has constructed its 400kV transmission line for evacuation of power which is crossing the MGR corridor of OPGC. This 400 KV transmission line has been constructed by IBEUL without maintaining the required statutory clearance at four locations (involving tower footing location and maintaining vertical clearance for conductors). This has been communicated to IBEUL at the time when the transmission line construction was yet to be undertaken. It is a matter of regret that in spite of several discussions and commitments by IBEUL, they have failed to comply with the statutory clearances during the construction of towers. As a result, the construction of the MGR corridor of OPGC is getting delayed due to failure of IBEUL to complete the rectification work of the 400kV transmission line at the crossing points and this is seriously affecting the commissioning schedule of OPGC expansion power plant.

In view of the above, OPGC requested to keep on hold all clearances for charging of the 400 kV transmission lines of IBEUL till the rectification works at the affected crossing points are completed in compliance with all the statutory requirements. This will facilitate completion of the construction work of the MGR system of OPGC as per schedule.

In 131st OCC, IBEUL informed that the issue has been discussed with Govt. of Odisha and they have already placed an order for extending the tower heights for maintaining the statuary clearances and the work will be completed by May, 2017.

OCC advised IBEUL to get fresh clearance from CEA for the complete line including the said crossing points over the MGR rail corridor of OPGC before commissioning the line.

In 132nd OCC, It was informed that the RIO, CEA clearance was given upto 30.06.2017 and IBEUL has to complete the tower extension work before 30.06.2017.

IBEUL informed that the work is in progress and it will be completed as per the schedule i.e. by 30.06.2017.

OPGC vide letter dated 16th June 2017 informed that their construction work is held up due to inadequate clearance at crossing locations. Letter is enclosed at ***Annexure-B40****.*

OPGC/IBEUL may update.

Deliberation in the meeting

OPGC informed that 2 months extension has been given to IBEUL and now they are asking for three more months for completion of the work.

OCC informed that RIO/CEA has given clearance up to 30.06.2017 and the transaction through this line will be stopped from 01.07.2017, if RIO clearance certificate is not received.

ERPC informed that 400 kV IBEUL Jharsuguda line- II has tripped on several occasion. The details are given below:

Sl. No	Tripping Date	Tripping Time	Restoration Date	Restoration Time	Reason
1	18-04-17	16:22	18-04-17	16:22	At location no 2/0 jumper to tower body clearance was found less in R & B phase and Pilot insulator found missing
2	11-05-17	11:08	11-05-17	17:06	DT received from IBEUL end
3	13-05-17	19:12	15-05-17	13:13	Tree infringement found in R phase at Location No. - 18/8 and 18/9 (28 km from Jharsuguda end
4	21-05-17	11:42	22-05-17	14:41	Tree infringement found in R phase at Tower no 137 & 138 in R phase
5	22-05-17	21:13	24-05-17	12:57	Tree infringement in R phase
6	24-05-17	12:57	24-05-17	18:54	R-N FAULT
7	26-05-17	19:50	27-05-17	21:46	Y-N FAULT

Moreover, the IBEUL representative was not available in the 56th PCC meeting held yesterday.

In PCC, Powergrid informed occurrence of these faults can be avoided by proper tree cutting and IBEUL is not taking any corrective action.

OCC advised IBEUL to take corrective action to minimize the trippings.

OCC advised Powergrid-Odisha to check the clearance of the line and report to ERPC & ERLDC.

OCC felt that IBEUL is not serious about protection issues and advised ERLDC not to entertain any STOA till clearance from Powergrid-Odisha is received.

Item No. B.41: Pollution mapping for Eastern Region

The Pollution Mapping work in ER was started with on-site measurement of ESDD and NSDD.

OCC advised all the respective constituents to coordinate with Powergrid for online filling of measurement data.

Powergrid updated the latest status as follows*:*

	Scope (no. of locations)	Installed Locations	1st set of Measurements submitted	2nd set of Measurements submitted	3rd set of Measurements submitted	4th set of Measurements submitted	5th set of Measurements submitted
JUSNL	67	27	17	17	13	15	24
BSPTCL	59	52	40	29	4	3	0
WBSETCL	73	68	43	4	3	1	1
OPTCL	164	102	100	90	79	78	24
SIKKIM POWER	12	9	6	6	0	0	9
POWERGRID ER1	99	99	99	47	0	15	0
POWERGRID ER2	40	40	40	40	24	0	0
POWERGRID ODISHA	42	42	42	42	40	40	0

Powergrid added that they prepared an online format to submit the details of measurements. Powergrid requested to fill the Google form(https://goo.gl/6375HJ) for onward submission of measurements for better analysis of results.

Further, the schedule for measurement as informed vide letter dated 20.01.2016 & mail dated 21.01.2016 are as follows:

Measurement Schedule		
4th set	*5th set*	*6th set*
21st -30th Sep 2016	*21st -31st Jan 2017*	*21st -31st May 2017*

OCC advised all the constituents to complete the measurements as per the schedule.

It is also requested to send the onward measurement results to following emails in addition to current email ids
1. vbhaskar@powergridindia.com
2. ritesh.kumar@powergridindia.com

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.42: Mock Black start exercises in Eastern Region – ERLDC

i) The status of black start exercises

The tentative schedule of black-start exercises for F.Y 2017-18 is as follows :

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2017	*30th May 2017*	Last Week of January2018	
2	Maithon	1stweek of June 2017	Completed on 04.04.17	1stWeek of February2018	
3	Rengali	2ndweek of June 2017	29 June 2017	Last week of November 2017	
4	U. Indarvati	3rdweek ofJune 2017		2ndweek of February2018	
5	Subarnarekha	1stweek of October 2017		1stweek of January2018	
6	Balimela	3rdweek of October 2017		1stweek of March 2018	
7	Teesta-V	2ndweek of Nov 2017		Last week of February2018	
8	Chuzachen	Last Week of May2017	May, 2017	January2018	
9	Burla	Last Week of June 2017	1st week of July, 2017	Last week of February2018	
10	TLDP-III	1stWeek of June 2017	After Mansoon	2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017	After Mansoon	1stWeek of February2018	

Members may update.

Deliberation in the meeting

Members updated the status as given in above table.

Testing of DG sets meant for Black start

Test run report of DG sets for blackstart has been received only from Odisha hydro units. The test run reports of other machines may be sent to erldc.cal@gmail.com and erldcoutage@gmail.com.

Constituents may kindly ensure compliance.

Deliberation in the meeting

Members noted.

Item No. B.43: Restricted Governor /Free Governor Mode Operation of generators in ER

The latest status of units of ER under RGMO is available at ERPC website (http://www.erpc.gov.in/) under Operation>Important data.

*In 126th OCC requested all the generators to share their governor response with ERLDC in the group (**https://in.groups.yahoo.com/neo/groups/ er_gov_respons/info**). Members may also send their request for joining the group to **erldcprotection@gmail.com**.*

ERLDC had uploaded the unit wise responses in the group "er_gov_respons@yahoogroups.co.in." i.r.o the following events for monitoring of RGMO response of generator:

1) *On 09-05-17, at 1642 hrs, generation loss of 1180 MW took place at JP Nigrie Unit-I & II due to loss of evacuation lines.*
2) *On 18-05-17 at 08:02 hrs, all generating units at Rihand tripped and both buses became dead. Generation loss 2700 MW.*
3) *On 20-05-17 at 20:06 hrs, 2000 MW generation loss at Chavra/Anta generation complex at Rajasthan due to fault at 765 kV Anta - Phagi – II.*
4) *On 23-05-17 at 17:43 hrs, 1500 MW generation loss at vindhyachal.*

ERLDC may update.

Deliberation in the meeting

ERLDC presented the response of ER generators. Presentation is enclosed at Annexure-B43.

CERC vide their letter dated 05-06-17 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.

Reply has been received from Gati, JLHEP, HEL and STPS (WBPDCL), which are summarized below:

Power Station	*Organization*	*Status of FGMO/RGMO*
Santaldih TPS	WBPDCL	Not in service
Haldia TPS	HEL	Operating in FGMO
JLHEP	DANS Energy	Not in service (RoR project with 3 hours pondage)
Chujachen HEP	Gati Infra	Not in service (RoR project with 3 hours pondage)

Recently commissioned generators Teesta – III of TUL and Dikchu of Sneha Kinetic Energy Limited are advised to inform their status of RGMO/ FGMO implementation.

Members may update.

Deliberation in the meeting

MPL informed that both the units are in RGMO.
WBPDCL informed that PPSP generators are in RGMO.

Updated status of the RGMO/FGMO of ER generators are enclosed in Annexure-B43A. The list is also available in ERPC website.

OCC advised all the constituents to go through the list and update the latest status vide mail to ERPC/ERLDC.

Item No. B.44: Reactive Power performance of Generators

Generating stations have been monitored for certain sample dates in the month of May,17.

Power Plant	Max and Min Voltage observed for May 17 (KV)	Date for monitoring (May 17)
Farakka STPS	424,402	1,2
Khalgaon STPS	424,405	9,27
Talcher STPS	408,394	2,21
Teesta	424,393	3,11
Bakreshwar TPS	414,390	2,16
Kolaghat TPS	425,397	2,16
Sagardighi TPS	425,403	2,27
MPL	419,408	1,27
Mejia-B	422,411	1,27
DSTPS	426,413	16,18
Adhunik TPS	421,408	2,21
Barh	439,408	9,27
JITPL	414,402	21,23
GMR	413,401	13,28
Kodarma	426,402	9,27

ERLDC may present the reactive performance.

Deliberation in the meeting

ERLDC presented the performance of the generators. Presentation is enclosed at Annexure-B44.

a) Schedule for reactive capability tests

The following was status of regarding reactive capability testing:

a. Adhunik TPS(both units) –Yet to be confirmed by Adhunik
b. DSTPS (Unit#2 only pending) – done
c. Koderma TPS Unit#1 -- done on 08.08.2016
d. JITPL(both units) – Procedure given. Not yet done
e. Barh TPS – In June 2016
f. Raghunatpur (both units)
g. GMR (Three units)
h. *Haldia TPS (Unit #4)*

Members may update.

Deliberation in the meeting

Members noted.

PART C:: OPERATIONAL PLANNING

Item no. C.1: Anticipated power supply position during July'17

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of July'17 were prepared by ERPC Secretariat on the basis of Provisional 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-C.1**.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of July, 2017 after incorporating constituents' observations is given at Annexure-C.1.

Item no. C.2: Shutdown proposal of transmission lines and generating units for the month of July'17

ERLDC informed that as per the outage procedure for transmission elements which was approved in 83rd OCC and minutes of 131st OCC, all indenting agencies were still not submitting OCC approved transmission element outages to ERLDC in 3 day advance for outage processing, which causes a lot of inconvenience to coordinate with multiple agencies and also to carry out system study before approve the outage request. In this regard, it is advised to submit the OCC approved outage request to ERLDC as per the outage procedure (at least 3 days advance) for final approval from ERLDC side. BSPTCL, OPTCL & JUSNL are also advised to submit outage request of their 400 kV state lines and tie lines for OCC meeting discussion, approval and also follow the same outage procedure while indenting for the OCC approved outage.

Members may finalize the Shutdown proposals of the generating stations for the month of July'17 as placed at **Annexure-C.2**.

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

Deliberation in the meeting

Approved maintenance programme of generators and transmission elements for the month of July, 2017 is given at Annexure-C.2.

C.2.1: Insulator Replacement programme for the month of July'2017.

The Schedule of insulator replacement submitted by Powergrid Odisha projects for June 17 is enclosed at **Annexure-C2.1.**

For all above places conventional porcelain insulator will be replaced by Composite Long Rod Insulator. Placed before members for discussion and subsequent consideration of the outages as deemed availability.

Members may approve.

Deliberation in the meeting

OCC agreed to consider the shutdown period as per the decision of 30th TCC/ERPC meetings and provisions of CERC regulations.

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

(i) Generating units:

Sr No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	KHSTPP	4	210	*OVER HAULING*	28-May-17
2	BOKARO A	1	500	SHORT MAINTENANCE	12-Jun-17
3	JITPL	1	600	*COAL SHORTAGE*	5-May-17
4	RAGHUNATHPUR	2	600	COAL SHORTAGE	23-Mar-17
5	RAGHUNATHPUR	1	600	LEAKAGE IN FEED WATER VENT LINE	12-Jun-17
6	PATRATU TPS	10	110	OVER HAULING	26-Jan-17
7	KOLAGHAT	2	210	DESYN DUE TO POLLUTION ISSUE	24-Feb-17
8	KOLAGHAT	3	210	DESYN DUE TO POLLUTION ISSUE	22-Feb-17
9	KOLAGHAT	6	210	STATOR EARTH FAULT	11-Jun-17
10	SAGARDIGHI	4	500	COAL SHORTAGE	12-May-17
11	BOKARO B	1	210	BOILER TUBE LEAKAGE	11-Apr-17
12	CTPS	2	130	HIGH TURBINE BEARING VIBRATION	1-Jun-17
13	CTPS	3	120	BOILER TUBE LEAKAGE	13-Jun-17
14	MEJIA	3	210	DESYN FOR LOW SYSTEM DEMAND	18-Jun-17
15	MEJIA	4	210	DESYN FOR LOW SYSTEM DEMAND	30-May-17
16	GMR	1	350	COAL SHORTAGE	13-May-17
17	SANTALDIH	5	250	ROTOR EARTH FAULT	30-Apr-17
18	KODERMA	1	500	BOILER TUBE LEAKAGE	16-Jun-17
19	TENUGHAT	1	210	COAL SHORTAGE	14-Jun-17

(ii) Transmission elements

Transmission Element / ICT	Outage Date	Reasons for Outage
220 KV BALIMELA - U' SILERU	27.04.15	LINE IDLE CHARGED FROM UPPER SILERU END AT 12:42 HRS OF 25.01.17
400 KV PATNA-KISHANGANJ D/C	26.07.16	TOWER COLLAPSED AT LOC NO 51
400 KV BIHARSARIFF-PURNEA- I & II	23.08.16	THREE NUMBER OF TOWERS ARE BADLY DAMAGED AT LOC, 46/9, 47/0 & 47/1 (In the mid of river Ganga).
220KV WARIA - BIDHANNAGAR-II	10.09.16	LINE UNDER B/D, TOWER COLLAPSED AT LOC NO 28
400 KV STERLITE - MERAMUNDALI D/C	15.05.17	TOWER CROSS ARM DAMAGED
765 KV GAYA VARANASI-I	17.05.17	TOWER COLLAPSE AT LOC NO 66, 67, 68. PEAK TOWER AT LOC 65 damaged

Members may update.

Deliberation in the meeting

Members noted.

Item no. C.4: Status of commissioning of generating station and transmission elements

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

Sl No.	Name of Element	Expected date
1	400kV Rajarhat-Purnea D/C (with LILO of one circuit each at Farakka and Gokarno)	
2	Augmentation of 400kV Farakka-Malda D/C with HTLS conductor	
3	400kV Ind-Bharath-Jharsuguda D/C	
4	400kV Talcher-Bramhapur-Gazuwaka D/C	
5	400kv Talcher-Rourkella(2nd D/C-Quad)	
6	400kV Sterlite-Jharsuguda D/C	
7	765kv Anugul-Srikakulum D/C	
8	400kV Sasaram-Daltonganj D/C &Daltonganj S/Stn	
9	400 kV Ranchi-Raghunathpur D/C	
10	220 kV TLDP-IV – NJP ckt-2	
11	220 kV Bidhansai-Cuttack D/C	
12	220kV Gola- Ranchi	

Members may update.

Deliberation in the meeting

Members noted.

Item no. C.5: ER Grid performance during May, 2017

The average consumption of Eastern Region for May-2017 was 403 Mu. So far maximum consumption achieved was 434 Mu on 25th May, 2017. Total Export schedule of Eastern region for May-2017 was 2334 Mu, whereas actual export was 2194 Mu. Easter region over drawl for the full month was 139.84 Mu.

ERLDC may present.

Deliberation in the meeting

ERLDC has presented the performance of the Eastern Region grid during May 2017. Presentation is enclosed at ***Annexure- C5****.*

PART D:: OTHER ISSUES

Item no. D.1: UFR operation during the month of May'17

System frequency touched a maximum of 50.32 Hz at 18:03 Hrs of 21/05/17 and a minimum of 49.64 Hz at 15:11 Hrs of 11/05/17. Accordingly, no report of operation of UFR has been received from any of the constituents.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.2: 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 May'17.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.3: Grid incidences during the month of May, 2017

ERLDC may place the details.

Deliberation in the meeting

Sr No	GD/ GI	Date	Time	S/S involved	Affected System	Summary
1	GD - I	03/05/2017	11:45	Fatuah	BSPTCL	220 kV Patna - Fatuah S/C and 220 kV Fatuah - Sipara S/C were not in service. Fatuah was radially supplied from Biharshariff. At 11:45 hrs, 220 kV Biharshariff - Fatuah D/C tripped on Y-B phase fault. Radial connected load at Gaighat, Mithapur, Harnaut, Baripahari etc. was shed due to lost of power supply.
2	GD - I	03/05/2017	17:15	Balasore	OPTCL	At 17:14 hrs, B-N fault occurred at 220 kV Balasore – Baripada – II which tripped from Baripada end only. As fault was being fed from Balasore end, other 220 kV feeders i.e. 220 kV Balasore – Baripada – I (from Baripada), 220 kV Balasore – New Duburi S/C (from New Duburi) and 220 kV Balasore – Bhadrak S/C (from Balasore) along with 220/132 kV ATR I & II (from 132 kV) at Balasore tripped to clear the fault.
3	GD - I	06/05/2017	15:39	Chukha	ISTS	220 kV Chukha - Malbase S/C was under s/d. At 15:39hrs, 220 kV Chukha-Birpara-D/C tripped on R-Y phase fault (dist. 46.8km & 45.5km respectively from Birpara) which resulted tripping of all running units at Chukha due to loss of evacuation path. At same time, 220kv Birpara-Malbase S/C also tripped from Malbase end.
4	GD - I	09/05/2017	04:30	--	BSPTCL	From 04:30 hrs to 06:30 hrs on 09.05.17 a heavy storm reported in Bihar at Muzaffarpur ,Hazipur, Darbhanga, Dehri, Purnea, Samastipur etc. which resulted load loss of around 2000 MW. After the load throw off, high voltage reported at Arrah, Muzaffarpur Gaya etc. Further, 3x50MVA 132/33 KV ICT at Arrah and ICT at Dumraon and Jagdishpur tripped on over flux at 05:20 hrs. Power failure occurred at 220 KV S/stn. Hazipur, Gopalgunja, Motipur, Musari, Samastipur, Begusarai ,Darbhanga & Madhepura s/stn. Traction power interrupted at siwan, Chapra, Sonepur, Samastipur etc.

5	GD - I	10/05/2017	20:45	Kishangunj	BSPTCL	At 20:45 hrs 220/132 kV ATR at Kishangunj & 220/132 kV ATR at Madhepura tripped due to O/C. At same time, 132 kV Purnea - Kishangunj S/C tripped from Purnea end on O/C. 220/132 kV ATR - I at Kishangunj was connected through TBC. During connection, master trip relay (86A & 86 B) for main transformer protection panel was not reset. LBB was set at 0.2 A & CT ratio was 1600/1. When current increased more than 320 A through ATR - I, BB/LBB Peripheral unit (installed at 220 kV relay paned) sent trip signal to BB/LBB central unit resulting tripping of all units connected to TCB. After tripping of ATR - I, ATR - II tripped due to O/C protection. After tripping of both ICTs at Kishangunj, 132 kV Supaul - Kataiya(from Supaul) and 132 kV Purnea - Kishangunj (from Purnea) tripped on O/C
6	GD - I	11/05/2017	08:28	Teesta III	ISTS	At 08:28.20.861 hrs, 400 kV Teesta III – Rangpo S/C tripped due to operation of differential protection (87C) at Teesta III end. Breakers at Rangpo end opened at 08:28.21.410 hrs after receiving DT from Teesta III end. In PMU data, R-N fault has been observed. Distance protection at Rangpo end did not sense any type of fault at the time of incident. All running units (2,3 &6) tripped due to loss of evacuation path
7	GD - I	12/05/2017	13:00	DSTPS	DVC	Due to operation of B/B protection, both buses along with all running units and outgoing feeders tripped resulting total power loss at DSTPS.
8	GD - I	13/05/2017	09:20	Arrah	BSPTCL	At 09:20 hrs tripping of 132 kV Arrah - Arrah S/C due to R-N fault (Z-I from PG end) during heavy storm resulted load loss at radially fed areas
9	GD - I	13/05/2017	13:37	Rajkarswan	JUSNL	132 kV Adityapur - Rajkarswan S/C and 132 kV Chandil - Rajkarswan S/C tripped due to Y-B fault resulting total loss of power supply at Rajkarswan.
10	GD - I	13/05/2017	16:29	HEL	WBSETCL	At 16:29 hrs 400 kV HEL - Subhasgram - I tripped due to B-N fault. At same time, 400 kV HEL - Subhasgram - II tripped on O/V at HEL (DT received at Subhasgram). Both the running units at HEL tripped due to loss of evacuation path.
11	GD - I	13/05/2017	22:08	Joda	OPTCL	At 22:08 hrs 220 kV Joda – TTPS D/C tripped from both ends on D/P (Z-I at TTPS end and Z-II at Joda end). At same time, 220 kV Ramchandrapur – Joda S/C tripped from Ramchandrapur end on R-N fault and 220 kV Jamshedpur (DVC) – Jindal S/C tripped from Jamshedpur end on O/C protection.
12	GD - I	15/05/2017	16:09	Teesta III	ISTS	At 16:09 hrs 400 kV Rangpo – Teesta III S/C tripped from both ends (Teesta III end: O/C, E/F Ir = 0.9 kA, Iy = 1.3 kA, Ib = 1.2 kA; Rangpo end: DT received) resulting in tripping of all running units (Unit #I, #III, #IV, #V & #VI) at Teesta III due to loss of evacuation path. In PMU data, B phase fault has been observed at same time. Fault clearing time is less than 100 ms
13	GD - I	17/05/2017	06:28	Subhasgram(WB)	WBSETCL	At 06:28 hrs 220 kV Subhasgram – Subhasgram D/C tripped due to Y phase LA failure (of Circuit II) at PG end (Circuit I tripped from PG end on Z-II). At the same time, 220 kV Kasba – Subhasgram (WB) tripped from Kasba end on Z-II. Due to loss of both supply (Subhasgram (PG) and Kasba), 220/132 kV Subhasgram (WB) s/s became dead and load loss occurred at Lakhikantapur, Sirakol, Falta & Kakdeep.
14	GD - I	18/05/2017	23:48	Bolangir	OPTCL	At 23:48 hrs due to CT burst at 33 kV level of 220/132/33 kV Katapalli S/S, 220 kV Katapalli – Lapanga D/C, 220 kV Katapalli – Bolangir (PG) S/C, 220 kV Bolangir (PG) – New Bolangir S/C, 220 kV Katapalli – Hindalco D/C, 132 kV Katapalli – Burla D/C, 132 kV Katapalli – Chiplima D/C along with 132/33 kV ATR II & III at Katapalli tripped resulting loss of power supply at Katapalli S/S

15	GD - I	21/05/2017	16:39	Lalmatia	JUSNL	At 16:39 hrs 220 kV Farakka Lalmatia S/C (O/C E/F protection F/C 4.68 kA in B phase at Farakka), 132 KV Kahalgaon(BSPTCL) - Lalmatia S/C & 132 KV Kahalgaon(NTPC)-Lalmatia S/C (B-N, 88.7 km from KhSTPP but line did not trip from NTPC end) tripped resulting total loss of power supply at Lalmatia & Sahebgunj. Load at Dumka got survived as it was radially fed from Maithon.
16	GD - I	23/05/2017	14:50	CTPS	DVC	At 14:50 hrs 132 kV CTPS - Putki Q/C, 220/132 kV ATR - I, II & III at CTPS, along with U #2, #7 & #8 at CTPS tripped resulting total loss of power supply at CTPS. In PMU data, more than one voltage dip has been observed in B phase at the time of the disturbance. Inclement weather was reported around CTPS.
17	GD - I	25/05/2017	13:28	Jamui	BSPTCL	At 13:20 hrs, 132 KV Jamui-Seikhpur S/C tripped from both ends (At Seikhpur it tripped at 13:22 hrs). During Charging of 132 KV Jamui-Seikhpur S/C at 13:28 hrs, 132 KV Lakhisarai(PG) –Jamui D/C tripped from Jamui end, At 13:36 hrs 132 KV Lakhisarai(PG) –Jamui D/C were charged. During second charging attempt of 132 KV Jamui-Seikhpur S/C at 13:56 hrs, 132 kV Lakhisarai - Jamui D/C tripped again (Ckt I from PG end and Ckt II from both ends). At 14:25 hrs 132 kV Lakhisarai - Jamui D/C were charged again. 132 kV Jamui - Seikhpur S/C was charged at 19:19 hrs on 29-05-17.
18	GD - I	26/05/2017	15:34	Chandil	JUSNL	Due to inclement weather condition, 220 kV Ranchi Chandil S/C tripped on R-N fault at 14:37 hrs and 220 kV STPS – Chandil S/C tripped on Y-N fault at 15:04 hrs. Total loss of power supply at Chandil occurred with tripping of 220 kV Ramchandrapur – Chandil S/C from Ramchandrapur end on R phase O/C at 15:34 hrs. Y phase conductor at location no. 308 of 220 kV Chandil – STPS line have snapped and fallen on the ground due to heavy lightning.
19	GD - I	29/05/2017	17:12	NBU	WBSETCL	Due to Y phase CT and CB burst at NBU end of 132 kV NBU - Rammam, all 132 kV feeders connected at NBU tripped due to operation of bus bar protection. AT NJP (PG) end B/U O/C E/F relay also tripped for 132 kV NBU - NJP (PG) S/C.
20	GD - I	31/05/2017	15:53	CESC	WBSETCL	At 15:53 hrs CESC got desynchronized from Kasba end due to fault in 132 kV Kasba Salt Lake S/C.
Multiple elements tripping without load loss						
1	GI-II	12/05/2017	12:07	Meramundali	OPTCL	400 kV Meramundali – SEL – II was being taken shutdown. It was hand tripped from Vedanta end. But breakers at Meramundali end were not open. So LBB operated for bus – I and all main breakers connected to bus – I tripped. As per ERLDC SCADA data, power flow through 400 kV Mendasal – I, Angul – II, N. Duburi – I and SEL - II feeder along with 400/220 kV ICT – I at Meramundali (was connected to Bus – I through main breaker) became zero (data was not available for 400 kV GKEL & JSPL-I feeder) after the tripping of main breakers.
2	GI-II	21/05/2017	11:23	Darbhanga	ISTS	At 11:23 hrs bus differential protection of 400 kV main bus I & II at Darbhanga operated due to operation of gas compartment zone trip signal generated due to problem in hard wiring. As a result 400 kV Darbhanga - Muzaffarpur D/C and 400/220 kV ICT - II at Darbhanga (ICT - I under s/d) tripped resulting total loss of supply at Darbhanga.
3	GI-II	22/05/2017	16:32	Birpara	ISTS	Due to operation of differential protection at bus - II at Birpara all elements connected to bus II i.e. 220 kV Chukha - Birpara - II, 220 kV Birpara - Malbase S/C, 220 kV Birpara - Alipurduar - II, 220 kV Birpara - Siliguri - I, 220/132 kV ATR at Birpara tripped from Birpara end.
4	GI-II	26/05/2017	10:20	New Duburi	OPTCL	400 kV Meramundali - New Duburi - I & 400/220 kV ICT - I at New Duburi tripped due to operation of LBB operation of bus I at New Duburi.

5	GI-II	29/05/2017	13:38	Sasaram	ISTS	At 13:38 hrs, 400 kV Biharshariff – Sasaram D/C tripped due to R-N fault resulting pole-block of Sasaram HVDC link (On SPS operation). Due to no connectivity at 400 kV & 765 kV level, 400 kV & 765 kV bus were charged from 220 kV level through ICTs. As per PMU data, voltage at Sasaram became as low as 130 kV. Load at Arrah & Nandokhar was being fed from Patna (Patna – Sipara – Khagul – Arrah link). Both 400/220 kV ICTs also tripped at 14:02 hrs.

Members noted.

Item no. D.4: Additional agenda

D.4.1 : Retrofitting of 08 nos. BHEL make Circuit Breaker with Siemens make Circuit Breaker on ADDCAP at Jamshedpur substation.

The Jamshedpur substation was commissioned in the year of 1991-1992. The BHEL make CB installed during the commissioning of substation have completed their useful life of 25 years. In recent past a lot of operation issues have been faced. In view of above POWERGRID is replacing all 08 nos. BHEL make CB with new Siemens make CB to improve system stability under ADDCAP. It is requested to consider the outage of feeders /ICT non attributed to POWERGRID as per CERC norms.

Deliberation in the meeting

OCC agreed to consider the shutdown period as per the provisions of CERC regulations.

D.4.2 : Impedance measurement of 400 KV Gaya-Chandwa D/c Lines in ER-I.

The impedance measurement of transmission line will help in setting calculation of transmission line which further help Relays to locate fault more accurately thus reducing patrolling time and outage of lines. As this is an activity carried out for system improvement, it is requested to consider the outages as per CERC regulations for non-attributable to POWERGRID. The shutdown of the subject D/c lines may be accorded for the period of 09:00 to 17:30 hrs on dtd. 24.07.2017

Deliberation in the meeting

OCC agreed to consider the shutdown period as per the provisions of CERC regulations.

D.4.3 : Reporting of voltage deviation indices (VDI) for select S/Stns in ER

ERLDC submitted the Voltage Deviation Index (VDI) of selected 400 kV Sub-stations for May, 2017 of Eastern Region which is enclosed at **Annexure- D.4.3**.

Deliberation in the meeting

Members noted.

D.4.4 : Black start and FGMO/RGMO operation of Purulia Pump Storage Project (PPSP) units of WBSEDCL – ERLDC

In the 130th OCC Meeting held on 17th February, 2017 WBSEDCL informed that they had contacted OEM Toshiba for feasibility of black start and OEM required to conduct a simulation with CEA recommendations. OCC advised WBSEDCL to expedite the process as the time extension granted by CERC for making black-start and FGMO/RGMO operational in PPSP units, was going to lapse by March.2017.

Blackstart and FGMO/RGMO are services of critical nature that are essential during emergency and normal conditions. Implementation of these functionalities is pending since long and any further delay should be avoided in the interest of grid security.

WBSEDCL may please furnish a detailed report indicating the actions taken so far for implementation of black-start and FGMO/RGMO features for their PPSP units along with expected date for making these features functional.

Deliberation in the meeting

WBSEDCL representative informed that PPSP units are in RGMO mode from October, 2016. Regarding black-start facility, he assured to appraise the present status at an early date.

Meeting ended with vote of thanks to the chair

****

Annexure-B3

Creation and maintaining a Web based Protection Database and Desktop based Protection setting calculation tool for Eastern Regional Grid

Load Generation Data Status

Summer peak condition 2017

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Introduction

- In 120th OCC meeting 26.05.2016 and 27.05.2016 at 20.00hr selected for summer peak condition.
  - Operational system study carried out on regional system peak for 26.05.2016 at 20:00hr.
  - Report submitted on 29.06.2016.
- In 124th OCC meeting 27.08.2016 at 13:00 hr and 28.08.2016 at 03.00hr selected for summer off peak condition
  - Operational system study carried out on regional system peak 27.08.2016 at 13:00hr.
  - Report submitted on 06.01.2017.

- In 127th OCC meeting 28.12.2016 at 13:00 hr and 29.12.2016 at 02:00hr selected for winter off peak condition.
  - Between the two selected time step, demand is slightly less at 29th of Dec,2016 and overvoltage scenario is predominant. Operational load flow study carried out for 29.12.2016 02:00hr.
  - Report softcopy submitted on 03.04.2017.
- In 132th OCC meeting 04.05.2017 at 19:00hr or 20:00hr and 05.05.2017 at 19:00hr or 20:00hr are selected for summer peak condition.

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Data availability status

States under ERPC	State wise Data received		
	Substation full data Received	Generating Station full Data Received	Network updating Data from utility
Bihar	85.61%	40.00%	0%
Jharkhand	36.99%	27.78%	0%
Odisha	16.92%	15.22%	0%
Sikkim	0.00%	0.00%	0%
West Bengal	54.60%	35.71%	0%

****The S/S owned by Central , State sectors, DVC, DPL and Private Utilities are allocated in above 5 states as per their geographical location .***

- **DVC data received only for GOMD-6.**
- **Full data remaining Sikkim and for all PGCIL S/S of ER.**
- **Data remaining for Orissa state.**
- **Required 220kV SCADA Snapshot.**

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Data availability status

States under ERPC	State wise Data received*		
	Load Gen. Data(04th and 05th May 2017) S/S wise		
	Total No. of S/S & G/S	Full data received	Partial data received
Bihar	144	121	0
Jharkhand	91	32	2
Odisha	176	29	39
Sikkim	33	0	0
West Bengal	191	99	101

**The S/S and G/S owned by Central , State sectors, DVC, DPL and Private Utilities are allocated in above 5 states as per their geographical location .*

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Loading details of 04th and 05th May 2017 Peak hours of ER grid (ERLDC-PSP Data)

Sl. No.	Constituents	Load Data (MW)			
		4th May-16 19:00 hrs	4th May-16 20:00 hrs	5th May-16 19:00 hrs	5th May-16 20:00 hrs
1	Bihar	3349	3464	3354	3567
2	Jharkhand	1000	941	990	1036
3	Odisha	3673	3749	3649	3902
4	Sikkim	62	57	63	59
5	W. Bengal	8233	8179	8206	7887
6	DVC	2236	2330	2226	2135
Total Demand		**18553**	**18720**	**18487**	**18586**
Total Regional Gen.		**20995**	**21620**	**20569**	**21429**

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THANK YOU

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2017

Vidyut MODE App for POSOCO

Vikiraj Hinger, CruxBytes Consultancy Services
V0.2

[VIDYUT MODE CMS]

This document details the workflow for an admin who can access it with the valid credentials.

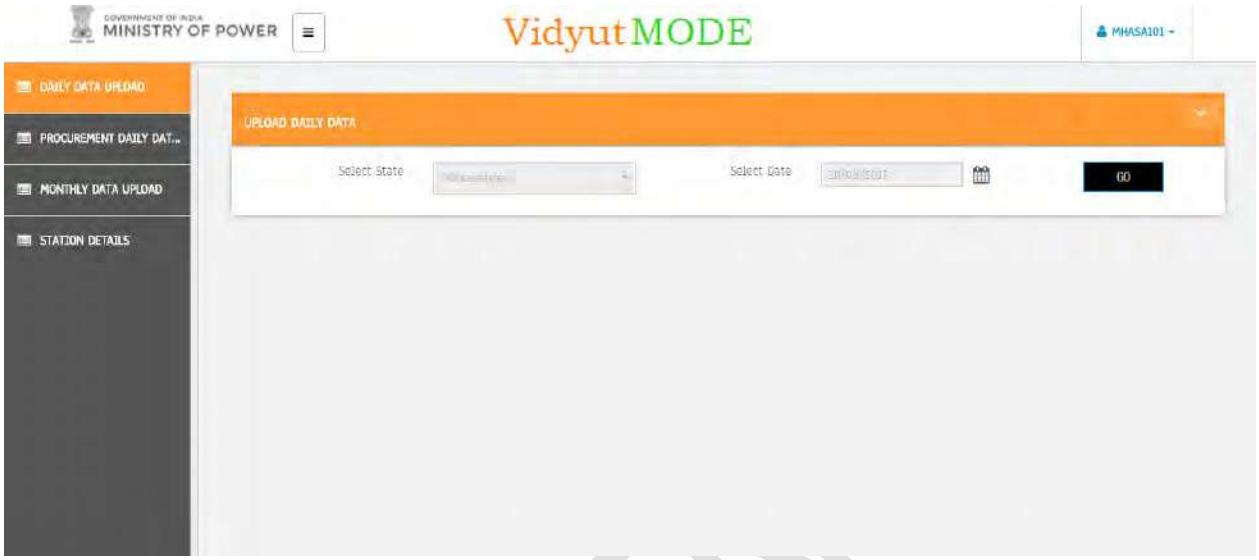
Login Page

This will be a secured login page. Only authorized users will be given credentials by POSOCO team which will be shared with each state users. Login credentials of the respective users will be shared by POSOCO team separately over email.

The software is accessible from: http://vidyutmode.in/login

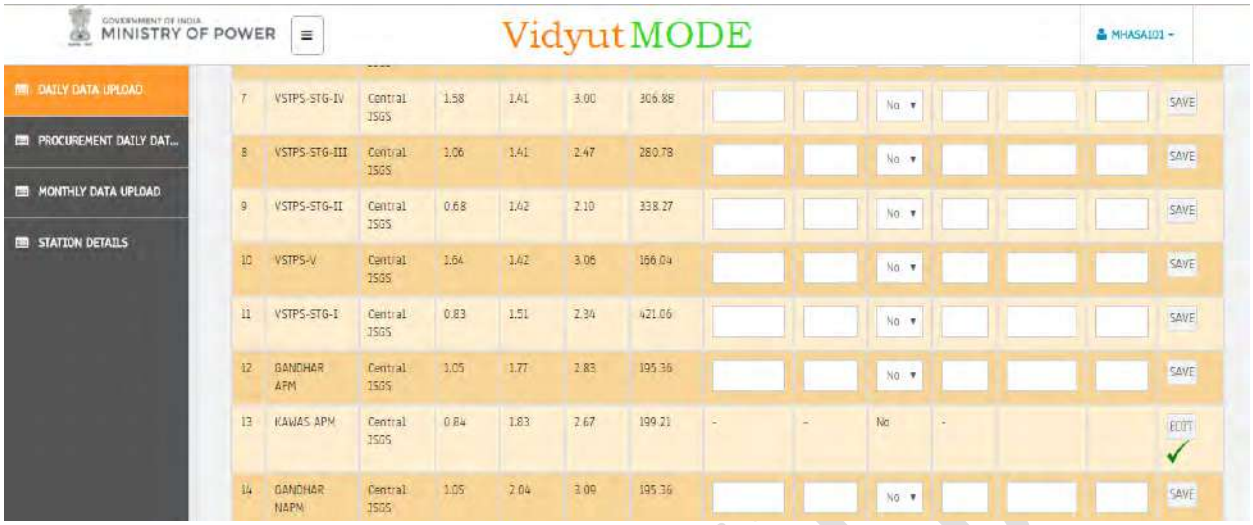
Daily Merit Order Data

a. Option for selection of date to proceed filling the data. This data can be filled by each state owner's for their respective states.

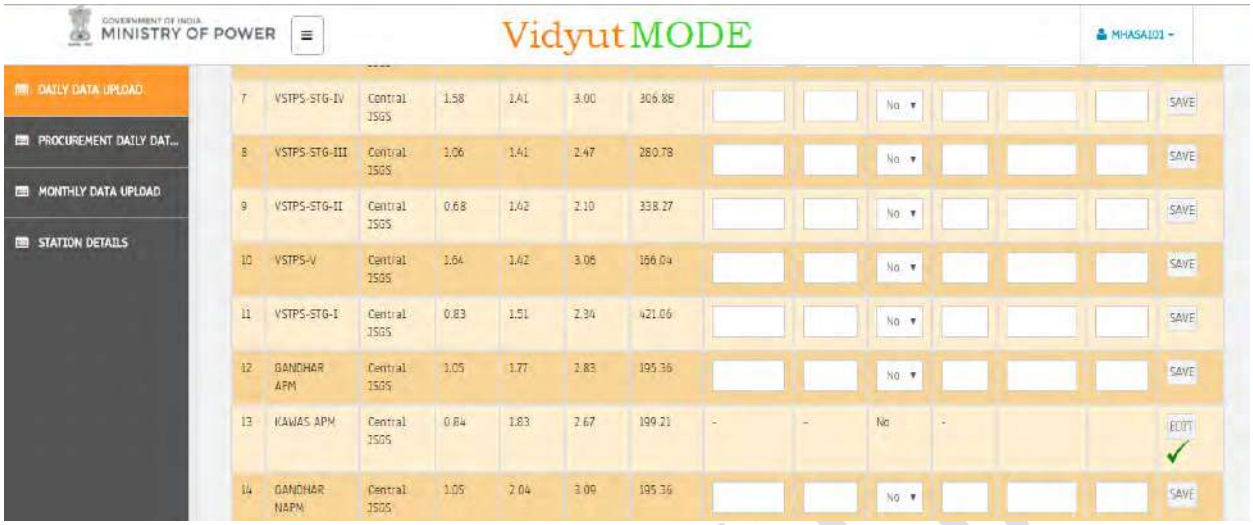


b. Load page with existing data. If data is not present, then only master values will be shown, and rest can be entered by the user

c. Easy interface to update each row of data. Click on Edit to make data entry



d. On successful save, a green tick will be shown



Power Procurement Details – Daily

a. Option for selection of date to proceed

b. After selection, prefilled data will be shown, if already present. Data if not entered, will get saved as NULL and will show on dashboard as "-"

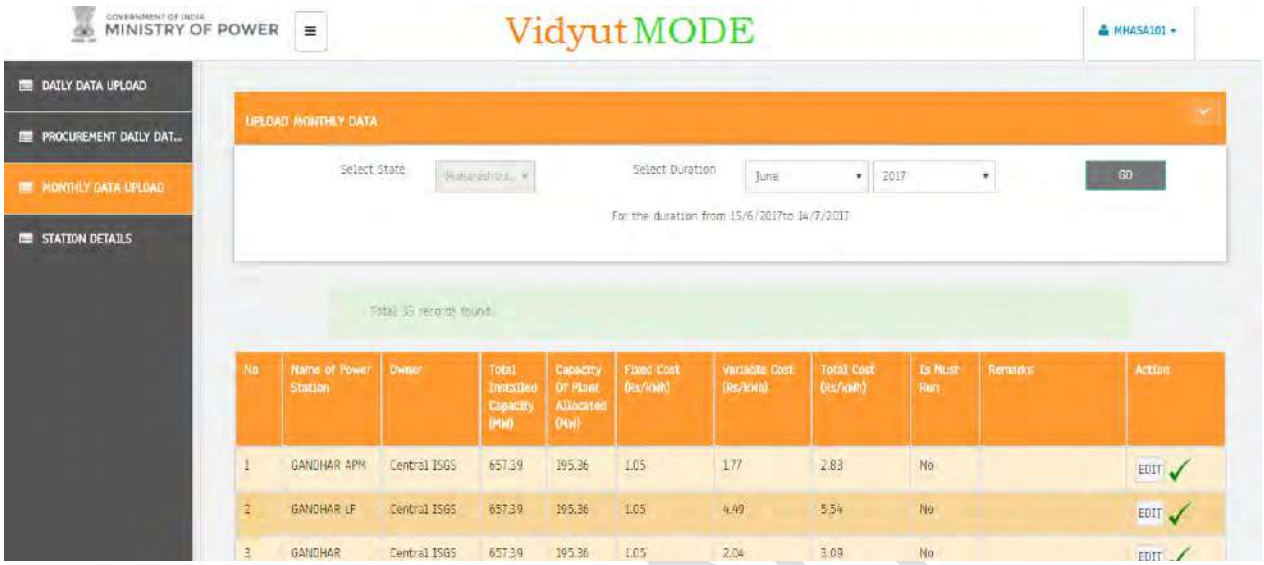
c. Edit form for easy data entry

d. A green tick is shown after saving the data

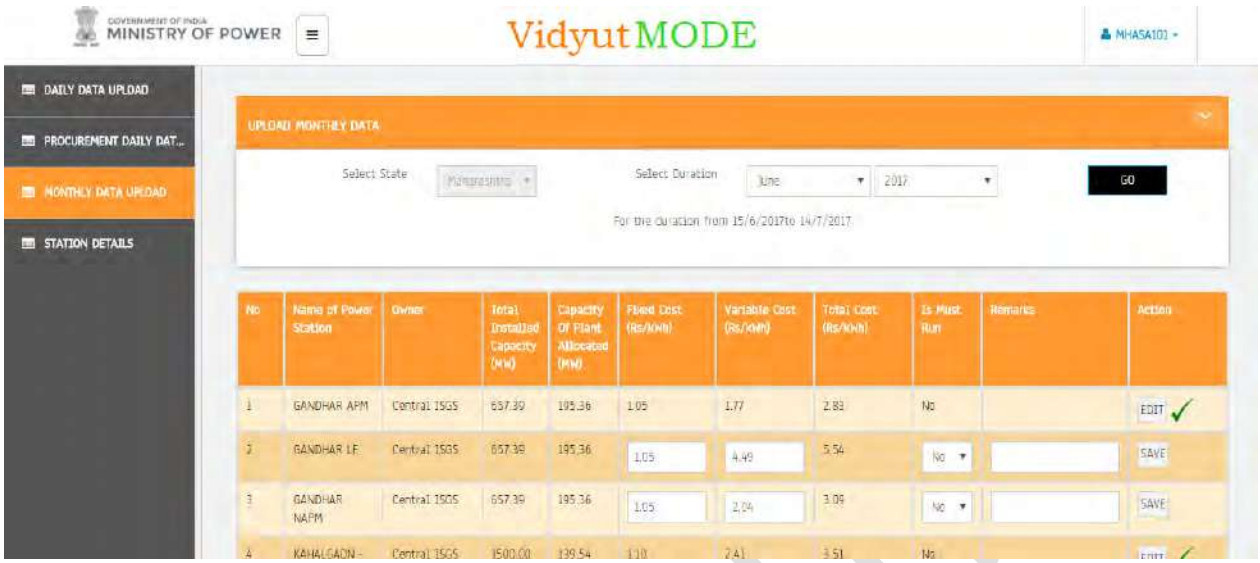
Monthly Merit Order Data

a. Option for selection of date to proceed filling the data. This data can be filled by each state owner's for their respective states for every month.

b. Load page with existing data. If data is not present, then only master values will be shown, and rest can be entered by the user

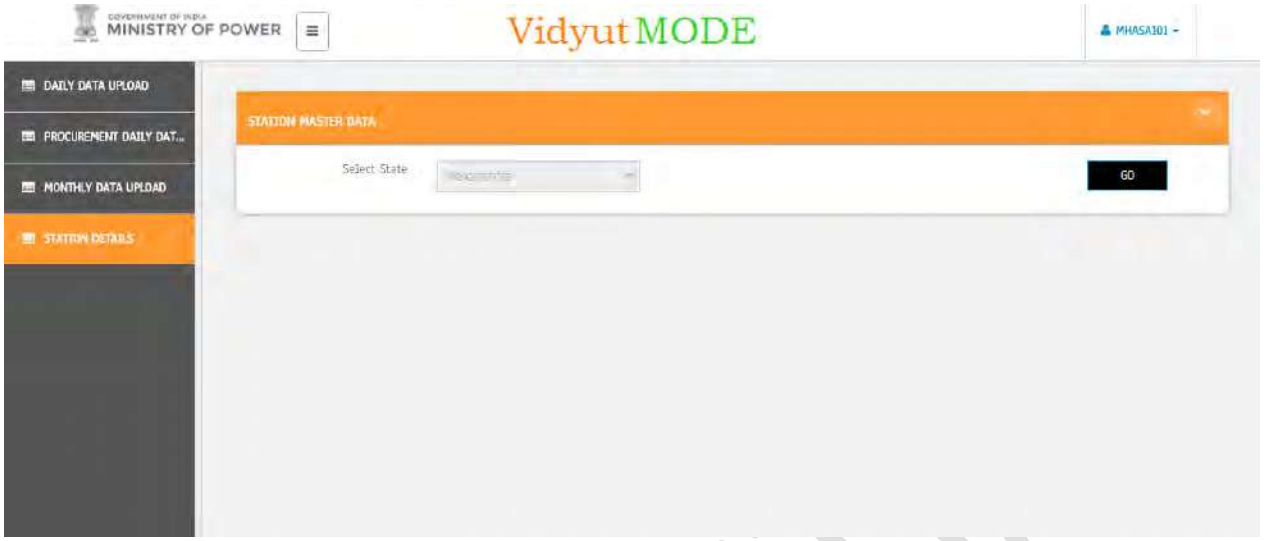


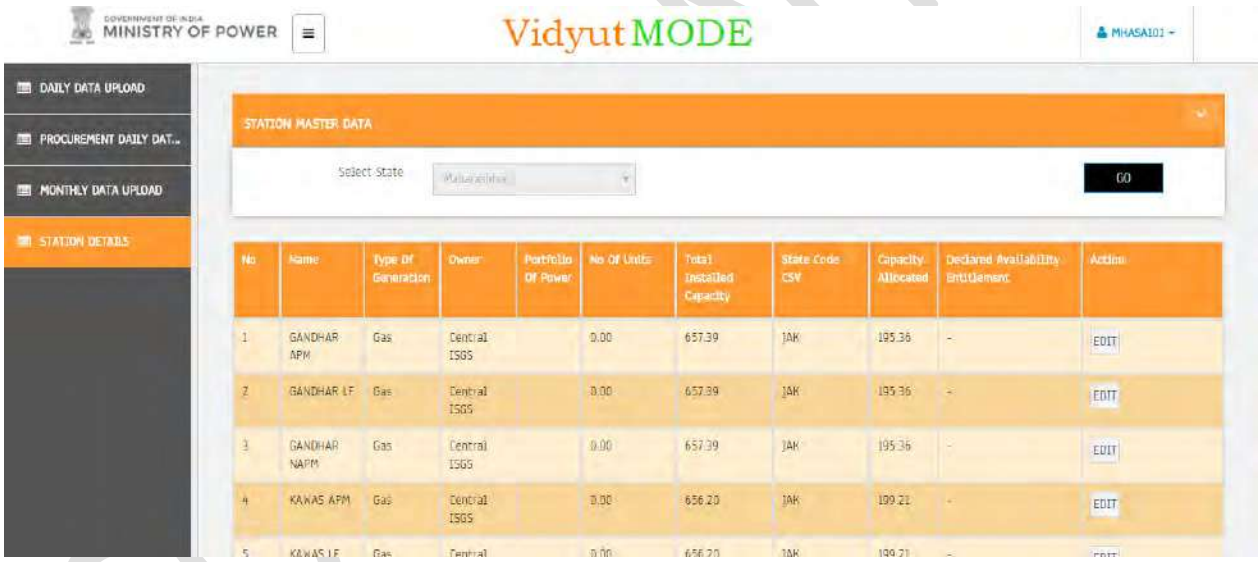
c. Easy interface to update each row of data. Click on Edit to make data entry



d. On successful save, a green tick will be shown

Station Details





THANK YOU

ADMS Scheme at SLDC, Patna

SCADA at SLDC, Patna has provision for ADMS, but it has not been implemented because demand management by imposing load shedding is completely under the jurisdiction of DISCOMS. We had requested DISCOMS to provide list of 33 kV feeders with priority for implementing ADMS, but the required list is still awaited from their side. ADMS will be in full operation as soon as we get the data from DISCOMS. The scheme is as follows:-

Case-I: *Low frequency-* Under this scheme three level of frequency has been set i.e. 49.50, 49.00 & 48.5 Hz and three quantum of load has been set i.e. Load-1, Load-2 & Load-3. In the following cases the ADMS will be implemented as follows:-

- **49.0 Hz<Frequency<49.5 Hz:** Feeders under Load-1 will be disconnected in the priority wise till frequency becomes more than 49.5 Hz. Load disconnection will stop if frequency does not rise above 49.5 Hz even after disconnecting all feeders of Load-1.
- **48.5 Hz<Frequency<49.0 Hz:** Feeders under Load-1 & Load-2 will be disconnected in the priority order till frequency becomes more than 49.5 Hz. Load disconnection will stop if frequency does not rise above 49.5 Hz even after disconnecting all feeders of Load-1 & Load-2.
- **Frequency<48.0 Hz:** Feeders under Load-1, Load-2 & Load-3 will be disconnected in the priority order till frequency becomes more than 49.5 Hz. Load disconnection will stop if frequency does not rise above 49.5 Hz even after disconnecting all feeders of Load-1, Load-2 & Load-3.

Case-II: *Over drawl*- Under this scheme if over drawl is more than 12.5% of schedule or 150 MW whichever is less, then disconnection of feeders in priority order will happen to bring the over drawl within the permissible limit. As soon as we get the list of feeders with priority order from DISCOM, the feeders will be categorised and placed in three blocks namely Block-1, Block-2 & Block-3. Feeders will be disconnected in the order of block.

This ADMS scheme has two options for the feeder disconnection:-

- **Linear Disconnection:** On reaching any of the above cases, feeders in their respective category will be disconnected in the linear manner i.e. after meeting the desired level for which disconnection was done the feeders will be taken into service. Again if cases as stated above arise then feeders will again be disconnected in their priority from initial level.
- **Circular Disconnection:** Feeders of each category will be placed in circular manner. On reaching any of the above cases, feeders in their respective category will be disconnected in the circular manner i.e. after meeting the desired level for which disconnection was done the feeders will be taken into service. Again if cases as stated above arise then feeders after the last disconnected one in priority list will be disconnected. No feeder will be disconnected twice until unless any feeder of that group remained connected during previous ADMS operation.

Annexure-B15

UFR Inspection Report of DVC substations on 31.05.17

The ERPC UFR inspection group visited 132kV Putki and Patherdih substations of DVC for UFR Audit on 31.05.17. The team physically inspected the feeders which are connected with UFRs at the above sub-stations. The report of the inspection is furnished below:

Sl. No.	Name of the substations	Feeder connected with UFR	Voltage rating (Kv)	Adopted UFR setting (Hz)	Tested initiated frequency (Hz)	UFR make
1	132/33 kV Putki	Godhor (JSEB) –I, Bhuli line-II	33	49.0	49.01	Siemens 7SJ8042
		Ganeshpur (JSEB) –I&II, Katras (JSEB), Katras Sijua	33			
2	132/33kV Patherdih	Mukunda	33	48.8	48.81	Siemens 7SJ8042
		Digwadi	33			
		Govindpur (JSEB)	33			

The above UFR settings were tested with help of Secondary injection Kit owned by DVC. All the feeders were tripped at desired frequency and UFRs are provided with direct trip wiring.

Annexure-B16

Tentative Agenda of the one-day Workshop to be organized at ERPC, Kolkata on 29th June, 2017 regarding Cyber Security related awareness and training in the Power Sector

9:00 – 10:00	**Registration**

10:00 – 12:00	**Inaugural Session: Compliance, Regulatory & Policy Issues in Cyber Security**
	• The Importance of Protecting Critical Infrastructure (CI) and Critical Information Infrastructure (CII)
	  o Internet Governance – Progress So Far & Challenges Ahead; Building a regulatory and policy framework for Cyber Security in Critical Infrastructure
	  o The Role and Importance of an Internet Security Division (ISD) and Chief Information Security Officer (CISO)
	  o The Importance of Skill Development: Creating a cadre of Cyber Security Managers
	  o Role of 'National Critical Information Infrastructure Protection Centre' (NCIIPC) & CERT-In (Indian Computer Emergency Response Team)
	• Information Technology Act, 2000 and I.T. Amendment Act 2008
	• Technical Standards/Guidelines on Cyber Security for Systems
	• The Role of Government, Regulators and Public-Private initiatives in Cyber Security (Focus: Public Sector-Private Sector Coordination)

12:00 – 13:30	**Session 1: Protecting Critical Information Infrastructure: Emerging Threats**
	• The Nature of the Threat (Past and Emerging)
	  o Protecting large and complex networks
	  o Threat exposures in the data connectivity (Telemetry) infrastructure (SCADA)
	  o Threat exposure in payment mechanisms
	  o Threats from compromised personnel
	  o Remote takeover of critical systems
	• Case Studies:
	  o Stuxnet Virus
	  o Ukraine Power Grid
	• The Cost of cyber attacks
	  o Data theft and intellectual property
	  o Data blackmail
	  o Financial theft
	  o Denial of service

13:00 – 14:00	**Lunch**

14:30 – 16:00	**Session 2: Mitigating the Impact of Cyber Attacks** • Planning and Implementing Standard Operating Procedures • Building Redundancies (Data Backup and Recovery) • The Role of Crisis Management Centres • Cyber Insurance Options & Viability
16:00 – 16:15	**Tea**
16:15 – 17:45	**Session 3: Securing the workplace from cyber threats (Practical Demonstration)** • The Importance of Passwords • Dark Internet or Deep Web • Malwares and Types of Frauds • Threats to Smartphones • Wi-Fi Security • Website Security • VAPT (Vulnerability Assessment and Penetration Testing) • Importance of Self-Reliance • Importance of Personnel Management • Cyber Ethics in the Workplace- Creating Norms and Awareness for Employees • Integrating Physical and Cyber Security
17:45 – 18:00	**Closing Remarks**

Annexure-B.18

Installed Capacity (MW) and Generation (MU) from renewable Resources (Injected into the Grid)

1. State/Centre :
2. Month :
3. Year :

Renewable Resources/Organizations	Installed Capacity (MW) as on last date of the month			Generation (MU) during the month : ~~January~~			Cumulative Generation (MU) during the 1st April ~~2015~~ to end of month		
Renewable Energy Resources	Central Sector	State Sector	Private Sector	Central Sector	State Sector	Private Sector	Central Sector	State Sector	Private Sector
1. Wind									
2 a. Solar (1 MW & above)									
2 b. Solar (Less than 1 MW)									
3. Biomass									
4. Bagasse									
5. Small Hydro (1 MW to 25 MW)									
6. Any Other (Please Specify the resources)									
Total									

Annexure- B.24

List of Substation in POWERGRID ER-I where auxilliary supply is met through Tertiary

S. No.	*Region*	*Name of Substation*	*Transformer tertiary*
			Charged
1	ER I	PATNA	Yes
2		MUZAFFARPUR	Yes
3		NEW PURNEA	Yes
4		LAKHISARAI	Yes
5		BANKA	Yes
6		BIHARSARIF	Yes
7		ARA(220)	Yes
8		GAYA (765kV)	Yes
9		PUSAULI	Yes
10		KISHANGANJ	Yes
11		NEW RANCHI (765kV)	Yes
12		CHAIBASA	Yes
13		JAMSHEDPUR	Yes
14		RANCHI	Yes

Subject: **Details of S/S having Tertiary Loading at ER-II.**
To: "eeop.erpc@gov.in" <eeop.erpc@gov.in>
Cc: "mserpc-power@nic.in" <mserpc-power@nic.in>,
S V S Sathynarayana {एस.वी.एस. सत्यनारायण} <svs@powergridindia.com>

Date: 04/20/17 05:21 PM
From: Partha Ghosh {पार्थ घोष} <partha.ghosh@powergridindia.com>

Dear Sir,

In reference to agenda point no: B.24 of 132nd OCC, PFA no of S/S from ER-II having Tertiary Transformer loading facility, however, none of the station is running solely on Tertiary Loading:-

SL No	Name of Sub-station	Tertiary Voltage level	Tertiary Transformer Capacity (KVA)
01.	Rangpo	33 KV	630
02.	Birapara	33 KV	630
03.	Siliguri	33 KV	630
04.	Durgapur	33 KV	800
05.	Maithon	33 KV	800
06.	Subhasgram	33 KV	630

Partha Ghosh {पार्थ घोष}

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033
Tel No.:033-24235199, 24235016 FAX No.:033-24221802, 24221358 Web: **www.erpc.gov.in**

No. ERPC/MS/Operation/2017-18/ **Date: 09.05. 2017**

FAX MESSAGE NO. 259

To,

Director,
SLDC, UPPTCL,
5th floor, Shakti Bhawan,
Lucknow - 226 001
(M. No.- 9415311802, Fax: 0522-2287880)

Subject: LILO Connection of 132 KV Sonenagar-Rihand (UP,NR) Circuit-I at NPGC, Nabinagar for providing startup power to NPGC - reg

Sir,

Please refer our telephonic discussion today on the issue. It is to inform that Unit # 1 of Super Thermal Power Project (3x660MW) of NPGC, Nabinagar is expected to be commissioned shortly.

In 131st OCC meeting of ERPC, BSPTCL informed that NPGC, Nabinagar has applied for 65 MVA start up power and initially they will draw around 5-10 MW power through 132 kV Sonenagar-Rihand-I line LILOed at NPGC, Nabinagar. It was also pointed that 132kV Sonenagar-Rihand (UP,NR) Circuit-I is lying idle charged since last 5-6 years and presently it remains charged on no load from Sonenagar end & open at Rihand (UP) end.

It was informed that NPGC, Nabinagar will only draw startup power for commissioning activities through the above LILO as an interim arrangement and injection of power/trial-run will be done after the completion of 400 kV ATS of NPGC, Nabinagar.

The issue was discussed also with CTU and CEA. CEA vide their letter 69/2/PSPA-II/2017/362, dated 8.5.17 communicated their no objection.(Copy enclosed). CTU also expressed the same.

Therefore as advised by you this is our confirmation that as per the decision of OCC, NPGC is going to start availing the start up power from BSPTCL by closing Sonnagar-NPGC 132KV LILO section of 132kV Sonnagar-Rihand-I line keeping the line open at Rihand end.

This is for your further information that this is an interim arrangement subject to post facto approval of Standing Committee of ER in its forthcoming meeting.

NPGC, ERLDC, BSPTCL and NLDC are now being requested to do the needful for commencement of startup power through the aforesaid arrangement.

Thanking you,

Yours faithfully,

(A. K. Bandyopadhyaya)
Member Secretary

Copy to:

1. Member Secretary, Northern Regional Power Committee, 18A, SJSS Marg, Katwaria Sarai , New Delhi-110016
2. Chief Engineer, PSP&A-II division, CEA, Sewa Bhawan, R.K.Puram, New Delhi- 110066.
3. Executive Director, NLDC, POSOCO, B-9, Qutab Institutional Area, Katwaria Sarai, N. Delhi- 110016 (Fax No.- 011-26524525, 26536901)
4. COO (CTU-Planning), PGCIL, Saudamini, Plot No-2, Sector-29, Gurgaon- 122001
5. Director (Project), Bihar State Power Transmission Company Ltd., Vidyut Bhavan , Bailey Road, Patna-800021.
6. Director (Project), JUSNL, Kusai Colony, Doranda, Ranchi-834002.
7. General Manager, ERLDC, 14 Golf Club Road Tollygunge, Kolkata – 700033
8. Chief Executive Officer, NPGC, Nabinagar.

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

No: 69/2/PSPA-II/2017/362 Dated: 08.05.2017

To

Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road, Tollygunge,Kolkata – 700033

Subject: Notice for special meeting on issues related to BSPTCL-reg.

Ref: (i) ERPC letter No. ERPC/MS/2017-18/ 256 dated 05.05.2017

(ii) BSPTCL letter dated 03.05.2017

Sir,

Reference is invited to Item No. 1 of the ERPC letter regarding LILO of inter-regional tie line 132 KV Sonenagar - Rihand (UP,NR) Circuit-I (direct line) by BSPTCL at NPGC, Nabinagar for providing start up power to NPGC.

1. Request of BSPTCL vide their letter dated 03.05.2017 for permission for charging of LILO Connection of inter-regional tie line 132 KV Sonenagar - Rihand (UP,NR) Circuit-I (direct line) at NPGC, Nabinagar so as to provide start up power to NPGC, has been examined and following is submitted for consideration in the proposed ERPC meeting on 11.05.2017.

2. In BSPTCL letter, it is mentioned that presently 132 KV Sonenagar - Rihand (UP,NR) Circuit-I remains charged on No-load from Sonenagar end, and open at Rihand(UP) end. Therefore, we have no objection in charging of the LILO carried out by BSPTCL, considering the following:

   i. This is a temporary arrangement till the commissioning of planned 400 KV D/c Nabinagar (NPGC) - BRBCL transmission Line.

   ii. This line may be treated as line connected to Bihar grid i.e. Sonenagar to NPGC because the line is open at Rihand(UP) end.

Yours faithfully,

08/05/2017
(Pardeep Jindal)
Chief Engineer(PSPA-II)

सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 टेलीफोन : 011-26198092 ईमेल: ceatransplan@gmail.com वेबसाइट: www.cea.nic.in

Annexure-B.26

S.No	*MAKE*	*Date/Year of SEM Installation*	*ERLDC_ID*	*NEW MTR NO*	*LOCATION*	*Time Drift (Min)*
1	L&T	2006	EM-07	NP-5086-A	BINAGURI(PG)	11
2	L&T	2006	EM-09	NP-5088-A	BINAGURI(PG)	12
3	L&T	2006	EM-10	NP-5888-A	BINAGURI(PG)	13
4	L&T	2008	ER-85	NP-5962-A	JEYPORE(PG)	49
5	L&T	2008	ER-34	NP-5957-A	JEYPORE(PG)	52
6	L&T	2008	ER-35	NP-5958-A	JEYPORE(PG)	55
7	L&T	2008	ER-53	NP-5946-A	SILIGURI(PG)	10
8	L&T	2008	ER-40	NP-6464-A	BIRPARA(PG)	-11
9	L&T	2008	ER-59	NP-6478-A	MALDA(PG)	-16
10	L&T	2008	ER-12	NP-6451-A	MAITHON(PG)	-11
11	L&T	2008	ER-41	NP-6490-A	BIRPARA(PG)	-10
12	L&T	2011	ER-44	NP-5892-A	BIRPARA(PG)	35
13	L&T	2012	EM-96	NP-5068-A	DALKHOLA(PG)	23
14	L&T	2013	EP-56	NP-5233-A	MUZAFFARPUR(PG)	13
15	L&T	2013	EP-57	NP-5234-A	MUZAFFARPUR(PG)	15
16	L&T	2013	ER-58	NP-7555-A	MALDA(PG)	18
17	L&T	2013	EP-72	NP-7935-A	SUBHASGRAMA(PG)	11
18	L&T	2013	EP-55	NP-7969-A	DALKHOLA(PG)	16
19	L&T	2013	EP-83	NP-7828-A	PURNEA(PG)	12
20	L&T	2013	EP-84	NP-7829-A	PURNEA(PG)	16
21	L&T	2013	EP-93	NP-7612-A	BERHAMPORE(PG)	19
22	L&T	2013	EP-94	NP-7993-A	BERHAMPORE(PG)	17
23	L&T	2014	EN-16	NP-7938-A	SUBHASHGRAM(PG)	12
24	L&T	2015	EN-96	NP-7881-A	RANCHI(PG)	15

Annexure- B.26A

Status of replacement of Time drifted meters at ER-II.

As on date followings Time drifted meters have been replaced as per direction of ERLDC, (Ref Agenda point: B.26) :-

S.No	LOCATION	Time Drift (Min)	Line/Element	Remarks
1	BINAGURI(PG)	11	400 KV BINAGURI (PG)-TALA (THP)-1	Will be replaced in next week.
2	BINAGURI(PG)	12	400 KV BINAGURI (PG)-MALBASE(PG)-3	Will be replaced in next week.
3	BINAGURI(PG)	13	400 KV BINAGURI (PG)-TALA (THP)-4	Will be replaced in next week.
4	SILIGURI(PG)	10	132 KV SILIGURI (PG) - NJP(WBSETCL)	Will be replaced in next week.
5	BIRPARA(PG)	-11	220 KV BIRPARA (PG) - CHUKHA (CHPC) -2	Replaced on 20.04.2017.
6	MALDA(PG)	-16	132 KV MALDA (PG) - MALDA (WBSETCL) -2	Replaced on 18.04.2017.
7	MAITHON(PG)	-11	220 KV MAITHON (PG) - DHANBAD (DVC) -2	Replaced on 18.04.2017.
8	BIRPARA(PG)	-10	220 KV BIRPARA (PG) - MALBASE	Replaced on 20.04.2017.
9	BIRPARA(PG)	35	132 KV BIRPARA (PG) - BIRPARA (WB)-1	Replaced on 20.04.2017.
10	DALKHOLA(PG)	23	220 KV DALKHOLA(PG)-DALKHOLA(WBSETCL)-2	Will be replaced in next week.
11	MALDA(PG)	18	132 KV MALDA (PG) - MALDA (WBSETCL) -1	Replaced on 18.04.2017.
12	SUBHASGRAMA(PG)	11	220 KV SUBHASGRAM(PG)-EMSS CESC(WB) -1	Replaced on 19.04.2017.
13	DALKHOLA(PG)	16	220 KV DALKHOLA(PG)-DALKHOLA(WBSETCL)-1	Will be replaced in next week.
14	BERHAMPORE(PG)	19	400 KV BERHAMPORE(PG)-BHERAMARA-1 M	Will be replaced in next week.
15	BERHAMPORE(PG)	17	400 KV BERHAMPORE(PG)-BHERAMARA-1 C	Will be replaced in next week.
16	SUBHASHGRAM(PG)	12	400 KV SUBHASHGRAM(PG)-HALDIA (WB) -1	Replaced on 19.04.2017.

Balance meters will be replaced by next week and readings will be sent to ERLDC manually by Each Wednesday.

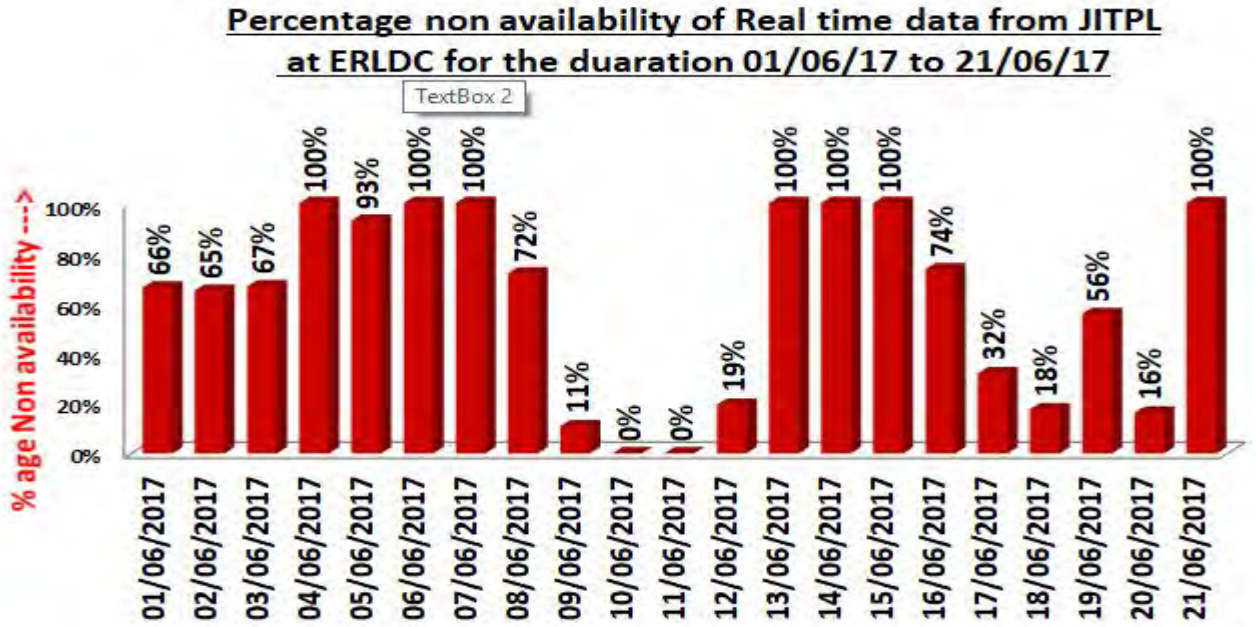
Annexure-B26.C

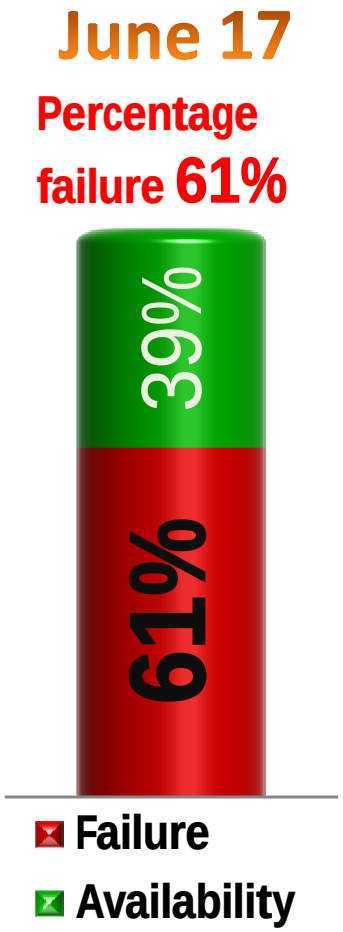
List of drifted meters to be replaced in Phase-II

SNO	LOCATION	METER SNO	FEEDER NAME
1	MUZAFFARPUR(PG)	NP-5074-A	400 KV MUZAFARPUR (PG)-GORAKHPUR(NR)-1
2	MUZAFFARPUR(PG)	NP-9981-A	400 KV MUZAFARPUR (PG)-GORAKHPUR(NR)-2
3	MEJIA(DVC)	NP-5226-A	MEJIA END OF MAITHON(PG)-1
4	MEJIA(DVC)	NP-5227-A	MEJIA END OF MAITHON(PG)-2
5	RANCHI(PG)	NP-5835-A	400 KV RANCHI-SIPAT-1 (WR)
6	RANCHI(PG)	NP-5836-A	400 KV RANCHI-SIPAT-2 (WR)
7	BINAGURI(PG)	NP-5884-A	BINAGURI END OF BONGAIGAON (NER)-1
8	BINAGURI(PG)	NP-5885-A	BINAGURI END OF BONGAIGAON (NER)-2
9	ROURKELLA(PG)	NP-5933-A	ROURKELA END OF TARKERA (GRIDCO)-2
10	KHARAGPUR(PG)	NP-7563-A	400 KV KHARAGPUR -BARIPADA(PG)
11	MPL	NP-7970-A	MAITHON RB END OF RANCHI (PG)-1 (MAIN)
12	MPL	NP-7971-A	MAITHON RB END OF RANCHI (PG)-2 (MAIN)
13	MPL	NP-7564-A	MAITHON RB END OF MAITHON (PG)-1 (MAIN)
14	MPL	NP-6518-A	MAITHON RB END OF MAITHON (PG)-2 (MAIN)
15	RANCHI NEW(PG)	NP-7847-A	765 KV RANCHI NEW -DHARAMJAYGARH-1
16	RANCHI NEW(PG)	NP-8753-A	765 KV RANCHI NEW -DHARAMJAYGARH-2
17	STERLITE	NP-7572-A	400 KV STERLITE - RAIGARH(WR)-II(MAIN)
18	STERLITE	NP-7372-A	400 KV STERLITE - ROURKELLA(PG)-II(MAIN)
19	ROURKELLA(PG)	NP-5928-A	400 KV ROURKELLA(PG)-RAIGARH(WR)
20	MIRAMUNDALI(OPTCL)	NP-5977-A	400 KV MIRAMUNDALI-ANGUL-1
21	MIRAMUNDALI(OPTCL)	NP-5976-A	400 KV MIRAMUNDALI-ANGUL-2
22	SUNDERGARH(PG)	NP-7634-A	765 KV SUNDERGARH-DHARAMJAYGARH-1
23	SUNDERGARH(PG)	NP-7638-A	765 KV SUNDERGARH-DHARAMJAYGARH-2

Annexure-B32

B32. Frequent failure of JITPL data to ERLDC



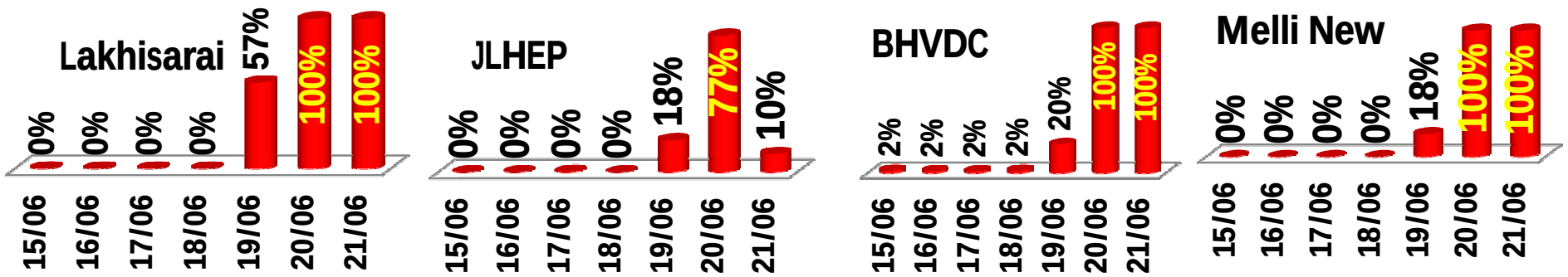


JITPL may update OCC about action taken on following matter.

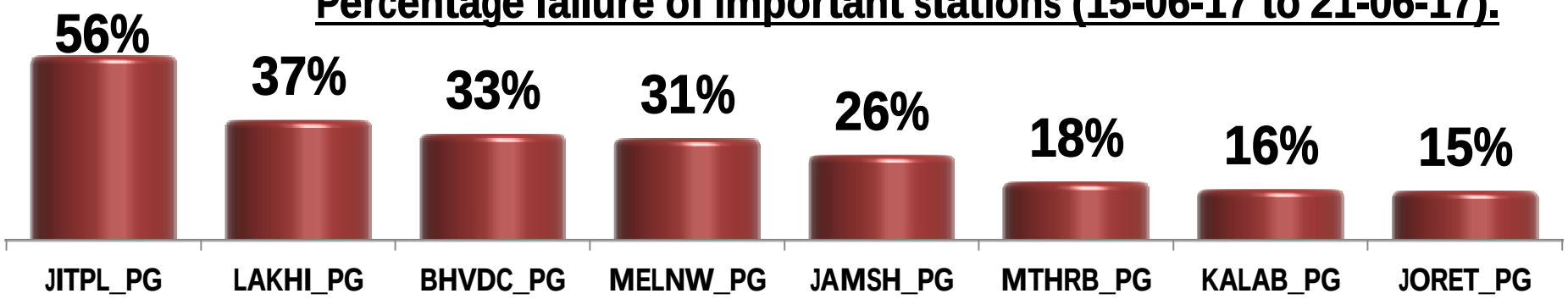
1. Remedial action taken for providing reliable Data and VOICE communication.
2. Stand By channel for reporting of JITPL to Back UP ERLDC.
3. VOICE integration with Orange VOIP exchange.

The direct line from JITPL to Angul 765/400 kV pooling station is available but real time SCADA data is yet to be diverted through this path.

Telemetry failure of few important station.



Percentage failure of important stations (15-06-17 to 21-06-17).

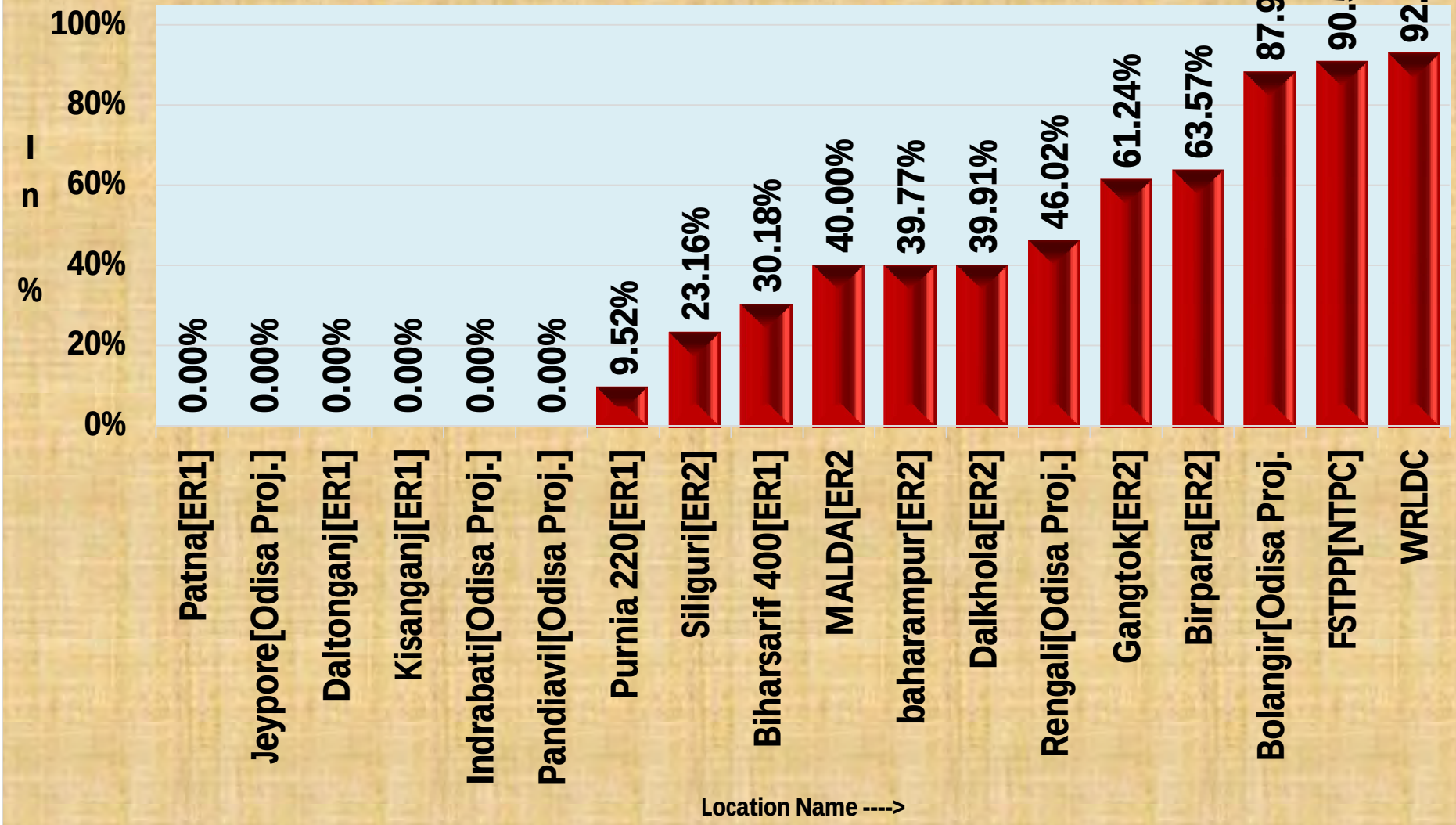


Stand by channel has to be provided by concerned Utility to avoid such failure. At present none of the stations in Eastern Region is having any stand by channel.

As per Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 Clause : 12. *COMMUNICATION SYSTEM AVAILABILITY: All users of CTU, NLDC, RLDCs, SLDCs, STUs shall maintain the communication channel availability at 99.9% annually: Provided that with back up communication system, the availability of communication system should be 100%*

B36. Hot Line Voice Communication (% Availability)

1-JUNE-2017 to 21 -JUNE-2017



VOIP from Jeypore & Indravati station yet to be provided.

VOID from Patna, Daltonganj, Kisanganj & Pandiavili down > 50 days

Elementary Data non availability at 400 kV Level:

- WBSETCL
  - Kolaghat TPS: Kharagpur #1 MW/MVAR not available since 06-07-2016.
- OPTCL
  - MW/MVAr flow of Meeramandali – GMR line at Meeramundali end since 29-11-2016.

Non availability of Unit side data

- Farakka STPS (Unit #6).
- Teesta V HPS all unit (LV).
- IBEUL (Unit #1 and Unit #2).
- Rangit HPS (GT i.e. HV side data)

POWERGRID

- **Data Intermittent :**
  - Malda, Durgapur (Frequent Failure of these RTUs),Ranchi 400kV, Baripada, Gaya, Angul, Chaibasa ,Banka.
- **VOIP for following station not yet provided:**
  - Indravati , Jeypore, Bolangir
- **VOIP not Working:**
  - Purnea 220 , Baharampur 400kV , Rourkela , Rengali, Dalkhola , Kishanganj, ,Pandiabili.

IPP

- **IBEUL :** Stand by channel upto Back up ERLDC not yet provided.

- **JITPL** : No voice communication available between JITPL and ERLDC.

OLTC

1. NEW SASARAM @ 1500 MVA 765/400 kV ICT 1
2. ANGUL @ 1500 MVA 765/400 kV ICT 1
3. ANGUL @ 1500 MVA 765/400 kV ICT 3
4. ANGUL @ 1500 MVA 765/400 kV ICT 4
5. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 1
6. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 2
7. BOLANGIR @ 315 MVA 400/220 kV ICT 1
8. BIHARSHARIF @ 315 MVA 400/220 kV ICT 1
9. BIHARSHARIF @ 315 MVA 400/220 kV ICT 3
10. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 1
11. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 2
12. KEONJHAR @ 315 MVA 400/220 kV ICT 1
13. KEONJHAR @ 315 MVA 400/220 kV ICT 2
14. MALDA @ 315 MVA 400/220 kV ICT 1
15. MUZAFFARPUR @ 315 MVA 400/220 kV ICT 3
16. RANCHI @ 315 MVA 400/220 kV ICT 1

OLTC

19. RANCHI @ 315 MVA 400/220 kV ICT 2
20. RENGALI @ 315 MVA 400/220 kV ICT 2
21. ROURKELA @ 315 MVA 400/220 kV ICT 3
22. CHAIBASA @ 315 MVA 400/220 kV ICT 1
23. CHAIBASA @ 315 MVA 400/220 kV ICT 2
24. CHAIBASA @ 315 MVA 400/220 kV ICT 3
25. SUBHASGRAM @ 315 MVA 400/220 kV ICT2
26. KISHANGUNJ @ 500 MVA 400/220 kV ICT 1
27. KISHANGUNJ @ 500 MVA 400/220 kV ICT 3
28. BARH @ 200 MVA 400/132 kV ICT 1
29. BARH @ 200 MVA 400/132 kV ICT 2
30. LAKHISARAI @ 200 MVA 400/132 kV ICT 3
31. ARRAH @ 100 MVA 220/132 kV ICT 1
32. ARRAH @ 100 MVA 220/132 kV ICT 2

Important Stations with out real time telemetry:

- WBSETCL
  - Dharampur 220,Krishnanagar 220, Hura 220,Foundry Park, 220 Dalkhola,Bantala ,Lakshmikantapur ,New Town.
- DVC:
  - 220 kV Giridhi, 132 kV Kolaghat.
- OPTCL:
  - 220kV Samangara, 220 kV Lapanga.
- JSUNL:
  - Hatia New 220, Patratu ,Deoghar, Garwh ,Goelkera ,Jamtarta, Kendoposi.

PMU Installation and commissioning status of ER as on 20.04.2017

Annexure- B.33

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
			78			286	175	73	61	51	45	40	40	24	37	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	CT/ PT/ DI interfacing pending due to permission issue.
2	ER-II	West Bengal	BAKRESHWAR TPS	WBSETCL	CR	4	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Panel erected. Cable laying pending due to permission issue.
3	ER-II	West Bengal	Bidhannagar	WBSETCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	Panel erected. Cable laying and termination at PMU panel completed. CT/ PT/ DI interfacing pending due to permission issue.
4	ER-II	West Bengal	JEERAT	WBSETCL	CR	2	1	Yes	Yes	done	done	done	done	done	pending	SAT pending as customer didn't agree to witness SAT.
5	ER-II	West Bengal	Kolaghat TPS	WBSETCL	CR	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
6	ER-II	West Bengal	KASBA	WBSETCL	CR	3	1	Yes	Yes	done	done	done	done	done	pending	SAT pending as customer didn't agree to witness SAT.
7	ER-II	DVC	DSTPS	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
8	ER-II	DVC	Kodarma TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication panel does not exist.
9	ER-II	DVC	MEJIA-B	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	Integrated on 07.12.2016
10	ER-II	DVC	Maithon RB TPS	DVC	CR	2	1	Yes	Yes	pending	pending	pending	pending	Pending	pending	Work started on 04.07.2016. Panel shifted. Team demobilised due to access issue and panel location issue.
11	ER-II	DVC	Raghunathpur TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication link was not available during work.
12	ER-II	DVC	MEJIA	DVC	CR	5	2	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
13	ER-II	DVC	Bokaro	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
14	ER-II	DVC	CTPS(Chanderpura)	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
15	Odisha	Orissa	Budhipadar	OPTCL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
16	Odisha	Orissa	MENDHASAL	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	OPTCL is not providing CT/ PT connection for Meeramundali-2 feeder.
17	Odisha	Orissa	MERAMANDALI	OPTCL	CR	6	2	Yes	Yes	done	under progress	pending	pending	Pending	pending	
18	Odisha	Orissa	RENGALI	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Integration delayed because CAT-6 cable is faulty.
19	Odisha	Orissa	U.KOLAB	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	Yes	Yes	done	done	partially done	pending	Pending	done	OPTCL denied to provide DC connection. CT/PT/DI interfacing pending due to permission issue.
21	ER-II	West Bengal	Durgapur	Powergrid	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.05.2016.
22	ER-II	West Bengal	FARRAKA	NTPC	CR	5	2	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
23	Odisha	Orissa	Indrawati	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
24	Odisha	Orissa	Indrawati HPS	OPTCL	CR	1	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	OPTCL denied to provide DC connection.
25	Odisha	Orissa	JEYPORE	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
26	ER-II	West Bengal	MAITHON	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.06.2016.
27	ER-II	West Bengal	MALDA	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
28	Odisha	Orissa	Rengali	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 04.05.2016
29	Odisha	Orissa	ROURKELA	Powergrid	Kiosk	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.04.2016
30	ER-II	West Bengal	Binaguri	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 28.07.2016
31	ER-II	West Bengal	SUBHASHGRAM	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 22.06.2016
32	Odisha	Orissa	Baripada	Powergrid	CR	3	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.01.2017.
33	Odisha	Orissa	Bolangir	Powergrid	CR+Kiosk	2	3	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
34	Odisha	Orissa	ANGUL	Powergrid	Kiosk	10	11	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.03.2017.

PMU Installation and commissioning status of ER as on 20.04.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
35	Odisha	Orissa	Keonjhar	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 18.01.2017.
36	Odisha	Orissa	Jharsuguda	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	PMU integrated on 29.07.2016
37	Odisha	Orissa	GMR	GMR	Kiosk	3	4	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
38	ER-II	Sikkim	RANGPO	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
39	ER-II	West Bengal	Baharampur	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 10.05.2016
40	ER-II	West Bengal	Birpara	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 15.07.2016.
41	ER-II	DVC	CTPS B	DVC	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
42	ER-II	DVC	KALYANESWARI	DVC	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 02.01.2017.
43	ER-II	DVC	PARULIA	DVC	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.02.2017.
44	ER-II	West Bengal	Purulia PSP	WBSETCL	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
45	ER-II	Jharkhand	Bokaro TPS	DVC	CR	1	1	Yes	Yes	done	pending	pending	pending	Pending	pending	
46	ER-II	West Bengal	Durgapur TPS	DVC	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
47	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
48	Odisha	Orissa	TALCHER	NTPC	CR	5	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	NTPC is not allowing to deliver mterial.
49	ER-II	Sikkim	TEESTA	Powergrid	CR	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
50	Odisha	Orissa	Uttara	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	pending	Communication link from s/s to ERLDC and NTAMC to be provided by PGCIL.
51	Odisha	Orissa	Jindal	JITPL	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
52	Odisha	Orissa	Monnet	Monnet	CR	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
53	Odisha	Orissa	Strelite	Strelite	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
54	Odisha	Orissa	Ind barath	Ind barath	Kiosk	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
55	ER-II	Sikkim	New Melli	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
56	ER-II	Sikkim	TT Pool	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
57	ER-II	West Bengal	Alipurduar	Powergrid	CR	6	7	Yes	Yes	partially done	partially done	pending	pending	Pending	pending	Work started on 22.12.2016. 4 PMU panels and network panel installed. Rest 2 PMU panels could not be erected because location not finalised. Cable laying and termination at PMU panel completed for 6 feeders. CT/PT interfacing pending due to unavailability of shutdown. PGCIL is asking to take DI points from field, which is not in scope. Work is held up. Team demobilised.
58	ER-II	West Bengal	Rajarhat	Powergrid	CR	2	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Work withheld due to localite agitation issue.
59	ER-I	Jharkhand	JAMSHEDPUR	Powergrid	CR	6	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 14.02.2017
60	ER-I	BIHAR	Kahalgaon(KHSTPP)	NTPC	CR	6	2	Yes	Yes	done	done	pending	pending	Pending	pending	Work withheld due to gate pass issue.
61	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	Yes	Yes	done	done	pending	pending	done	pending	PMU integrated on 13.04.2017
62	ER-I	BIHAR	PATNA	Powergrid	Kiosk	6	7	Yes	Yes	done	done	done	done	done	done	PMU integrated on 11.04.2017
63	ER-I	Jharkhand	RANCHI	Powergrid	Kiosk	12	13	Yes	Yes	done	under progress	pending	pending	Pending	pending	
64	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	9	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
65	ER-I	BIHAR	BARH	NTPC	CR	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
66	ER-I	BIHAR	LakhiSarai	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	done	SAT completed. PMU not integrated because FO cable was not delivered due to road permit issue.
67	ER-I	BIHAR	BANKA	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	pending	SAT pending. PMU not integrated because switch was not delivered to site. Switch in transit.

PMU Installation and commissioning status of ER as on 20.04.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
68	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	Yes	Yes	done	under progress	pending	pending	Pending	pending	
69	ER-I	BIHAR	765kv Gaya	Powergrid	Kiosk	11	12	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.02.2017
70	ER-I	Jharkhand	765/400kV Ranchi (N)	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.02.2017
71	ER-I	Bihar	Biharshariff	Powergrid	CR	9	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
72	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	5	2	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
73	ER-I	Jharkhand	Daltonganj	Powergrid	Kiosk	2	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Road permit for Switch is pending.
74	ER-I	Bihar	Kishanganj (karandegh	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
75	ER-I	Jharkhand	Jharkhand Pool (Chan	Powergrid	Kiosk	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
76	ER-I	Jharkhand	Patratu	Jharkhand	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
77	ER-I	Jharkhand	Tenughat	Jharkhand	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
78	ER-I	Bihar	Barauni PP	Bihar	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.

ER PMU site activity Summary:

Sl. No.	Region	Utility	As per approved BOQ		Supplied		Installed		Commissioned		Integrated to ERLDC/ SLD	
			No. of Substations	No. of PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU
1	ER-I	Powergrid	15	94	15	94	11	69	8	47	5	37
2	ER-I	NTPC	2	10	2	10	1	6	0	0	0	0
3	ER-I	Jharkhand	2	5	2	5	0	0	0	0	0	0
4	ER-I	Bihar	1	0	0	0	0	0	0	0	0	0
	ER-I	**Total**	**20**	**109**	**19**	**109**	**12**	**75**	**8**	**47**	**5**	**37**
1	ER-II	Powergrid	13	42	11	42	10	39	8	33	7	29
2	ER-II	NTPC	1	5	1	5	0	0	0	0	0	0
3	ER-II	DVC	13	37	13	37	10	29	9	28	4	13
4	ER-II	WBSETCL	7	21	7	21	5	15	2	5	2	5
	ER-II	**Total**	**34**	**105**	**32**	**105**	**25**	**83**	**19**	**66**	**13**	**47**
1	Odisha	Powergrid	10	38	10	38	10	38	10	38	6	30
2	Odisha	OPTCL	8	19	6	16	5	15	3	6	0	0
3	Odisha	NTPC	1	5	1	5	0	0	0	0	0	0
4	Odisha	IPP	5	10	5	10	0	0	0	0	0	0
	Odisha	**Total**	**24**	**72**	**22**	**69**	**15**	**53**	**13**	**44**	**6**	**30**
	ER	**Total**	**78**	**286**	**73**	**283**	**52**	**211**	**40**	**157**	**24**	**114**

Status of PDS system Installation and commissioning at ER as on 20.04.2017

Sl. No.	Site Name	Work Progress
1	ERLDC	Installed, powered up, functioning and integrated with DVC, WBSETCL and OPTCL PDS system.
2	Backup-NLDC	POSOCO did not provide space for PDS system installation.
3	SLDC, Maithon	Installed, powered up, functioning and integrated with ERLDC PDS system.
4	SLDC, Bhubaneswar	Installed, powered up, functioning and integrated with ERLDC PDS system.
5	SLDC, Howrah (WBSETCL)	Installed, powered up, functioning and integrated with ERLDC PDS system.

Annexure – B.34

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

Sl. NO	Substation	Protection & Control System						Remarks
		Availability			Time Synchronization			
		EL	DR	GPS	Relay	DR	EL	
1	Subhasgram	Yes	Yes	Yes	Yes	Yes	Yes	
2	Maithon	Yes	Yes	Yes	Yes	Yes	Yes	
3	Durgapur	Yes	Yes	Yes	Yes	Yes	Yes	
4	Malda	Yes	Yes	Yes	Yes	Yes	Yes	
5	Dalkhola	Yes	Yes	Yes	Yes	Yes	Yes	
6	Siliguri	Yes	Yes	Yes	Yes	Yes	Yes	
7	Binaguri	Yes	Yes	Yes	Yes	Yes	Yes	
8	Birpara	Yes	Yes	Yes	Yes	Yes	Yes	
9	Gangtok	Yes	Yes	Yes	Yes	Yes	Yes	
10	Baripada	Yes	Yes	Yes	Yes	Yes	Yes	
11	Rengali	Yes	Yes	Yes	Yes	Yes	No	New EL would be implemented in BCU under NTAMC project by March'2015
12	Indravati (PGCIL)	Yes	Yes	Yes	Yes	Yes	No	EL is old one(model-PERM 200), provision for time synchronisation is not available. New EL would be implemented in BCU under NTAMC project by March'2015
13	Jeypore	Yes	Yes	Yes	Yes	Yes	Yes	EL is old and not working satisfactorily. New EL would be implemented in BCU under NTAMC project by March, 2015
14	Talcher	Yes	Yes	Yes	Yes	Yes	Yes	
15	Rourkela	Yes	Yes	Yes	Yes	Yes	Yes	
16	Bolangir	Yes	Yes	Yes	Yes	Yes	Yes	
17	Patna	Yes	Yes	Yes	Yes	Yes	Yes	
18	Ranchi	Yes	Yes	Yes	Yes	Yes	Yes	
19	Muzaffarpur	Yes	Yes	Yes	Yes	Yes	Yes	
20	Jamshedpur	Yes	Yes	Yes	Yes	Yes	Yes	
21	New Purnea	Yes	Yes	Yes	Yes	Yes	Yes	
22	Gaya	Yes	Yes	Yes	Yes	Yes	Yes	
23	Banka	Yes	Yes	Yes	Yes	Yes	Yes	
24	Biharsariif	Yes	Yes	Yes	Yes	Yes	Yes	
25	Barh	Yes	Yes	Yes	Yes	Yes	Yes	
26	Sagardighi	No	Yes	Yes	Yes	Yes	No	EL is under process of restoration with help from OEM, China
27	Kahalgaon	Yes	Yes	Yes	Yes	Yes	Yes	
28	Farakka	Yes	Yes	No	No	No	No	Time synchronization available for Farakka-Kahalgaon line-III & IV. The same will be implemented in rest of the lines by December, 2014.
29	Meramundali	Defunct	Yes	Yes	Yes	Yes	Yes	
30	Tisco	Yes	Yes	Yes	Yes	Yes	Yes	
31	Bidhannagar	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical

								relays. GPS will be put in service by January, 2015.
32	Indravati (OHPC)	Yes	Faulty	No	No	No	No	Time synchronization will be done by Feb, 2015. ICT-I feeders using DR & EL available in Numerical relays. 400 kV ICT-II feeder is being maintained by PGCIL, Mukhiguda.Status may confirm from PGCIL
33	Kharagpur	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical relays.
34	DSTPS	Yes	Yes	Yes	Yes	Yes	Yes	
35	Sterlite	Yes	Yes	Yes	Yes	Yes	Yes	
36	Mejia 'B'	Yes	Yes	Yes	Yes	Yes	Yes	
37	Mendhasal	Defunct	Yes	Yes	Yes	Yes	No	EL will be restored by March, 2015.
38	Arambagh	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical relays
39	Jeerat	No	Yes	No	No	No	No	Using DR & EL available in Numerical relays. Procurement of new GPS is in progress.
40	Bakreswar	Yes	Yes	Yes	Yes	Yes	Yes	
41	GMR	Yes	Yes	Yes	Yes	Yes	Yes	
42	Maithon RB	Yes	Yes	Yes	Yes	Yes	Yes	
43	Raghunathpur	Yes	Yes	Yes	Yes	Yes	Yes	
44	Kolaghat	Yes	Yes	Yes	Yes	Yes	Yes	
45	Teesta V	Yes	Yes	Yes	Yes	Yes	Yes	
46	Koderma	Yes	Yes	Yes	Yes	Yes	Yes	
47	Sasaram	Yes	Yes	Yes	Yes	Yes	Yes	
48	Rangpo	Yes	Yes	Yes	Yes	Yes	Yes	
49	Adhunik	Yes	Yes	Yes	Yes	Yes	Yes	
50	JITPL	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***	
51	765kV Angul	Yes	Yes	Yes	Yes	Yes	Yes	
52	Chuzachen	Yes	Yes	Yes	No	Yes	Yes	
53	New Ranchi 765kV	Yes	Yes	Yes	Yes	Yes	Yes	
54	Lakhisarai	Yes	Yes	Yes	Yes	Yes	Yes	
55	Chaibasa							
56	765kV Jharsuguda	Yes	Yes	Yes	Yes	Yes	Yes	All are in working condition. However a dedicated DR for 765KV Lines; make TESLA is not working. M/s Siemens has assured to commission the same by 31.01.15
57	Beharampur	Yes	Yes	Yes	Yes	Yes	Yes	
58	Keonjhar	Yes	Yes	Yes	Yes	Yes	Yes	

Eastern Regional Power Committee

The status of ERS towers in Eastern Region as submitted during ERS meeting held on 10.11.14 taken by Member (Power System), CEA is given below:

1) As per 100th OCC meeting held on 22.08.2014, the status of ERS towers as available in Powergrid is as given below:

Sl. No.	Name of S/S	No. of ERS towers available	ERS towers in use
1	Durgapur, ER-II	1 Set (8 towers)	
2	Rourkela, ER-II	3 towers incomplete shape	
3	ER-I (located at Jamshedpur)	15 towers (10 nos Tension tower and 5 nos suspension tower)	

2) As informed by OPTCL, the present status of ERS towers in OPTCL system is as follows:

- 220 kV ERS towers: 42 nos located at Mancheswar, Chatrapur & Budhipadar
- 400 kV ERS towers: 2 nos located at Mancheswar.
- 12 nos. of new 400 kV ERS towers have been approved by Board of Director for procurement in the current financial year. Purchase order has been placed.
- Another, 16 nos of 400 kV towers accompanied with 6 sets of T&P are required.

3) WBSETCL informed that they have placed order for 2 sets of ERS towers on 31.10.2014 and expected by June, 2015.

4) The 25th ERPC meeting held on 21.09.2014, the board concurred to the proposal of procurement of four sets of ERS and it was also informed that, the proposed four sets of ERS will be kept at Sikkim, Siliguri, Ranchi and Gaya and will be used by all constituents of ER during emergencies.

   Powergrid informed that four sets of ERS for Eastern Region will be procured.

5) Bihar informed that they have 10 sets of 220 kV ERS towers and 2 sets are under process of procurements.

6) DVC informed that they are in process of procuring two (2) sets of 400 kV ERS towers.

Annexure-B40

ODISHA POWER GENERATION CORPORATION LTD.
(A Government Company of the State of Odisha)
CIN : U40104OR1984SGC001429

OPGC
Power for Progress

Regd. Off. : Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar - 751023, Odisha
Ph. : 0674-2303765 - 66, Fax : 0674-2303755 / 56
Web : www.opgc.co.in,

No-1418
Dt. 16-06-2017.

To

The Member Secretary, ERPC, 14 Golf Club Road, Tollygunj, Kolkata-700033.

Sub: **Statutory clearances of 400 KV transmission line of IBEUL (upto Jharsuguda PGCIL grid) at the crossing points over the MGR rail corridor of OPGC**

Ref:
1. Letter No. RIO/ER/IBEUL-OPGC/TL-MGR/63-67 dated 07.04.2017
2. IBEUL Letter No. IBEUL/BBSR/OPGC/60/2017 dated 06.04.2017
3. Minutes of Joint Meeting on the above issue held on 29.03.2017
4. Item No. B.13.1 of 132nd OCC Minutes.
5. Minutes of special meeting on IBEUL ISSUES on 22.05.17.

Dear Sir,

With reference to the above, we would like to state that based on the joint meeting under reference at Sl.No. 3 and undertaking given by IBEUL under reference at Sl.No. 2, provisional clearance was given by Dy. Director, RIO(E), CEA, Kolkata under reference at Sl. No. 1 for charging of said line up to 30.06.2017 with the stipulation that IBEUL needs to complete the tower extension/rectification work before 30.06.2017 and in case of failure to meet the commitment as per the undertaking, the line from the project of IBEUL to 765/400KV pooling station of PGCIL at Jharsuguda/Sundergarh will be considered decommissioned at 00.00 hours of 01.07.2017. IBEUL has also agreed to complete the said work by 30.06.2017 vide Item No. B.13.1 of 132nd OCC Minutes. IBEUL has been advised to expedite the work and complete before 30.06.17 in accordance with the minutes of the special meeting under reference at Sl.No.5.

On the contrary it is a matter of regret that till date no major progress on tower erection has been made except stub setting between Tower no. 18 &19. No settlement on Right of Way has been made between Tower no. 14 & 15 and 16 & 17. Stub setting for one leg has been done between Tower no. 7A & 8. It is apprehended that IBEUL will not be able to complete the tower extension/rectification work as per their committed date i.e. by 30.06.2017.

It may please be noted that **construction work of OPGC MGR rail line is held up due to inadequate clearance at those crossing locations**, seriously affecting the commissioning schedule of OPGC expansion power project. In view of the facts stated above, we would request your kind intervention to resolve the above issues so that construction of MGR system can be completed on time and OPGC does not face any problem. This may please be discussed in next OCC forum scheduled to be held on 23.06.17 for detaied deliberation and decision.

Thanking you,

Yours faithfully,

Director(Operations)

Copy to:
1. General Manager, ERLDC,14 Golf Club Road, Tollygunj, Kolkata-700033.
2. The Chief Engineer(EI),CEA,3rd Floor, NRPC,18-A,SJS Marg, Katwaria Sarai, New Delhi-110016.
3. Dy.Director,RIO (E),CEA, 14 Golf Club Road, Tollygunj, Kolkata-700033.
4. Managing Director,OPGC.

Annexure-B43

Governor response observed at generating units in Eastern Region for the various events generation loss

18-05-17, 08:01 Hrs 2700 MW generation loss at Rihand
20-05-17, 20:07 Hrs 2000 MW generation loss at Anta
23-05-17, 17:43 Hrs 1500 MW generation loss at Vindachal
09-05-17, 16:42 Hrs 1180 MW generation loss at JP Ningre

Direction from CERC

- Chief (Engineering), CERC vide letter dated on 05-06-2017, has directed to obtain the status of availability of RGMO/FGMO
  - Both ISGS & State generators
  - Actual response from generating units is to be submitted to CERC
- Vide letter ERLDC/SS/FGMO/2017/1189 on 07-06-2017 , Generators are requested to submit the status of availability of RGMO/FGMO.

Response received so far

- Hydro generator with less than 3 hour pondage
  - Chujachen & JLHEP
- Units with FGMO:
  - BBGS #1 & #2
- Units with RGMO:
  - BBGS #3
- Frequency in loop
  - HEL #1 & #2

Response received so far

- Response from DPL
  - DPL #VI: No electro hydraulic governing control installed
  - DPL #VII: Respective logic checking is under progress
  - DPL #VIII: Logic available in DCS, Yet to be commissioned

CERC order regarding implementation of FGMO/RGMO

- As per CERC Order in Petition No. 65/MP/2014 dated 13th February, 2017
  - "*16 …Considering the importance of primary response in the Indian Power System, we are not inclined to grant exemption for the LMZ units from operation under RGMO/FGMO. The petitioner is directed to either go for replacement/retrofit or adopt FGMO with MI for providing mandated response as per the provisions of the Grid Code…*"

Actual response of Eastern Region

18-05-17, 08:01 Hrs
2700 MW generation loss at Rihand
Frequency change: 50.10 Hz to 49.9 Hz
Ideal response of ER: 2047 MW
Actual response of ER: 258 MW (12.6%)

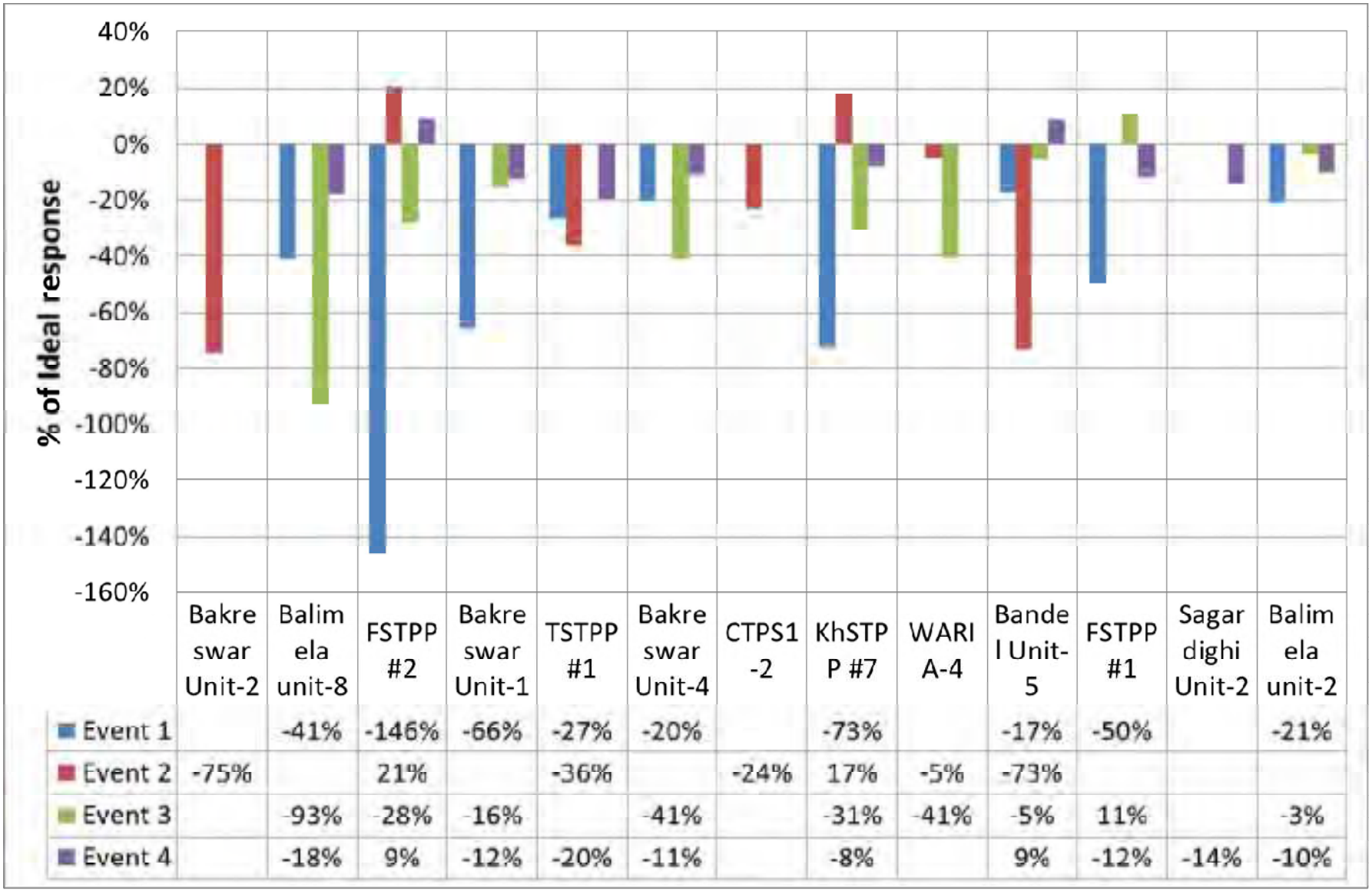
20-05-17, 20:07 Hrs
2000 MW generation loss at Anta
Frequency change: 50.10 Hz to 49.9 Hz
Ideal response of ER: 2150 MW
Actual response of ER: 166 MW (7.7%)

23-05-17, 17:43 Hrs
1500 MW generation loss at Vindachal
Frequency change: 49.95 Hz to 49.78 Hz
Ideal response of ER: 1301 MW
Actual response of ER: -17 MW (-1.3%)

09-05-17, 16:42 Hrs
1180 MW generation loss at JP Ningre
Frequency change: 49.99 Hz to 49.89 Hz
Ideal response of ER: 815 MW
Actual response of ER: 259 MW (31.8%)

Governor response for four events

Units having unsatisfactory response most of the time

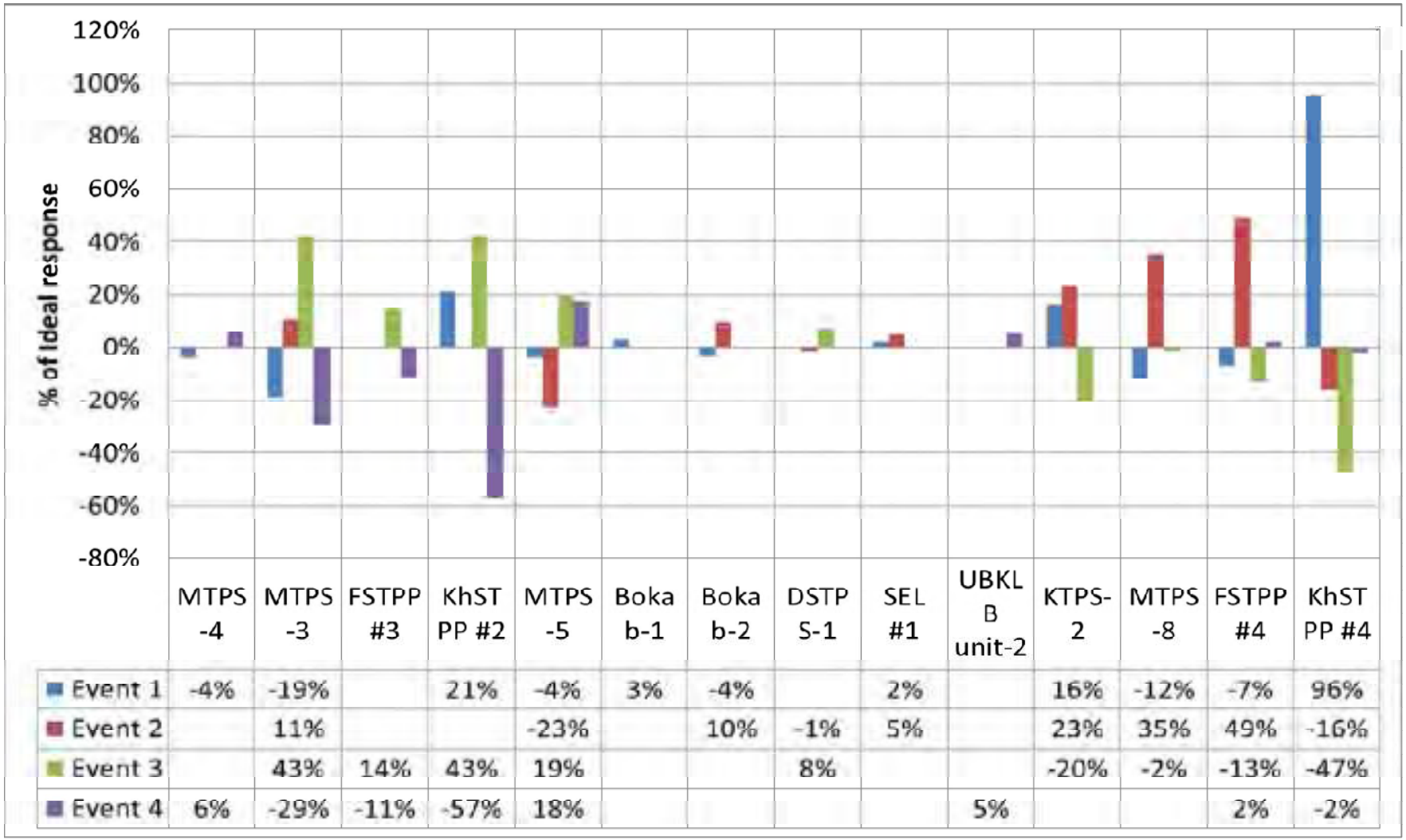


	Bakreswar Unit-2	Balimela unit-8	FSTPP #2	Bakreswar Unit-1	TSTPP #1	Bakreswar Unit-4	CTPS1-2	KhSTPP #7	WARIA-4	Bandel Unit-5	FSTPP #1	Sagardighi Unit-2	Balimela unit-2
Event 1		-41%	-146%	-66%	-27%	-20%		-73%		-17%	-50%		-21%
Event 2	-75%		21%		-36%		-24%	17%	-5%	-73%			
Event 3		-93%	-28%	-16%		-41%		-31%	-41%	-5%	11%		-3%
Event 4		-18%	9%	-12%	-20%	-11%		-8%		9%	-12%	-14%	-10%

Units having unsatisfactory response most of the time

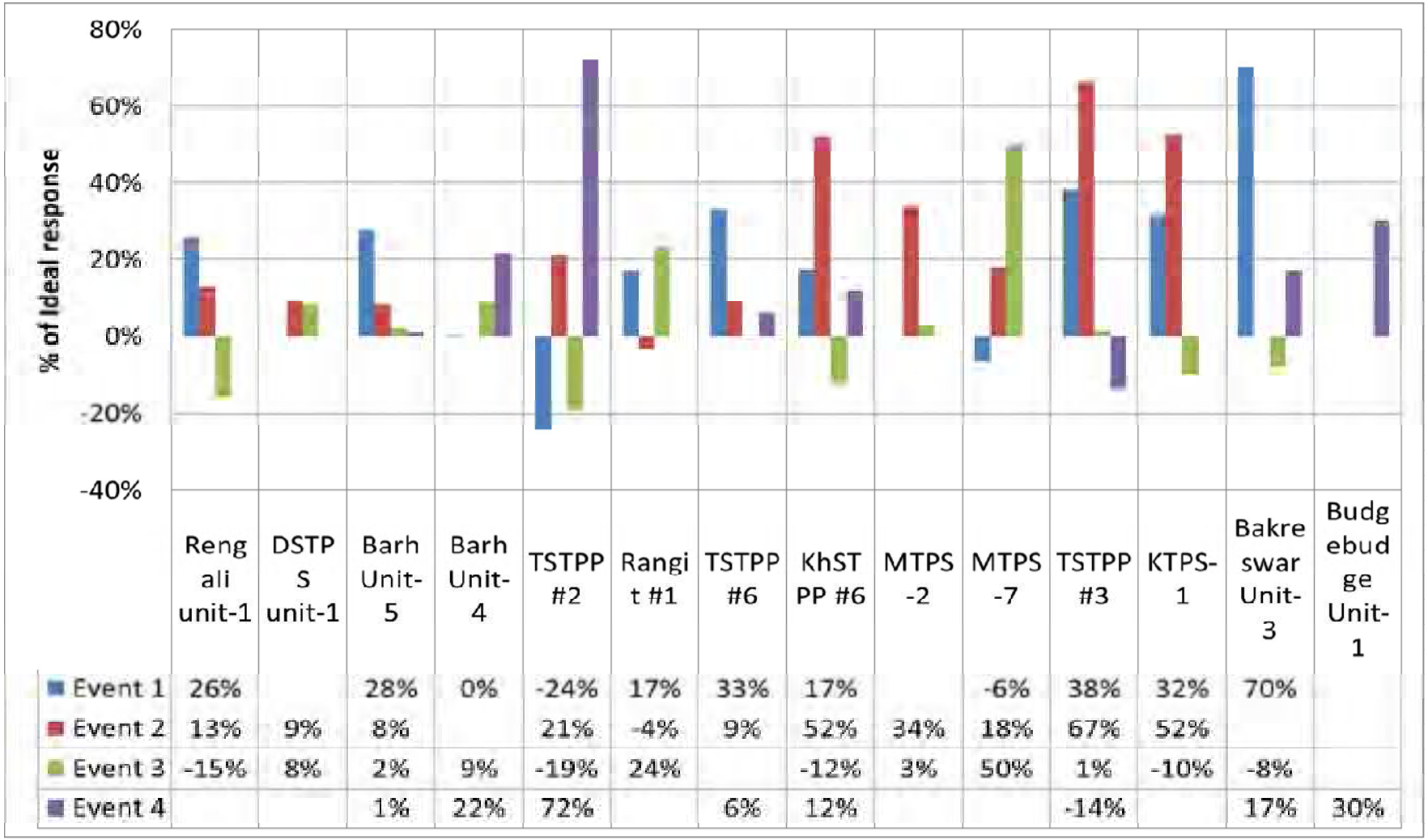
	MTPS-6	Sagardighi Unit-1	SEL #3	MTPS-1	DSTPS-2	SEL #4	RTPS-1	MTPS-3	FSTPP #3	KhSTPP #2	MTPS-5
Event 1	13%	-10%	5%	-32%	4%	-2%	-5%	-19%	0%	21%	-4%
Event 2	-65%	-8%	9%	15%	7%	-5%	11%	11%	0%	0%	-23%
Event 3	-20%	2%	0%	-9%	-59%	0%	6%	43%	14%	43%	19%
Event 4	45%	-11%	-32%	3%	34%	0%	-10%	-29%	-11%	-57%	18%

Units having both satisfactory & unsatisfactory response



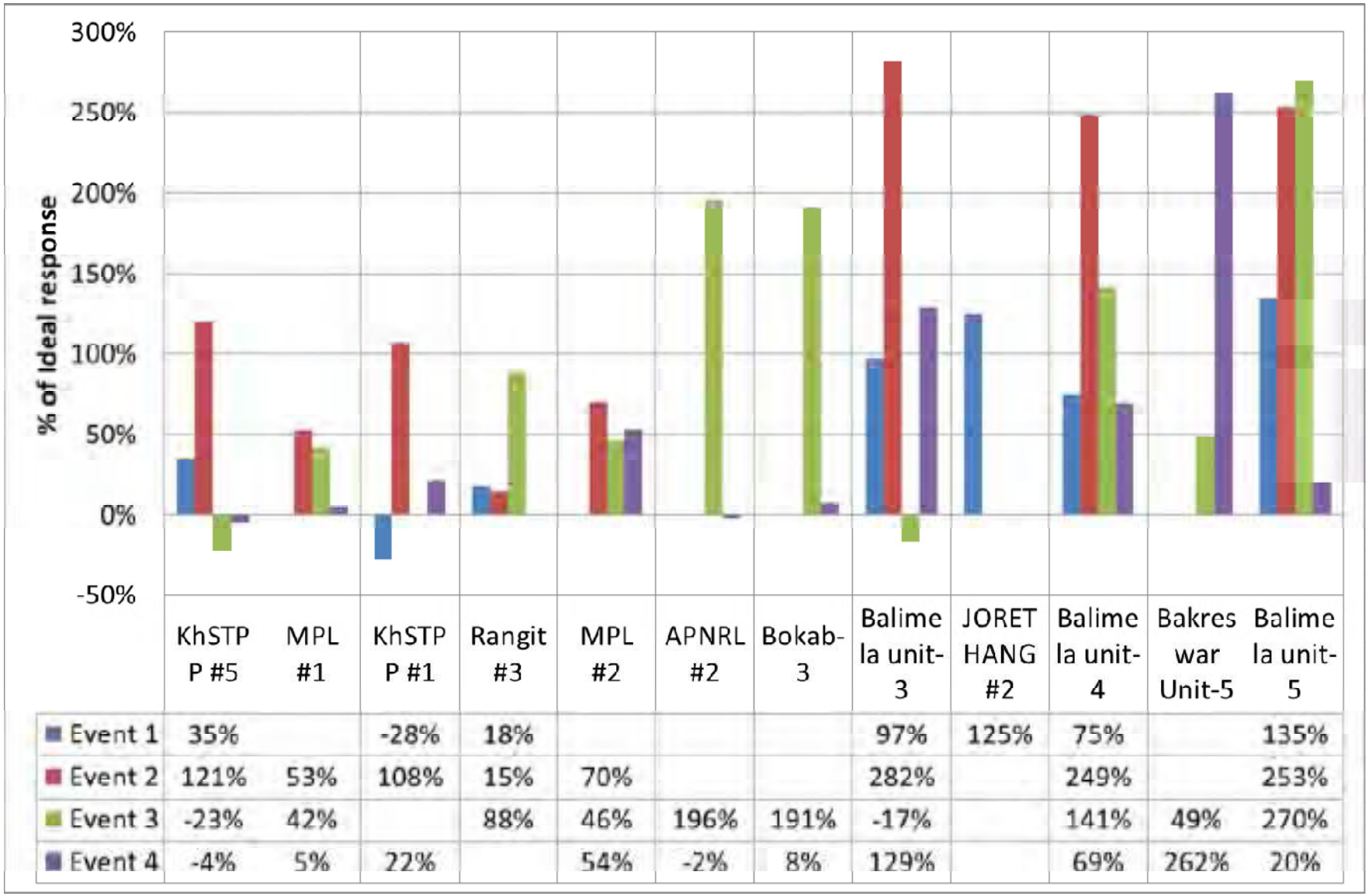
	MTPS-4	MTPS-3	FSTPP #3	KhSTPP #2	MTPS-5	Boka b-1	Boka b-2	DSTPS-1	SEL #1	UBKLB unit-2	KTPS-2	MTPS-8	FSTPP #4	KhSTPP #4
Event 1	-4%	-19%		21%	-4%	3%	-4%		2%		16%	-12%	-7%	96%
Event 2		11%			-23%		10%	-1%	5%		23%	35%	49%	-16%
Event 3		43%	14%	43%	19%			8%			-20%	-2%	-13%	-47%
Event 4	6%	-29%	-11%	-57%	18%					5%			2%	-2%

Units having below satisfactory response most of the time



	Rengali unit-1	DSTPS unit-1	Barh Unit-5	Barh Unit-4	TSTPP #2	Rangit #1	TSTPP #6	KhSTPP #6	MTPS-2	MTPS-7	TSTPP #3	KTPS-1	Bakreswar Unit-3	Budgebudge Unit-1
Event 1	26%		28%	0%	-24%	17%	33%	17%		-6%	38%	32%	70%	
Event 2	13%	9%	8%		21%	-4%	9%	52%	34%	18%	67%	52%		
Event 3	-15%	8%	2%	9%	-19%	24%		-12%	3%	50%	1%	-10%	-8%	
Event 4			1%	22%	72%		6%	12%			-14%		17%	30%

Units having satisfactory response most of the time



	KhSTPP #5	MPL #1	KhSTPP #1	Rangit #3	MPL #2	APNRL #2	Bokab-3	Balimela unit-3	JORETHANG #2	Balimela unit-4	Bakreswar Unit-5	Balimela unit-5
Event 1	35%		-28%	18%				97%	125%	75%		135%
Event 2	121%	53%	108%	15%	70%			282%		249%		253%
Event 3	-23%	42%		88%	46%	196%	191%	-17%		141%	49%	270%
Event 4	-4%	5%	22%		54%	-2%	8%	129%		69%	262%	20%

Annexure- B43A

Name of Region : EASTERN REGION

Sl. No.	Details of stations/Units required to operate under RGMO/FGMO as per IEGC							Whether operating under RGMO	Whether operating in FGMO with manual intervention to achieve RGMO	whether units operating with locked governors	indicate in case of status is not available
	Name of State	Type	Name of Uitlity	Sector (CS/SS/Private)	Name of Station	Name of Stage/ Unit	Installed capacity (MW)				
1	JHARKHAND	Thermal	TVNL	SS	Tenughat	1	210	No			Difficulties in implementing RGMO & exemption not
2				SS		2	210	No			
3		Hydro	JSEB	SS	Subarnrekha	1	65	Yes			
4				SS		2	65	Yes			
5	WEST BENGAL	Termal	WBPDCL	SS	Bandel TPS	1	82.5	No			
6				SS		2	82.5	No			
7				SS		3	82.5	No			
8				SS		4	82.5	No			
9				SS		5	210	No			
10				SS	Santaldih	5	250	Yes			Unit#6 could not be implemented because of some technical problem
11				SS		6	250	No			
12				SS	Kolaghat	1	210	No	No	Yes	Nil
13				SS		2	210	No	No	Yes	Nil
14				SS		3	210	No	No	Yes	Nil
15				SS		4	210	No	No	Yes	Nil
16				SS		5	210	No	No	Yes	Nil
17				SS		6	210	No	No	Yes	Nil
18				SS	Bakreshwar	1	210	Yes			
19				SS		2	210	Yes			
20				SS		3	210	Yes			
21				SS		4	210	Yes			
22				SS		5	210	Yes			
23				SS	Sagardighi	1	300	No	No	Yes	Without OEM support it is not possible to put in FGMO/RGMO. At present OEM support is not
24				SS		2	300	No	No	Yes	
25		Hydro		SS	Raman Hydel	1	12.5	No			Station is not in RGMO. WBSETCL is pursuing with Rammam
26				SS		2	12.5	No			
27				SS		3	12.5	No			
28				SS		4	12.5	No			
29				SS	PPSP	1	225	Yes			In 134th OCC WBPDCL informed that the units are in RGMO/FGMO mode
30				SS		2	225	Yes			
31				SS		3	225	Yes			
32				SS		4	225	Yes			
33		Thermal	CESC	SS	Budge-Budge	1	250	Yes			
34				SS		2	250	Yes			
35				SS		3	250	Yes			
36				SS	Haldia	1	300	Yes			
37				SS		2	300	Yes			
38		Thermal	DPL	SS	DPL	7	300	Yes			
39	Orissa		OPGC	SS	IB TPS	1	210	No			Not adequate response in RGMO
40				SS		2	210	No			
41		Hydro	OHPC	SS	Burla	1	49.5	No			
42				SS		2	49.5	No			
43				SS		3	32	No			
44				SS		4	32	No			
45				SS		5	37.5	No			
46				SS		6	37.5	No			
47				SS		7	37.5	No			
48				SS	Chiplima	1	24	No			
49				SS		2	24	No			
50				SS		3	24	No			
51				SS	Balimela	1	60	No			
52				SS		2	60	No			
53				SS		3	60	No			
54				SS		4	60	No			
55				SS		5	60	No			
56				SS		6	60	No			
57				SS		7	75	No			
58				SS		8	75	No			
59				SS	Rengali	1	50	No			
60				SS		2	50	No			
61				SS		3	50	No			
62				SS		4	50	No			
63				SS		5	50	No			
64				SS	Upper Kolab	1	80	No			
65				SS		2	80	No			
66				SS		3	80	No			
67				SS		4	80	No			
68				SS	Indravati	1	150	No			
69				SS		2	150	No			
70				SS		3	150	No			
71				SS		4	150	No			
				71							
72				CS	Bokaro-B	1	210	No			RGMO mode of operation would not be possible for units1, 2 and 3. Because of non-availability of electro-hydraulic governor, digital voltage recorder and CMC.
73				CS		2	210	No			
74				CS		3	210	No			
75				CS		1	140	No			RGMO mode of operation

76				CS	Chandrapura	2	140	No			would not be possible for units1, 2 and 3. Because of
77				CS		3	140	No			
78				CS		7	250	Yes			U # 8- Bhel is yet to fine tune Governor.
79				CS		8	250	No			
80				CS	WARIA	3	210	No			
81		Thermal		CS		4	210	No			
82				CS	Mejia	1	210	No			
83				CS		2	210	No			
84			DVC	CS		3	210	No			
85				CS		4	210	No			On hydraulic governing
86				CS		5	250	Yes			Time to time machine had to take out from RGMO due to high/low fuel demand
87				CS		6	250	Yes			
88				CS	Mejia - B	7	500	Yes			
89				CS		8	500	Yes			
90				CS	DSTPS	1	500	Yes			U#2: RGMO is ready but freq response is kept off
91				CS		2	500	No			
92				CS	KODERMA	1	500	No			RGMO logic is ready and it will be implemented soon
93				CS		2	500	No			
94	Central Sector	Hydro		CS	Maithon	1	20	No			RGMO mode of operation would not be possible for units1, 2 and 3. Because of
95				CS		2	20	No			
96				CS		3	23.2	No			
97				CS	Panchet	1	40	No			RGMO mode of operation would not be possible for
98				CS		2	40	No			
99		Thermal	NTPC	CS	Farakka STPP-I	1	200	Yes			
100				CS		2	200	Yes			
101				CS		3	200	Yes			
102				CS	Farakka STPP-II	1	500	Yes			
103				CS		2	500	Yes			
104				CS	Farakka-U#6		500	Yes			Kept in RGMO mode from April, 2014
105				CS	Kahalgoan STPP	1	210	Yes			
106				CS		2	210	Yes			
107				CS		3	210	Yes			
108				CS		4	210	Yes			
109				CS		5	500	Yes			
110				CS		6	500	Yes			
111				CS		7	500	Yes			
112				CS	Talcher STPP Stg-I	1	500	Yes			
113				CS		2	500	Yes			
114		Hydro	NHPC	CS	* Rangit	1	20	No			Pondage capacity is to generate power upto 3 hours only.Hence not under
115				CS		2	20	No			
116				CS		3	20	No			
117				CS	Teesta HEP	1	170	Yes			
118				CS		2	170	Yes			
119				CS		3	170	Yes			
				48							
120		Thermal	IPP	PS	Maithon RB TPP	1	525	Yes			
121				PS		2	525	Yes			
122				PS	Sterlite	1	600	Yes			
123				PS		2	600	Yes			
124				PS		3	600	Yes			
125				PS		4	600	Yes			
126				PS	Adhunik Power	1	270	Yes			
127				PS		2	270	Yes			
128		Hydro	IPP	PS	JLHEP	1	48	No			
129	IPP			PS		2	48	No			
130				PS	Chujachen HEP	1	49.5	No			
131				PS		2	49.5	No			
132				PS	Teesta Urja	1	200	Status not available			
133				PS		2	200				
134				PS		3	200				
135				PS		4	200				
136				PS		5	200				
137				PS		6	200				
138				PS	Dikchu	1	48	Status not available			
139				PS		2	48				
				20							

Annexure-B44

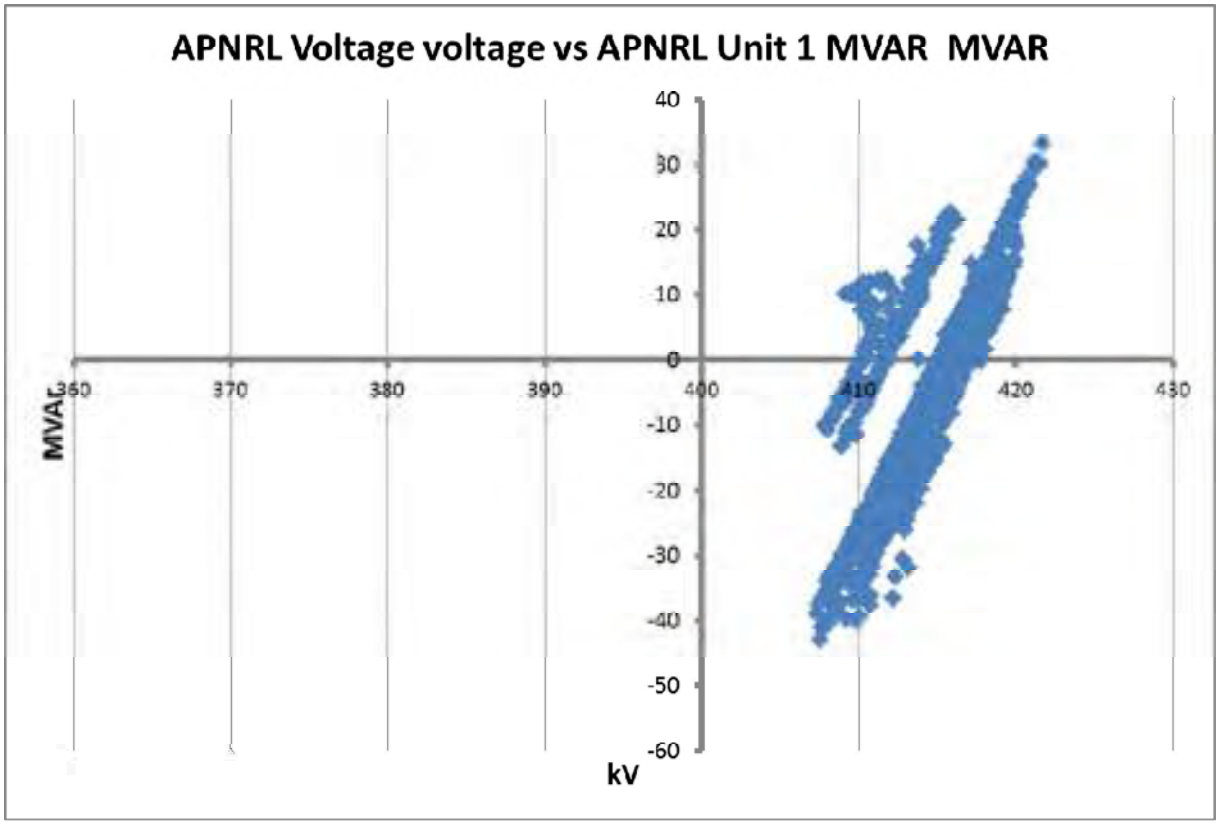
Reactive power performances of various units in the month of May, 2017

Voltage & reactive power injection (Unit MVAr injection-MVAr absorption in GT) at terminal point of generating units are compared for various generating units in ER.

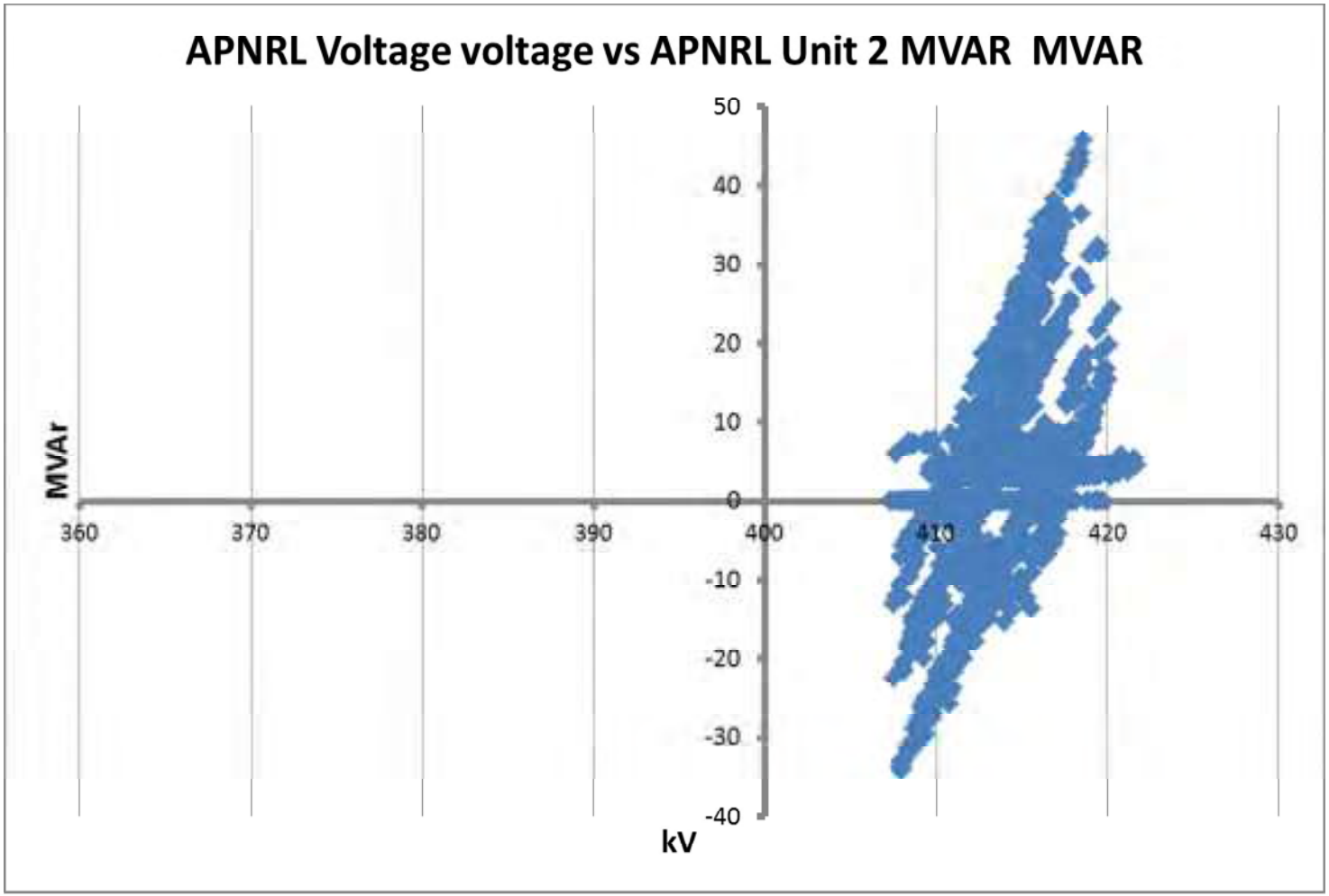
- Scatter plot is plotted with taking
  - Terminal voltage across x axis
  - Reactive power injection across y axis
  - (Nominal terminal voltage (kV), 0 MVAr) as origin
- MVAr injection should reduce with increase in terminal voltage

The units whose MVAr injection increases with increase in voltage

- APNRL Unit #1, 2



N.B. Data is not available for Barh, Balimela, Upper Kolab & Indravati


APNRL Voltage voltage vs APNRL Unit 2 MVAR MVAR
MVAr
50
40
30
20
10
0
-10
-20
-30
-40
360
370
380
390
400
410
420
430
kV

Annexure-C.1

Anticipated Power Supply Position for the month of
Jul-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	4100	2250
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	530	127
		- Central Sector	2893	1813
	iii)	SURPLUS(+)/DEFICIT(-)	-677	-309
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1100	790
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	425	227
		- Central Sector	650	384
	iii)	SURPLUS(+)/DEFICIT(-)	-25	-179
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2780	1726
	ii)	NET POWER AVAILABILITY- Own Source	4959	2711
		- Central Sector	551	411
		Long term Bi-lateral (Export)	1300	967
	iii)	SURPLUS(+)/DEFICIT(-)	1430	429
4		**ORISSA**		
	i)	NET MAX DEMAND	4000	2567
	ii)	NET POWER AVAILABILITY- Own Source	3201	2048
		- Central Sector	1185	770
	iii)	SURPLUS(+)/DEFICIT(-)	386	251
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6205	3580
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	6205	3580
	iv)	NET POWER AVAILABILITY- Own Source	3481	1951
		- Import from DPL	240	0
		- Central Sector	2743	1672
	v)	SURPLUS(+)/DEFICIT(-)	259	43
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	250	184
	ii)	NET POWER AVAILABILITY	490	187
	iii)	SURPLUS(+)/DEFICIT(-)	240	3
5.3		**CESC**		
	i)	NET MAX DEMAND	1880	1016
	ii)	NET POWER AVAILABILITY - OWN SOURCE	765	489
		FROM HEL	540	339
		FROM CPL/PCBL	40	0
		Import Requirement	535	188
	iii)	TOTAL AVAILABILITY	1880	1016
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8335	4780
	ii)	NET POWER AVAILABILITY- Own Source	4736	2627
		- Central Sector+Others	3858	2011
	iii)	SURPLUS(+)/DEFICIT(-)	259	-142
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	34
	ii)	NET POWER AVAILABILITY- Own Source	10	7
		- Central Sector+Others	153	102
	iii)	SURPLUS(+)/DEFICIT(-)	78	75
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	19806	12147
		Long term Bi-lateral by DVC	1300	967
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	23151	13238
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	2036	116

Annexure- C.2

Proposed Maintenance Schedule of Thermal Generating Units of ER during July, 2017

(as finalised in LGBR meeting)

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
DVC	DSTPS	2	500	20.07.17	14.08.17	26	AOH (Blr, TG Brgs, LPT Gen)
ODISHA	TTPS	5	110	20.07.17	23.08.17	35	Boiler Overhaul + HPT + IPT
WBPDCL	KTPS	3	210	25.07.17	05.02.18	196	under shutdown R&M
	Bakreswar	4	210	05.07.17	24.07.17	21	Boiler Overhauling
NTPC	FSTPS	1	200	01.07.17	04.08.17	35	Boiler, ESP R&M
	KhSTPS	6	500	13.07.17	16.08.17	35	Boiler, Turbine, Gen.

EASTERN REGIONAL LOAD DESPATCH CENTRE
KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 134TH OCC MEETING OF ERPC

Sr. No	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME	REMARKS	S/D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY
1	315MVA ICT-I at Bolangir	01/07/2017	08:00	15/07/2017	18:00	OCB	ER-II/Odisha/BOLANGIR	Construction works of Firewall for Reactor package ERSS-XIV (on continuous basis)	GRIDCO
2	80 MVAR Bus reactor 1 at Bolangir	01/07/2017	08:00	15/07/2017	18:00	OCB	ER-II/Odisha/BOLANGIR	Construction works of Firewall for Reactor package ERSS-XIV (on continuous basis)	
3	765kV, 110*3 MVAR Bus Reactor-1 at Angul	01/07/2017	08:00	01/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	For attending WTI problem of B-ph Reactor under TBEA Punch Points.	NLDC
4	220Kv BudhiPadhar -Korba S/C Line	01/07/2017	09:00	14/08/2017	18:00	OCB	ER-II/Odisha/Sundergarh TLM	For Diversion/ modification of multi curcuit line in between 220kv Budhipadhar -Korba S/C from Loc 29 to 39 and 400Kv D/C Rourkela-Raigarh line III &IV from 385 to 375 for construction of dedicated MGR (Rail Line) at Village Belpahar,Amdhara & Chualiberna (Depositary works on behalf of OPGC)	NLDC
5	400KV D/C Sundargarh Raigarh (CKT-1)&Rourkela-Raigarh(CKT-2)	01/07/2017	07:00	02/07/2017	17:00	ODB	OGPTL	for Overhead Stringing of U/C 400KV D/C OPGC- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP 23/0- AP24/0(PGCIL tower Nos: 797-798)	NLDC
6	Auto-Reclosure Non-Auto mode of 400Kv RKL-SNG - Fdr-I	01/07/2017	09:00	31/07/2017	17:30	ODB	ER-II/Odisha/Sundergarh TLM	For PID testing of Insulator of RKL-SNG -I (LILO portion) and A/R switch is to be made Non Auto mode at Both end	
7	Auto-Reclosure Non-Auto mode of 400Kv RKL-SNG - Fdr-II	01/07/2017	09:00	31/07/2017	17:30	ODB	ER-II/Odisha/Sundergarh TLM	For PID testing of Insulator of RKL-SNG -II (LILO portion) and A/R switch is to be made Non Auto mode at Both end	
8	132 KV MAIN BUS AT PURNEA	01/07/2017	09:00	01/07/2017	10:00	ODB	POWERGRID ER-1	GIS WORK	Bihar
9	132 KV PURNEA - PURNEA (BSPTCL)#1 LINE	01/07/2017	09:00	15/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
10	160 MVA ICT#3 AT PURNEA	01/07/2017	09:00	15/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
11	132 KV PURNEA - PURNEA (BSPTCL)#2 LINE	01/07/2017	09:00	15/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
12	315 MVA ICT-I AT SUBHASGRAM	01/07/2017	08:00	01/07/2017	17:30	ODB	ER-II	Insulation of Tertiary Side	West Bengal
13	400KV CHAIBASA-ROURKELA-II	01/07/2017	09:00	03/07/2017	17:00	OCB	ER-I	FOR AR TESTING AT CHAIBASA END	
14	A/R OF 400 KV MUZ - BSF -1	01/07/2017	07:00	31/07/2017	19:00	ODB	POWERGRID ER-1	OPGW ERECTION WORK	
15	A/R OF 400 KV BANKA - BSF -2	01/07/2017	07:00	31/07/2017	19:00	ODB	POWERGRID ER-1	OPGW ERECTION WORK	
16	A/R OF 400 KV KOD - BSF -2	01/07/2017	07:00	31/07/2017	19:00	ODB	POWERGRID ER-1	OPGW ERECTION WORK	DVC
17	A/R Non-Auto opertaion in 400KV Rengali-Indravati line (PID, A/R shutdown)	01/07/2017	08:00	15/07/2017	18:00	ODB	ER-II/Odisha/BOLANGIR	PID (No interuption of power flow).	
18	50MVAR BUS REACTOR AT ROURKELA	01/07/2017	09:00	30/09/2017	18:00	OCB	ER-II/Odisha/ROURKELA	Replacement of existing 50MVAR Bus Reactor by 125MVAR Bus Reactor for extension of 400KV Rourkela S/S under ERSS-IX Package.	
19	400KV Patna Balia Ckt 3- Line	01/07/2017	08:00	04/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of Porcelin with polymer	NLDC
20	**400 KV Farakka-Berhampur**	02/07/2017	08:00	02/07/2017	16:00	**ODB**	**ER-II**	**Shut down required for insulator replacement damaged due to miscreants.**	
21	50MVAR Bus Reactor-1 AT BSF	03/07/2017	10:00	04/07/2017	18:00	OCB	POWERGRID ER-1	125MVAR BUS Reactor-4 interconnection in parallel with Bus Reactor-1 and commissioning work.	
22	132 kV LKR-LKR (BSPTCL) Line-1	03/07/2017	10:00	03/07/2017	14:00	ODB	POWERGRID ER-1	AMP	Bihar
23	400 KV New Ranchi-Purulia Line at New Ranchi	03/07/2017	08:00	04/07/2017	18:00	ODB	POWERGRID ER-1	Commissioining of tie Bays /BUS BAR testing of 400kV Ranchi-Patratu D/C line under JCP	West Bengal
24	765kV, 80*3 MVAR Line Reactor-1 at Angul	03/07/2017	08:00	03/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	For attending Oil Leakage problem under TBEA Punch Points.	NLDC
25	315MVA ICT#1 AT ROURKELA	03/07/2017	09:00	07/07/2017	18:00	OCB	ER-II/Odisha/ROURKELA	For attending the oil mix up problem of OLTC in 315 MVA ICT#1 and to arrest oil lekage problem from tan delta test tap assemblies of its bushings.	GRIDCO
26	400 KV MALDA-FARAKKA-I	03/07/2017	08:00	05/07/2017	16:00	ODB	ER-II	FOR BALANCE CONSTRUCTION PUNCH POINT	NLDC
27	400kV Bus-II at Rengali	03/07/2017	09:00	03/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For connecting of Bus Bar Pipe of New 2 x 125 MVAR Bus Reactor Bay extension work at Rengali.	
28	765/400 KV ICT-1 AT NRNC	03/07/2017	08:00	08/07/2017	18:00	ODB	POWERGRID ER-1	For erection of Tower & Beam in STATCOM Package under ERSS-XI	NLDC
29	400 KV MALDA-PURNEA-I	03/07/2017	08:00	04/07/2017	16:00	ODB	ER-II	For jumper tightness.	NLDC
30	400 KV BINAGURI-PURNEA-I	03/07/2017	08:00	03/07/2017	16:00	ODB	ER-II	For jumper tightness.	
31	400 kV Bus-I at Jeypore	03/07/2017	09:30	03/07/2017	13:30	ODB	ER-II/Odisha/Jeypore	For Relay Testing after Retrofitting of BusBar Protection System (If Not available in the month of June 2017)	
32	400 kV Bus-II at Jeypore	03/07/2017	14:00	03/07/2017	18:00	ODB	ER-II/Odisha/Jeypore	For Relay Testing after Retrofitting of BusBar Protection System (If Not available in the month of June 2017)	
33	220KV Bus-I AT PATNA	03/07/2017	10:00	03/07/2017	14:00	ODB	POWERGRID ER-1	Isolator alignment work	Bihar
34	414 Bay(Tie bay of Chaibasa-2 & Andal-1) AT JSR	03/07/2017	09:30	08/07/2017	17:30	OCB	POWERGRID ER-1	Tie bay CB (41452) Replacement work under ADD Cap after completion of 25 years of service life	
35	315MVA ICT-II AT ALIPURDUAR	03/07/2017	09:00	03/07/2017	16:00	OCB	ER-II	TO ATTEND PROBLEM IN AIRCELL IN ICT	
36	Sagardihgi - ICT#1 Tie bay (402)	03/07/2017	08:00	05/07/2017	17:30	OCB	ER-II	Yph Interrupter Unit repalcement for SF6 Leakage	West Bengal

37	400 KV Rengali Indravati Line (Rescheduled Shutdown proposal, already approved in 133rd OCC)	04/07/2017	07:00	12/07/17	18:00	ODB	ER-II/Odisha /Bolangir	(Rescheduled SD proposal is applied as it can not be availed in June'2017) Replacement of Porcelain insulators with Polymer insulators in major crossings at Locations 1121-1122,929-930,773-774,931-932,1078-1079,1081-1082,913-914,1036-1037,1061-1062,1074-1075,1090-1091-1092. (It is incuded both Rengali portion i.e 931-1124 and Kishorenagar portion i.e 754-930) Bolangir- 538,539,564,565,590,591,676,677,681,682,741,742,743,747,748,749,750,751,752,753 Bhawanaipatna-201, 202, 247, 248, 258, 259, 333, 334, 338, 339,355, 356, 374, 375, 386, 387, 392, 393, 423, 424, 435, 436, 455, 456, 511, 512 & 538 (Total 27 nos towers)	NLDC
38	63 MVAR L/R OF 400 KV BINAGURI-TALA-IV LINE	04/07/2017	08:00	04/07/2017	16:00	ODB	ER-II	Circuit breaker repalecement work ADD Cap	NLDC
39	400KV Patna Barh Ckt 3 - Line	04/07/2017	08:00	04/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	
40	132 KV ARA-ARA LINE	04/07/2017	09:30	04/07/2017	13:30	ODB	POWERGRID ER-1	FOR AMP WORK AT ARA(PG) END	Bihar
41	765kV, 80*3 MVAR Srikakulam Line Reactor-1 at Angul	04/07/2017	08:00	04/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	For commissioning of Spare Reactor with Line Reactor-1 under construction head.	NLDC
42	400kV Bus-I at Rengali	04/07/2017	09:00	04/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For connecting of Bus Bar Pipe of New 2 x 125 MVAR Bus Reactor Bay extension work at Rengali.	
43	400 KV BINAGURI-PURNEA-II	04/07/2017	08:00	04/07/2017	16:00	ODB	ER-II	For jumper tightness.	
44	220 KV GAYA -DEHRI -I LINE	04/07/2017	08:00	04/07/2017	18:00	ODB	POWERGRID ER-1	For KHIJARSARAI bay commisioning work	Bihar
45	220 kV Bus-I at Jeypore	04/07/2017	09:30	04/07/2017	13:30	ODB	ER-II/Odisha/Jeypore	For Relay Testing after Retrofitting of BusBar Protection System (If Not available in the month of June 2017)	GRIDCO
46	220 kV Bus-II at Jeypore	04/07/2017	14:00	04/07/2017	18:00	ODB	ER-II/Odisha/Jeypore	For Relay Testing after Retrofitting of BusBar Protection System (If Not available in the month of June 2017)	GRIDCO
47	400KV Sundergarh-Raigarh fdr- I	04/07/2017	08:00	05/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh TLM	For replacemet of Porceline insulator at various crossing span by CLR polymer	NLDC
48	765 KV D/C Jharsuguda - Dharamjaygarh trans line (CKT - I & II, Both Ckts together)	04/07/2017	08:00	06/07/2017	17:00	OCB	ER-II/Odisha /Sundergarh TLC	for swapping arrangement of Ckt- III & IV (2 nd transmission line)	NLDC
49	400/220kV 500MVA ICT -I @ Pusauli	04/07/2017	09:00	05/07/2017	18:00	ODB	POWERGRID ER-1	For Teritiary connection and AMP work.	ER-I IS ADVISED TO DISCUSS WITH bihar
50	400 Kv Biharsariff-Ballia ckt-I	04/07/2017	08:00	04/07/2017	16:00	ODB	POWERGRID ER-1	Liquidation of all pending line defects	NLDC
51	400 KV KAHALGAON - BARH - CKT I & II	04/07/2017	09:00	06/07/2017	18:00	OCB	POWERGRID ER-1	Powerline crossing of existing 400KV Kahalgaon - Barh (Loc. No.: 22 to 23) by construction of new line (23/0 to 24/0) for shifting of 400KV Kahalgaon - Banka Line under bus split scheme at NTPC switchyard, Kahalgaon.	NLDC
52	400 KV RourkelaSterliteII & Rourkela SundargarhII (both circuits together	04/07/2017	08:00	05/07/2017	17:00	OCB	ER-II/Odisha/Sundergarh TLC	Stringing work of 765KV Angul-Jharsuguda D/C (CktIII & IV) transmission line	
53	220 KV BINAGURI-BINAGURI-BUS SECTION-I	05/07/2017	08:00	05/07/2017	16:00	ODB	ER-II	AMP WORK.	West Bengal
54	315MVA ICT-II AT PATNA	05/07/2017	09:00	06/07/2017	18:00	ODB	POWERGRID ER-1	Application of insulation sleeve on tertiary	ER-I IS ADVISED TO DISCUSS WITH bihar
55	400 KV NPRN - MUZ -2	05/07/2017	10:00	05/07/2017	18:00	ODB	POWERGRID ER-1	BPI ERECTION IN LINE ISOLATOR AT NPRN	NLDC
56	132 KV MAIN BUS OF BIRPARA SS	05/07/2017	08:00	05/07/2017	16:00	OCB	ER-II	Circuit breaker repalecement work ADD Cap	West Bengal
57	400 KV Bus-I AT NEW RANCHI	05/07/2017	08:00	05/07/2017	18:00	ODB	POWERGRID ER-1	Commissioining of tie Bays of 400kV Ranchi-Patratu D/C line under JCP	
58	400/200kV ICT-I Main Bay (Bay No-407) at Rengali	05/07/2017	09:00	05/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For attending hotspot and Isolator allignment work.	GRIDCO
59	765kV, 80*3 MVAR Srikakulam Line Reactor-2 at Angul	05/07/2017	08:00	05/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	For commissioning of Spare Reactor with Line Reactor-2 under construction head.	NLDC
60	400kV BSF-Varanasi-I	05/07/2017	07:00	05/07/2017	19:00	ODB	POWERGRID ER-1	For fixing of open spacer Dampers and missing jumper volts.	NLDC
61	220 KV GAYA -DEHRI -II LINE	05/07/2017	08:00	05/07/2017	18:00	ODB	POWERGRID ER-1	For KHIJARSARAI bay commisioning work	Bihar
62	220 KV BINAGURI-SILIGURI-II	05/07/2017	08:00	05/07/2017	16:00	ODB	ER-II	For providing insulation sleeves to low clearance area.	
63	400kV Angul-Bolangir Line.	05/07/2017	08:00	05/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability and NTAMC Validation work	NLDC
64	125MVAR B/R - UIHEP Tie Bay (411) at Indravati	05/07/2017	09:00	05/07/2017	16:00	ODB	ER-II/Odisha/Indravati	Installation of CSD & online testing in Tie CB	
65	400KV Patna Balia Ckt 4- Line	05/07/2017	08:00	08/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of Porcelin with polymer	NLDC
66	400kV BUS-2 AT BSF	06/07/2017	10:00	06/07/2017	18:00	ODB	POWERGRID ER-1	400kV Tenughat Main bay no.- 416 interconnection with BUS-2 and satability testing /charging.	
67	132 kV LKR-LKR (BSPTCL) Line-2	06/07/2017	10:00	06/07/2017	14:00	ODB	POWERGRID ER-1	AMP	Bihar
68	Jeypore-Rengali Tie Bay (402) at Indravati	06/07/2017	09:00	06/07/2017	16:00	ODB	ER-II/Odisha/Indravati	AMP Works	
69	400 KV Jamshedpur-Baripada line	06/07/2017	09:30	06/07/2017	17:30	ODB	POWERGRID ER-1	Broken insulator replacement in line. INSULATORS BROKEN BY MISCEANTS	
70	MAIN BAY OF 500MVA ICT-II (BAY NO-403) AT NPRN	06/07/2017	10:00	08/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
71	765kV Main Bus-I at Angul	06/07/2017	08:00	06/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	Checking of Bus-bar Stability of 765kV Angul-Sundargarh Line-3&4 for connection with existing system under Construction Head.	NLDC
72	400 KV Bus-II AT NEW RANCHI	06/07/2017	08:00	07/07/2017	18:00	ODB	POWERGRID ER-1	Commissioining of tie Bays of 400kV Ranchi-Patratu D/C line under JCP	
73	400KV Patna Barh Ckt 4 - Line	06/07/2017	08:00	06/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	
74	400 KV MALDA-FARAKKA-II	06/07/2017	08:00	08/07/2017	16:00	OCB	ER-II	FOR BALANCE CONSTRUCTION PUNCH POINT	NLDC
75	ICT-I (3x 105 MVA) at Jeypore	06/07/2017	10:30	06/07/2017	11:30	ODB	ER-II/Odisha/Jeypore	For changing ICT-I combination form Unit-I,II,III, to Unit-II , III & IV for charging Unit-IV after Oil Refilling Works due to H2 violation	GRIDCO
76	400kV BSF-Varanasi-II	06/07/2017	07:00	06/07/2017	19:00	ODB	POWERGRID ER-1	For fixing of open spacer Dampers and missing jumper volts.	NLDC
77	220 KV SILIGURI-KISHANGANJ-I	06/07/2017	08:00	06/07/2017	16:00	ODB	ER-II	FOR INSULATOR REPLACEMENT BALANCE WORK.	
78	400 KV Balangir-Angul Bay at Bolangir	06/07/2017	08:00	06/07/2017	18:00	ODB	ER-II/Odisha /Bolangir	for Jumper modification works.	
79	400 KV MALDA-PURNEA-II	06/07/2017	08:00	07/07/2017	16:00	ODB	ER-II	For jumper tightness.	NLDC

80	765kV Angul-Srikakulam Line-1	06/07/2017	08:00	06/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability and NTAMC Validation work	NLDC
81	400 KV Subhasgram- Jeerat Line	06/07/2017	08:00	08/07/2017	17:30	ODB	ER-II	Insulator replacement work at Line	West Bengal
82	400 Kv Biharsariff-Ballia ckt-II	06/07/2017	08:00	06/07/2017	16:00	ODB	POWERGRID ER-1	Liquidation of all pending line defects	NLDC
83	400 KV D/C Kanepalli(Sundargarh)-IBEUL CKT-I&II	07/07/2017	07:00	08/07/2017	17:00	ODB	OGPTL	for Overhead Stringing of U/C 400KV D/C OPGC- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP 51/0- AP 52/0(IBEUL tower Nos: 41-42)	
84	765kV Main Bus-II at Angul	07/07/2017	08:00	07/07/2017	18:00	ODB	ER-II/Odisha/Angul SS	Checking of Bus-bar Stability of 765kV Angul-Sundargarh Line-3&4 for connection with existing system under Construction Head.	NLDC
85	220 KV SILIGURI-KISHANGANJ-II	07/07/2017	08:00	07/07/2017	16:00	ODB	ER-II	FOR INSULATOR REPLACEMENT BALANCE WORK.	
86	765kV Angul-Srikakulam Line-2	07/07/2017	08:00	07/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability and NTAMC Validation Work	NLDC
87	Indravati-Rengali Main Bay(403) at Indravati	08/07/2017	09:00	08/07/2017	16:00	ODB	ER-II/Odisha/Indravati	AMP Works	
88	315MVA ICT-I AT PATNA	08/07/2017	09:00	09/07/2017	18:00	OCB	POWERGRID ER-1	Attending commissioning punch point	ER-I IS ADVISED TO DISCUSS WITH bihar
89	500MVA ICT-I at MTN	08/07/2017	08:00	08/07/2017	16:00	ODB	ER-II	Erection of LM Tower near 500MVA ICT, Erection of CB, CT for tertiary transformer	DVC
90	220 kV Jeypore-Jayanagar-2 Line	08/07/2017	09:30	08/07/2017	15:30	ODB	ER-II/Odisha/Jeypore	For Changing B-Ph CVT of Jayanagar-II Line due to Oil Leakage (If Not available in the month of June 2017)	GRIDCO
91	400KV ROURKELA-SUNDARGARH#2	08/07/2017	09:00	08/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Insulator replacement at Location No.- 7 & 236.	
92	400 KV Patna-ballia -1	08/07/2017	08:00	08/07/2017	16:00	ODB	POWERGRID ER-1	Liquidation of all pending line defects	NLDC
93	400KV KEONJHAR LINE MAIN BAY (401) AT BARIPADA	08/07/2017	09:00	12/07/2017	18:00	OCB	ER-II/Odisha/Baripada	NO OUTAGE LINE WILL REMAIN IN SERVICE THROUGH TIE BAY. SF6 GAS LEAKAGE RECTIFICATION WORK IN 40152CB	
94	220kV NSLG-BRP Ckt-II	08/07/2017	08:00	08/07/2017	16:00	ODB	ER-II	Relay retrofitting / AMP / hot spot rectification in WT	
95	2 x 765 KV S/C Angul Jharsuguda line (CktI & II)	08/07/2017	08:00	18/07/2017	17:00	OCB	ER-II/Odisha/Sundergarh TLC	Swapping arrangement : Erection & Stringing work of 765KV Angul-Jharsuguda TL, Ckt-III & IV with Ckt-II & IV	NLDC
96	132 KV Main Bus at Birpara	09/07/2017	08:00	09/07/2017	16:00	ODB	ER-II	FOR CONSTRUCTION WORK UNDER ERSS-XIV.	West Bengal
97	400 KV Patna-Ballia-2	09/07/2017	08:00	09/07/2017	16:00	ODB	POWERGRID ER-1	Liquidation of all pending line defects	NLDC
98	400kV MALDA-NEW PURNEA-I	10/07/2017	08:00	10/07/2017	16:00	ODB	ER-II	Insulator change due to damage by miscreant, Jumper tightness work	NLDC
99	132 kV LKR-Jamui (BSPTCL) Line-1	10/07/2017	10:00	10/07/2017	14:00	ODB	POWERGRID ER-1	AMP	Bihar
100	400kV Bus-II at Binaguri	10/07/2017	08:00	10/07/2017	16:00	ODB	ER-II	AMP / Isolator hot spot rectification	
101	PG-UIHEP Main Bay (412) at Indravati	10/07/2017	09:00	10/07/2017	16:00	ODB	ER-II/Odisha/Indravati	AMP Works	
102	MAIN BAY OF 400KV MUZ-II (BAY NO-409) AT NPRN	10/07/2017	10:00	12/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
103	400 KV Jsr-Chaibasa-2 line	10/07/2017	09:30	10/07/2017	17:30	ODB	POWERGRID ER-1	Chaibasa-2 Main CB (41352) Replacement work (Dismantling) AT JSR under ADD Cap after completion of 25 years of service life	
104	413 Bay (Chaibasa-2 Main bay) AT JSR	10/07/2017	09:30	15/07/2017	17:30	OCB	POWERGRID ER-1	Chaibasa-2 Main CB (41352) Replacement work under ADD Cap after completion of 25 years of service life	
105	765 KV Bus-II at Sundargarh	10/07/2017	08:00	13/07/2017	18:00	OCB	ER-II/Odisha/Sundergarh	Extension of 4.5" Al Tube & stability checking for commissiong of 765KV Angul Line-3&4 main bay(713 & 716)for new bays construction work	NLDC
106	400KV Patna Barh Ckt 1 - Line	10/07/2017	08:00	10/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	
107	Gajuwaka-I Line Main Bay (412) at Jeypore	10/07/2017	09:30	10/07/2017	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works	
108	400 KV MUZ-DARBHANGA LINE-2	10/07/2017	08:00	10/07/2017	18:00	ODB	POWERGRID ER-1	FOR ATTENDING OF ALIGMENT OF LINE ISOLATOR AT MUZ	Bihar
109	400 KV Sagardighi-Parulia-1	10/07/2017	08:00	10/07/2017	16:00	ODB	ER-II	For correction of idenfied defects.	West Bengal
110	765 KV Dharamjaygarh LR-1 AT NEW RANCHI	10/07/2017	10:00	10/07/2017	12:00	ODB	POWERGRID ER-1	For CSD cheking/rectification; switching ON/OFF of LR-1 will be required.	NLDC
111	765kV Angul-Sundargarh Line-1	10/07/2017	08:00	10/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability. And NTAMC Validation work	NLDC
112	400KV ROURKELA-SEL#2	10/07/2017	09:00	10/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Insulator replacement at Location No.- 57 & rectification of bundle spacer in span 195-196.	
113	132kV Siliguri-Kurseong	10/07/2017	08:00	14/07/2017	16:00	ODB	ER-II	Insulator replacement work	West Bengal
114	80Mvar Reeactor Bay (403R)	10/07/2017	08:00	10/07/2017	16:00	ODB	ER-II	Rectification of LA position	
115	400 KV Ranchi-Maithan RB-I line	10/07/2017	08:00	10/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	
116	HVDC Back to Back System including AC Bypass @ Pusauli	10/07/2017	09:00	13/07/2017	17:00	HVDC system will be out on 10.07.17 and 13.07.17 on daily basis only.However AC bypass will be out on continuous basis from 10.07.17 to 13.07.17.No power flow between Eastern Region and Northern Region at 400KV Level during the outage of HVDC.	POWERGRID ER-1	To carry out following activities (i) Faulty Thyrister Replacement, (ii) UV Detector Cleaning, (iii) BPI erection for AC Bypass modification.	NLDC
117	400KV Rourkela-Talcher line-II	11/07/2017	09:00	12/07/2017	18:00	ODB	ER-II/Odisha/Rengali	For attending shutdown nature defects in line such as jumper tightening, conductor VD fixing, corona ring fixing, replacement of broken insulator at various location.	
118	400 KV Sagardighi-Parulia-2	11/07/2017	08:00	11/07/2017	16:00	ODB	ER-II	For correction of idenfied defects.	West Bengal

119	765 KV Dharamjaygarh LR-2 AT NEW RANCHI	11/07/2017	10:00	11/07/2017	12:00	ODB	POWERGRID ER-1	For CSD cheking/rectification; switching ON/OFF of LR-2 will be required.	NLDC
120	400 KV Jeerat- Baharampur Line	11/07/2017	08:00	11/07/2017	17:30	ODB	ER-II	For increasing CT Ratio as requseted by SLDC (WBSETCL Jeerat)	West Bengal
121	132 KV WBSETCL# 1 AT MALDA	11/07/2017	08:00	11/07/2017	16:00	ODB	ER-II	FOR ISOLATOR REPLACEMENT WORK	West Bengal
122	400 KV Indravati-Rengali line	11/07/2017	09:00	11/07/2017	16:00	ODB	ER-II/Odisha/Indravati	For removal of 50MVAR LR of Rengali-Indravati Line from service for replacement of insulating oil. And Testing of 50MVAR L/R in Rengali Line before replacement of Oil.	NLDC
123	765kV Angul-Sundargarh Line-2	11/07/2017	08:00	11/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability and NTAMC Validation Work	NLDC
124	400 KV Kahalgaon Banka Line-1	11/07/2017	09:30	11/07/2017	17:30	ODB	KAHALGAON	PM works & relay testing	
125	50MVAR L/R of 400KV Indravati-Rengali Line at indravati	11/07/2017	16:00	19/07/2017	10:00	OCB	ER-II/Odisha/Indravati	Replacement of insulating Oil. During this period, only 50MVAR LR will be out of service but the 400KV Indravati-Rengali line will remain in charged condition and there will be no power interruption.	
126	400 KV Ranchi-Maithan RB-II line	11/07/2017	08:00	11/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	
127	400KV ROURKELA-TALCHER#2	11/07/2017	09:00	13/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Replacement of insulators at different locations.	
128	400KV Keonjhar-Rengali Line	12/07/2017	09:00	12/07/2017	18:00	ODB	ER-II/Odisha/Keonjhar	01 no.Bundle Spacer dislocated in Loc. Between 5/0 to 5/1 and jumper tightening work	
129	132 KV BIRPARA-BIRPARA-II	12/07/2017	08:00	12/07/2017	16:00	ODB	ER-II	AMP WORK.	West Bengal
130	Main bay of Ara line-I at Khagaul bay	12/07/2017	10:00	14/07/2017	18:00	OCB	POWERGRID ER-1	CB overhauling work at Khagaul ss	
131	500MVA ICT-I at MTN	12/07/2017	08:00	12/07/2017	16:00	ODB	ER-II	Erection of LM Tower near 500MVA ICT, Erection of CB, CT for tertiary transformer	DVC
132	400KV Patna Barh Ckt 2 - Line	12/07/2017	08:00	12/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	
133	ICT-II Tie Bay (417) at Jeypore	12/07/2017	09:30	12/07/2017	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works	
134	220 KV BUS-II at Gaya S/S	12/07/2017	08:00	12/07/2017	18:00	ODB	POWERGRID ER-1	For KHIJARSARAI bay commisioning work	Bihar
135	400Kv Sundargarh-Raigarh -II	12/07/2017	08:00	12/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh TLM	For Tree/Bamboos cutting in the span of 426-427 by providing local administration / police	NLDC
136	132kV Kurseong - Rangit	12/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	Insulator replacement work	West Bengal
137	200MVA ICT-1 BANKA	12/07/2017	10:00	13/07/2017	18:00	ODB	POWERGRID ER-1	Providing insulation sleeves on tertiary conductor	Bihar
138	500MVA ICT# V at Subhasgram	12/07/2017	08:00	12/07/2017	16:00	ODB	ER-II	PSD Commissioning work	West Bengal
139	765 KV Angul-Srikakulam TL CKT-I	12/07/2017	07:00	13/07/2017	17:00	ODB	ER-II/Odisha /Berhampur	Replacement of Glass Insulatos by Long Rod Polymer Insulators at loc no. 681, 715, 722,723, 727 and 728.	NLDC
140	400 KV Ranchi-Sipat -I line	12/07/2017	08:00	12/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	NLDC
141	315MVA, ICT-2 at Maithon SS	12/07/2017	08:00	12/07/2017	16:00	ODB	ER-II	Replacement of Y ph LA of 400kV side	DVC
142	400 KV Jeerat-Subhasgram	12/07/2017	08:00	12/07/2017	16:00	ODB	ER-II	Shut down required for insulator replacement damaged due to miscreants.	West Bengal
143	400 KV BUS -2 AT MUZ	12/07/2017	09:00	12/07/2017	18:00	ODB	POWERGRID ER-1	STABILITY TEST OF DARBHANGA LINE -1	Bihar
144	MAIN BAY OF 400KV MUZ-I (BAY NO-412) AT NPRN	13/07/2017	10:00	15/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
145	400KV Fkk-Sagardighi line	13/07/2017	09:30	14/07/2017	17:30	ODB	FARAKKA	CT & Relay testing	West Bengal
146	500MVA ICT-I at MTN	13/07/2017	08:00	13/07/2017	16:00	ODB	ER-II	Erection of LM Tower near 500MVA ICT, Erection of CB, CT for tertiary transformer	DVC
147	220 KV BUS-I at Gaya S/S	13/07/2017	08:00	13/07/2017	18:00	ODB	POWERGRID ER-1	For KHIJARSARAI bay commisioning work	Bihar
148	400kV Angul-Meramundali Line-1	13/07/2017	08:00	13/07/2017	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability and NTAMC Validation work	GRIDCO
149	400kV Subhasgram- Sagardighi Line	13/07/2017	08:00	15/07/2017	17:30	ODB	ER-II	Insulator replacement work at Line	West Bengal
150	200 MVA ICT-1 at LAKHISARAI	13/07/2017	08:00	13/07/2017	18:00	ODB	POWERGRID ER-1	Providing insulation sleeves on tertiary conductor	Bihar
151	400 KV BARIPADA LINE AT NEWDUBURI (OPTCL) SS AT BARIPADA	13/07/2017	09:00	13/07/2017	18:00	ODB	ER-II/Odisha/Baripada	RECTIFICATION OF LINE EARTH SWITCH STOCK UP PROBLEM, WHICH CAUSED 14 HOUR DELAY IN RESTORATION LAST TIME.	
152	220 kV Kalyaneswari-2	13/07/2017	08:00	13/07/2017	16:00	ODB	ER-II	Replacement of B-Ph CVT	DVC
153	400 KV Sagardighi-Subhasgram	13/07/2017	08:00	13/07/2017	16:00	ODB	ER-II	Shut down required for insulator replacement damaged due to miscreants.	West Bengal
154	220 KV BINAGURI-BINAGURI-BUS SECTION-II	14/07/2017	08:00	14/07/2017	16:00	OCB	ER-II	AMP WORK.	West Bengal
155	400 KV ROURKELA-CHAIBASA#1	14/07/2017	09:00	14/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
156	400kV Bus-II at Rengali	14/07/2017	09:00	14/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For Relay Testing after Retrofitting of BusBar Protection System at Rengali.	
157	765KV Sundergarh-Dharamjaygarh-I	14/07/2017	09:00	14/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh TLM	For adjustment of rigid spacer in the span of 63-64 of 765KV Sundergarh-Dharamjaygarh-I and jumper tightening	NLDC
158	400 KV BINAGURI-KISHANGANJ-I	14/07/2017	08:00	14/07/2017	16:00	ODB	ER-II	For jumper tightness. (LILO PORTION).	
159	400 kV Jeypore-Gajuwaka-I Line	14/07/2017	09:30	14/07/2017	13:30	ODB	ER-II/Odisha/Jeypore	For Relay testing after Retrofitting of Main-II Relay of Gajuwaka-I Line (If Not completed in the month of June 2017)	NLDC
160	400 kV Jeypore-Gajuwaka-II Line	14/07/2017	13:30	14/07/2017	17:30	ODB	ER-II/Odisha/Jeypore	For Relay testing after Retrofitting of Main-II Relay of Gajuwaka-II Line (If Not completed in the month of June 2017)	NLDC
161	160 MVA ICT#1 AT PURNEA	14/07/2017	09:00	15/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
162	400 KV Maithon-Kalelgoan I&II	14/07/2017	08:00	14/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	
163	400kv Maithon-Ranchi	14/07/2017	08:00	14/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	
164	400 KV PPSP-DURGAPUR	14/07/2017	08:00	14/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	West Bengal
165	132kV Melli-Rangit	14/07/2017	08:00	17/07/2017	16:00	ODB	ER-II	Insulator replacement work	Sikkim
166	400 KV KEONJHAR LINE AT BARIPADA	14/07/2017	09:00	14/07/2017	18:00	ODB	ER-II/Odisha/Baripada	MAIN 2 RELAY RETROFICATION WORK AND TIGHTENING OF ARCING HORNS 7 CORONA RINGS IN BARIPADA-KEONJHAR T/L LILO PORTION.	
167	200MVA ICT-2 BANKA	14/07/2017	10:00	14/07/2017	12:00	ODB	POWERGRID ER-1	Providing insulation sleeves on tertiary bushing	Bihar
168	765 KV Angul-Srikakulam TL CKT-II	15/07/2017	07:00	16/07/2017	17:00	ODB	ER-II/Odisha /Berhampur	Replacement of Glass Insulatos by Long Rod Polymer Insulators at loc no. 681, 715, 722,723, 727 and 728.	NLDC

169	132 KV BIRPARA-BIRPARA-I	15/07/2017	08:00	15/07/2017	16:00	OCB	ER-II	AMP WORK.	West Bengal
170	400KV ROURKELA-CHAIBASA#1 L/R BAY AT ROURKELA(BAY NO.-416LR).	15/07/2017	09:00	15/07/2017	14:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
171	Main bay of Ara line-II at Khagaul bay	15/07/2017	10:00	18/07/2017	18:00	OCB	POWERGRID ER-1	CB overhauling work at Khagaul ss	
172	400 KV Jsr-Chaibasa-2 line	15/07/2017	09:30	15/07/2017	17:30	ODB	POWERGRID ER-1	Chaibasa-2 Main CB (41352) Replacement work (Re-erection) AT JSR under ADD Cap after completion of 25 years of service life	
173	400/220 KV 500 MVA ICT#3 AT BARIPADA	15/07/2017	09:00	15/07/2017	18:00	ODB	ER-II/Odisha/Baripada	COMMISSIONING OF CSD WITH ONLINE OPERATION	
174	400KV Keonjhar-Baripada-Kharagpur Line (Both ckts together)	15/07/2017	08:00	15/07/2017	18:00	ODB	ER-II/Odisha/Baripada	Fixation of missing Corana Rings and tightening of jumpers works.	West Bengal
175	ICT-I Tie Bay (408) at Jeypore	15/07/2017	09:30	15/07/2017	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works	
176	765 KV BUS-I at Gaya S/S	15/07/2017	08:00	15/07/2017	18:00	ODB	POWERGRID ER-1	For isolator rectification work under S/S extn. Package	NLDC
177	400 KV BINAGURI-KISHANGANJ-II	15/07/2017	08:00	15/07/2017	16:00	ODB	ER-II	For jumper tightness. (LILO PORTION).	
178	400kV Bus-I at Rengali	15/07/2017	09:00	15/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For Relay Testing after Retrofitting of BusBar Protection System at Rengali	
179	220kv Maithon-Dumka I&II	15/07/2017	08:00	15/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	JSEB
180	400kV NSLG-Tala Ckt-1	15/07/2017	08:00	15/07/2017	16:00	ODB	ER-II	Insulator replacement in crossings	NLDC
181	400 KV BERHAMPUR-BHERAMA-I	15/07/2017	08:00	15/07/2017	16:00	ODB	ER-II	PLCC COMMUNICATION CHECKING (FOX-515 MODULE) THROUGH OEM.	NLDC
182	Tie Bay-711 of 765KV Sundargarh-Angul Line-I at Sundargarh	15/07/2017	08:00	15/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh	Polymer anchoring in Jack Bus side Isolator under system improvement scheme	NLDC
183	400KV Fkk-Kahalgaon line-4	15/07/2017	09:30	15/07/2017	17:30	ODB	FARAKKA	Relay testing	
184	400kV Bus-I at Binaguri	15/07/2017	08:00	15/07/2017	16:00	ODB	ER-II	To facilitate hot spot rectification in Purnea-3 & 4 Line and Rangpo-1 & 2 Line	
185	400kV MTN Mejia-I line	16/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	AMP & Tie CT replacement work	DVC
186	220kV Birpara-Salakati-I	16/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	AMP work	NLDC
187	400KV Bus I at Bolangir	16/07/2017	08:00	22/07/2017	18:00	ODB	ER-II/Odisha/BOLANGIR	BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	
188	220 KV BIRPARA-ALIPURDUAR-II	16/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	FOR DROPPER CONNECTION OF 220 KV GANTRY TO WBSETCL LINE.	
189	132 KV PURNEA - PURNEA (BSPTCL)#3 LINE	16/07/2017	09:00	31/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
190	132 KV PURNEA - KISHANGANJ LINE	16/07/2017	09:00	31/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
191	160 MVA ICT#2 AT PURNEA	16/07/2017	09:00	31/07/2017	16:00	OCB	POWERGRID ER-1	GIS WORK	Bihar
192	400KV Maithon-Jamshedpur	16/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	
193	400KV Berhampore Bheramara Ckt-I Line(404 bay)	16/07/2017	08:00	16/07/2017	16:00	ODB	ER-II	Replacement of Line isolator PAD (89L)and fixing of isolator alingment.	NLDC
194	400KV ROURKELA-TALCHER#1 MAIN BAY (BAY NO.-406) AT ROURKELA	17/07/2017	09:00	17/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
195	MAIN BAY OF 400KV MLD-II (BAY NO.413) AT NPRN	17/07/2017	10:00	19/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
196	400/220kV, 315MVA ICT-1 AT JSR	17/07/2017	09:30	17/07/2017	17:30	ODB	POWERGRID ER-1	Differential relay replacement work under ADD Cap after completion of 25 years of service life	JSEB
197	400 kV Main Bus-I at Baripada	17/07/2017	09:30	17/07/2017	15:30	ODB	ER-II/Odisha /Baripada	Erection of one no. BPI at Main Bus-I Y phase as per revised drawing by L & T constrcution team	
198	200 MVA ICT-2 & 80 MVAR Bus Reactor at LAKHISARAI	17/07/2017	08:00	20/07/2017	18:00	ODB	POWERGRID ER-1	FIREC WALL CONSTRUCTION . .FIRE WALL TO BE CONSRUCTED BEWEEN ICT-2 AND 80 MVAR B/R	Bihar
199	765 KV BUS-II at Gaya S/S	17/07/2017	08:00	17/07/2017	18:00	ODB	POWERGRID ER-1	For isolator rectification work under S/S extn. Package	NLDC
200	132 KV TBC BAY AT MALDA	17/07/2017	08:00	17/07/2017	16:00	ODB	ER-II	FOR ISOLATOR REPLACEMENT WORK	West Bengal
201	220kV Bus-I at Rengali	17/07/2017	09:00	17/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For Relay Testing after Retrofitting of BusBar Protection System at Rengali	GRIDCO
202	400 kV Jeypore-Indravati S/C Line	17/07/2017	06:00	18/07/2017	18:00	ODB	ER-II/Odisha/Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line (If Not available in the month of June 2017)	NLDC
203	500 MVA ICT-3 AT MUZ	17/07/2017	08:00	22/07/2017	18:00	OCB	POWERGRID ER-1	REPLACEMENT OF GASKET/O RINGS OF ALL TURRET BUSHINGS FOR ARRESTING LEAKAGE.LOAD TO BE RESTRICTED	ER-I IS ADVISED TO DISCUSS WITH bihar
204	400 KV Ranchi Raghunathpur Line	17/07/2017	08:00	17/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	DVC
205	132KV S/C Sambalpur-Rairakhol TL (OPTCL)	17/07/2017	08:00	18/07/2017	18:00	OCB	ER-II/Odisha/Sambalpur TLC	Stringing work of 765KV Angul-Jharsuguda D/C (Ckt-III & IV) transmission line	GRIDCO
206	400kV Biharsharif-Pusauli-I	18/07/2017	09:00	18/07/2017	18:00	ODB	POWERGRID ER-1	AMP Work related to Line bay of BSF-Pusauli-I at Pusauli	
207	400KV ROURKELA-TALCHER#1 TIE BAY (BAY NO.- 405) AT ROURKELA	18/07/2017	09:00	18/07/2017	16:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
208	400KV Fkk-Berhampur Line	18/07/2017	09:30	19/07/2017	17:30	ODB	FARAKKA	CT & Relay testing	
209	400/220kV, 315MVA ICT-2 AT JSR	18/07/2017	09:30	18/07/2017	17:30	ODB	POWERGRID ER-1	Differential relay replacement work under ADD Cap after completion of 25 years of service life	JSEB
210	400KV Maithon-Durgapur I&II	18/07/2017	08:00	18/07/2017	16:00	OCB	ER-II	Diversion of MD Line by M/S Suhara Power	
211	220 KV MAIN BUS-II AT DALKHOLA	18/07/2017	08:00	18/07/2017	16:00	ODB	ER-II	FOR NTAMC ADAPTATION WORK OF ISOLATORS.	West Bengal
212	220kV Bus-II at Rengali	18/07/2017	09:00	18/07/2017	17:00	ODB	ER-II/Odisha/Rengali	For Relay Testing after Retrofitting of BusBar Protection System at Rengali	GRIDCO
213	400kV Barh Patna Line 1	18/07/2017	09:30	18/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	
214	132kV Banka (PG) - Banka (BSPTCL) Ckt-1	18/07/2017	10:00	18/07/2017	18:00	ODB	POWERGRID ER-1	Modification of connection arrangement of LA & CVT	Bihar
215	400 KV BERHAMPUR-BHERAMA-II	18/07/2017	08:00	18/07/2017	16:00	ODB	ER-II	PLCC COMMUNICATION CHECKING (FOX-515 MODULE) THROUGH OEM.	NLDC
216	400 KV Kahalgaon Banka Line-2	18/07/2017	09:30	18/07/2017	17:30	ODB	KAHALGAON	PM works & relay testing	
217	400kV Tala Ckt-I	18/07/2017	08:00	18/07/2017	16:00	ODB	ER-II	Relay retrofitting	NLDC
218	400 KV Ranchi-Maithan	18/07/2017	08:00	18/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	
219	765/400KV ICT-II at Sundargarh	18/07/2017	08:00	18/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh	To attend LA Leakage current in R & Y Phase	NLDC
220	50 MVAR BR-1 AT JSR	19/07/2017	10:30	19/07/2017	11:30	ODB	POWERGRID ER-1	CT oil sampling work	
221	220kV S'gram-CESC-Ckt _I	19/07/2017	08:00	19/07/2017	16:00	ODB	ER-II	AMP	West Bengal
222	400kV MTN Mejia-1 line	19/07/2017	08:00	19/07/2017	16:00	ODB	ER-II	AMP & Tie CT replacement work	DVC

223	400KV ROURKELA-TALCHER#2 MAIN BAY (BAY NO.- 407) AT ROURKELA	19/07/2017	09:00	19/07/2017	14:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
224	400kV D/C Sagardighi-Parulia	19/07/2017	08:00	19/07/2017	16:00	ODB	ER-II	AMP Works	West Bengal
225	400/220 KV 500 MVA ICT#3 AT BARIPADA	19/07/2017	09:00	19/07/2017	18:00	ODB	ER-II/Odisha/Baripada	CALLIBRATION OF OTI & WTI	GRIDCO
226	765 KV S/C NRNC-DMJ CKT-2	19/07/2017	08:00	19/07/2017	18:00	ODB	POWERGRID ER-1	For insulator changing (T No.: 446,468,435,420, 422,324,311,243,206,91)	NLDC
227	132kV Rangpo-Melli	19/07/2017	08:00	23/07/2017	16:00	ODB	ER-II	Insulator replacement work	Sikkim
228	132kV Rangpo-Gangtok	19/07/2017	08:00	21/07/2017	16:00	ODB	ER-II	Insulator replacement work	Sikkim
229	400 KV Subhasgram- Jeerat Line	19/07/2017	08:00	19/07/2017	16:00	ODB	ER-II	Insulator replacement work at Line	West Bengal
230	400kV Barh Kahal Line 1	19/07/2017	09:30	19/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	NLDC
231	132kV (PG) - Banka (BSPTCL) Ckt-2	19/07/2017	10:00	19/07/2017	18:00	ODB	POWERGRID ER-1	Modification of connection arrangement of LA & CVT	Bihar
232	400 KV Indravati-Rengali line	19/07/2017	09:00	19/07/2017	18:00	ODB	ER-II/Odisha/Indravati	Testing of 50MVAR L/R in Rengali Line before charging. And taking the LR into service	NLDC
233	408 Bay (Tie bay of Maithon & Chaibasa 1) AT JSR	20/07/2017	09:30	27/07/2017	17:30	OCB	POWERGRID ER-1	408 bay CB replacement work under ADD Cap after completion of 25 years of service life	
234	220kV S'gram-KLC Bantala Line	20/07/2017	08:00	20/07/2017	17:30	ODB	ER-II	AMP	West Bengal
235	220kV Birpara-Chukha-II	20/07/2017	08:00	20/07/2017	16:00	ODB	ER-II	AMP work	NLDC
236	400kV Biharsharif-Pusauli-II	20/07/2017	09:00	20/07/2017	18:00	ODB	POWERGRID ER-1	AMP Work related to Line bay of BSF-Pusauli-II at Pusauli	
237	400KV SUNDARGARH#2-RANCHI#1 TIE BAY (BAY NO.- 429) AT ROURKELA	20/07/2017	09:00	20/07/2017	16:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
238	TIE BAY OF 400KV MLD-II & BUS REACTOR-I (BAY NO-414) AT NPRN	20/07/2017	10:00	22/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
239	400KV Berhampore Sagardighi Ckt-II Main Bay(409 bay)	20/07/2017	08:00	20/07/2017	16:00	ODB	ER-II	Fixing of SCADA operation of CB	
240	132 KV RANGPO-RANGIT	20/07/2017	08:00	20/07/2017	16:00	ODB	ER-II	FOR AMP WORK	
241	400kV NSLG-Tala Ckt-4	20/07/2017	08:00	20/07/2017	16:00	ODB	ER-II	Insulator replacement in crossings	NLDC
242	400kV Barh Patna Line 2	20/07/2017	09:30	20/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	
243	132kV Banka (PG) - Sabour (BSPTCL) Ckt-1	20/07/2017	10:00	20/07/2017	18:00	ODB	POWERGRID ER-1	Modification of connection arrangement of LA & CVT	Bihar
244	220 KV SIDE BAY OF 160 MVA ICT-II (210) AT BARIPADA	20/07/2017	09:00	20/07/2017	18:00	ODB	ER-II/Odisha/Baripada	NO OUTAGE ICT WILL REMAIN IN SERVICE THROUGH TBC BAY. AMP OF BAY	
245	400KV Farakka-Durgapur Ckt-2	20/07/2017	08:00	20/07/2017	16:00	ODB	ER-II	Replacement of defcetive Insulator string having defective disc >=3 (as per PID test results) and replacement of porcelen insulator string with glass string at major crossing	
246	220kV Bus Coupler at Rengali	20/07/2017	09:00	20/07/2017	17:00	ODB	ER-II/Odisha/Rengali	Replacement of Tan delta violated CT (R&B Ph.)	
247	400KV 125MVAr Bus Reactor-I at Sundargarh	20/07/2017	08:00	20/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh	To attend oil leakage in PRD & Buckles relay	
248	400KV TIE BAY (402) OF KHARAGPUR & ICT-II AT BARIPADA	21/07/2017	09:00	21/07/2017	18:00	ODB	ER-II/Odisha/Baripada	AMP OF BAY	
249	220KV BUS-I AT ROURKELA	21/07/2017	09:00	21/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	GRIDCO
250	400KV Fkk-Durgapur Line-1	21/07/2017	09:30	22/07/2017	17:30	ODB	FARAKKA	CT & Relay testing	
251	400KV KHL BARH Ckt1 - line	21/07/2017	08:00	21/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	NLDC
252	400KV ICT#2 at OHPC Switchyard	21/07/2017	09:00	21/07/2017	18:00	ODB	ER-II/Odisha/Indravati	Installation of Insulation sleeve in 33KV Bus Bar	GRIDCO
253	132kV Rangpo-Rangit	21/07/2017	08:00	23/07/2017	16:00	ODB	ER-II	Insulator replacement work	
254	400kV Barh Kahal Line 2	21/07/2017	09:30	21/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	NLDC
255	132kV Banka (PG) - Sabour (BSPTCL) Ckt-2	21/07/2017	10:00	21/07/2017	18:00	ODB	POWERGRID ER-1	Modification of connection arrangement of LA & CVT	Bihar
256	400 KV D/C NRNC-RNC CKT-1	21/07/2017	08:00	21/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of damaged / dislocated spacer damper in forward span (T No: 161-162, 166-167-168, 172-173, 191-192)	
257	400 Ranchi-Rourkela-I	21/07/2017	08:00	21/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	
258	400KV D/C IB-Meramundali TL (OPTCL)	21/07/2017	08:00	22/07/2017	18:00	OCB	ER-II/Odisha/Sambalpur TLC	Stringing work of 765KV Angul-Jharsuguda D/C (Ckt-III & IV) transmission line	GRIDCO
259	220KV BUS-II AT ROURKELA	22/07/2017	09:00	22/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	GRIDCO
260	220 KV MALDA-DALKHOLA-I	22/07/2017	08:00	22/07/2017	16:00	ODB	ER-II	AMP works	
261	400KV Berhampore Farakka Bay (406)	22/07/2017	08:00	22/07/2017	16:00	ODB	ER-II	Attending leakage of Circuit Breaker	
262	400KV ICT#2 at OHPC Switchyard	22/07/2017	09:00	22/07/2017	18:00	ODB	ER-II/Odisha/Indravati	Balance work of Installation of Insulation sleeve in 33KV Bus Bar	GRIDCO
263	400KV Berhampore Sagardighi Ckt-II Tie Bay(410 bay)	22/07/2017	08:00	22/07/2017	16:00	ODB	ER-II	Fixing of SCADA operation of CB	
264	400 kV LKR-BSF Line-2	22/07/2017	08:00	22/07/2017	18:00	ODB	POWERGRID ER-1	For Jumper Modification AT LAKHISARAI	
265	765 KV GAYA-BALLIA LINE	22/07/2017	08:00	23/07/2017	18:00	ODB	POWERGRID ER-1	For replacemnt of insulators damaged by miscreant	NLDC
266	132kV Siliguri - Melli	22/07/2017	08:00	25/07/2017	16:00	ODB	ER-II	Insulator replacement work	Sikkim
267	400kV Barh GKP Line 2	22/07/2017	09:30	22/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	NLDC
268	400 KV NRNC-RNC CKT-2	22/07/2017	08:00	22/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of damaged / dislocated spacer damper in forward span (T No: 161-162, 166-167-168, 172-173, 191-192)	
269	400 Ranchi-Rourkela-II	22/07/2017	08:00	22/07/2017	17:00	ODB	Powergrid	replacement of insulator,VD,CC etc.	
270	400KV 125MVAr Bus Reactor-II at Sundargarh	22/07/2017	08:00	22/07/2017	18:00	ODB	ER-II/Odisha/Sundergarh	To attend oil leakage in PRD & Buckles relay	
271	220kV Birpara-Salakati-II	23/07/2017	08:00	23/07/2017	16:00	ODB	ER-II	AMP work	NLDC
272	400KV Bus II at bolangir	23/07/2017	08:00	29/07/2017	18:00	ODB	ER-II/Odisha/BOLANGIR	BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	
273	132kV Rangpo-Chuzachen	23/07/2017	08:00	25/07/2017	16:00	ODB	ER-II	Insulator replacement work	Sikkim
274	125 MVAR Bus reactor-II	23/07/2017	08:00	23/07/2017	16:00	ODB	ER-II	Oil leakage arresting work of reactor	

275	400 KV BARIPADA - PANDIABILI LINE	24/07/2017	07:00	25/07/2017	17:00	ODB	ER-II/Odisha/Pandiabili	AMP work	
276	400KV ROURKELA-SEL#2 MAIN BAY AT ROURKELA (BAY NO.- 426)	24/07/2017	09:00	24/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
277	MAIN BAY OF BUS REACTOR-I (BAY NO-415) AT NPRN	24/07/2017	10:00	26/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
278	765 KV GAYA-VNS-II LINE	24/07/2017	08:00	24/07/2017	18:00	ODB	POWERGRID ER-1	For replacemnt of insulators damaged by miscreant	NLDC
279	400KV Bus-1 (Connected line -Jeypore Line and UIHEP Line) at Indravati	24/07/2017	09:00	24/07/2017	18:00	ODB	ER-II/Odisha/Indravati	For retrofitting of Bus Bar Protection panel at Indravati ss.	
280	400kV Barh GKP Line 1	24/07/2017	09:30	24/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	NLDC
281	500MVA ICT# V AT SUBHASGRAM	24/07/2017	08:00	24/07/2017	17:30	ODB	ER-II	PSD Commissioning work	West Bengal
282	400 KV Chandwa-Gaya CKT-1	24/07/2017	08:00	24/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of insulator damaged by miscreants	
283	East Side HVDC Filter Bay @ Pusauli	25/07/2017	09:00	25/07/2017	18:00	ODB	POWERGRID ER-1	AMP Work	NLDC
284	400KV SEL#2 - 125MVAR B/R TIE BAY AT ROURKELA (BAY NO.- 427)	25/07/2017	09:00	25/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
285	400KV Fkk-Durgapur Line-1	25/07/2017	09:30	26/07/2017	17:30	ODB	FARAKKA	CT & Relay testing	
286	400Kv Sundargarh-Raigarh -II	25/07/2017	09:00	14/08/2017	18:00	OCB	ER-II/Odisha/Sundergarh TLM	Dismantling of Tower Loc 375 and erection of New Tower in place of NEW foundation and Stringing through Multi Ckt with 220kv Budhi Padhar Korba Line .	NLDC
287	400kv Sterlite -Raigarh-II	25/07/2017	09:00	14/08/2017	18:00	OCB	ER-II/Odisha/Sundergarh TLM	Dismantling of Tower Loc 375 and erection of New Tower in place of NEW foundation and Stringing through Multi cKt with 220kv Budhi Padhar Korba Line .	Deffered by GRIDCO
288	400KV KHL BARH Ckt 2 - line	25/07/2017	08:00	25/07/2017	17:00	ODB	POWERGRID ER-1	Fixing of spacer Cap, repair of conductor cut and CC ring bolt fixing	NLDC
289	400KV Bus-2 (Connected line -Rengali Line and 125MVAR Bus reactor) at Indravati	25/07/2017	09:00	25/07/2017	18:00	ODB	ER-II/Odisha/Indravati	For retrofitting of Bus Bar Protection panel at Indravati ss.	
290	220kv Maithon-Kalyanswari I&II	25/07/2017	08:00	25/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	DVC
291	400kV Barh Patna Line 3	25/07/2017	09:30	25/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	
292	400 KV Kahalgaon Lakhisarai Line-1	25/07/2017	09:30	25/07/2017	17:30	ODB	KAHALGAON	PM works & relay testing	
293	400kV MTN Mejia-3 line	25/07/2017	08:00	25/07/2017	16:00	ODB	ER-II	Repalcement of Isolator Arm (41189B) and Insulator Replacement at MD Line	DVC
294	400/200kV ICT-I 315 MVA at Rengali	25/07/2017	09:00	25/07/2017	17:00	ODB	ER-II/Odisha/Rengali	Replacement 33kV MOCB and testing work at Rengali ss.	GRIDCO
295	400 KV D/C Chandwa-Gaya CKT-2	25/07/2017	08:00	25/07/2017	18:00	ODB	POWERGRID ER-1	Replacement of insulator damaged by miscreants	
296	400kV MTN Mejia-2 line	25/07/2017	08:00	25/07/2017	16:00	ODB	ER-II	Replacement of Y & B ph LA	DVC
297	400 KV DUBURI - PANDIABILI LINE	26/07/2017	07:00	27/07/2017	17:00	ODB	ER-II/Odisha/Pandiabili	AMP work	NLDC
298	220KV BUS COUPLER BAY AT ROURKELA (BAY NO.- 202)	26/07/2017	09:00	26/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	AMP Work.	
299	400KV Berhampore Sagardighi Ckt-I Main Bay(407 bay)	26/07/2017	08:00	26/07/2017	16:00	ODB	ER-II	Fixing Alingment of isolator (89A) and AMP	West Bengal
300	132kV Rangit -Rammam	26/07/2017	08:00	28/07/2017	16:00	ODB	ER-II	Insulator replacement work	West Bengal
301	400kV Barh Patna Line 4	26/07/2017	09:30	26/07/2017	18:00	ODB	BARH	Modification in logic & Annual testing of Relay	
302	220 KV GAYA -SONENAGAR-II LINE	26/07/2017	10:00	26/07/2017	14:00	ODB	POWERGRID ER-1	Testing of installed CT in GIS Bay to avoid unidentified tripping of Bus	Bihar
303	North Side HVDC Filter Bay @ Pusauli	27/07/2017	09:00	27/07/2017	18:00	ODB	POWERGRID ER-1	AMP Work	NLDC
304	220 KV MALDA-DALKHOLA-II	27/07/2017	08:00	27/07/2017	16:00	ODB	ER-II	AMP works	
305	MAIN BAY OF 400KV MLD-I (BAY NO-416) AT NPRN	27/07/2017	10:00	29/07/2017	18:00	OCB	POWERGRID ER-1	CB Overhauling	
306	400KV Berhampore Farakka Tie Bay (405)	27/07/2017	08:00	27/07/2017	16:00	ODB	ER-II	Fixing of Isolator alingment	
307	400kv Maithon-RTPS	27/07/2017	08:00	27/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	DVC
308	220kv Maithon-Dhanbad I&II	27/07/2017	08:00	27/07/2017	16:00	ODB	ER-II	Insulator Replacement at MD Line	DVC
309	220KV ICT#1 INCOMER BAY AT ROURKELA (BAY NO.- 211)	27/07/2017	10:00	27/07/2017	12:00	ODB	ER-II/Odisha/ROURKELA	Jumper Tightening.	
310	220 KV GAYA -SONENAGAR -I LINE	27/07/2017	10:00	27/07/2017	14:00	ODB	POWERGRID ER-1	Testing of installed CT in GIS Bay to avoid unidentified tripping of Bus	Bihar
311	400KV Baripada - Duburi Line	28/07/2017	07:00	29/07/2017	17:00	ODB	ER-II/Odisha/Pandiabili	AMP work	GRIDCO
312	400KV Berhampore Bheramara Ckt-II Main Bay (401 bay)	28/07/2017	08:00	28/07/2017	16:00	ODB	ER-II	AMP works	
313	400KV Berhampore Sagardighi Ckt-I Tie Bay(408 bay)	28/07/2017	08:00	28/07/2017	16:00	ODB	ER-II	Fixing of SCADA operation of CB	
314	400/200kV ICT-II 315MVA at Rengali	28/07/2017	09:00	28/07/2017	17:00	ODB	ER-II/Odisha/Rengali	Replacement 33kV MOCB and testing work at Rengali ss.	GRIDCO
315	125 MVAR Bus reactor -1 AT PATNA	29/07/2017	09:00	05/07/2017	18:00	ODB	POWERGRID ER-1	Fire fighting work , construction activity	
316	400 KV New Ranchi-Arambagh Line at New Ranchi	31/07/2017	08:00	31/07/2017	18:00	ODB	POWERGRID ER-1	Commissioining of tie Bays of 400kV Ranchi-Patratu D/C line under JCP	West Bengal

Outages proposed in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	outages proposed in	Name of Requesting Agency	Name of Requesting
		Date	Time	Date	Time				
1	400KV D/C Sundargarh-Raigarh (CKT-1&)Rourkela-Raigarh (CKT 2)	01-Jul-17	07:00	02-Jul-17	17:00	Daily	WRPC	for Overhead Stringing of U/C 400KV D/C OPGC- Sundargarh(IB Thermal) Transmission line(of OGPTL) at OGPTL Location numbers AP 23/0- AP24/0(PGCIL tower Nos: 797-798)	OGPTL
2	765KV Bus-II at Jabalpur PS	03-Jul-17	10:00	06-Jul-17	18:00	Daily	WRPC	For Urai Bay Extension work at Pooling station,Jabalpur	POWERGRID
3	Sipat - Ranchi # 1	03-Jul-17	08:00	08-Jul-17	18:00	Continuous	WRPC	For Redctification of Bend C-leg at Tower No 664, on permanent basis	POWERGRID
4	Sipat - Ranchi # 2	03-Jul-17	08:00	08-Jul-17	18:00	Continuous	WRPC	For Redctification of Bend C-leg at Tower No 664, on permanent basis	POWERGRID

5	765kV D'JAIGARH-RANCHI 1	04-Jul-17	09:00	06-Jul-17	18:00	Daily	WRPC	Replacement of broken insulator, rectification of Spacer cum damper, Installation of Arcing horn	POWERGRID
6	D/C Korba-Budipadar CKT-I & II	05-Jul-17	08:00	06-Jul-17	18:00	Continuous	WRPC	Power line Crossing of U/C 765 KV D/C Jharsuguda-Korba Line-II of POWERGRID	POWERGRID
7	S/C Korba-Budipadar CKT-III	05-Jul-17	08:00	06-Jul-17	18:00	Continuous	WRPC	Power line Crossing of U/C 765 KV D/C Jharsuguda-Korba Line-II of POWERGRID	POWERGRID
8	765kV D'JAIGARH-RANCHI II	06-Jul-17	09:00	06-Jul-17	18:00	Daily	WRPC	Non auto mode of Line II- for replacement of broken insulator in Ranchi # I D/C Portion i.e. Tower No. 12	POWERGRID
9	400KV Sipat-Ranchi-2 LINE	24-Jul-17	09:00	26-Jul-17	18:00	Continuous	WRPC	For Annual maint works	POWERGRID
10	Balia-Patna Ckt-3(400 kV)	07-Jan-17	07:00	07-Apr-17	18:00	Daily	NRPC	As informed by ER-1 applied for polymer insulator installation by replacing disc insulator. During this opportunity S/D , NR-III will also replace disc insulator by polymer	POWERGRID
11	Balia-Patna Ckt-4(400 kV)	07-May-17	07:00	07-Aug-17	18:00	Daily	NRPC	As informed by ER-1 applied for polymer insulator installation by replacing disc insulator. During this opportunity S/D , NR-III will also replace disc insulator	POWERGRID
12	Muzaffarpur-Gorakhpur-1	07-Jul-17	09:00	07-Jul-17	17:30	Daily	NRPC	Line side jumper tightening & equipment testing (such as LA/CVT/Line Isolator/Bypass isolator,DS1,DS2 isolator of TCSC/FSC System) alongwith testing of protection scheme at PGCIL GKP end at Gorakhpur	POWERGRID
13	Muzaffarpur-Gorakhpur-2	08-07-17	09:00	08-07-17	17:30	Daily	NRPC		POWERGRID
14	Raichur-Solapur I	02-Jul-17	08:00	02-Jul-17	18:00	Continuous	SRPC	AMP	POWERGRID
15	Gajuwaka-Jeypore I&II	08-Jul-17	08:00	09-Jul-17	17:00	Continuous	SRPC	For stringing of 400 kV QMDC line from Kalapaka - Maradam line	POWERGRID
16	HVDC Talcher-Kolar I&II	29-Jul-17	07:00	31-Jul-17	17:00	Daily	SRPC	Construction Works: For carrying power line crossing works of 1. 765 KV LILO of Kurnool-Thiruvalam line 2. 765 KV C'peta-Kadapa line. 3. 765 KV Vemagiri –C'peta line 4. 400KV Kadapa - NP Kunta Line.	POWERGRID
17	HVDC Gajuwaka Pole-2	09-Jul-17	07:00	09-Jul-17	17:00	Daily	SRPC	Bus Reactor Construction Works - HVDC Software Programming Upgradation	POWERGRID

Applied for approval in 134th OCC

19	400KV Sundergarh-Raigarh fdr- I	04/07/2017	08:00:00	05-07--2017	18:00:00	ODB	ER-II/Odisha/Sundergarh TLM	For replacemet of Porceline insulator at various crossing span (624-625, 686-687, 675-676, 651-652, 628-629, 761-762, 750-751)by CLR polymer
31	400KV ROURKELA-SUNDARGARH#2	08/07/2017	09:00	08/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Insulator replacement at Location No.- 7 & 236.
35	400KV ROURKELA-SEL#2	10/07/2017	09:00	10/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Insulator replacement at Location No.- 57 & rectification of bundle spacer in span 195-196.
43	400KV ROURKELA-TALCHER#2	11/07/2017	09:00	13/07/2017	18:00	ODB	ER-II/Odisha/ROURKELA	Replacement of insulators at locations 281, 362, 452, 343 , 261, 429, 430, 443.
64	400 kV Jeypore-Indravati S/C Line	17/07/2017	06:00:00	18/07/2017	18:00:00	ODB	ER-II/Odisha/Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line (If Not available in the month of June 2017) at Locations Loc.No. 27,34,48,71,107,109,111,121, 124,125,126,127,128,129,130, 131,135,139,144,145,147,148. of (7 tension towers replacement of 8 nos Double Strings) & (15 Suspension towers replacement of 20 nos.Single Strings).
294	400KV Rengali-Indravati line at Bolangir	04/07/2017	07:00	12/07/2017	18:00	ODB	ER-II/Odisha/BOLANGIR	Replacement of Porcelain insulators with Polymer insulators in major crossings (SD will be taken if not availed in May'2017) at Locations 1121-1122,929-930,773-774,931-932,1078-1079,1081-1082,913-914,1036-1037,1061-1062,1074-1075,1090-1091-1092. (It is incuded both Rengali portion i.e 931-1124 and Kishorenagar portion i.e 754-930) Bolangir-538,539,564,565,590,591,676,677,681,682,741,742,743,747,748,749,750,751,752,753 Bhawanaipatna-201, 202, 247, 248, 258, 259, 333, 334, 338, 339,355, 356, 374, 375, 386, 387, 392, 393, 423, 424, 435, 436, 455, 456, 511, 512 & 538 (Total 27 nos towers)

Annexure-C5

Power System Operation Corporation Ltd.

134th OCC Meeting

At ERPC, Kolkata

23rd June, 2017

ER Grid Performances

Highlights for the month of May-17

Frequency Profile

Average Freq:- 49.99 Hz

Avg FVI: - 0.05

Lowest FVI:- 0.03

Max- 50.32Hz on 21st May 17

Min- 49.64 Hz on 11th May 17

71.60% of the time freq was with in IEGC Band

Peak Demand

ER: 19794 MW on 10th May 2017 at 20:26 hrs

% Growth in Average Demand Met w.r.t. last year- 8.8%

BSPHCL : 4102 MW ; ON 08/05/17

JUVNL: 1191 MW; ON 20/05/17

DVC: 3078 MW; ON 05/05/17

GRIDCO: 4169 MW; ON 23/05/17

WB: 7981 MW; ON 04/05/17

SIKKIM: 77 MW; ON 27/05/17

Energy met

Max. 434 MU on 25th *May 2017*

%Growth w.r.t. last year on Max energy – 8.5%

Avg. 403 MU in *May 2017*

%Growth w.r.t. last year on Avg. energy – 7.5%

New Element

Generating Units- Nil

Transmission Lines-Nil

Open Access

STOA transactions approved -242 nos

Energy Approved- 996.5 MUs

New Elements integrated in the ER grid (Apr'17)

Generating Units

Commercial Operation

– 48 MW DIKCHU-I

Synchronized

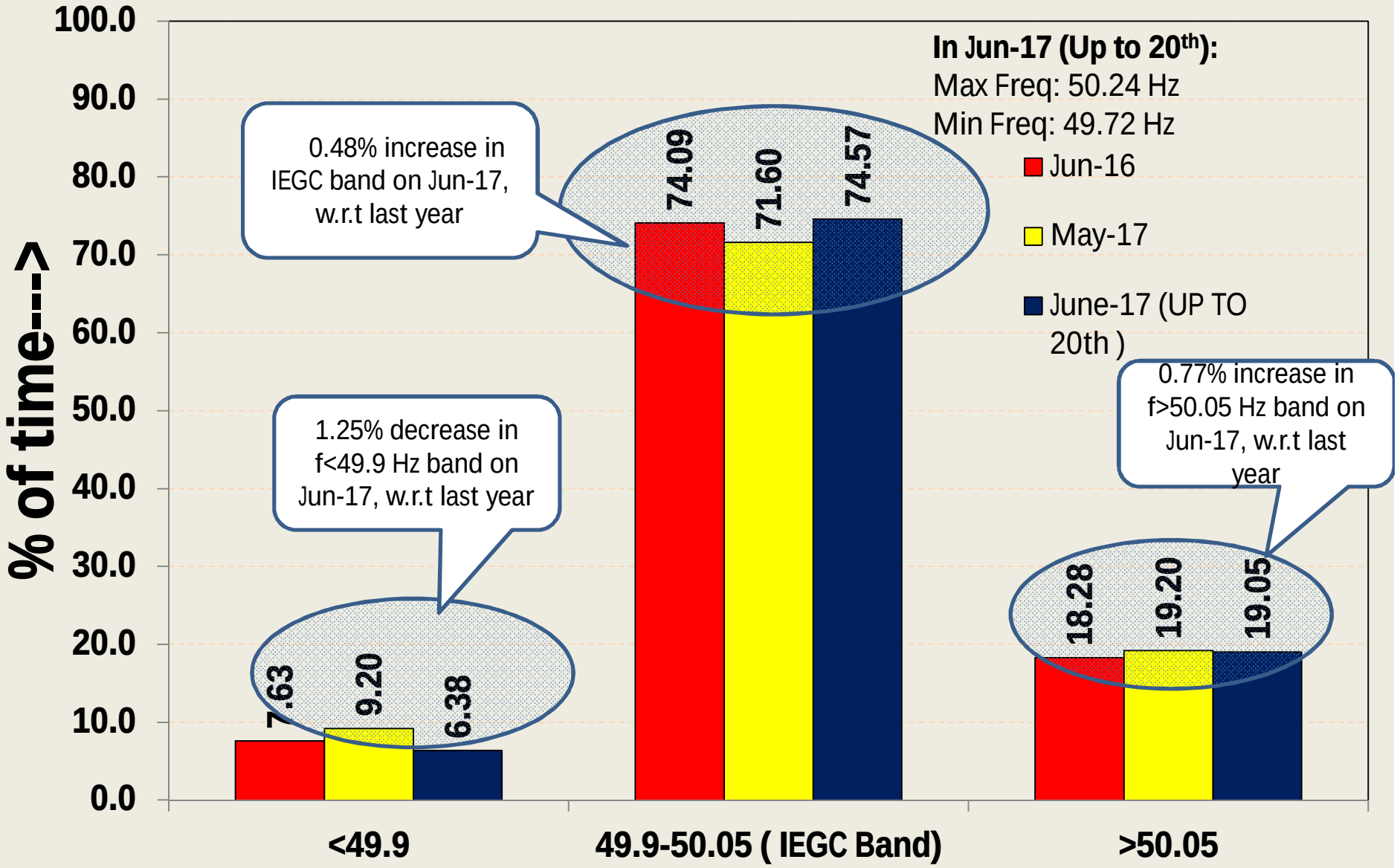
- NIL

Transmission lines (331 Ckt.km)

- 400 KVDarbhanga-Muzaffarpur-I
- 220kV Samastipur-Darbhanga-S/C
- 220kV Motipur-Darbhanga-I & II

- 80MVAR switchable Line Reactor with 400kV Farakka- Gokarna-I at FSTPS, NTPC
- 500MVA ICT-I at Darbhanga
- 125 MVAR Bus Reactor at Darbhanga
- 125MVAR BR-II at Alipurduar (PG)

Monthly Frequency Profile of Grid

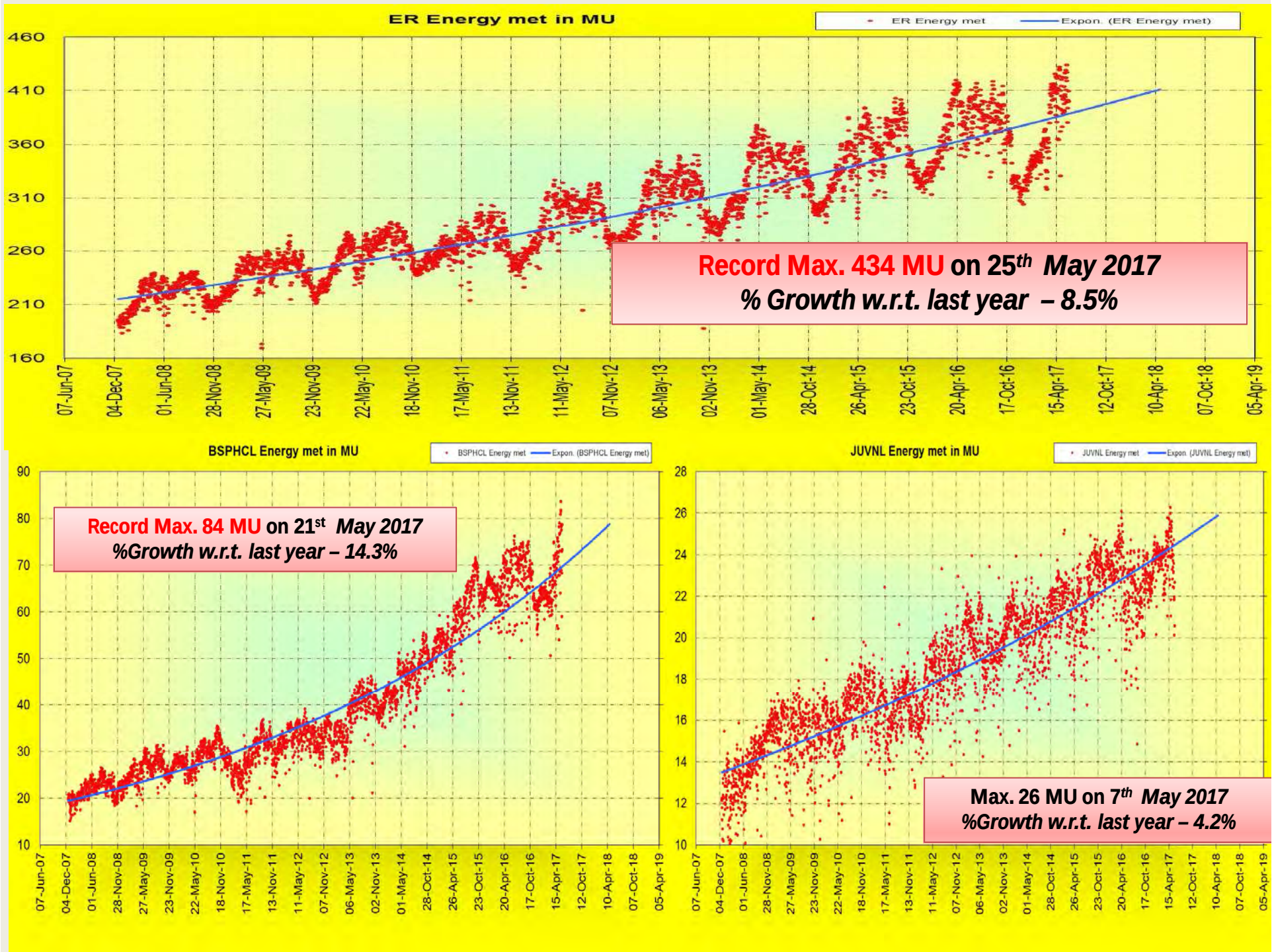


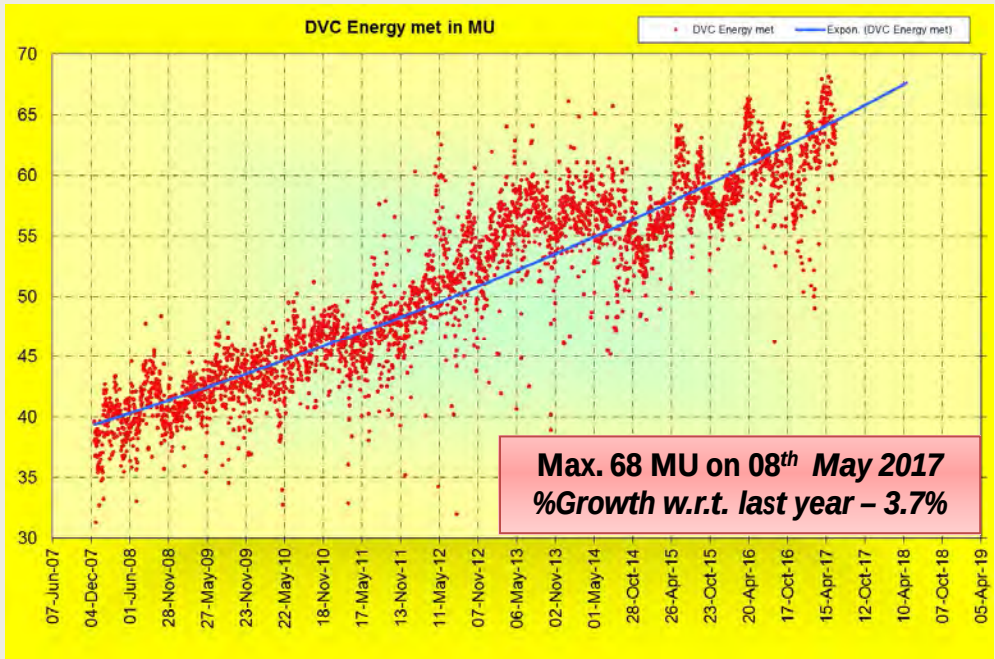
So Far Highest Demand

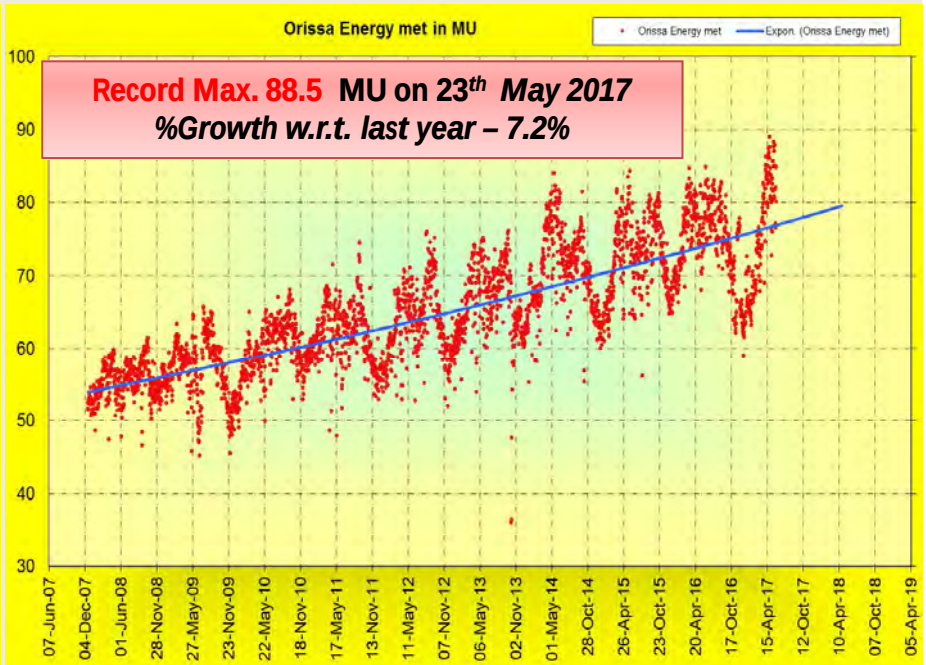
Constitute	Demand (in MW)	Date	Time	Dmd met on 4th June'17(max dmd met day)
Bihar	4102	08-May-17	19:56	4113
DVC	3333	10-Apr-16	10:50	2751
Jharkhand	1228	06-Oct-16	18:04	1099
Odisha	4319	12-Apr-17	20:48	3939
W. Bengal	8605	12-Apr-17	19:04	8313
Sikkim	117	28-Oct-16	19:54	64

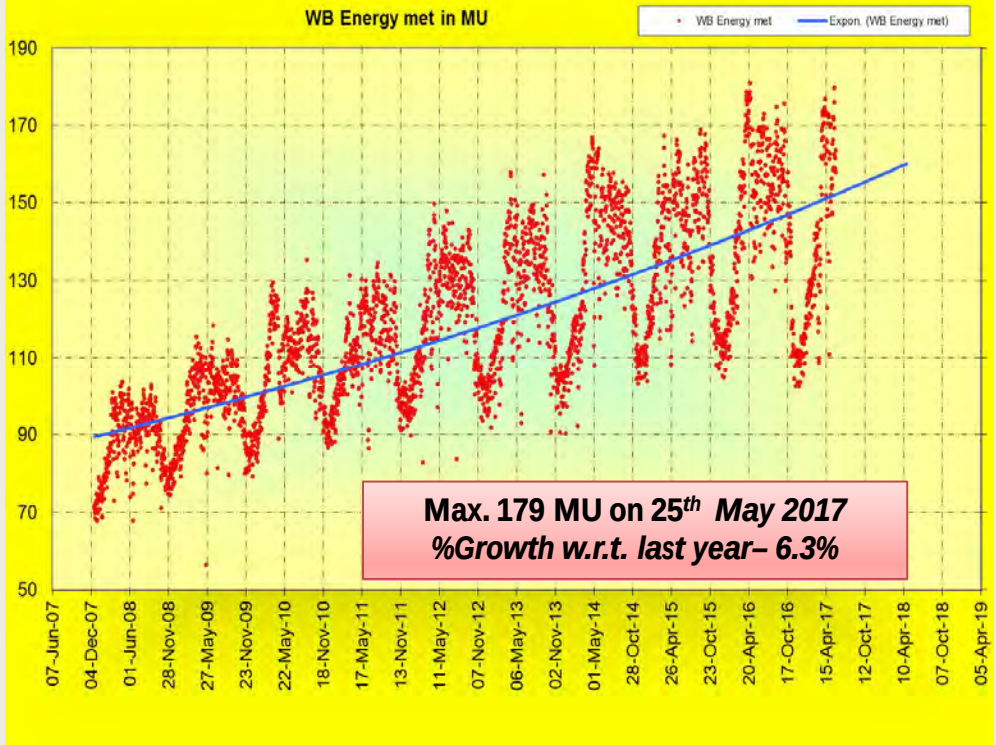
So Far Highest Energy Consumption

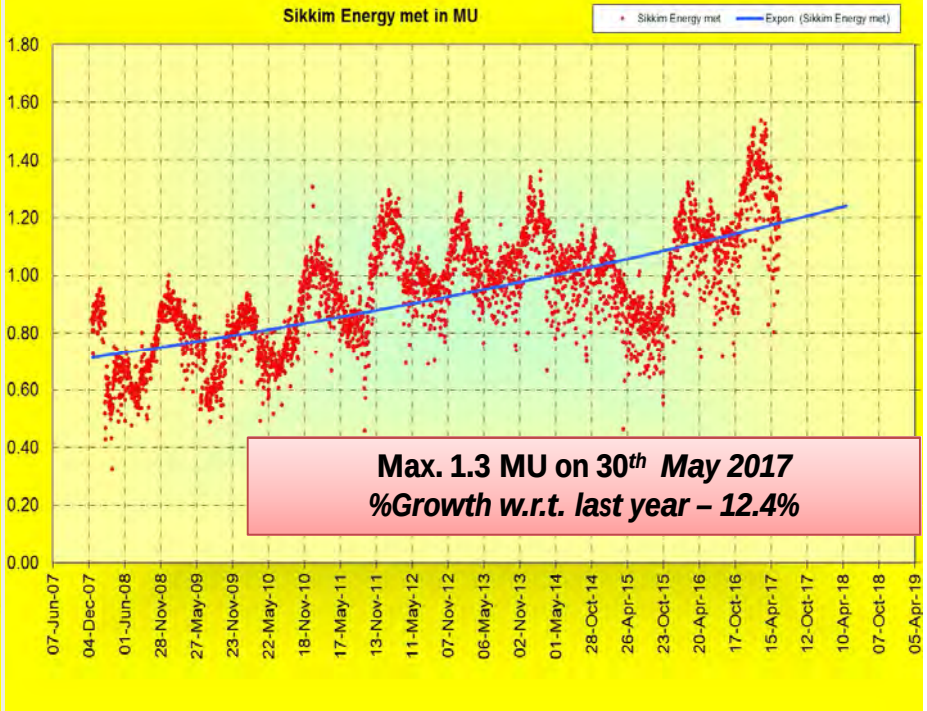
Constitute	Energy consumption (in MUs)	Date	Dmd met on 4th June'17(max dmd met day)
Bihar	84.7	13-June-17	82.5
DVC	75	23-Mar-17	60.2
Jharkhand	26	20-Apr-16	23
Odisha	88.5	23-May-17	80.7
West Bengal	181	27-Apr-16	166.1
Sikkim	2	24-Mar-17	0.9
ER	434	25-May-17	422

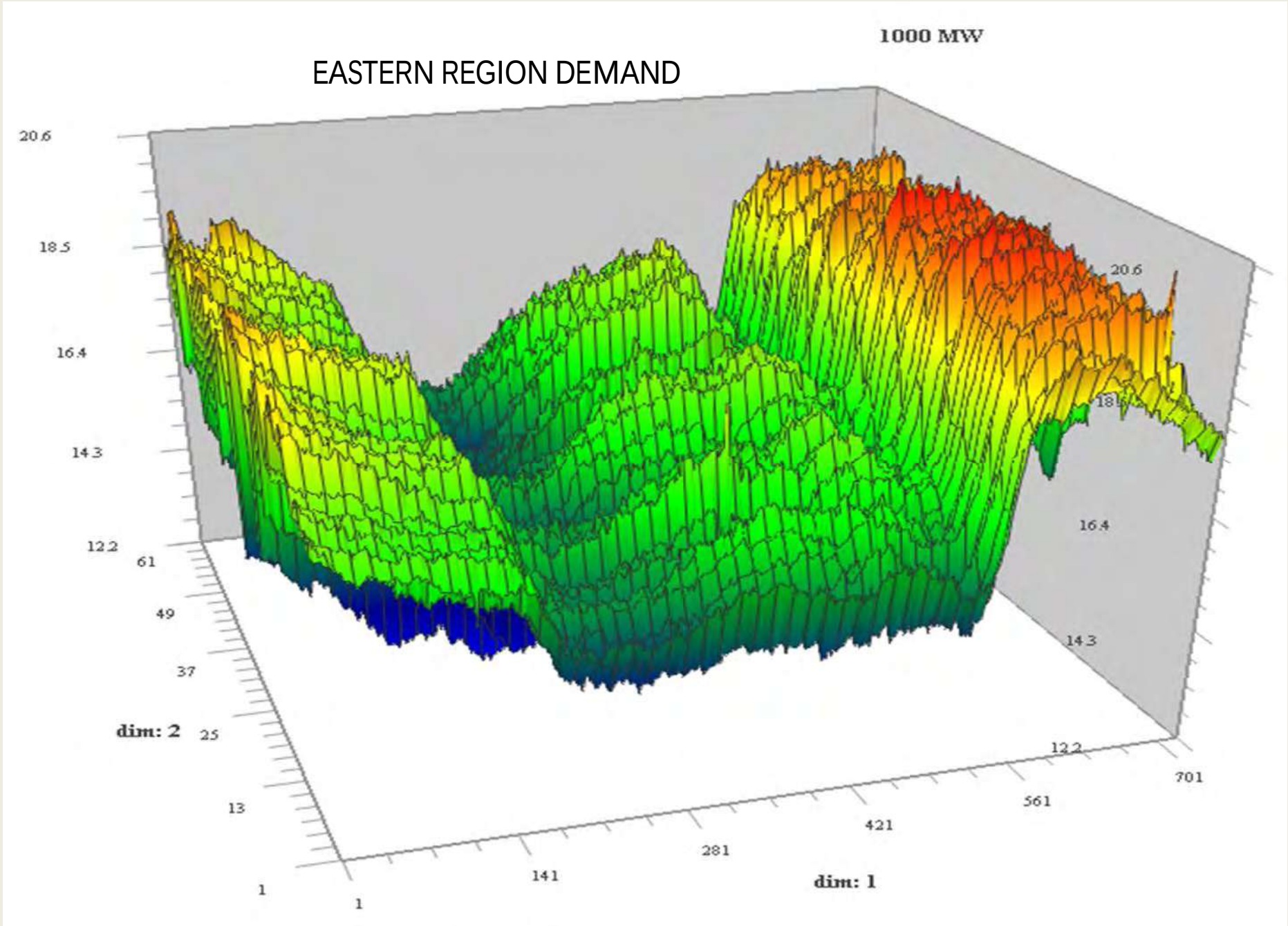

ER Energy met in MU
ER Energy met
Expon. (ER Energy met)
Record Max. 434 MU on 25th May 2017
% Growth w.r.t. last year – 8.5%
BSPHCL Energy met in MU
BSPHCL Energy met
Expon. (BSPHCL Energy met)
Record Max. 84 MU on 21st May 2017
%Growth w.r.t. last year – 14.3%
JUVNL Energy met in MU
JUVNL Energy met
Expon. (JUVNL Energy met)
Max. 26 MU on 7th May 2017
%Growth w.r.t. last year – 4.2%


DVC Energy met in MU
DVC Energy met
Expon. (DVC Energy met)
Max. 68 MU on 08th May 2017
%Growth w.r.t. last year – 3.7%

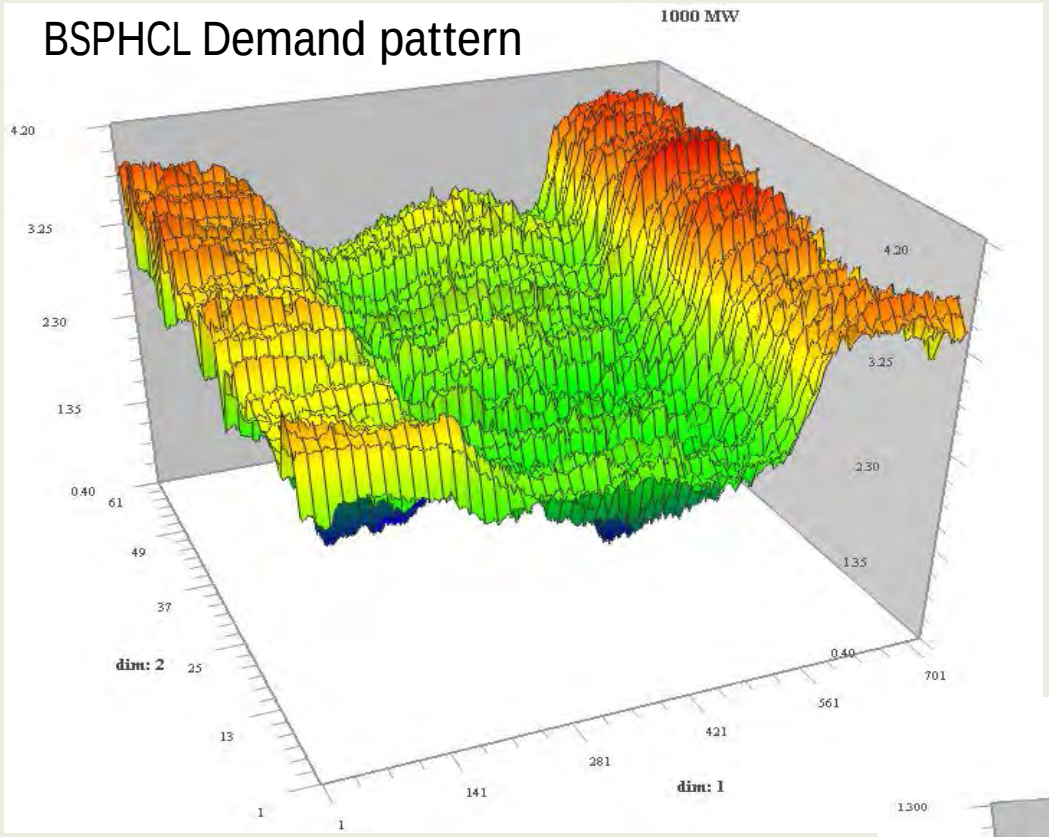

Orissa Energy met in MU
Orissa Energy met
Expon. (Orissa Energy met)
Record Max. 88.5 MU on 23th May 2017
%Growth w.r.t. last year – 7.2%


WB Energy met in MU
WB Energy met
Expon. (WB Energy met)
Max. 179 MU on 25th May 2017
%Growth w.r.t. last year– 6.3%

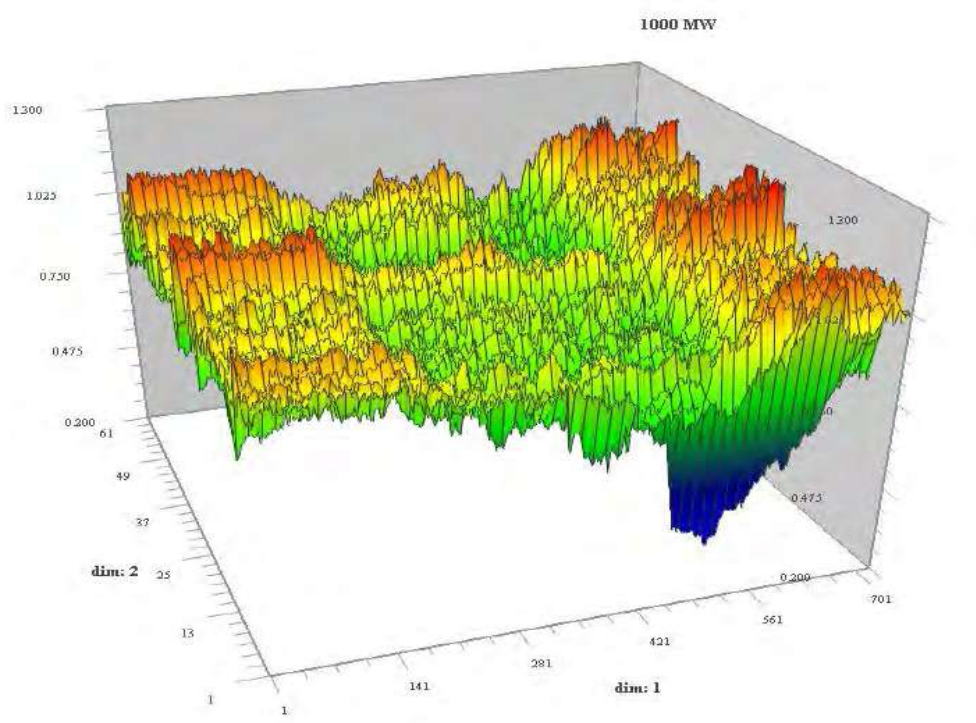

Sikkim Energy met in MU
Sikkim Energy met
Expon. (Sikkim Energy met)
Max. 1.3 MU on 30th May 2017
%Growth w.r.t. last year – 12.4%


EASTERN REGION DEMAND
1000 MW
20.6
18.5
16.4
14.3
12.2
61
49
37
25
13
1
dim: 2
1
141
281
421
561
701
dim: 1
20.6
16.4
14.3
12.2

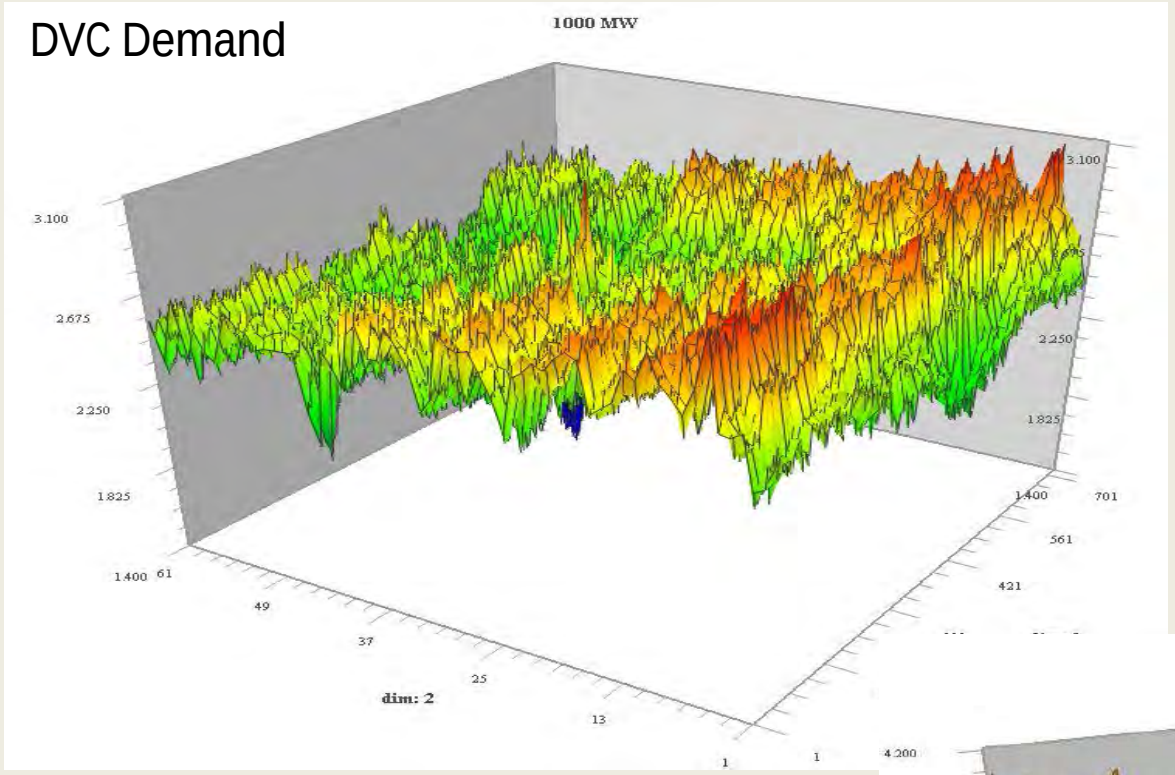
BSPHCL Demand pattern



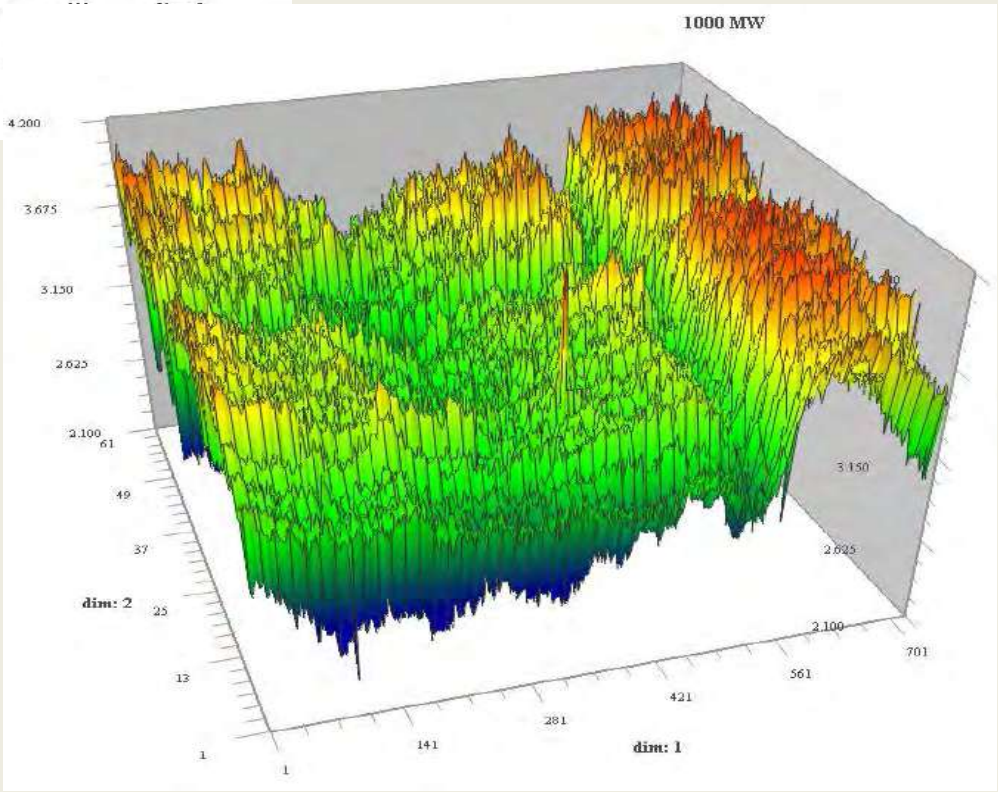
JUVNL Demand pattern



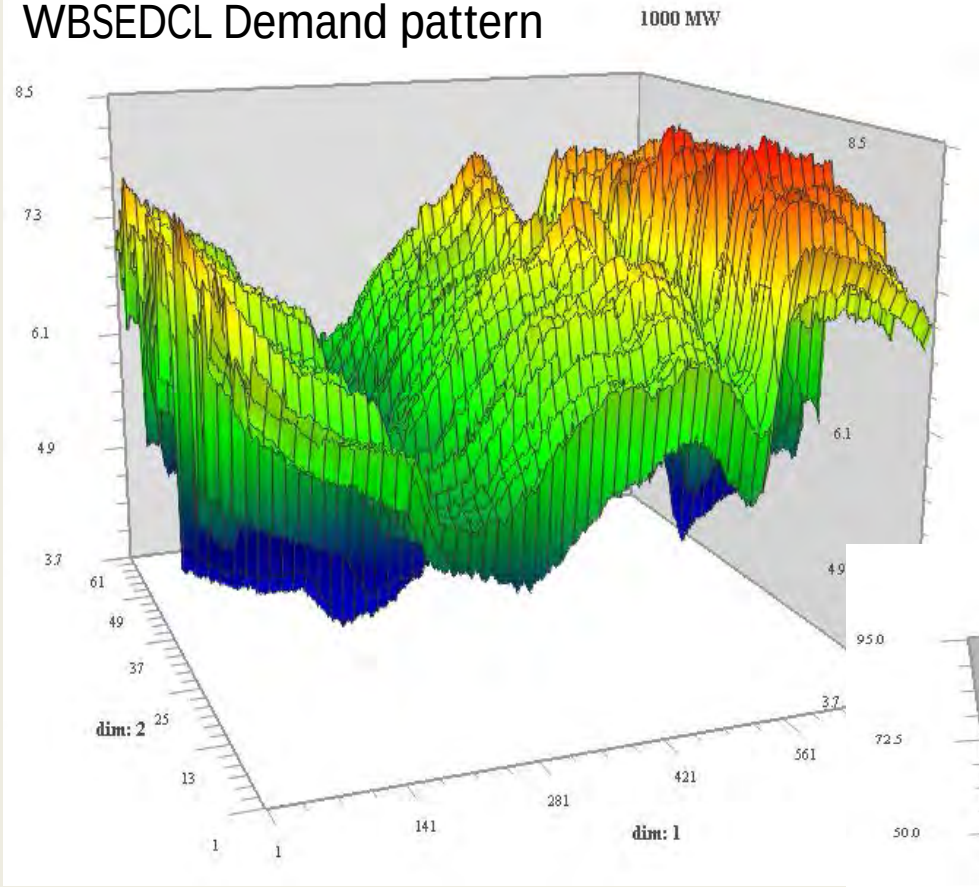
DVC Demand



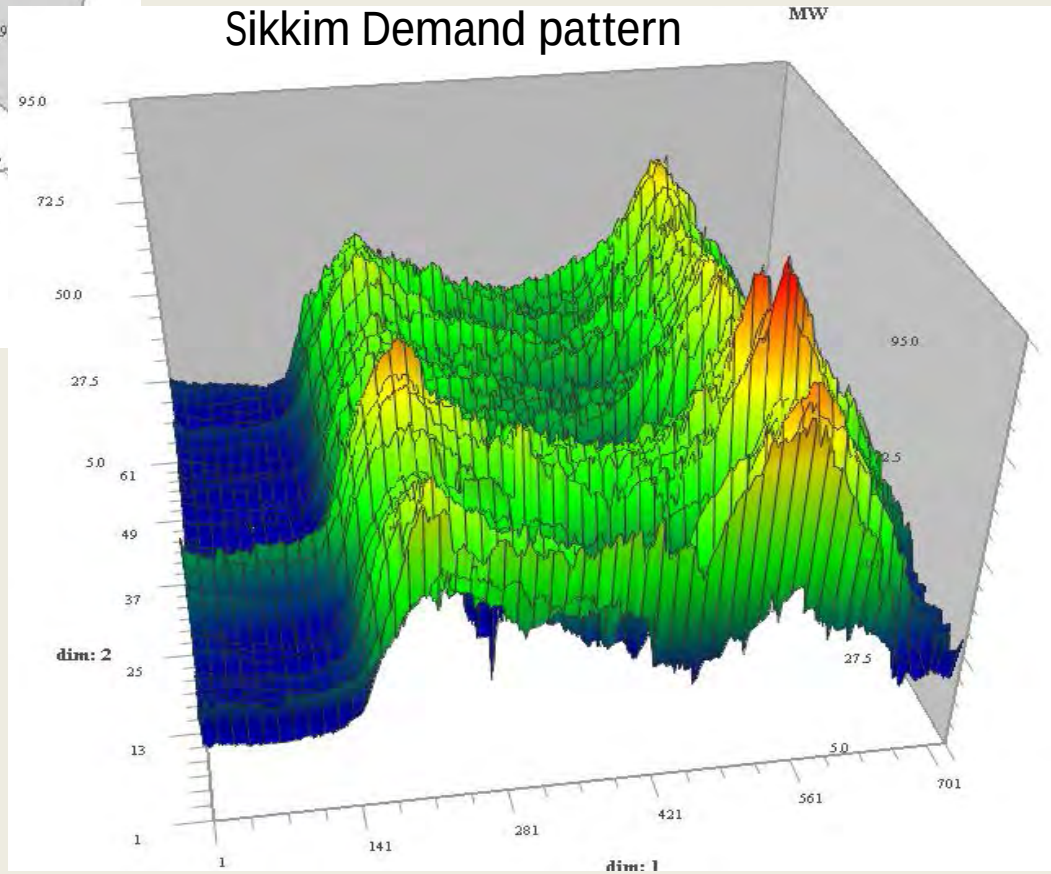
Odisha Demand

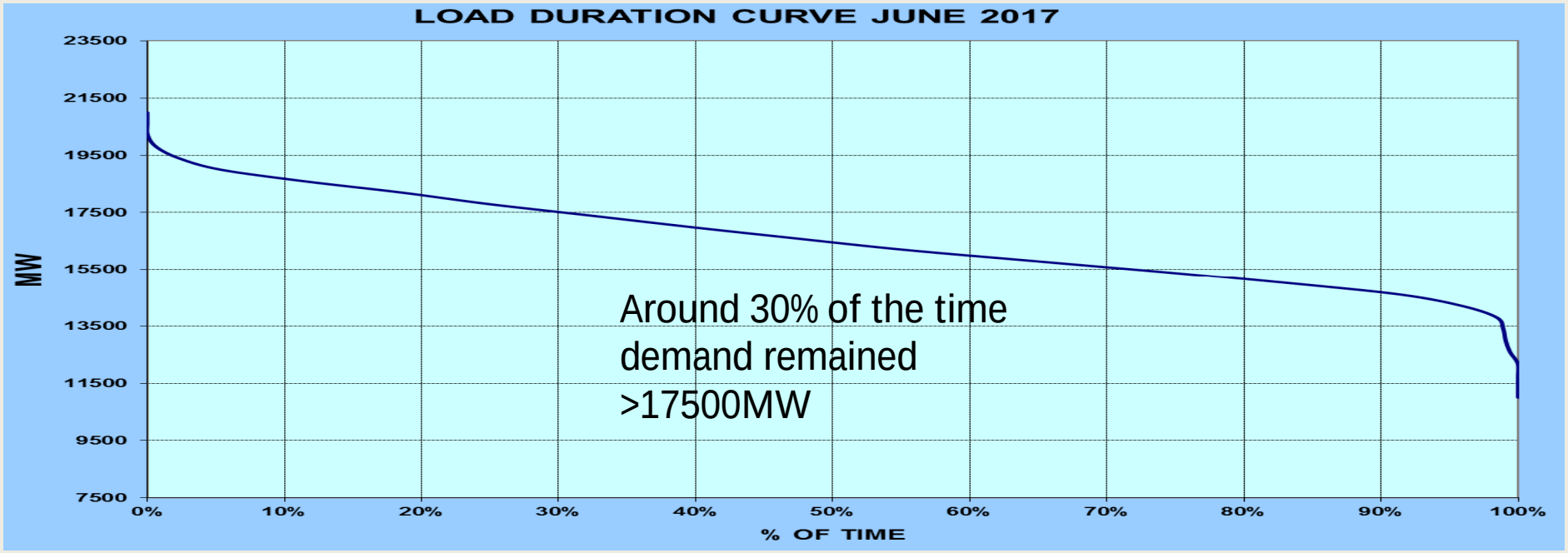


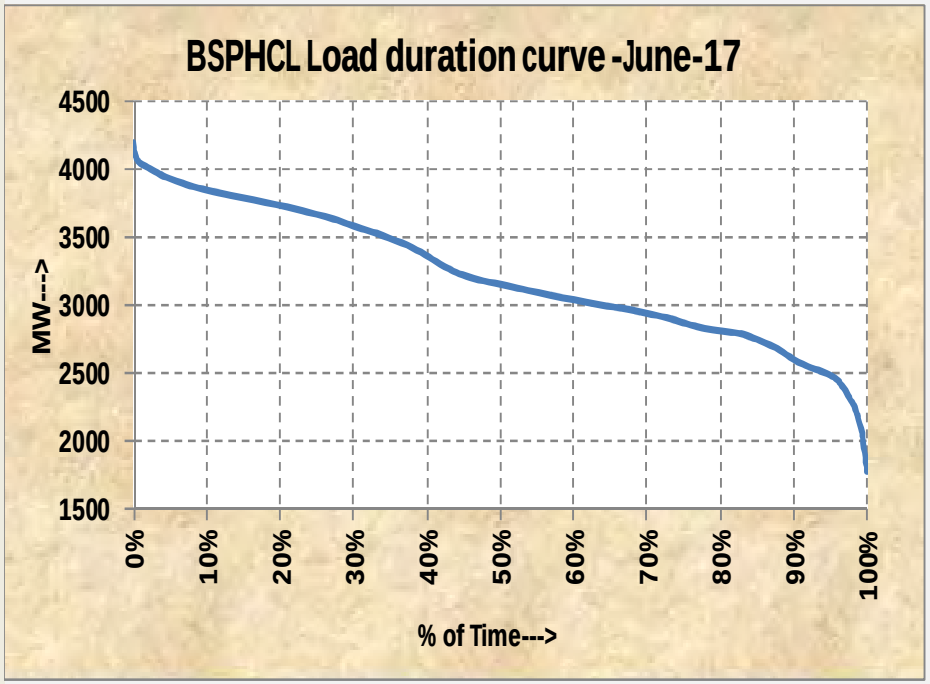
WBSEDCL Demand pattern

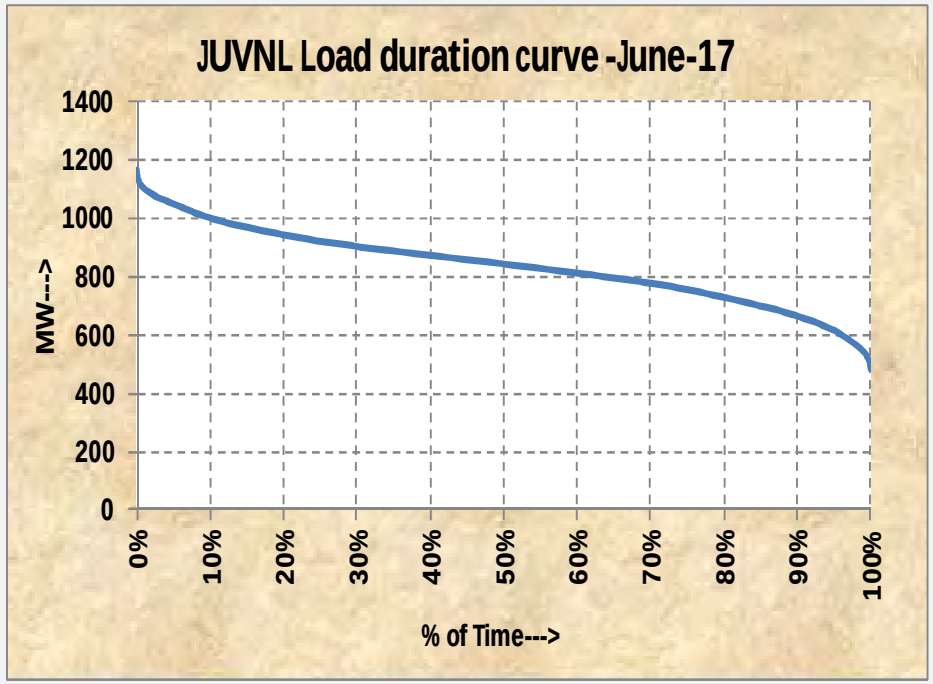


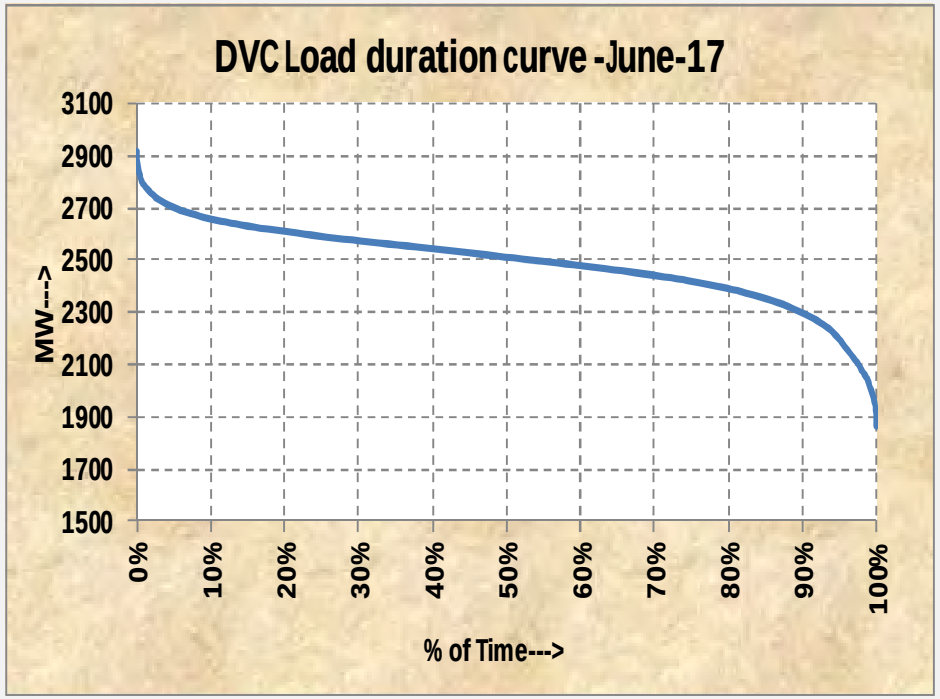
Sikkim Demand pattern

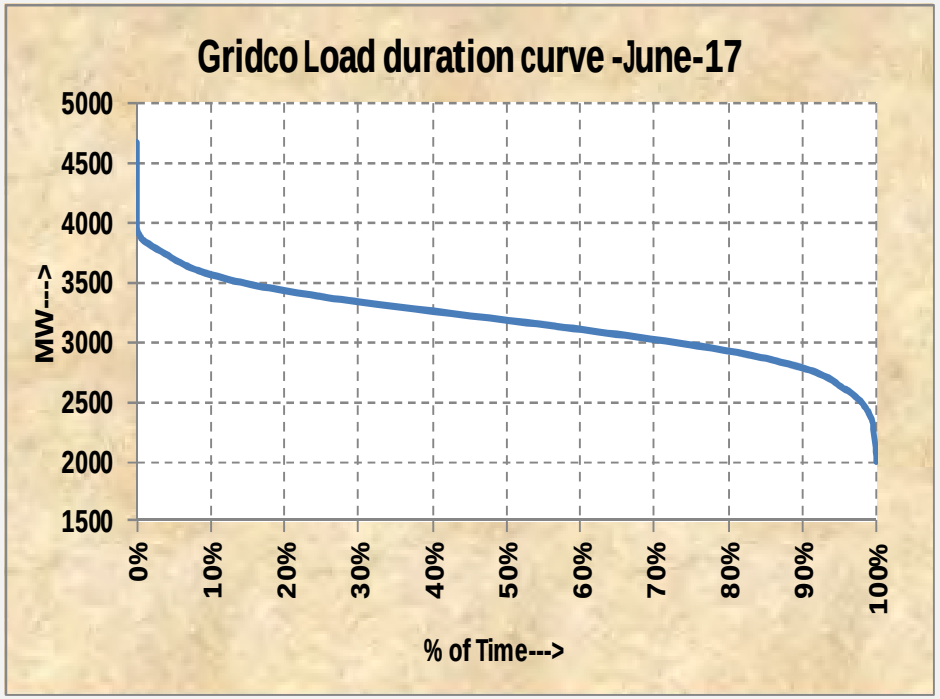


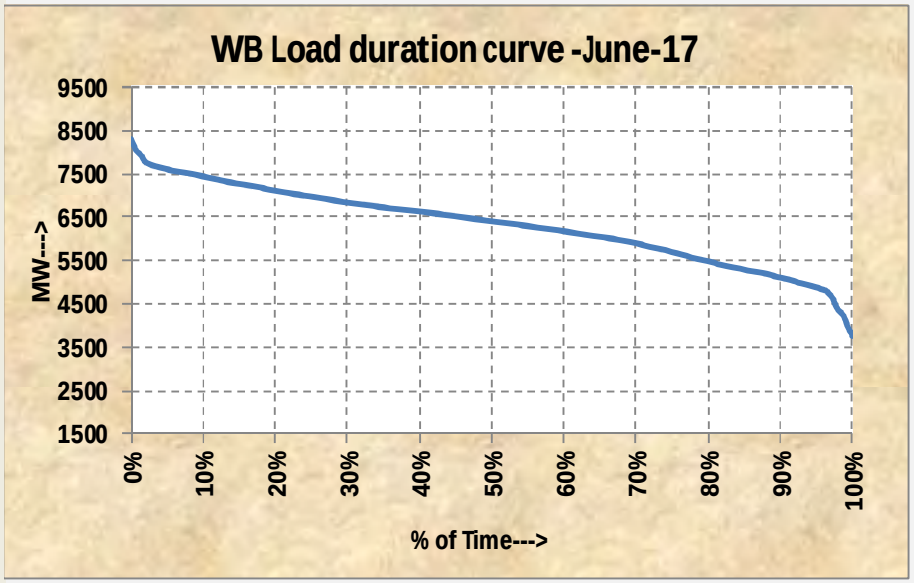

LOAD DURATION CURVE JUNE 2017
MW
23500
21500
19500
17500
15500
13500
11500
9500
7500
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% OF TIME
Around 30% of the time demand remained >17500MW

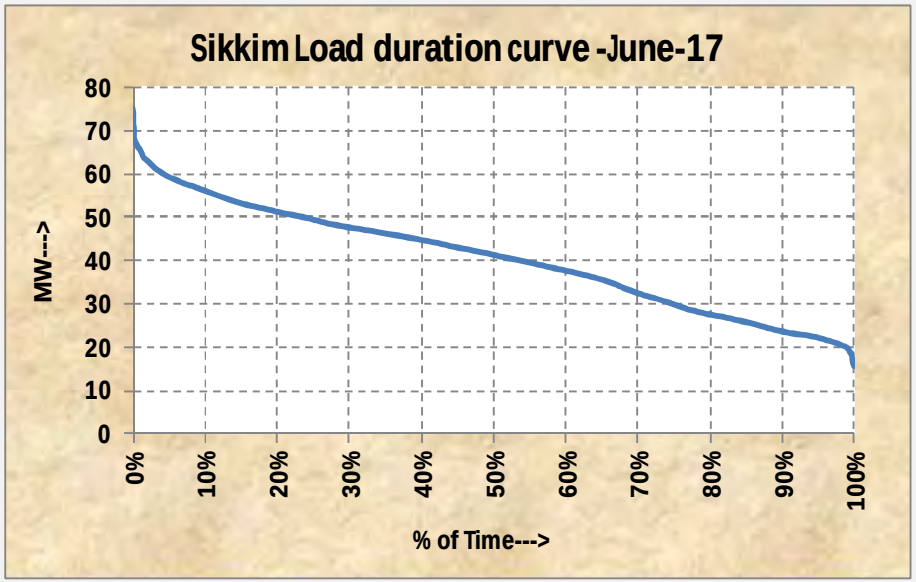

BSPHCL Load duration curve -June-17
MW--->
4500
4000
3500
3000
2500
2000
1500
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->


JUVNL Load duration curve -June-17
MW--->
1400
1200
1000
800
600
400
200
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->


DVC Load duration curve -June-17
3100
2900
2700
2500
2300
2100
1900
1700
1500
MW--->
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->


Gridco Load duration curve -June-17
5000
4500
4000
3500
3000
2500
2000
1500
MW--->
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->

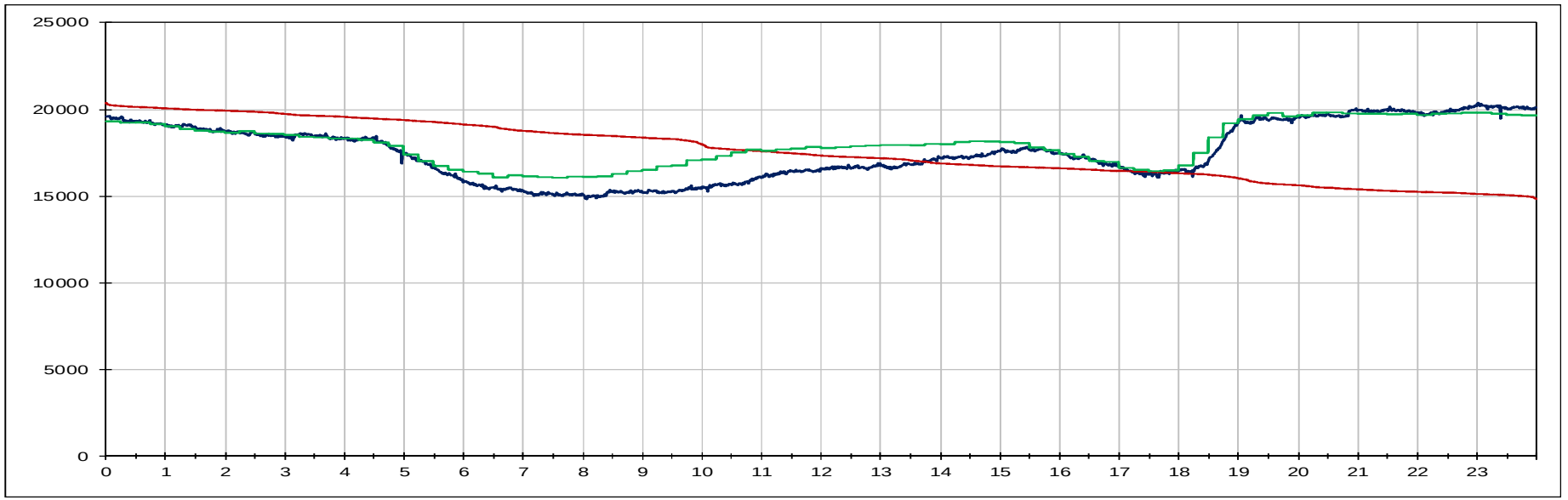

WB Load duration curve -June-17
9500
8500
7500
6500
5500
4500
3500
2500
1500
MW--->
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->


Sikkim Load duration curve -June-17
80
70
60
50
40
30
20
10
0
MW--->
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
% of Time--->

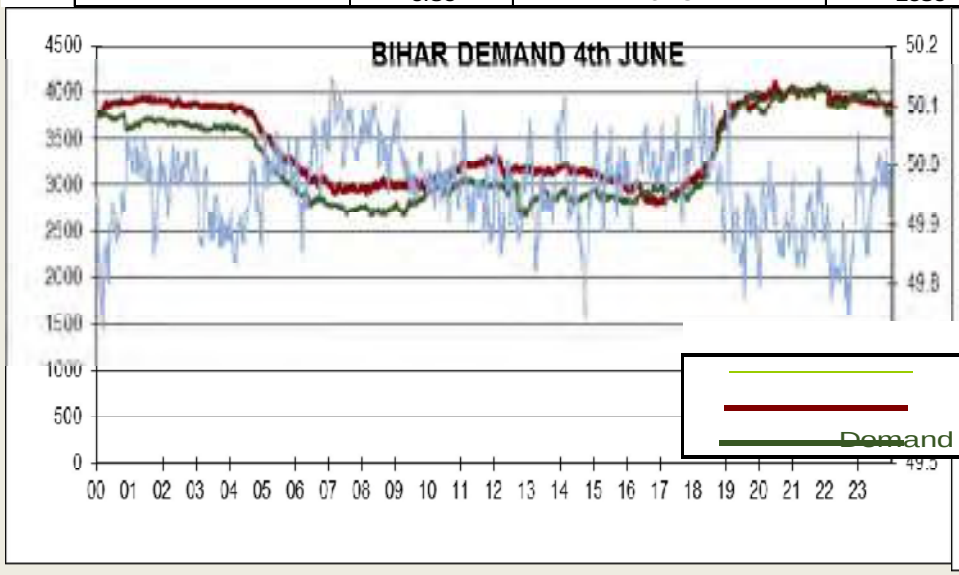
EASTERN REGIONAL DEMAND

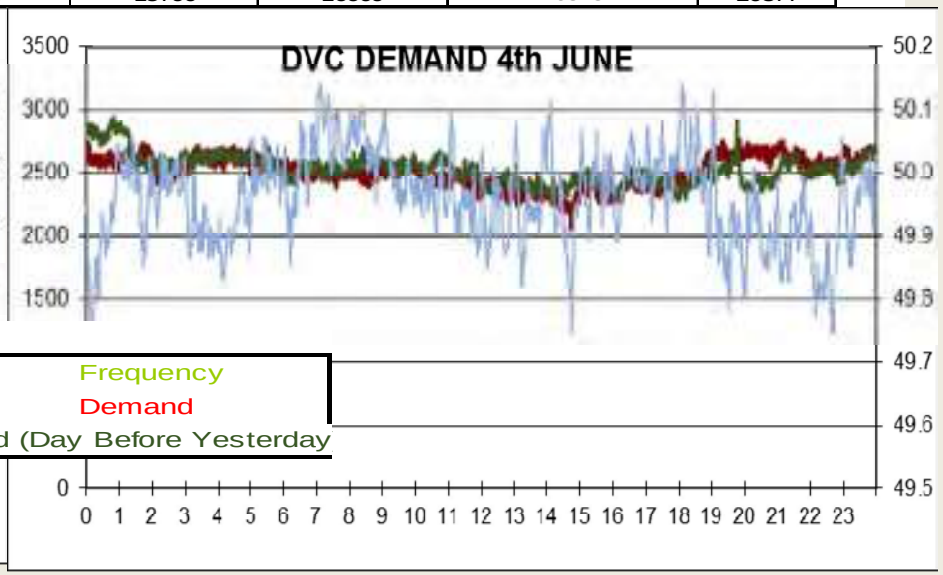
DATE : 04 Jun 2017 Sunday

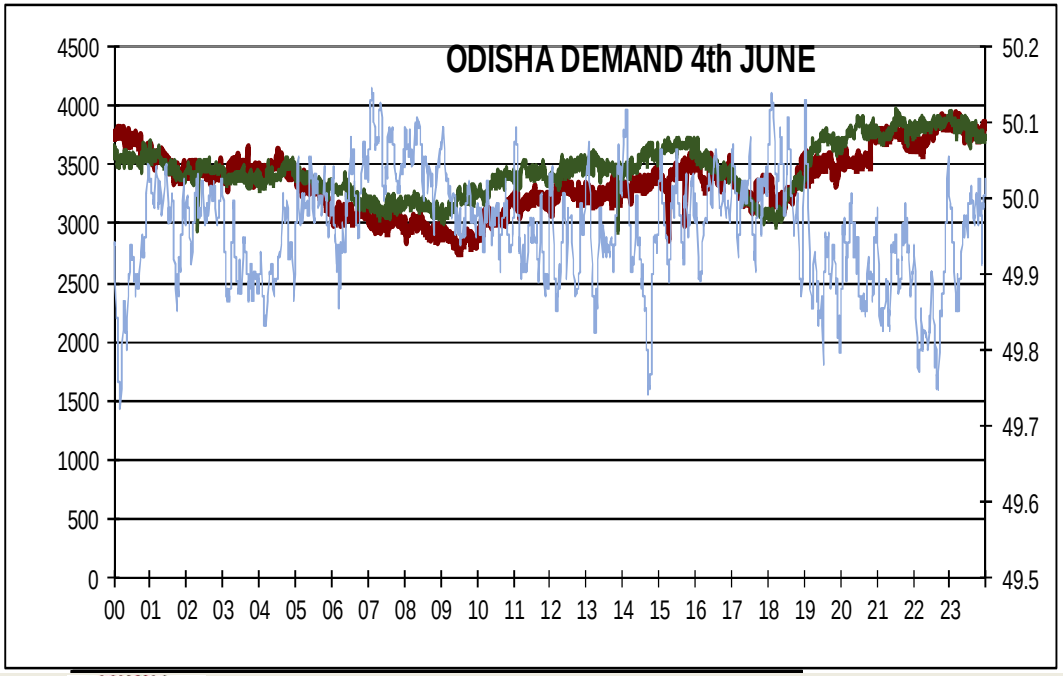
	Time	ER
Reg.Max (MW)	23:01:00	20377
Reg.Min (MW)	8:04:00	14837

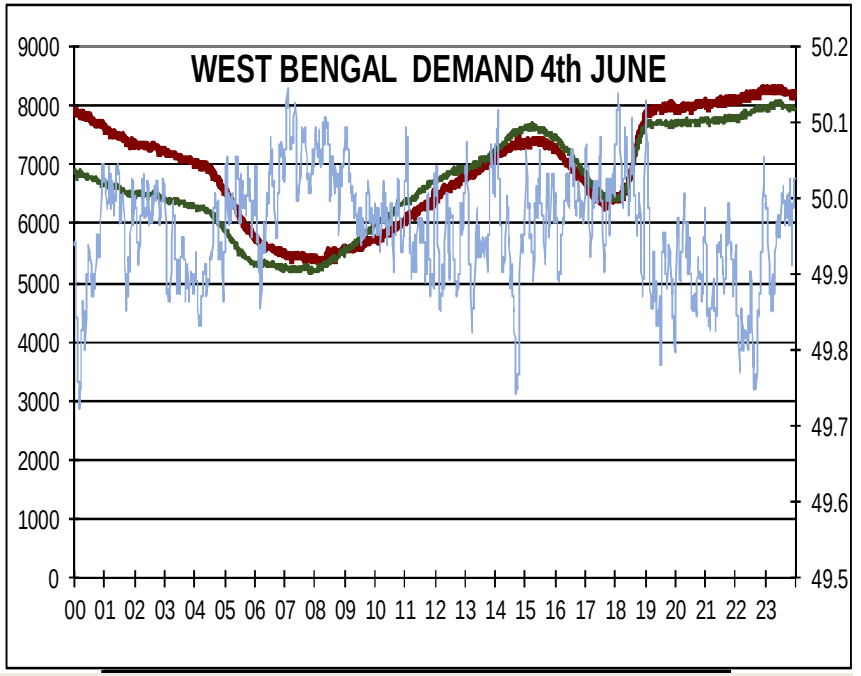


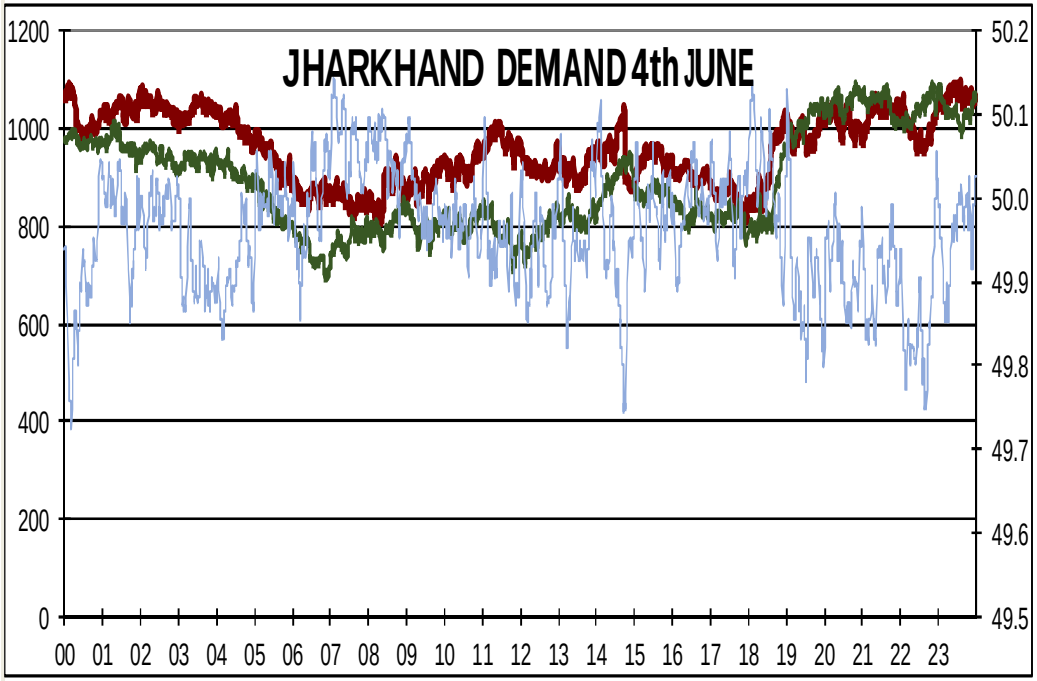
MU	LF	MIN/MAX	STD	Night Lean	Morn. Peak	Day Lean	Eve Peak
422	0.86	0.73	1630	15790	16609	16515	20377

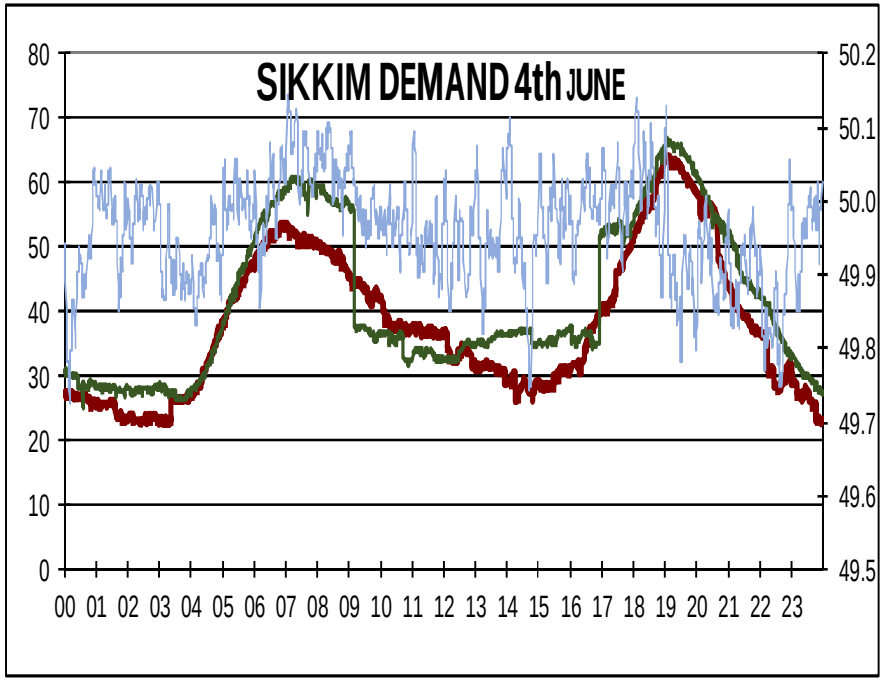





ODISHA DEMAND 4th JUNE
4500
4000
3500
3000
2500
2000
1500
1000
500
0
50.2
50.1
50.0
49.9
49.8
49.7
49.6
49.5
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

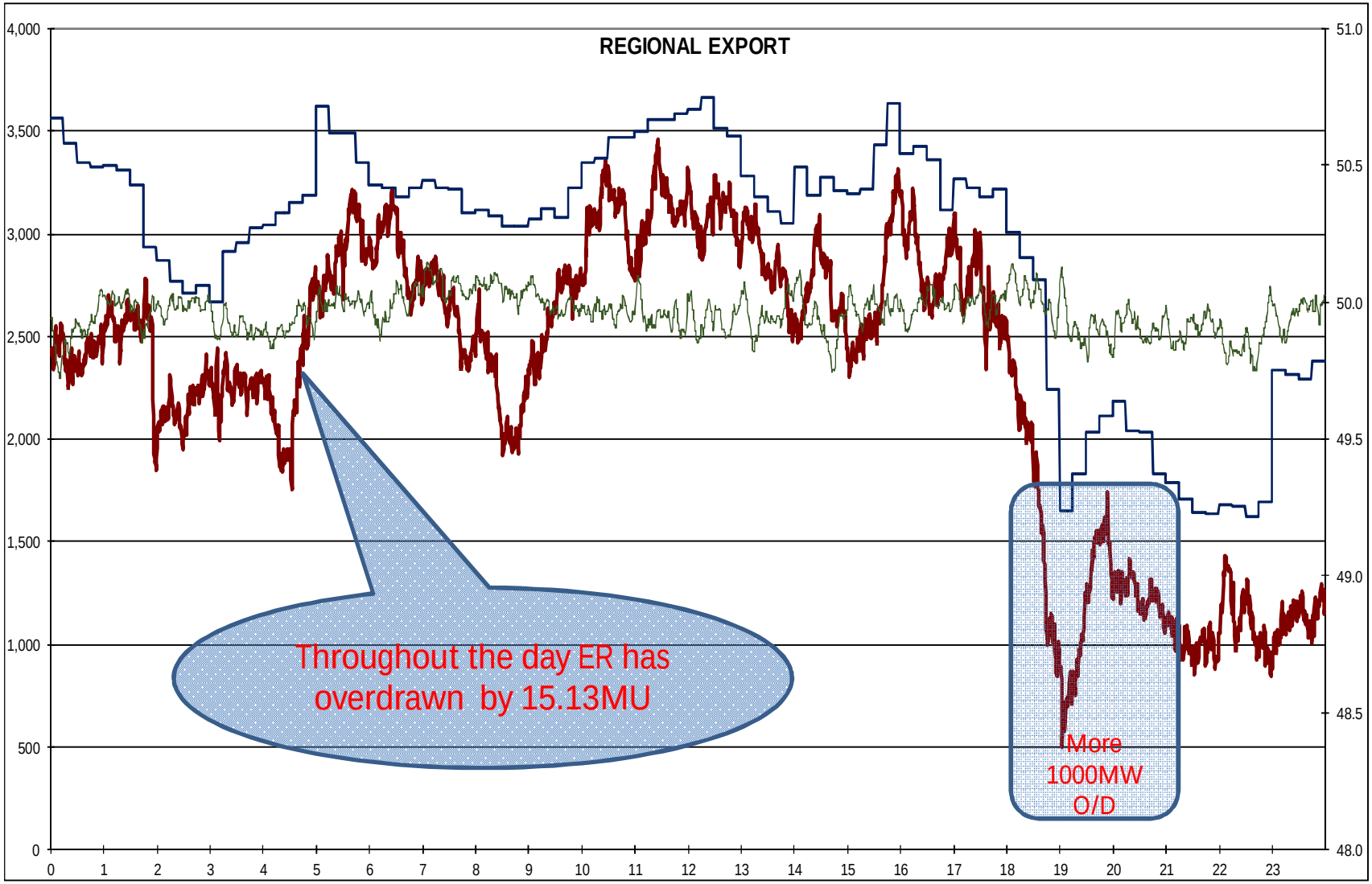

WEST BENGAL DEMAND 4th JUNE
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
50.2
50.1
50.0
49.9
49.8
49.7
49.6
49.5
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23


JHARKHAND DEMAND 4th JUNE
1200
1000
800
600
400
200
0
50.2
50.1
50.0
49.9
49.8
49.7
49.6
49.5
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

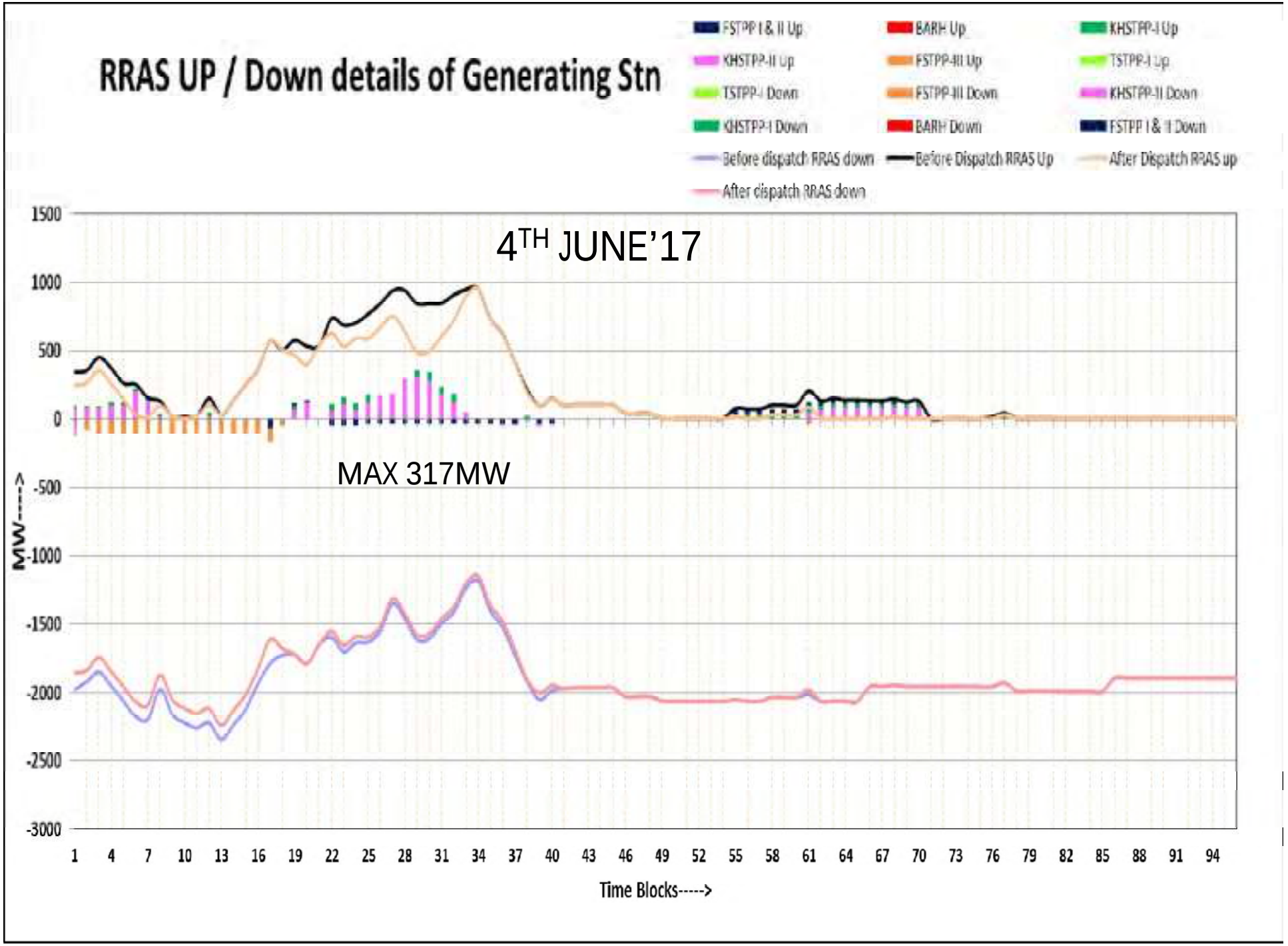

SIKKIM DEMAND 4th JUNE
80
70
60
50
40
30
20
10
0
50.2
50.1
50.0
49.9
49.8
49.7
49.6
49.5
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

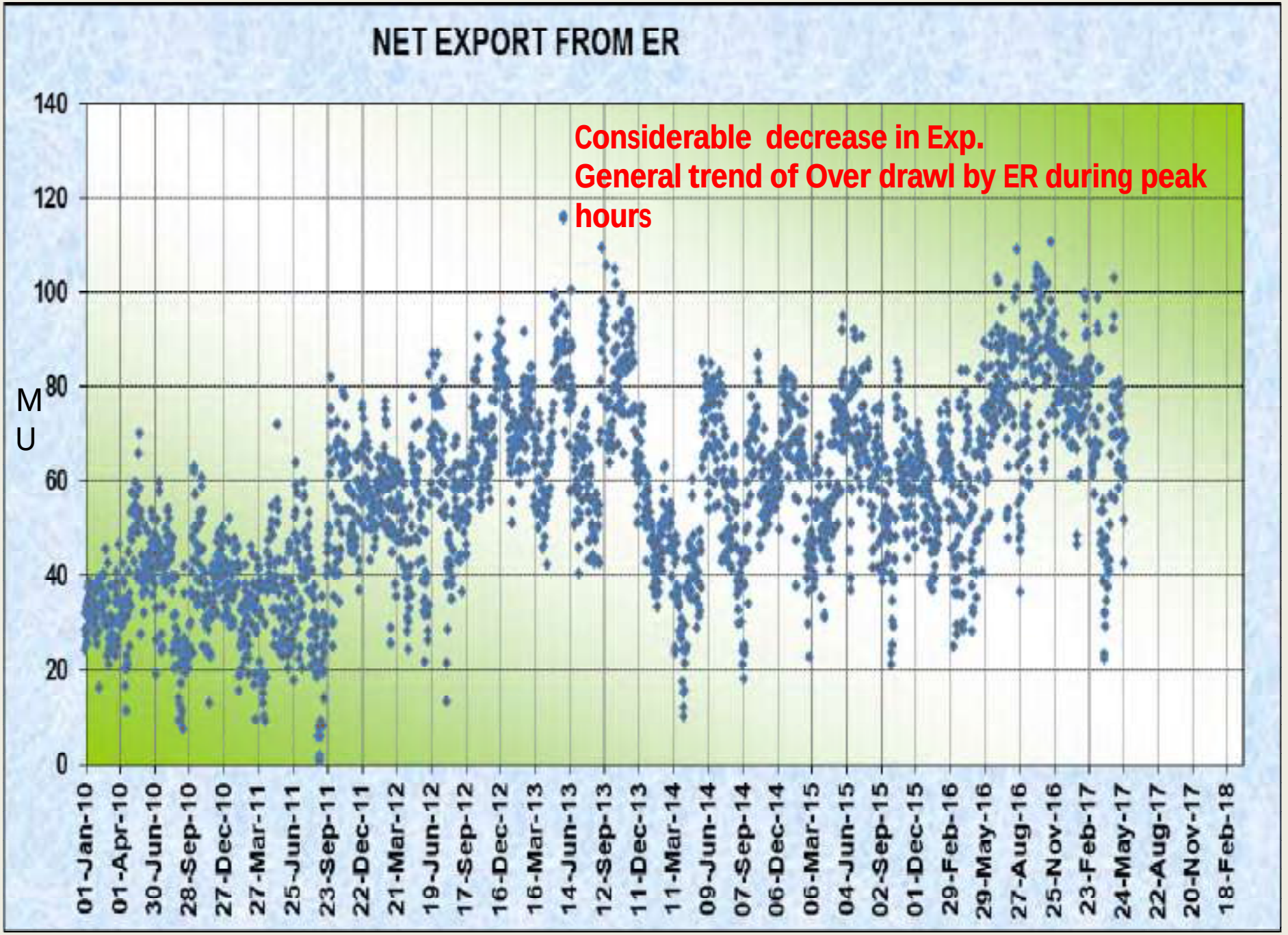
EASTERN REGIONAL EXPORT

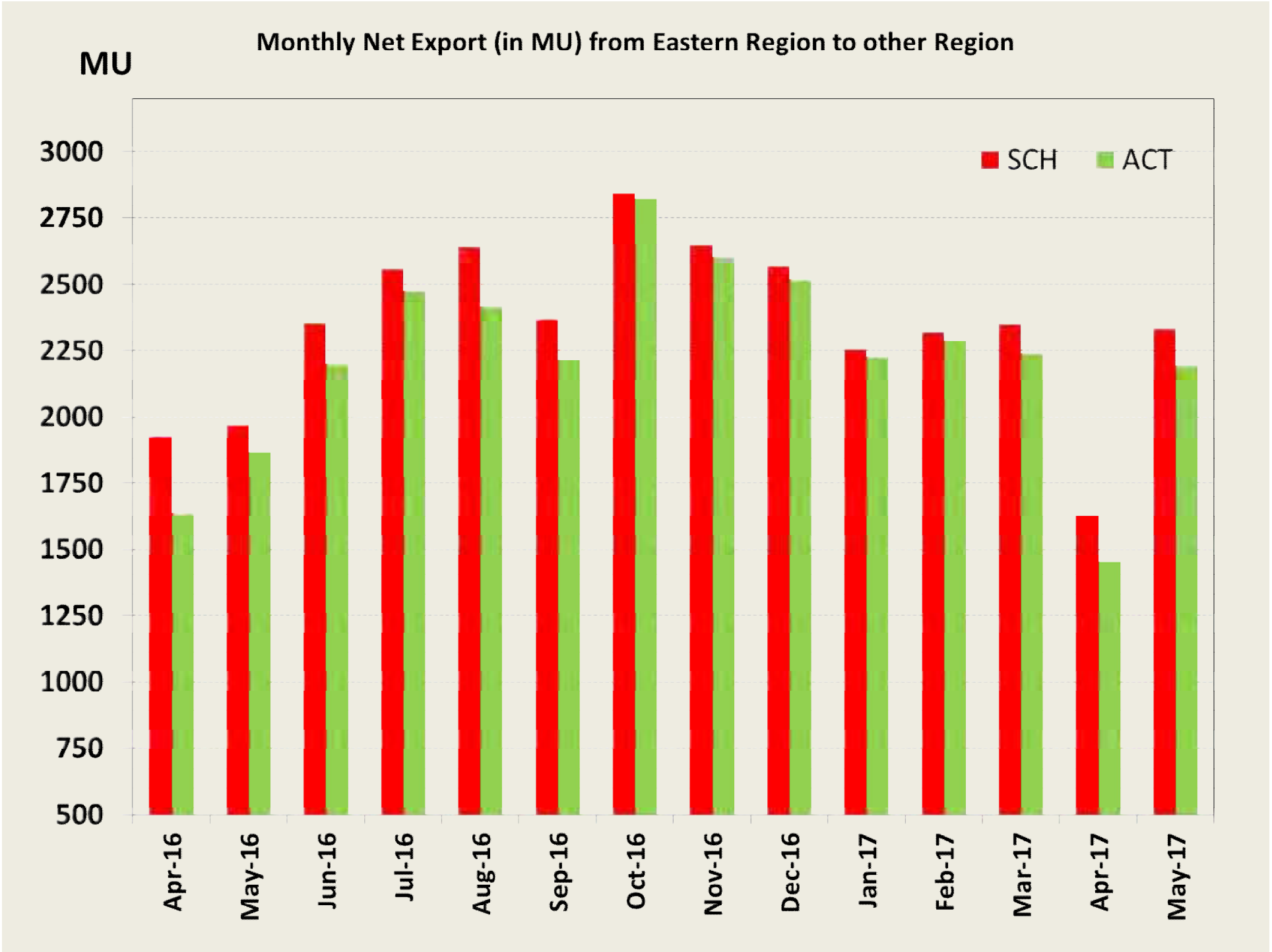
DATE : 04 Jun 2017 Sunday

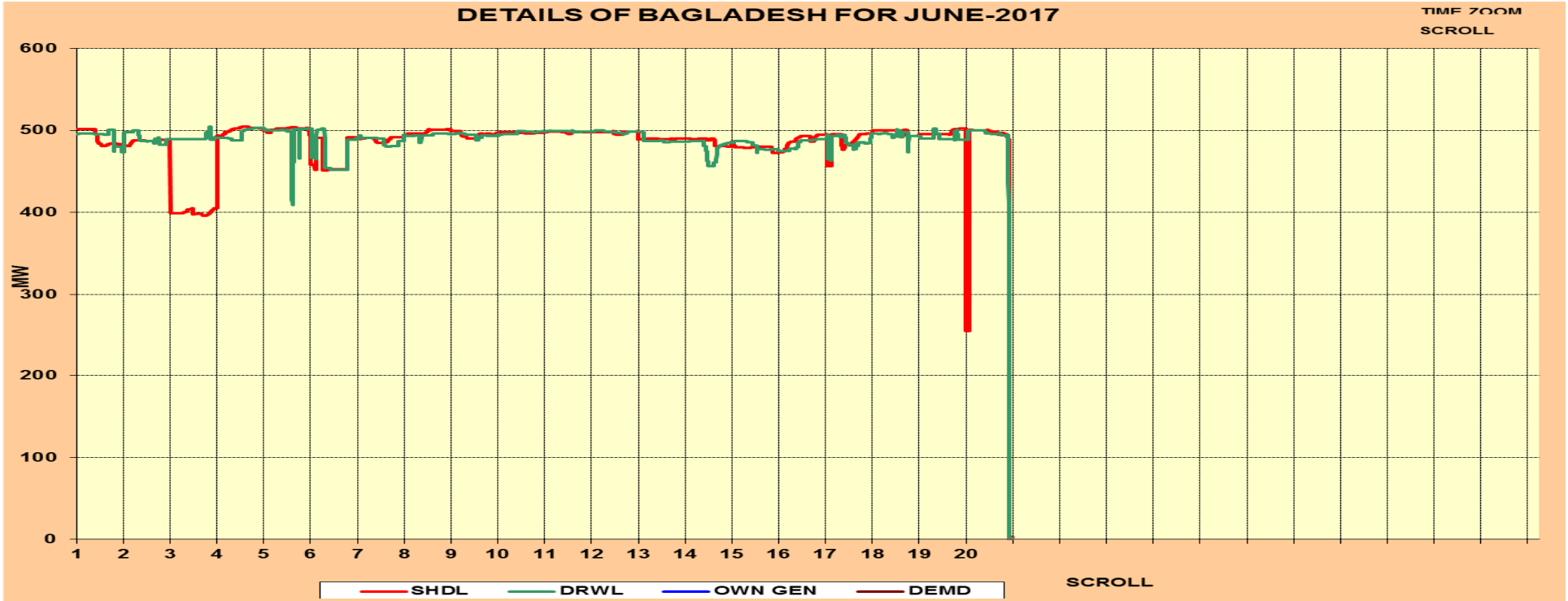


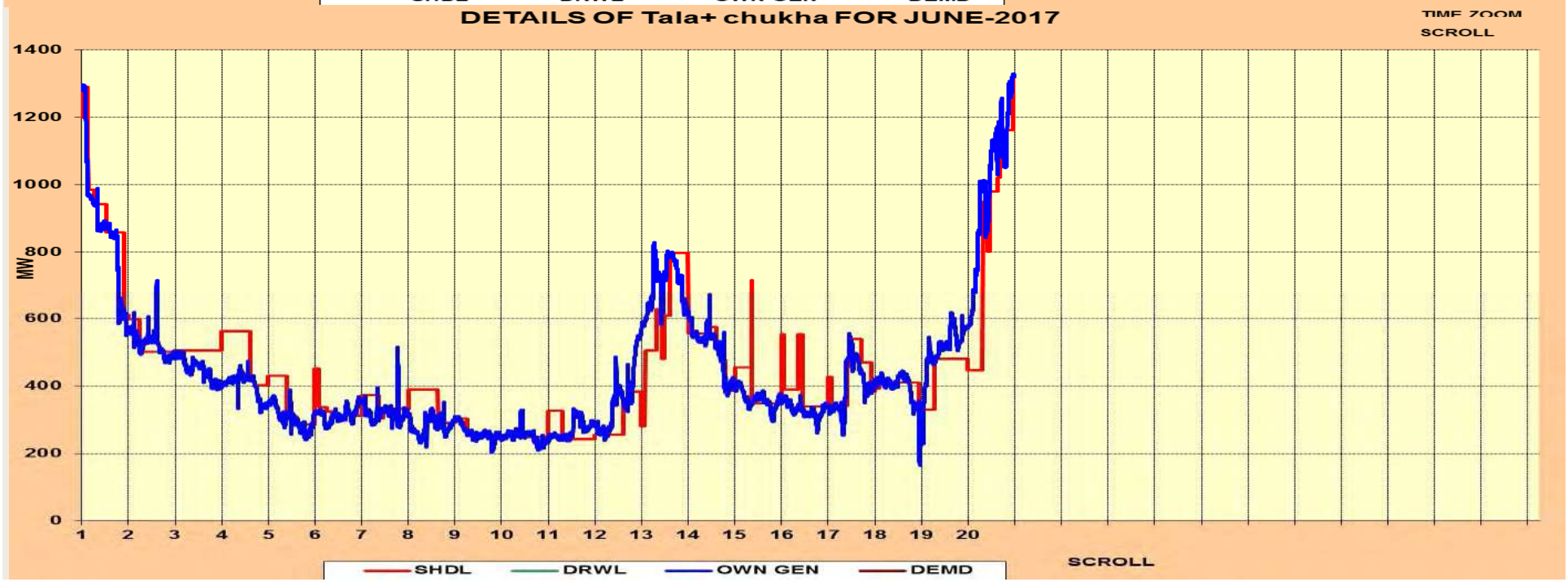
MU Schd	MU Act	MAX	Time	MIN	Time	STD	LF	MIN/MAX
70.69	55.46	3455.76	11:26	502.54	19:02	713.10	0.67	0.15

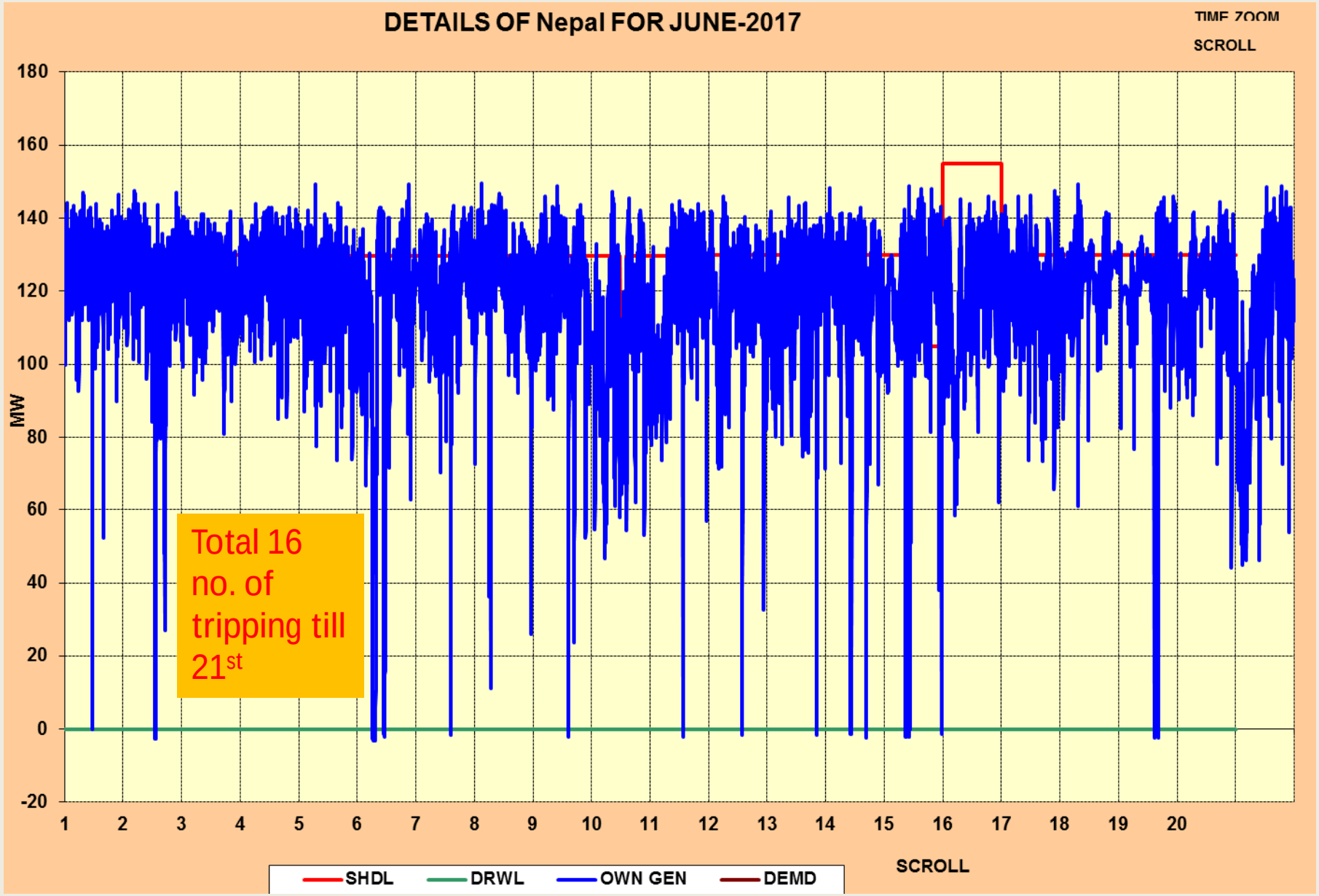

RRAS UP / Down details of Generating Stn
FSTPP I & II Up
BARH Up
KHSTPP-I Up
KHSTPP-II Up
FSTPP-III Up
TSTPP-I Up
TSTPP-I Down
FSTPP-III Down
KHSTPP-II Down
KHSTPP-I Down
BARH Down
FSTPP I & II Down
Before dispatch RRAS down
Before Dispatch RRAS Up
After Dispatch RRAS up
After dispatch RRAS down
4TH JUNE'17
MAX 317MW
MW---->
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94
Time Blocks---->

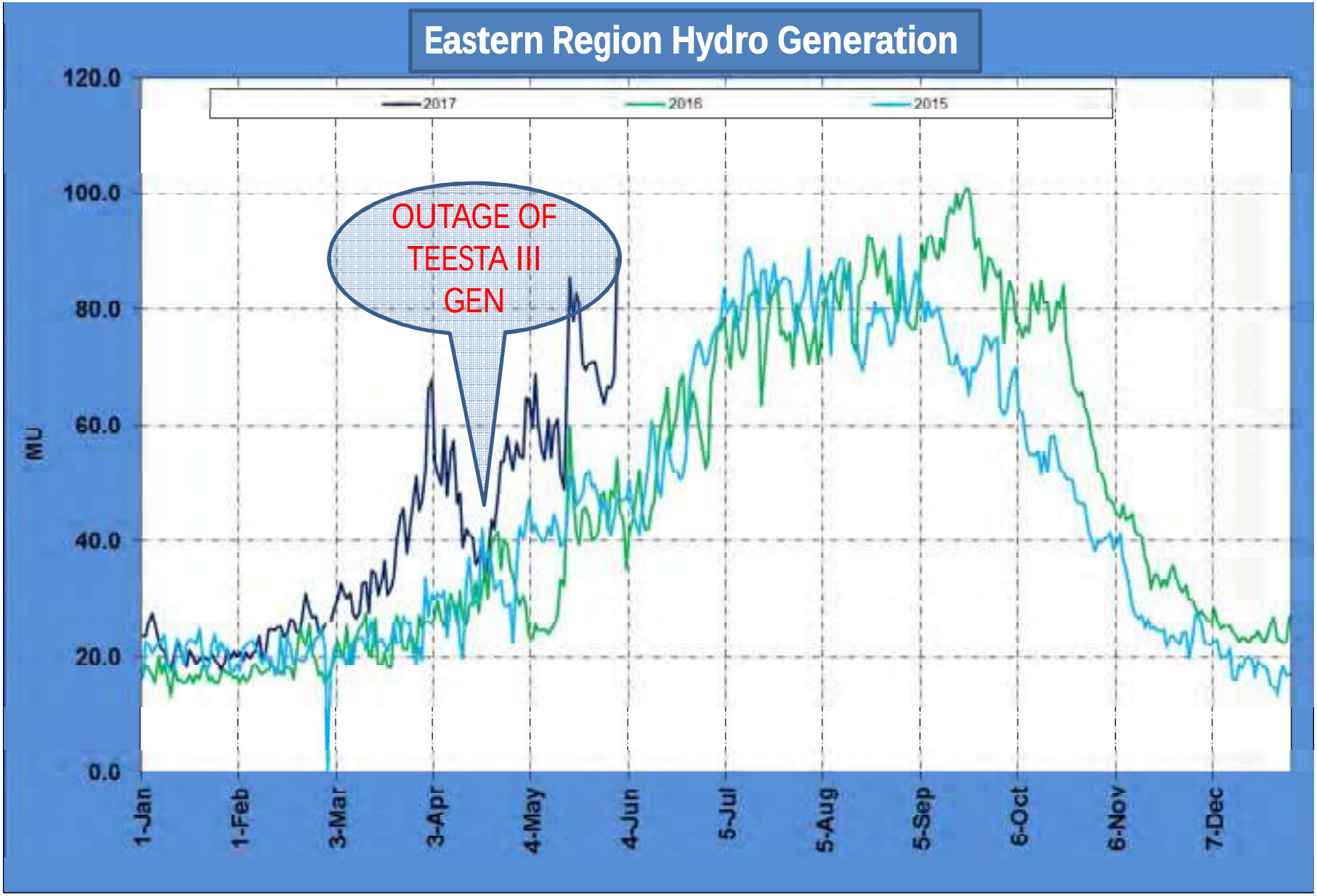

NET EXPORT FROM ER
Considerable decrease in Exp.
General trend of Over drawl by ER during peak hours
MU
140
120
100
80
60
40
20
0
01-Jan-10
01-Apr-10
30-Jun-10
28-Sep-10
27-Dec-10
27-Mar-11
25-Jun-11
23-Sep-11
22-Dec-11
21-Mar-12
19-Jun-12
17-Sep-12
16-Dec-12
16-Mar-13
14-Jun-13
12-Sep-13
11-Dec-13
11-Mar-14
09-Jun-14
07-Sep-14
06-Dec-14
06-Mar-15
04-Jun-15
02-Sep-15
01-Dec-15
29-Feb-16
29-May-16
27-Aug-16
25-Nov-16
23-Feb-17
24-May-17
22-Aug-17
20-Nov-17
18-Feb-18

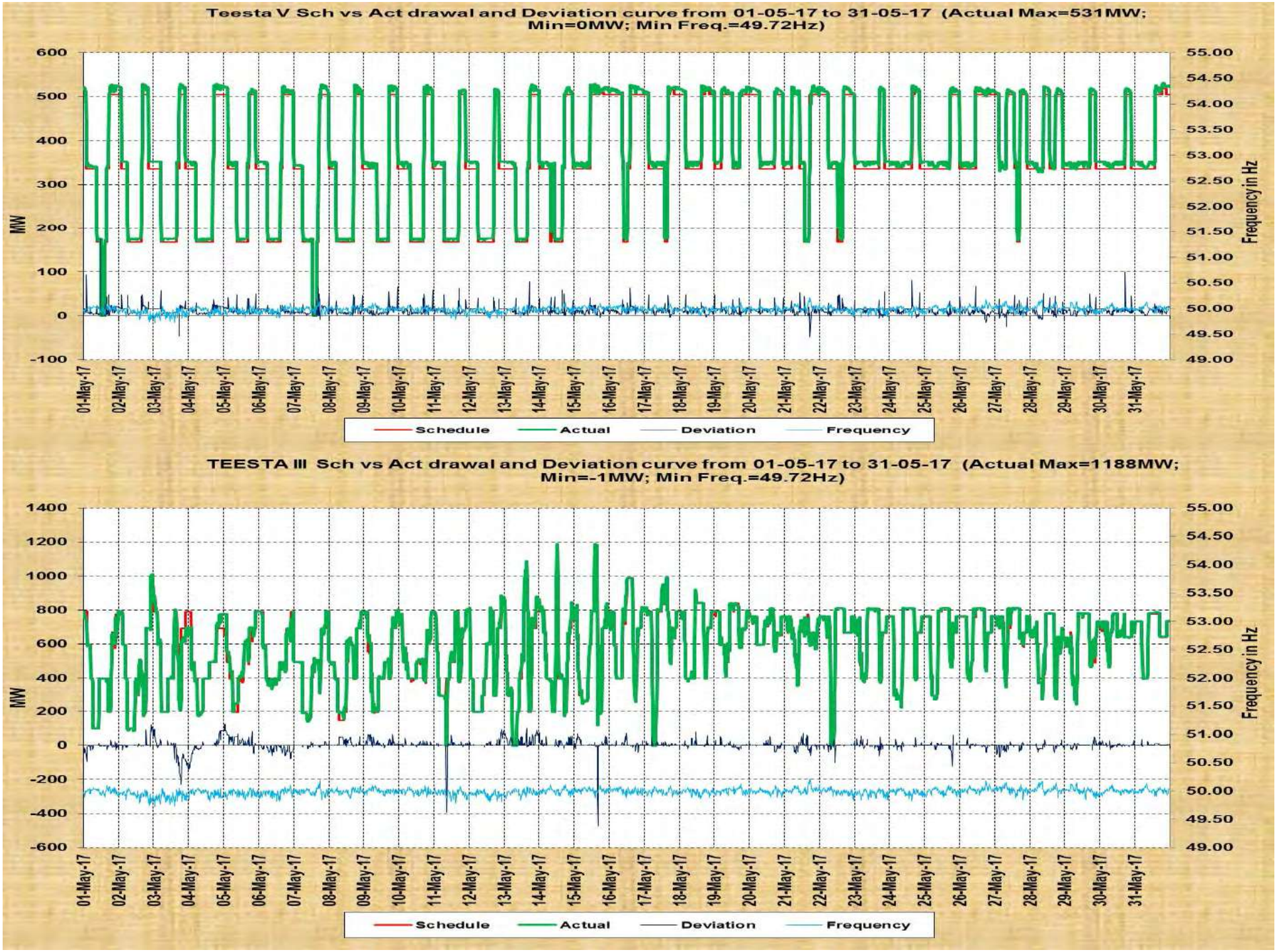

Monthly Net Export (in MU) from Eastern Region to other Region
MU
3000
2750
2500
2250
2000
1750
1500
1250
1000
750
500
SCH
ACT
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17

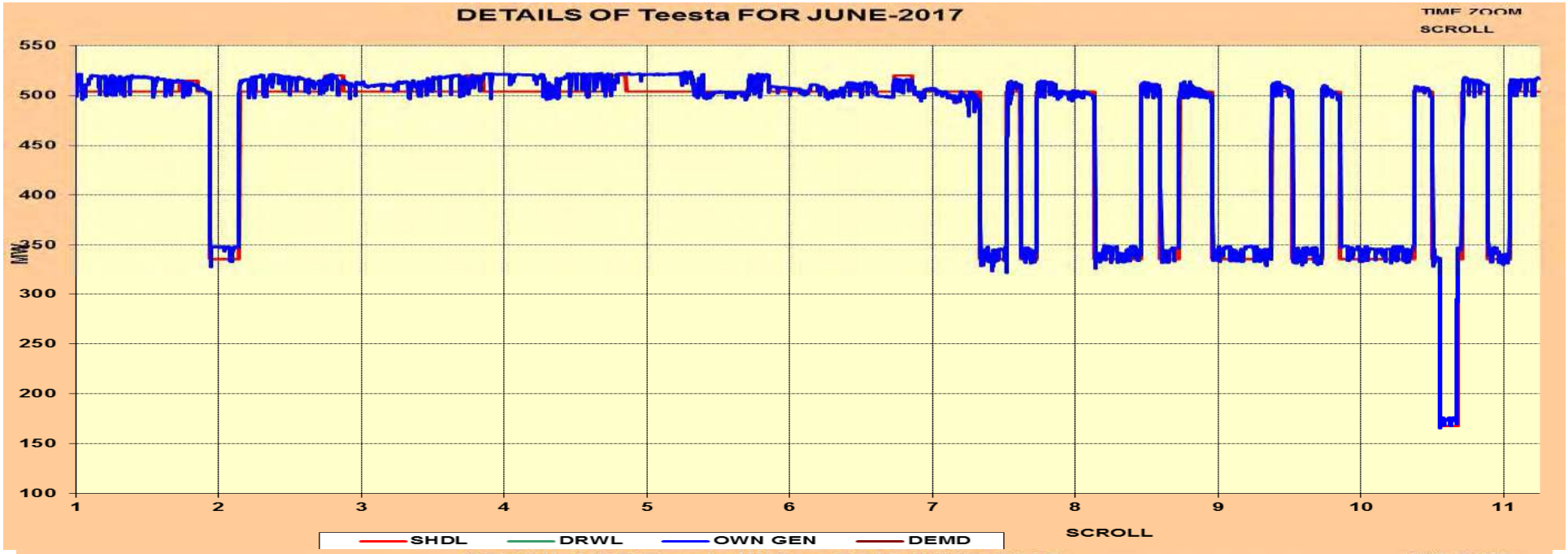

DETAILS OF BAGLADESH FOR JUNE-2017
TIME ZOOM
SCROLL
MW
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
SCROLL
SHDL
DRWL
OWN GEN
DEMD

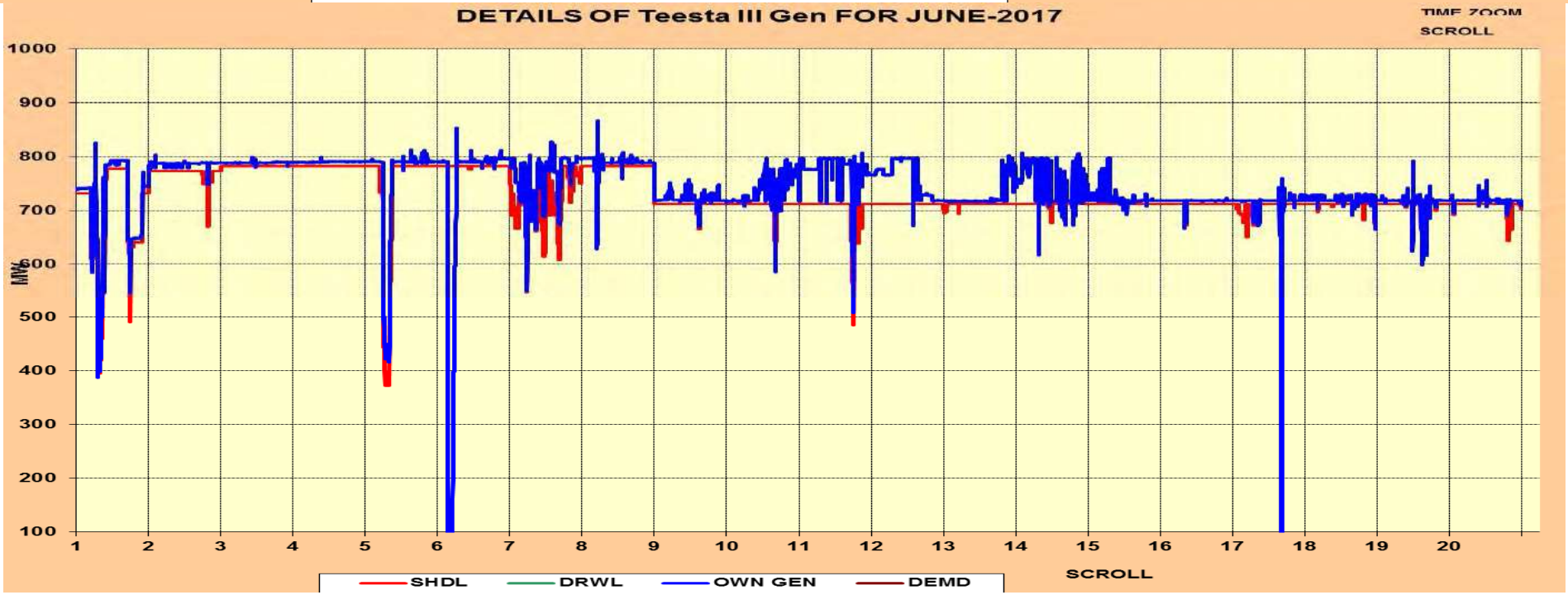

DETAILS OF Tala+ chukha FOR JUNE-2017
TIME ZOOM
SCROLL
MW
1400
1200
1000
800
600
400
200
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
SCROLL
SHDL
DRWL
OWN GEN
DEMD

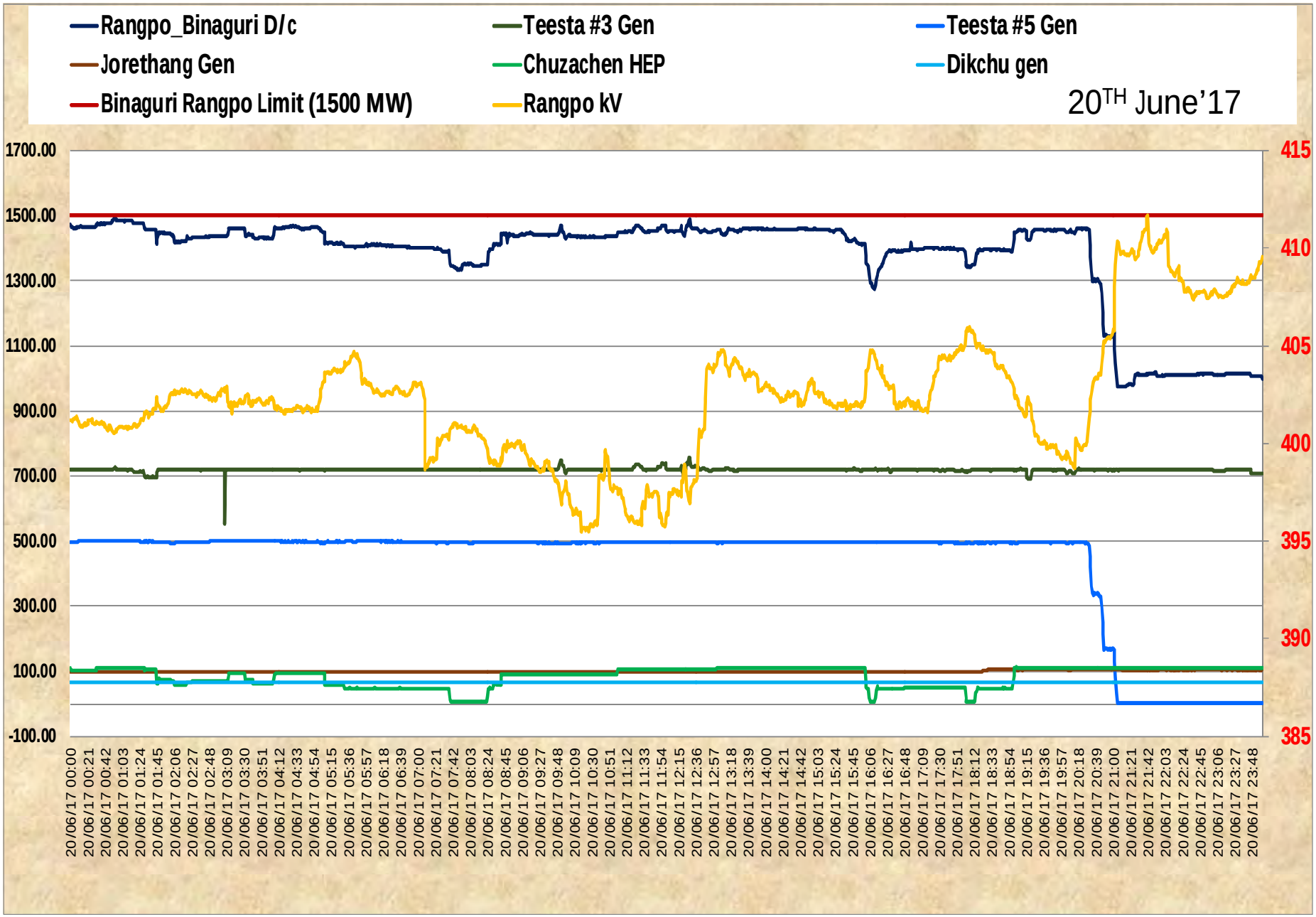

DETAILS OF Nepal FOR JUNE-2017
TIME ZOOM
SCROLL
180
160
140
120
100
80
60
40
20
0
-20
MW
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
SCROLL
Total 16 no. of tripping till 21st
SHDL
DRWL
OWN GEN
DEMD


Eastern Region Hydro Generation
2017
2016
2015
OUTAGE OF TEESTA III GEN
MU
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1-Jan
1-Feb
3-Mar
3-Apr
4-May
4-Jun
5-Jul
5-Aug
5-Sep
6-Oct
6-Nov
7-Dec


Teesta V Sch vs Act drawal and Deviation curve from 01-05-17 to 31-05-17 (Actual Max=531MW; Min=0MW; Min Freq.=49.72Hz)
MW
Frequency in Hz
600
500
400
300
200
100
0
-100
55.00
54.50
54.00
53.50
53.00
52.50
52.00
51.50
51.00
50.50
50.00
49.50
49.00
01-May-17
02-May-17
03-May-17
04-May-17
05-May-17
06-May-17
07-May-17
08-May-17
09-May-17
10-May-17
11-May-17
12-May-17
13-May-17
14-May-17
15-May-17
16-May-17
17-May-17
18-May-17
19-May-17
20-May-17
21-May-17
22-May-17
23-May-17
24-May-17
25-May-17
26-May-17
27-May-17
28-May-17
29-May-17
30-May-17
31-May-17
Schedule
Actual
Deviation
Frequency
TEESTA III Sch vs Act drawal and Deviation curve from 01-05-17 to 31-05-17 (Actual Max=1188MW; Min=-1MW; Min Freq.=49.72Hz)
MW
Frequency in Hz
1400
1200
1000
800
600
400
200
0
-200
-400
-600
55.00
54.50
54.00
53.50
53.00
52.50
52.00
51.50
51.00
50.50
50.00
49.50
49.00
01-May-17
02-May-17
03-May-17
04-May-17
05-May-17
06-May-17
07-May-17
08-May-17
09-May-17
10-May-17
11-May-17
12-May-17
13-May-17
14-May-17
15-May-17
16-May-17
17-May-17
18-May-17
19-May-17
20-May-17
21-May-17
22-May-17
23-May-17
24-May-17
25-May-17
26-May-17
27-May-17
28-May-17
29-May-17
30-May-17
31-May-17
Schedule
Actual
Deviation
Frequency


DETAILS OF Teesta FOR JUNE-2017
TIME ZOOM
SCROLL
MW
550
500
450
400
350
300
250
200
150
100
1
2
3
4
5
6
7
8
9
10
11
SCROLL
SHDL
DRWL
OWN GEN
DEMD


DETAILS OF Teesta III Gen FOR JUNE-2017
TIME ZOOM
SCROLL
MW
1000
900
800
700
600
500
400
300
200
100
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
SCROLL
SHDL
DRWL
OWN GEN
DEMD


Rangpo_Binaguri D/c
Teesta #3 Gen
Teesta #5 Gen
Jorethang Gen
Chuzachen HEP
Dikchu gen
Binaguri Rangpo Limit (1500 MW)
Rangpo kV
20TH June'17
1700.00
1500.00
1300.00
1100.00
900.00
700.00
500.00
300.00
100.00
-100.00
415
410
405
400
395
390
385
20/06/17 00:00
20/06/17 00:21
20/06/17 00:42
20/06/17 01:03
20/06/17 01:24
20/06/17 01:45
20/06/17 02:06
20/06/17 02:27
20/06/17 02:48
20/06/17 03:09
20/06/17 03:30
20/06/17 03:51
20/06/17 04:12
20/06/17 04:33
20/06/17 04:54
20/06/17 05:15
20/06/17 05:36
20/06/17 05:57
20/06/17 06:18
20/06/17 06:39
20/06/17 07:00
20/06/17 07:21
20/06/17 07:42
20/06/17 08:03
20/06/17 08:24
20/06/17 08:45
20/06/17 09:06
20/06/17 09:27
20/06/17 09:48
20/06/17 10:09
20/06/17 10:30
20/06/17 10:51
20/06/17 11:12
20/06/17 11:33
20/06/17 11:54
20/06/17 12:15
20/06/17 12:36
20/06/17 12:57
20/06/17 13:18
20/06/17 13:39
20/06/17 14:00
20/06/17 14:21
20/06/17 14:42
20/06/17 15:03
20/06/17 15:24
20/06/17 15:45
20/06/17 16:06
20/06/17 16:27
20/06/17 16:48
20/06/17 17:09
20/06/17 17:30
20/06/17 17:51
20/06/17 18:12
20/06/17 18:33
20/06/17 18:54
20/06/17 19:15
20/06/17 19:36
20/06/17 19:57
20/06/17 20:18
20/06/17 20:39
20/06/17 21:00
20/06/17 21:21
20/06/17 21:42
20/06/17 22:03
20/06/17 22:24
20/06/17 22:45
20/06/17 23:06
20/06/17 23:27
20/06/17 23:48

Regional Generation Outages Summary (MW)						
Central Sector			State Sector			Regional Total Outage (MW)
Planned	Forced	Total (CS)	Planned	Forced	Total (SS)	
210	1450	1660	1005	4280	5285	6945

UNIT OUTAGE DUE TO COAL SHORTAGE : 2260 MW

A. CENTRAL SECTOR (600MW):

1. JITPL U#1 :- 600 MW

B. STATE SECTOR(1660MW) :

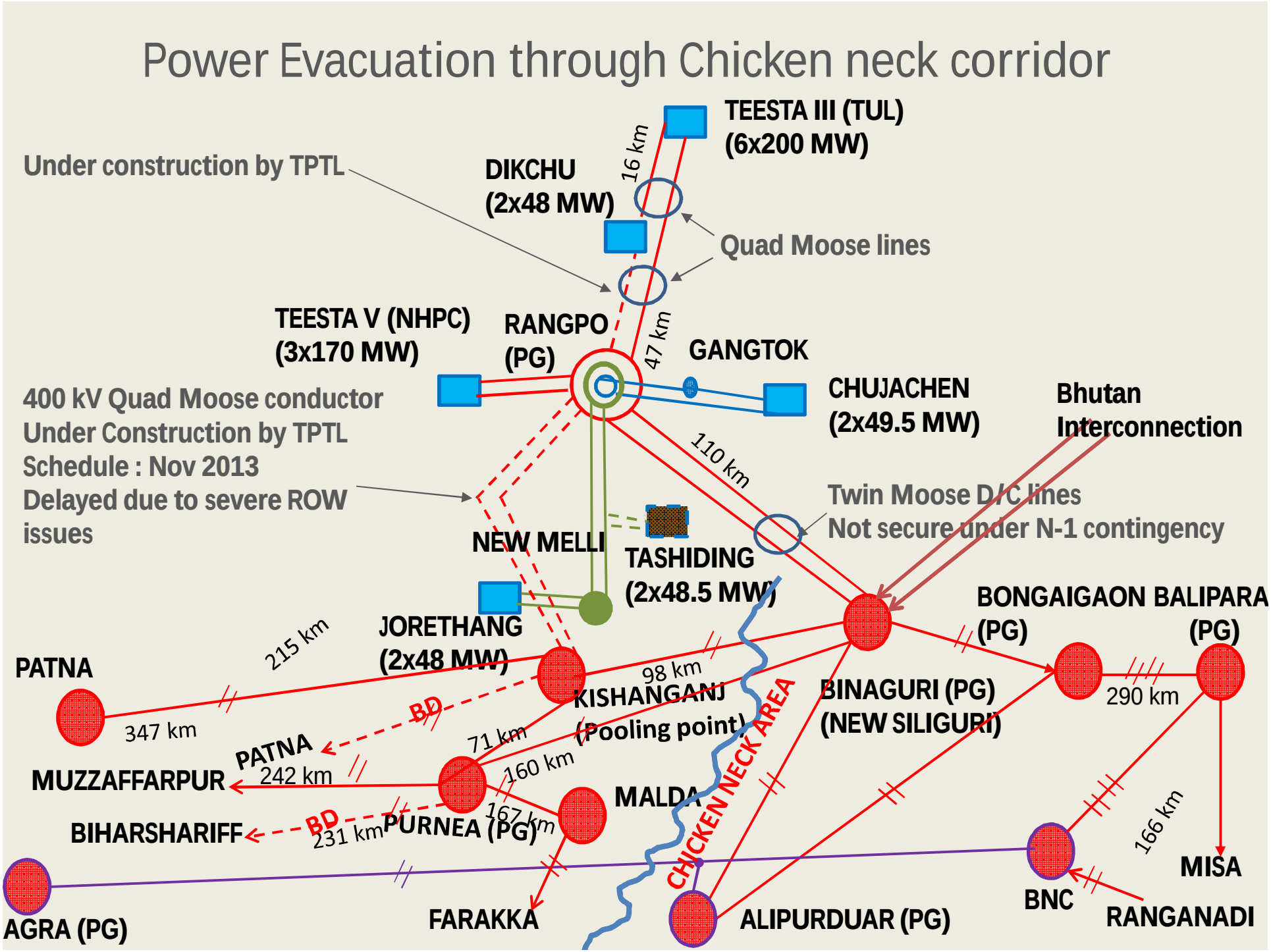
1. RTPS U#2 :- 600 MW
2. Sagardighi U#4 :- 500 MW
3. Tenughat U#1 :- 210 MW
4. GMR U#1 :- 350 MW

Total : 1660 MW

LINE OUTAGE DETAILS IN ER DUE TO **TOWER COLLAPSE**

Transmission Element / ICT	Agency	Outage From		Reasons for Outage
		DATE	TIME (HRS)	
400 KV PATNA-KISHANGANJ D/C	POWERGRID	26.07.16	12:00	TOWER COLLAPSED AT LOC NO 51
400 KV BIHARSARIFF-PURNEA- I & II	POWERGRID	23.08.16	06:51	Three numbers of tower are badly damaged at location 46/9, 47/0
220KV WARIA - BIDHANNAGAR-II	WBSETCL	10.09.16	10:46	LINE UNDER B/D, TOWER COLLAPSED AT LOC NO 28
765 KV GAYA VARANASI-I	POWERGRID	17.05.17	16:41	Tower collapse at Loc no 66,67,68. Peak of tower at Loc 65 damaged
400 KV BOKARO-KODERMA-D/C	POWERGRID	13.05.17	12:49	TOWER COLLAPSE AT LOC NO 172 AND 173
220 KV MUZAFFARPUR - HAZIPUR D/C	BSPTC	19.06.17	14:35	TOWER COLLAPSE AT LOC NO 8

Power Evacuation through Chicken neck corridor



Recent high loading of AC lines in Chicken neck corridor

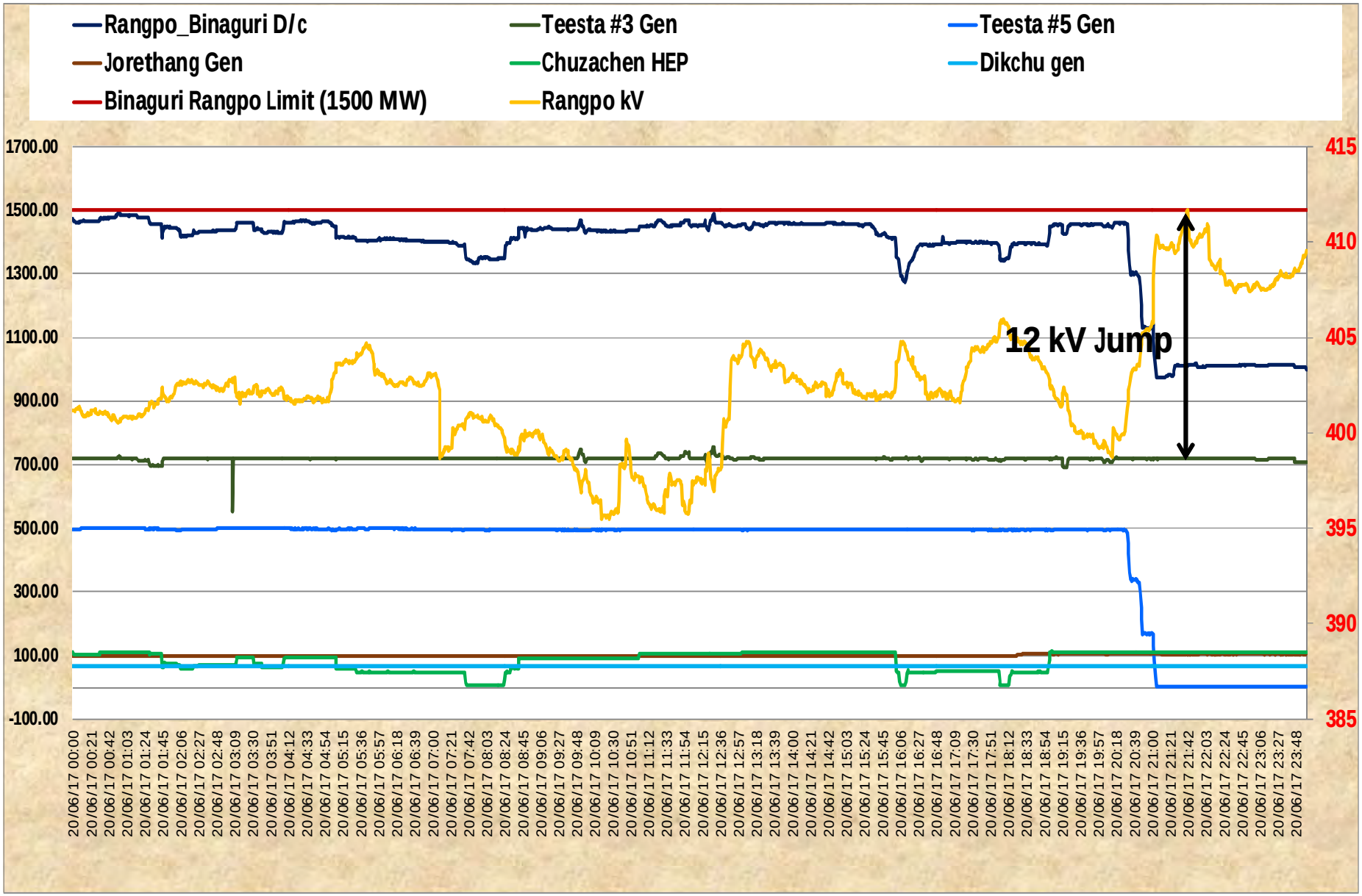
- On 20th and 21st June 2017 HVDC BNC-Agra was taken under shutdown
- During this period, flow on AC lines passing through chicken neck corridor has crossed 3500 MW.
- As these lines passes through river bed area chances of having N-2 contingency can not be overlooked.
- Any N-2 contingency in this corridor will put grid security in danger

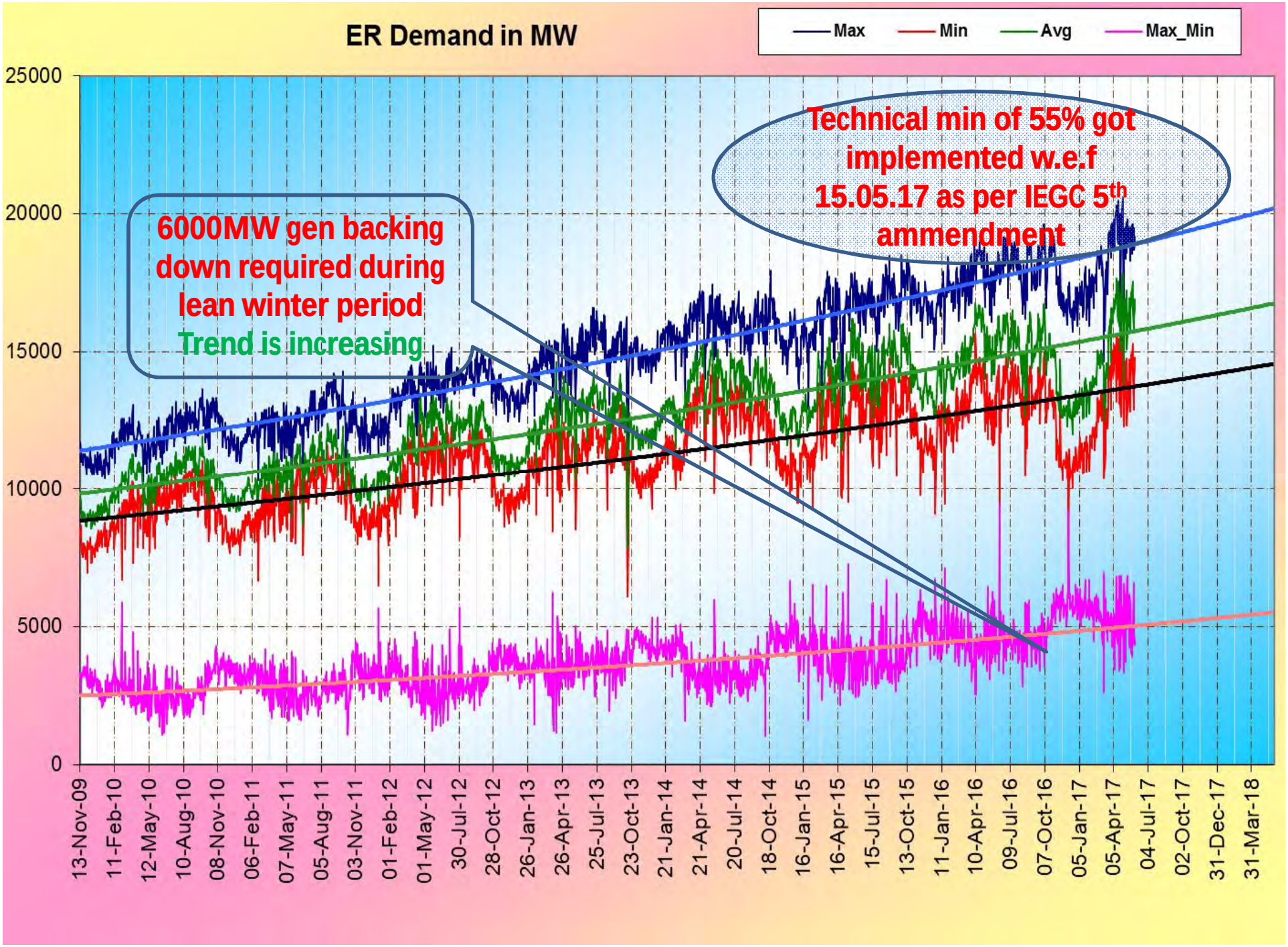
High Loading of Purnea-Muzzafarpur

- During outage of BNC-Agra flow of 400 kV Purnea-Muzzafarpur D/C has also crossed 1800 MW on some occasion.
- In such case of such high flow, outage of Purnea-Muzzafarpur the only outgoing line from Purnea viz. 400 kV Malda-Purnea D/C is expected to witness a flow of the order of 2500-2600 MW. Which may also trip due to such high flow
- In this case to ensure reliable grid operation timely revival of
  - 400 kV Purnea-Biharsariff D/C
  - 400 kV Kishanganj-Patna D/C

  Is very much required.

Voltage rise at Rangpo due to taking out Teesta –V units on 20-June 2017




ER Demand in MW
Max
Min
Avg
Max_Min
Technical min of 55% got implemented w.e.f 15.05.17 as per IEGC 5th ammendment
6000MW gen backing down required during lean winter period
Trend is increasing
25000
20000
15000
10000
5000
0
13-Nov-09
11-Feb-10
12-May-10
10-Aug-10
08-Nov-10
06-Feb-11
07-May-11
05-Aug-11
03-Nov-11
01-Feb-12
01-May-12
30-Jul-12
28-Oct-12
26-Jan-13
26-Apr-13
25-Jul-13
23-Oct-13
21-Jan-14
21-Apr-14
20-Jul-14
18-Oct-14
16-Jan-15
16-Apr-15
15-Jul-15
13-Oct-15
11-Jan-16
10-Apr-16
09-Jul-16
07-Oct-16
05-Jan-17
05-Apr-17
04-Jul-17
02-Oct-17
31-Dec-17
31-Mar-18

पावर सिस्टम ऑपरेशन कॉरपोरेशन लिमिटेड
(भारत सरकार का उपक्रम)
POWER SYSTEM OPERATION CORPORATION LIMITED
(A Government of India Enterprise)

पूर्वी क्षेत्रीय भार प्रेषण केन्द्र, 14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता 700 033
दूरभाष : 033 2423 5867/5875, फैक्स : 033 2423 5809/5704/5029, ई-मेल : erldc@posoco.in / www.erldc.org
EASTERN REGIONAL LOAD DESPATCH CENTRE, 14, Golf Club Road, Tollygunge, Kolkata 700 033
tel. : 033 2423 5867/5875, Fax : 033 2423 5809/5704/5029, E-mail : erldc@posoco.in / www.erldc.org

ERLDC/SS & MIS/2017/VDI/ 1146

Date: 02-06-17

To,

Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Kolkata – 33

Sub: Reporting of voltage deviation indices (VDI) for select S/Stns in ER, for May 2017

Dear Sir,

Enclosed please find VDI for select 400kV buses of Eastern Region, computed for the month of May, 2017, for deliberation in next OOC meeting of ERPC.

Thanking you,

Yours faithfully,

2/6/17

(P. Mukhopadhyay)
General Manager

VDI of Selected 765 kV & 400 kV in Eastern Region in the month of May - 2017

Ranchi New			Jamshedpur			Muzaffarpur		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
803	766	0.19	429	412	58.49	425	383	0.67

Bihar Sariff			Binaguri			Jeerat		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
424	392	1.16	426	384	1.20	427	381	2.94

Rourkela			Jeypore			Koderma		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
417	402	0.00	428	376	2.35	426	402	3.79

Maithon			Teesta			Rangpo		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
418	403	0.00	425	389	0.13	424	385	0.10