Minutes

of

141st OCC Meeting

Date: 31.01.2018

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 141st OCC Meeting held on 18th January, 2018 at ERPC, Kolkata

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

Shri J. Bandyopadhyay, Member Secretary, EPRC chaired the meeting. He welcomed Shri U. K. Verma, ED, NLDC, Shri P. Mukhopadhyay, ED, ERLDC and all the other participants in the meeting.

He informed that 37th TCC and ERPC meetings would be held at Goa on 16th & 17th March 2018. Two training sessions are scheduled to be held at ERPC, Kolkata in February 2018. Third Phase of MiP-PSCT Training Program is scheduled to be held from 5th to 9th February 2018. Training on "**Optimum calculation of transfer capability (ATC, TTC and TRM)"** by International Consultant is scheduled to be held from 19th to 21st February 2018. He advised all the constituents to nominate suitable officers for both the training programmes.

Thereafter, he requested EE (PS), ERPC to take up the agenda points in seriatim.

Item no. 1: Confirmation of minutes of 140th OCC meeting of ERPC held on 19.12.2017

The minutes of 140th OCC meeting were uploaded in ERPC website and circulated vide letter dated 27.12.2017 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 140th OCC meeting.

PART A : ER GRID PERFORMANCE

Item no. A1: ER Grid performance during December, 2017

The average consumption of Eastern Region for December - 2017 was 319. Eastern Region has achieved maximum energy consumption of 331 Mu on 07th December-17. Total Export schedule of Eastern region for December - 2017 was 2378.5 Mu, whereas actual export was 2105.7 Mu.

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

1. **Over drawal/under injection by ER Entities**
2. **Performance of Hydro Power Stations during peak hours**
3. **Performance of ISGS during RRAS**

Deliberation in the meeting

- *ERLDC presented the performance of the Eastern Region grid during November 2017 and up to 14th January 2018. Presentation is enclosed at* ***Annexure- A1****.*

- *ERLDC informed that the actual power injection pattern of Tala and Chuka hydro generating stations of Bhutan at the Indian Periphery is not in accordance with the day*

ahead schedule given by the NLDC. As a result, the integrated grid is not able to fully exploit the benefits associated with the hydro stations.

After deliberation, it was decided that a special meeting would be convened at ERPC, Kolkata among NLDC, ERLDC, PTC, ERPC and Bhutan in the last week of March,2018 to discuss the issue in details.

- *ERLDC informed that on 10.01.18 at 17:34:05 hrs, 400 KV Rangpo-Binguri 2 tripped in R-Y-N fault followed by operation of SPS-1 and SPS-2 designed for safe evacuation of hydro power in Sikkim. This led to Generation loss at Teesta-3, Dikchu and Tashiding as per logic. ERLDC made the following observations:*

    - *From Rangpo SoE it was observed that SPS-2 transmitted within 400 ms after initiation of SPS-1.*
    - *In this case, all generator responded perfectly and quickly for SPS-1 operation.*
    - *SPS-2 was operated during the transient period before reaching the power flow in 400 KV Rangpo-Binguri 1 at steady state value.*

  It was opined that a time delay may be included for reliable operation of SPS-2 instead of instantaneous tripping.

  OCC decided that proper system studies should be done for reviewing the time delay between SPS 1 and 2.

- *ERLDC informed that RRAS performance of ISGS generators was satisfactory. Farakka generators managed to maintain the schedule with minor deviation. ERLDC added that the performance of Farakka needed further improvement.*

- *ERLDC added that, in view of severe high voltage at 400kV Arambagh and 400kV Behrampur S/s, Powergrid and WBSETCL should expedite the installation of reactors to control the high voltage.*

  Powergrid informed that 125MVAR bus reactor at Behrampur would be installed by end of February 2018.

  WBSETCL informed that tender has been floated for installation of 125MVAR bus reactor at Arambagh.

Item no. A2: Commissioning of new transmission elements in Eastern Region

The details of new units/transmission elements commissioned in the month of December - 2017 based on information furnished by the constituents are depicted below:

1. 125 MVAr B/R III at Jamshedpur charged for the first time in parallel with 50 MVAr BR I at 18:12 Hrs. of 02/12/17.
2. 400/220 kV, 315 MVA ICT # 3 at Jamshedpur charged for first time (loading) at 17:43 hrs. of 11/12/17.
3. 400 kV Jharsuguda – IB_OPGC # I charged for first time at 19:05 hrs. of 19/12/17.
4. 400 kV Bus # 2B at IB_OPGC charged for the first time at 19:05 hrs. of 19/12/17.
5. 400 kV Jharsuguda – IB_OPGC # II charged for the first time at 19:22 hrs. of 19/12/17.
6. 400 kV Bus # 1B at IB_OPGC charged for the first time at 19:22 hrs. of 19/12/17.
7. 220 kV Atri - Pandiabili # II charged and loaded for the first time at 18:53 hrs. of 19/12/17.
8. 220 kV Samagara - Pandiabili # II charged and loaded for the first time at 19:33 hrs. of 19/12/17.
9. 400/220 kV, 315 MVA ICT # 3 at New Chanditala charged for first time (loading) at 16:09 hrs. of 20/12/17.

10. 400kV Raigarh – Jhasuguda 4 (LILO of 400kV Rourkela- Raigarh 4 at Jhasuguda) charged for first time at 00:18 hrs. of 31/12/17.

Constituents may update.

Deliberation in the meeting

BSPTCL informed that the following elements were commissioned in December 2017:

11. 20 MVA, 132/33kV Transformer at Manihari first time charged on 07.12.2017
12. 50 MVA, 132/33kV Transformer at Dumraon first time charged on 11.12.2017
13. 160 MVA, 132/33kV Transformer at New Sheikhpura first time charged on 21.12.2017
14. 50 MVA, 132/33kV Transformer at New Sheikhpura first time charged on 22.12.2017
15. 220kV Nawada- New Sheikhpura line-I & II charged first time on 21.12.2017
16. 132kV New Sheikhpura- Sheikhpura line I & II charged first time on 21.12.2017
17. 132kV Amnour(BGCL)-Chapra line I & II charged first time on 26.12.2017

Item no. A3: Persistent over drawl by West Bengal and Odisha

Over drawl figure of West Bengal and Odisha from 01-01-2018 to 07-01-2018 are shown below:

State	**West Bengal**		**Odisha**	
Date	**Over Drawl (MU)**	**Max. Over Drawl (MW)**	**Over Drawl (MU)**	**Max. Over Drawl (MW)**
01-01-18	0.517	328	1.718	479
02-01-18	-0.017	301	1.977	571
03-01-18	1.36	400	1.97	450
04-01-18	1.385	561	0.900	411
05-01-18	0.068	354	1.655	435
06-01-18	0.609	286	1.995	461
07-01-18	0.746	467	2.643	516

In 140th OCC, over drawl pattern of West Bengal and Odisha was deliberated in detail. Some improvement in West Bengal and Odisha Drawl pattern has been observed during December and up to 7th January-2018. West Bengal average over drawl quantum was reduced to 1 mu during above mentioned period where as for Odisha over drawl quantum is around 2 mu per day. In view of above, still there is some scope to maintain drawl as per schedule during morning and evening peak hour to avoid such quantum over drawl.

ERLDC may present. WBSETCL and Odisha may explain.

Deliberation in the meeting

ERLDC informed that the overdrawal pattern of West Bengal and Odisha has been improved in January 2018 but overdrawal during morning peak needed to be taken care of.

ERLDC advised Odisha to enhance their hydro generation during morning peak hours to meet the demand.

SLDC, Odisha informed that quantum of water release depended on their state agriculture requirement which is decided by their Agriculture Department.

Item no. A4: Reactive Power performance of Generators

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

Power Plant	Max and Min Voltage observed for Dec 17 (KV)	Date for monitoring (Dec 17)
Farakka STPS	425, 412	4,12
Khalgaon STPS	422, 417	14,15
Talcher STPS	414, 395	2,7
Teesta-v	420,396	15,26
Bakreshwar TPS	411, 401	10, 29
Kolaghat TPS	428, 405	4,6
Sagardighi TPS	426, 411	4,6
MPL	421, 410	4,6
Mejia-B	424, 412	4,10
DSTPS	423, 413	15,28
Adhunik TPS	425, 410	1,18
Barh	427, 409	2,4
JITPL	417, 409	4,18
GMR	414, 408	1,17
HEL	430,402	2,11
Kodarma	422, 409	7,28

ERLDC may present the reactive performance.

Deliberation in the meeting

*ERLDC presented the performance of the generators. Presentation is enclosed at **Annexure-A4**.*

ERLDC informed that Khahalgaon and Barh units are not absorbing VAR as per their capability curve during high voltage.

OCC advised NTPC to take appropriate action to absorb reactive power during high voltage condition as per their capability curve.

Item no. A5: Restricted Governor /Free Governor Mode Operation of generators in ER

(1) On 09-12-17, 12:58 Hrs, TBC breaker blasted at 400 kV Padghe S/S. As a result all emanating feeders from Padghe tripped and about 1400MW load was thrown off. Response observed in respect of various ISGS / IPPs would be presented by ERLDC.

In Petition No. 84/MP/2015, Date of order: July 31, 2017 section 23 (a), CERC noted

- … the Commission, starting from the month of September, 2017 shall be closely watching the primary response of ISGSs as reported by POSOCO/NLDCs.
- At the State level, SLDCs shall report the frequency response of intra-State generators to the concerned SERCs."

To comply with this order, ERLDC is sending the primary response of all ISGS/IPP in the region to NLDC. Reports from all RLDCs are in turn compiled by NLDC and submitted to the Hon'ble Commission.

SLDCs may please confirm whether similar reports are being submitted by them to their respective SERCs.

ERLDC may present. SLDCs may update.

Deliberation in the meeting

ERLDC presented the performance of the generators for two cases:

- *On 09-12-17, 12:58 Hrs, TBC breaker blasted at 400 kV Padge S/S. All emanating feeders from Padghe tripped and about 1400MW load was thrown off.*
- *On 09.12.2017 at 17:30Hrs, all lines emanating from Dadri S/S tripped,Due to Loss of Evacuation path 1305 MW Generation loss(As per NLDC Scada) occurred.*

*The presentation is enclosed at **Annexure-A5**.*

ERLDC added that some generators are giving negative response which needed to be attended immediately.

Barh, NTPC informed that they were interacting with ABB to improve the RGMO response.

OCC advised all the generators to go through the details in Annexure-B35A and take appropriate action to improve the performance.

ERLDC informed that, as per the regulation, SLDCs have to monitor the performance of the generators under their control area.

DVC informed that they are calculating the RGMO response of their generators and sending to ERLDC.

OCC advised other SLDCs to monitor performance of the generators under their control area.

Item no. A6: Bus Splitting operation of 400kV Maithon Sub-station

ERLDC vide mail dated 8th January 2018 informed that split-bus mode operation of Maithon 400kV S/stn was implemented w.e.f. 12:23 Hrs of 05-01-18, by opening the sectionalizing CBs between bus sections A and B. Disposition of line/ICTs are as follows:

Sl No	Maithon – B (Bus 2 & 4)	Maithon-A (Bus 1 & 3)
1	400 kV Maithon- MPL D/C	2 x 500 MVA 400/220kV ICT
2	400 kV Maithon Ranchi	400 kV Maithon-Mejia I & II
3	400 kV Maithon-Raghunathpur	400 kV Maithon-Gaya D/C
4	125 MVAR B/Reactor-2	400 kV Maithon-Kahalgaon-II
5	400 kV Maithon-Parulia (Durgapur) D/C	400 kV Maithon-Jamshedpur
6	400 kV Maithon-Kahalgaon -I	125 MVAR B/Reactor-1
7	400kV Maithon – Mejia-III	

Power flow before and after the bus spilitting are enclosed at **Annexure-A6**.

Members may note.

Deliberation in the meeting

ERLDC informed that there is significant reduction in the fault level and placed the fault level details before and after the bus splitting as follows:

FAULT LEVEL	BEFORE		AFTER	
	3 PHASE MVA	3 PHASE CURRENT(KA)	3 PHASE MVA	3 PHASE CURRENT(KA)
MAITHON-A	32067	46.286	16350.08	23.6
MAITHON-B	32067	46.286	24926.944	35.98

Item no. A7: UFR operation during the month of December'17

System frequency touched a maximum of 50.25 Hz at 22:00 Hrs of 03/12/17 and a minimum of 49.7 Hz at 09:19 Hrs of 15/12/17. Hence, 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. A8: 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 December'17.

Members may note.

Deliberation in the meeting

Members noted.

Item no. A9: Grid incidences during the month of December, 2017

Sr No	GD/ GI	Date	Time	Summary	Load loss (MW)	Gen loss (MW)
1	GI-II	06/12/2017	09:09	At 09:09 hrs due to operation of bus bar differential protection of both bus I & II at New Chanditala, All elements connected to New Chanditala i.e. 400 kV Jeerat - New Chanditala S/C, 400 kV KTPP - New Chanditala S/C, 400 kV New Chanditala - Kharagpur D/C along with both bus I& II and 400/220 kV ICTs at New Chanditala tripped.	0	0

2	GD-I	06/12/2017	18:22	At 18:22 hrs, total power failure occurred at 220/132 kV Madhepura S/S due to tripping of 220 kV Madhepura - Purnea D/C resulting interruption of supply at Supaul, Sonebarsa, Madhepura, Saharsa, Kushaha(Nepal) & Udaikashigunj.	170	0
3	GD-I	09/12/2017	10:57	At 10:57 hrs, all lines connected to 400/132 kV Motihari S/S tipped due to operation of bus bar protection of both bus I & II. It was reported that motorized earth switch connected to main bay of 125 MVAr B/R I (connected to bus II) became grounded resulting operation of bus bar operation at both buses.	174	0
4	GD-I	13/12/2017	16:43	At 16:43 hrs 220 kV Patna - Sipara D/C and 220 kV Khagul Sipara S/C tripped due to spurious bus bar protection operation at Sipara S/S resulting total power failure at Sipara S/S.	226	0
5	GD-I	13/12/2017	17:19	After the initial disturbance at Sipara at 16:43 hrs, during restoration 220 kV Patna Sipara D/C tipped again at 17:19 hrs while extending power to Khagul and supply to Sipara S/S got interrupted again.	100	0
6	GD-I	15/12/2017	06:01	At 06:01 hrs 132 kV Malda - Malda - II tripped from both ends (PG end: R-N, F/C 9 kA; WB end: R-B-N, 11.38 km). At same time 132 kV Malda - Malda - I (R-B-N, 3.69 km from WB end) also tripped from WB end. This circuit was later manually opened from PG end. 220/132 kV ATR I & II at Malda (PG) also tripped on operation of back up directional O/C relay.	55	0
7	GD-I	20/12/2017	13:52	220 kV Muzaffarpur - Hazipur - I was under shut down. At 13:52 hrs 220 kV Muzaffarpur - Hazipur - II tripped in Y-B-N fault resulting total power loss at Hazipur, Siwan, Chapra & Amnour.	130	0
8	GD-I	22/12/2017	10:49	220/132 kV ICT - II at Purnea (PG), 132 kV Purnea - Purnea - II and 132 kV Purnea - Kishangunj were under shutdown. At 10:49 hrs, 220/132 kV Purnea S/S became dead due to tripping of 132 kV Purnea - Purnea - I & II	90	0
9	GD-I	22/12/2017	17:10	220 kV Gaya - Bodhgaya D/C were under shutdown. 220 kV Biharshariff - Khijasarai - II tripped from both ends (BSF end: Y-N, Z-I, 1.6 km, 18 kA; Khijasarai end: Y-N, 36.4 km) due to Y phase jumper snapping at location no 237. At the same time, 220 kV Biharshariff - Khijasarai - I tripped from the both ends (BSF end: Y-N, O/C, fault duration: 18.39 ms; Khijasarai end: E/F) and 220/132 kV ATR - II at Biharshariff tripped due to operation of differential relay (Fault duration 73 ms).	135	0

Members may note.

Deliberation in the meeting

Members noted.

Item no. A10: 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 December, 2017 of Eastern Region which is enclosed at **Annexure- A10**.

Members may note.

Deliberation in the meeting

Members noted.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Methodology for Submitting the Status of New Transmission Elements/ Generating Units to be Commissioned within the State

For clear visibility of the Eastern Region networks and better system operation, all the new transmission elements (ISTS & STU links) need to be updated regularly. The commissioning of new transmission elements of ISTS lines has been processed and updated by RLDC whereas commissioning of STU lines has been processed by SLDCs. However, commissioning status of new STU lines of states has not been updated to ERLDC and ERPC regularly. Sometime SLDCs used to submit the status of their new commissioning of elements during OCC meeting. To regularize the process following methodology need to be adopted:

1. Transmission elements/ Generating units expected to be commissioned during next month need to be submitted to ERLDC/ERPC in every OCC.
2. Detail parameters of new transmission element before commissioning need to be shared with RLDC.
3. Detail date and time of synchronization need to be updated on real time to ERLDC after commissioning of any new Transmission element/Generating unit.
4. SLDC SCADA team needs to configure the new element in their SCADA and share the same to ERLDC SCADA for network update.
5. List of the new transmission elements/ generating units commissioned during last month need to inform RLDC/RPC within 7th day of the current month, so that same to be updated in OCC.

Members may discuss.

Deliberation in the meeting

It was informed that commissioning status of new STU lines of states has not been updated to ERLDC and ERPC regularly within 7th day of the current month.

OCC advised all the constituents to submit the information to following mail ids:

- *erldcam@gmail.com*
- *ftcer@posoco.in*
- *mserpc-power@nic.in*

Item No. B.2: Training on "Optimum calculation of transfer capability (ATC, TTC and TRM)" by International Consultant

CEA vide mail dated 21st December 2017 informed that M/S Powertech Labs Inc. (PLI) Canada is providing consultancy services in India. As per the contract 3 days training is arranged at ERPC, Kolkata from 19th to 21st February 2018. The training will be held at the ERPC Conference Hall, Kolkata. The training programme covers the following topics:

- Examination and recommendation of methodology for optimum calculation of transfer capability (TTC/ATC/TRM) in the planning and the operational horizons
- Calculation of transfer capability (TTC/ATC/TRM) for entire country

Constituents may nominate members preferably dealing with Transmission Planning and Grid Operation.

Deliberation in the meeting

OCC advised all the constituents to nominate suitable members preferably dealing with Transmission Planning and Grid Operation. ERPC requested the constituents to send the nominations to mserpc-power@nic.in.

Item No. B.3: 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.)	Latest status
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14	April 2018	108.6 Cr	18.26 Cr.	100 % Supply is Completed 92% Erection is completed
2		Renovation & modernisation of transmission system for relieving congestion in Intra-State Transmission System.	22-05-17	19 months from date of release of 1st instalment	43.37	Nil	Agreement signed. Bank A/c opened & PFMS mapping is in process.
3		Installation of switchable reactor at 400kV & shunt capacitors at 33kV	22-05-17	25 months from date of release of 1st instalment	70.13	Nil	Agreement signed. Bank A/c opened & PFMS mapping is in process.
4	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
5	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16	Project is alive from 30th October 2017	20 Cr.	4.94 Cr. + 9.88 Cr.	1) 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 ERPC, Odisha, Bihar, WBSETCL, Jharkhand and DVC.
6	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	31.03.2018	64.22 crore	23.68 crore	Project is on going. Contract awarded for Rs.71.37 Cr till date.
7		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016	12th March 2019	18.88 crore	Nil	LOA awarded
8		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.	02.01.2017	31st March 2018	54.69 Cr.		
9	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation	02.01.2017	01.06.2019	25.96 Cr	2.596 Crore on 01.06.2017	Work awarded for 28.07 crore.
10		Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC	27.11.2017	24 Months from the date of release of fund.	140.5 Cr.	1st installment of 14.05 Cr. received on 21.12.2017	Work awarded for 6.45 crores
11	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station	*10.04.2017*	*March 2018*	1.39 Cr		Award placed to ABB. Material delivery by Dec, 17. Most of the materials have reached the site and the

							installation would commence soon.
12		Upgradation of Protection and SAS			26.09		Approved by Ministry of Power. Tendering has been completed.
13	OHPC	Renovation and up-gradation of protection and control system of 4 nos OHPC substations.		*Balimela-Feb 2019, Burla-Nov 2018, Chiplima Dec 2018*	***22.35 Cr***		Tendering under progress.
14	Powergrid	Installation of STATCOM in ER		June 2018	***160.28 Cr***	*63.028 Cr*	work is in progress, eexpected to complete by June 2018
15	JUSNL	Renovation and up-gradation of protection system	*September 2017*	*138.13 crores*			Approved by Appraisal Committee. Tendering is in progress.
16a	ERPC	Training for Power System Engineers					The proposal was approved by Appraisal Committee. The proposal was sent to CERC. CERC has sought some queries from the Appraisal Committee.
16b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents					

In the 5th Meeting of Monitoring Group of PSDF held on 21.10.2017, it was decided to hold the Monitoring Group meetings at regional level with participation of all the concerned entities of the region to review the progress of the projects/scheme being funded from PSDF.

The PSDF Monitoring Group meeting would be held at ERPC Conference Hall, Kolkata in 2nd week of February 2018.

Respective constituents may update the status.

Deliberation in the meeting

WBSETCL, Bihar and JUSNL updated the latest status as mentioned in above table.

OCC advised OPTCL to send the details of work progress and target date of completion to ERPC.

Item No. B.4: Rectification of the SPS associated with tripping of any pole of HVDC Talcher-Kolar.

During synchronisation of NEW grid with SR grid, to limit the surplus power likely to be wheeled to SR through ER and WR, in the event of single or bi-pole outage of 500 kV Talcher-Kolar HVDC, arrangement for 600 MW generation reduction in ER (200 MW each at SEL, GMR and JITPL) by sending digital signals from Talcher STPS was made, apart from the pre-existing reduction/tripping of TSTPS-II generation.

To implement this SPS, signal is transmitted from Talcher to the concerned generating stations. In case of Sterlite/VAL signal was transferred through PLCC link from 400 kV Rourkela substation of POWERGRID. However after removing LILO of Rourkela-Jharsuguda at SEL, this link is no more available. In view of revised connection it is proposed that link for sending SPS signal to SEL / VAL may be re-established either via Jharsuguda or via Meramandali.

Members may discuss.

Deliberation in the meeting

Powergrid agreed to implement and requested for the details of communication path for sending SPS signal.

ERLDC informed that they would intimate the shortest path for sending the SPS signal.

Item No. B.5: Failure of Real time telemetry

On 06th December 2017 at 17:26 hours, there was failure of real time SCADA data of 17 nos Central Sector station to ERLDC due to communication failure between Malda – Farakka OPGW link. The real time data restored at 09:37 Hours of 07th December 2017. Reports of the above mentioned event is attached in **Annexure –B5.1**.

The real time SCADA data of North Bengal & Sikkim is totally dependent on availability of Malda – Farakka communication link. The path redundancy of Malda – Farakka communication link must be planned and implemented by POWERGRID so that such failure could be avoided

On 14th December 2017 at 12:52 hrs, there was complete outage of real time SCADA telemetry due to fibre issue between Jeerat-Kasba Section. Report is enclosed at **Annexure- B5.2**.

Members may discuss.

Deliberation in the meeting

OCC advised Powergrid to implement standby communication for both the cases.

Powergrid agreed to explore.

Item No. B.6: Recovery of loss due to schedule revision during flodding of Kishanganj S/S of PGCIL-Teesta Urja Ltd.

Due to flooding at Kishanganj S/S of PGCIL, the IEX schedule of Teesta-III HEP and other Projects was directed to be revised from 10:00 hours to 24:00, hours on 13.08.2017. However, vide subsequent communications, the curtailment of schedule was initially directed to start from 10.00 hrs , which got changed to 10.30 hrs and again to 10.00 a.m. However, the IEX schedule which had got curtailed from 10.30 hrs could not get revised to 10.00 hrs leading to the Teesta-III (and other Projects) being penalized under DSM for two time blocks from 10.00 hrs to 10.30 hrs.

Members may discuss.

Deliberation in the meeting

It was informed by ERPC that request for discrepancy in schedule should have been pointed out much earlier. Request for revision for old cases might not be considered in future. In the instant case, schedule for collective transaction was not revised. Post facto revision of schedule of collective transaction is not feasible . Further, payment for the scheduled transaction had been received by Teesta Urga Ltd. Therefore, to accommodate the request for schedule revision with retrospective effect for DSM, payment received from collective transaction needed to be disclosed. Otherwise, there is a possibility of double accounting, leading to excess payment due to revision.

Item No. B.7: Revision of final schedule of Dikchu HEP and revocation of UI penalty inflicted on 13.08.2017- Dikchu

On 13.08.2017, Dikchu was advised by ERLDC through mail and phone to back down the generation to Zero w.e.f 10:00 hrs, 13.08.2017, as all STOA & collective transactions were cancelled due to flooded condition at Kishanganj S/s. Dikchu plant was shut down promptly within 10:01 hrs.

The final schedule of Dikchu HEP was revised to Zero w.e.f 10:30 hrs by NLDC. The consequence was that as per final generation schedule data, although Dikchu was able to generate 96 MW in between 10:00 hrs to 10:30 hrs, Dikchu generation was Zero in real time incurring heavy UI penalization.

It is requested to consider the merit of the incidence and accord consent in revision of the final schedule of 13.08.2017 from 10:00hrs to 10:30 hrs to Zero in respect of Dikchu HEP.

Members may discuss.

Deliberation in the meeting

It was informed by ERPC that request for discrepancy in schedule should have been pointed out much earlier. Request for revision for old cases might not be considered in future. In the instant case, schedule for collective transaction was not revised. Post facto revision of schedule of collective transaction is not feasible . Further, payment for the scheduled transaction had been received by Dikchu HEP. Therefore, to accommodate the request for schedule revision with retrospective effect for DSM, payment received from collective transaction needed to be disclosed. Otherwise there is a possibility of double accounting, leading to excess payment due to revision.

Item No. B.8: PPA details for the years 2017-18 to 2019-20

CEA vide mail dated 21st November 2017 informed that it has been decided to estimate the demand and availability of power (energy and peak), initially for the year 2017-18 and subsequently for the years 2018-19 and 2019-20. In this regard, PPA details for the years 2017-18 to 2019-20 are required as per the format enclosed at **Annexure-B8**.

All the constituents furnish the data as per the format to CEA by email: rk.jena@gov.in.

In 140th OCC, Member Secretary, ERPC informed that PPA details of the utility constituents and generators are required by CEA to identify the capacities of the IPPs which are available for fresh PPAs as well as the utility constituents who may utilize these.

OCC advised all the constituents to send the PPA details for the years 2017-18 to 2019-20 as per the format to CEA vide email: rk.jena@gov.in with a copy to mserpc-power@nic.in.

Constituents may update.

Deliberation in the meeting

Member Secretary, ERPC reiterated that PPA details of the utility constituents and generators are required by CEA to identify the capacities of the IPPs which are available for fresh PPAs as well as the utility constituents who may utilize these.

OCC advised all the constituents to send the PPA details for the years 2017-18 to 2019-20 as per the format to CEA vide email: rk.jena@gov.in with a copy to mserpc-power@nic.in.

Item No. B.9: Option for handling intra-day load/generation variation due to RE or otherwise.

Sub-Group under FOR Technical Committee on Grid Integration of Renewable Energy (RE), with reference to regional cooperation had a meeting on 18.8.2017 in CERC office, New Delhi. Record of proceedings is placed in **Annexure-B9**.

As decided in the meeting various options for handling intra-day load / generation variation due to RE or otherwise, as discussed in the meeting be circulated and discussed with Members of Regional Power Committees and **feedback on the same may be provided to us to facilitate further deliberations and suitable recommendations by the FOR Technical Committee on Grid Integration of RE.**

In 140th OCC, all the members were advised to submit their comments to ERPC vide mail (mserpc-power@nic.in) within ten working days.

Members may update.

Deliberation in the meeting

It was informed that no comments have been received from the constituents.

OCC decided to convene a separate meeting at ERPC, Kolkata to discuss the issue.

PART C: ITEMS FOR UPDATE

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

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

JUSNL and OPTCL may submit.

Deliberation in the meeting

JUSNL and OPTCL submitted the healthiness certificate.

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

At present, the following islanding schemes are in service:

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

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

In 134th OCC, JUSNL was advised to submit the healthiness certificate of the UFR and PLCC system related to Farakka islanding scheme at their end.

The healthiness certificate for Islanding Scheme for December, 2017 has been received from CTPS, DVC, BkTPS, Tata Power and CESC.

NTPC and JUSNL may submit.

Deliberation in the meeting

NTPC submitted the healthiness certificate. JUSNL was advised to submit the healthiness certificate of the UFR and PLCC system related to Farakka islanding scheme at their end on monthly basis.

Item no. C.3: Healthiness of SPS existing in Eastern Region

GMR, JITPL, Chuzachen, CESC, & NTPC (TSTPS) have submitted the healthiness certificate for the month of December, 2017.

In 136th OCC, members felt that healthiness certificate for SPS of 132 kV Muzaffarpur-Dhalkebar D/C line may also be submitted on monthly basis and advised Powergrid to submit the healthiness certificate in every OCC meeting.

In 138th OCC, ERLDC informed that Tashiding HEP is also included under Rangpo SPS, two units of Tashiding HEP will trip on actuation of SPS. However, it will be reviewed in coordination with other generators covered in the SPS.

Powergrid vide mail dated 11-01-2018 informed that the SPS system at HVDC, Talcher and Angul are healthy but SPS system of Rourkela S/S is not in service after the isolation of LILO connectivity with Sterlite.

Vedanta, and Powergrid may submit the healthiness certificate for December 2017.

Teesta-III, Jorethang & Dikchu may submit the healthiness certificate for Rangpo SPS as decided in special meeting of 21.06.2017.

Deliberation in the meeting

It was informed that Rangpo SPS was successfully operated on 10.01.18 at 17:34:05 hrs.

OCC advised Powergrid to submit healthiness certificate for SPS of 132 kV Muzaffarpur-Dhalkebar D/C line.

Item no. C.4: Continuous receipt of generation back down signal on shutdown of HVDC Talcher-Kolar single pole.

On 08/01/18 HVDC Talcher-Kolar Pole-I was taken under shut down for maintenance activities. To prevent any unwarranted backing down/tripping at JITPL/GMR, SPS was by-passed on a temporary basis at the respective generator ends, just prior to availing of the shutdown. However, after the shutdown was availed, the SPS could not be taken back into service as there was continuous receipt of backing down signal at the respective generator ends. Hence, the SPS had to be kept by-passed throughout the shutdown period even though Pole-II was in service. It was reported that the continuous backing down signal could not be disabled at HVDC, Talcher end.

Similar continuous transmission of SPS signal from TSTPS was observed and reported earlier also. In 110th OCC, Powergrid informed that they are planning to place a timer circuit to rectify the problem.

However, necessary rectification of the SPS is still pending.

Powergrid may update.

Deliberation in the meeting

Powergrid agreed to update the status in PCC Meeting scheduled to be held on 19th January 2018.

Item no. C.5: Controlling overdrawal of states by disconnection of radial feeders -ERLDC

In accordance with IEGC sections 5.4.2 (c) and 5.4.2 (f), feeders for disconnecting demand of every state in the order of their priority for switching off, were identified in the past. However, with growth of network interconnection and load as well as change of load distribution (if any) during the intervening period, it is felt that the list needs reviewing.

All constituents are requested to furnish views regarding their respective identified feeders and indicate the expected load (average and peak) that would be disconnected by switching off the feeders, so that the list can be finalized at the earliest.

Updated list of feeders is yet to be received from OPTCL and DVC.

OPTCL and DVC may update.

Deliberation in the meeting

ERLDC presented the list of feeders to be disconnected during overdrawal of states. Presentation is enclosed at ***Annexure-C5****.*

OCC advised all the constituents to go through the list of feeders in Annexure-C5 and finalize the list.

Item no. C.6: Implementation of Automatic Demand Management Scheme (ADMS)-ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	Bihar	F <49.7 AND deviation > 12 % or 150 MW	Not Known	F <49.9 AND deviation > 12 % or 150 MW
2	Jharkhand	Yet to provied	9 Months	
3	DVC	F <49.7 AND deviation > 12 % or 150 MW	17.06.2016	F <49.9 AND deviation > 12 % or 150 MW
4	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators
5	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	25.11.16	F <49.9 AND deviation > 12 % or 150 MW

Members may update.

Deliberation in the meeting

OCC decided to refer the issue to 37th TCC Meeting scheduled to be held on 16th March 2018.

Item no. C.7: Commissioning of 220 kV Patna-Sipara third ckt.

Major load of Capital city Patna is fed from 220 kV Sipara Substation, Further Sipara is conneted with Khagaul as well as well as Fatuah at 220 kV level. These are also major load centers normally fed in radial mode from Patna (except Fatuah, which is usually supplied radially from Biharshariff). This causes very high loading of 220 kV Patna-Sipara D/C and it did not satisfy N-1 Contingeny criteria for most of the time in last quarter.

The third circuit of 220kV Patna-Sipara line is expected to be commissioned soon, which will help in relieving the loading on other two lines. Further with commissioning of 220 kV Patna-Sipara T/C 220 kV Khagul-Arrah-Pusauli loop may be kept close, which will help in improving system reliability and maintaining better voltage regulation in and around that area.

In view of above BSPTCL may expedite commissioning of 220 kV Patna-Sipara third ckt.

In 140th OCC, BSPTCL informed that the line was tripped on busbar protection. Testing is in progress and the line would be commissioned by 31st December 2017.

BSPTCL may update the latest status.

Deliberation in the meeting

BSPTCL informed that testing of bus bar protection is in progress and the line would be commissioned by 31st January 2017.

Item no. C.8: Reactor at 400kV Behrampur

In 140th OCC, Powergrid informed that in view of high voltage at Behrampur they have diverted one 125MVAR reactor to Behrampur and the reactor will be installed by end of December 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that 125MVAR bus reactor would be installed by end of February 2018.

Item no. C.9: Long outage of 400 kV Barh – Motihari D/C

400 kV Barh – Motihari – D/C were out since 14th Aug, 2017 as 24 numbers of towers were submerged in Gandak River due to flood like situation. Right Now Motihari is drawing radial power from Gorakhpur S/S of Northern region through 400 kV Gorakhpur – Motihari D/C. Due to outage of 400 kV Barh - Motihari D/C, one inter regional link between Eastern and Northern region was out, which need to be restored with utmost priority to maintain all India reliable and safe power system operation.

DMTCL vide letter dated 11th December 2017 informed that the ERS Towers needs to be erected on the river bed for restoration of the line. However due to non-availability of proper anchorage, the erection of ERS towers is taking more than the anticipated time.

Also, there is no approach available for shifting of manpower & material at the locations and the same is being done with the help of boats.

In view of the above specified challenges being faced at site, this is to inform you that both the Ckts of above transmission line will be restored by 31st Dec 2017.

DMTCL may update.

Deliberation in the meeting

It was informed that 400 kV Barh – Motihari D/C line was restored on 10th January 2018.

Item no. C.10: Repeated tripping of 220kV Chuka-Birpara D/c line

In 60th PCC, meeting Powergrid explained that the line is in lightning prone area. The line is getting tripped due to Insulator failures. Powergrid added that line insulators of part of the line which is belongs to Powergrid have been replaced with polymer insulators. The insulator failures during lightning have been reduced. However, the line is getting tripped due to failure of porcelain insulators in 39.8 km stretch which is belongs to Bhutan.

In 138th OCC, DGPC informed that BPC is the owner of part of the line which is belongs to Bhutan. They have already replaced porcelain insulators of 7 to 8 towers with polymer insulators.

In 140th OCC, BPC representative informed that supply order has been placed for insulator replacement and the material will be delivered by January, 2018. The replacement of insulators would be completed by April, 2018.

BPC/DGPC may update.

Deliberation in the meeting

BPC representative informed that the material will be delivered by end of January, 2018. The replacement of insulators would be completed by April, 2018.

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

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

In 137th OCC, Powergrid informed that tower no. 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines falls under the jurisdiction of Energy & Power Department, Govt. of Sikkim.

Powergrid added that the issue has been informed to Sikkim vide letter dated 20th September 2017.

ERPC has communicated the issue to Sikkim vide letter dated 13th December 2017.

Powergrid and Sikkim may update.

Deliberation in the meeting

Sikkim informed that rectification of the tower has been taken up with Chuzachen. The work would be completed by 2nd week of February 2018.

Item no. C.12: Replacement of CT at both ends of 400kV Jeerat-Baharampur Line

In 135th OCC, Powergrid agreed to replace 1000/1A CT by 2000/1 A CT at both ends of 400kV Jeerat-Baharampur Line.

WBSETCL and Powergrid may update.

Deliberation in the meeting

Powergrid informed that the CT will be replaced during next available shutdown.

Item no. C.13: Status of Installation of STATCOM in Eastern Region

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

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

Powergrid updated the latest status as follows:

Sl No	Location /Sub-Station of POWERGRID in ER	STATCOM - Dynamic Shunt Controller (MVAr)	Mechanically Switched Compensation Sl. (MVAr)		Latest status
			Reactor (MSR)	Capacitor (MSC)	
1	Rourkela	±300	2x125		*Expected to complete by Mid Feb. 2018*
2	Kishanganj	±200	2x125		*70% civil work completed. 30% switchyard equipment supplied. Expected to complete by December 2018*
3	Ranchi(New)	±300	2x125		*80% civil work completed. All switchyard equipment, reactors and 3 transformers supplied. Expected to complete by April 2018*
4	Jeypore	±200	2x125	2x125	*Expected to complete by June 2018*

Powergrid may update.

Deliberation in the meeting

Powergrid updated the latest status as mentioned in above table.

Item no. C.14: 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar & Pandiabil S/s

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

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

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA 400/220kV Bolangir S/s**	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	*Only 7 towers left (Severe ROW problem).* ***By June, 2018.***
2.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By Mar, 2018.
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	By Mar, 2018.

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as mentioned in above table.

Item no. C.15: 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In last 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 (JUSNL) – Ramchandrapur (JUSNL) 220kV D/c	*The line charged from both ends on 31st January 2018.*
2.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By Dec, 2017. Forest clearance is pending, it will take time.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	May, 2018. Forest clearance is pending, it will take time.
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Dec, 2018. Forest clearance is pending, it will take time.
d	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Matching with S/s, Forest clearance is pending, it will take time.
3.	**Dhanbad 400/220 kV S/s: Awarded under TBCB**	
a.	Dhanbad – Dhanbad (Govindpur) (JUSNL) 220kV D/c	Matching with S/s. Forest clearance is pending, it will take time.

JUSNL may update.

Deliberation in the meeting

JUSNL updated the status as mentioned in above table.

Powergrid informed that Daltonganj (POWERGRID) S/s would be commissioned in February 2018.

OCC advised JUSNL to expedite the construction work of 220kV and 132kV lines of Daltonganj.

Item no. C.16: 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In last 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***)	*end of January 2018*
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

WBSETCL updated the status as mentioned in above table.

Item no. C.17: Erection and commissioning of 02 nos. of 220 kV line bays at KBUNL

Despite of several requests and reminders, KBUNL is not taking up this work seriously and it appears that the initiatives of KBUNL for construction of bay, which is essential for making available second circuit with Samastipur(New) and Motipur are far from satisfactory and the work is yet to start. 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 and also unable to shift loading of Biharsharif(PG)-Begusarai D/C T/L on MTPS for off loading of Biharsharif(PG) ICTs and in case of any contingency occurs at DMTCL(D)-Motipur D/C T/L, MTPS-Motipur S/C T/L also tripped at overloading. It is evident that the transmission infrastructure developed by BSPTCL in North Bihar could not be fully utilized causing limitations in power flow as well as power interruption.

The unavailability of bays at KBUNL is affecting the evacuation of power from KBUNL (Generating Station 2*110 MW+2*195MW). So, keeping these lines in loop at KBUNL will enhance the quality, reliability and stability of system. KBUNL may begin the construction and complete commissioning of 2nd bay in minimum possible time in order to avoid crisis arisen due to unforeseen outage of Biharsharif(PG) and DMTCL(Darbhanga).

As such target dates for the start and completion of the above works may kindly be got ensured from KBUNL.

In 140th OCC, KBUNL informed that tender has been floated and the work will be awarded in December 2017. The work will be completed by March 2018.

KBUNL may update.

Deliberation in the meeting

It was informed that the work will be awarded by end of April 2018.

Item no. C.18: Update on status of telemetry

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

ERLDC may present.

Deliberation in the meeting

*ERLDC presented the latest status of telemetry. Presentation is enclosed at **Annexure-C18**.*

ERLDC informed that New Farakka SCADA data is not available.

NTPC informed that they are awarding the work to M/s GE. It will be resolved soon.

ERLDC informed that Jamshedpur RTU is reporting absurd analog value for all feeder emanating from Jamshedpur station.

Powergrid agreed to look into.

a) Frequent failure of JITPL data to ERLDC:

In 36th TCC, Powergrid agreed to allow JITPL to shift their PLCC modem from Bolangir S/s within a week.

JITPL informed that they will shift the modem within a week and they will commission the communication system in another 10 days subject to availability of OEM (ABB) engineers.

TCC advised JITPL to shift the modem as decided and update the status in forthcoming OCC meeting scheduled to be held on 21st September 2017.

In 137th OCC, JITPL informed that they have shifted the PLCC modem from Bolangir to Angul and they will commission the communication system by 15th October 2017.

In 140th OCC, ERLDC informed that JITPL data through PLCC is not yet restored.

JITPL may update.

Deliberation in the meeting

JITPL informed that data through PLCC will be restored by end of January 2018.

Item no. C.19: Updating of GT and ICT Tap position of all EHV transformers

All the generation, transmission and distribution utilities have been requested to go through **Annexure-C19** related to last updated information related to GT/ICT/ATRs available at ERLDC and update the capacity, number, tap details, make (Company name) and other information including addition of new transformers, wherever felt necessary.

OCC advised all the constituents to go through the Annexure and send the updated information to erldcprotection@gmail.com.

Members may update.

Deliberation in the meeting

Members noted for compliance.

Item no. C.20: Checklist for submission of updated data for Protection Database

The network data in Protection Database needs to be updated on regular basis on account of commissioning of new elements in the CTU as well as STU networks. Accordingly, a checklist has been prepared which is enclosed in **Annexure-C20**.

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

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

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

Constituents may update.

Deliberation in the meeting

Members noted for compliance.

Item no. C.21: 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.

ATC/TTC declared by states for the month of January-2018 is given below:

Sl No	State/Utility	TTC import(MW)	RM(MW)	ATC (Import) MW
1	BSPTCL			
2	JUSNL			
3	DVC	828	52	776
4	OPTCL	1773	99	1674
5	WBSETCL	4610	300	4310
6	Sikkim			

Members may update.

Deliberation in the meeting

OCC advised Bihar and JUSNL to submit the TTC and ATC values in time.

Item no. C.22: 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 in Phase-I. Subsequently drifted meter replacement work of Phase –I for 24 meters have been completed.

As per decision taken in 134th OCC meeting, another 10% heavily drifted meter list was prepared by ERLDC and given to Powergrid for replacement. In 140th OCC it was informed that all the Phase-II meters have been replaced except Kharagpur. Since issue of integration of Genus meter is already resolved, It was also decided that list of meters to be replaced in next phase may be prepared.

Accordingly List of drifted meters to be replaced in Phase-III is placed below:

List of drifted meters to be replaced in Phase-III

SNO	LOCATION	METER SNO	FEEDER NAME	Region
1	JEERAT(WB)	NP-6445-A	400 KV JEERAT (WBSETCL) - BERHAMPORE(PG)	ER-II
2	JEERAT(WB)	NP-6446-A	400 KV JEERAT (WBSETCL) - SUBHASGRAM	ER-II
3	RANCHI(PG)	NP-7853-A	400 KV RAGHUNATHPUR 1	ER-I
4	RANCHI(PG)	NP-7871-A	400 KV RAGHUNATHPUR 2	ER-I
5	ALIPURDUAR(PG)	NR-3716-A	400 KV POLE-3 MAIN BAY-AGRA(NR)	ER-II
6	ALIPURDUAR(PG)	NR-3718-A	400 KV POLE-3 TIE BAY AGRA(NR)	ER-II
7	NEW MELLI(PG)	NR-4620-A	220 KV JORETHANG(JLHEP)-1	ER-II
8	NEW MELLI(PG)	NR-4621-A	220 KV JORETHANG(JLHEP)-2	ER-II
9	TEESTA-III	NR-3714-A	400 KV SIDE OF TEEST-III HEP GT-1	ER-II
10	TEESTA-III	NR-3715-A	400 KV SIDE OF TEEST-III HEP GT-2	ER-II
11	TEESTA-III	NR-4450-A	400 KV SIDE OF TEEST-III HEP GT-3	ER-II
12	TEESTA-III	NR-3720-A	400 KV SIDE OF TEEST-III HEP GT-4	ER-II
13	TEESTA-III	NR-4623-A	400 KV SIDE OF TEEST-III HEP GT-5	ER-II
14	TEESTA-III	NR-3719-A	400 KV SIDE OF TEEST-III HEP GT-6	ER-II
15	TEESTA-III	NR-4456-A	400 KV TEESTA-III - DICKCHU (MAIN)	ER-II
16	TEESTA-III	NR-4618-A	400 KV TEESTA-III - DICKCHU (CHECK)	ER-II
17	TEESTA-III	NR-4454-A	400 KV TEESTA-III - RANGPO (MAIN)	ER-II
18	TEESTA-III	NR-4453-A	400 KV TEESTA-III - RANGPO (CHECK)	ER-II
19	JINDAL (GRIDCO)	NP-6502-A	220KV JAMSHEDPUR (DVC)	ODHISA PROJECT
20	JAMSHEDPUR (DVC)	NP-6010-B	220 KV JINDAL	ER-I
21	GANGTOK(PG)	NP-6026-A	132KV CHUZACHEN(GATI)	ER-II
22	RANGPO(PG)	NP-7958-A	132 KV CHUZACHEN (GATI)	ER-II

Powergrid may update.

Deliberation in the meeting

Powergrid informed that Kharagpur end SEM had been replaced and they would start the replacement work of Phase III after collecting the SEMs.

Item no. C.23: Meter related Issues-ERLDC

Due to the meter related issues of following locations energy accounting and its validation is being affected.

Issue	Location	Meter No	Line	Responsibility	Problem Since	Present Status
Non receipt of Data	1. NPGC	NP-1282-A NP-1287-A	132 KV Rihand & Sonnagar	BSPTCL	More than 3 month	Not Received. Status is same
Installation of Check/Standby meter	1.Subhashgram(WB)		220 KV Subhasgram(PG) D/C	WBSETCL/PGCIL	Charging of Line	As informed by PGCIL, Meter is available at Subashgram and the same to be collected by WBSETCL and to be put into service.
	2. New Town(WB)		220 KV Subhasgram(PG) S/C	WBSETCL/PGCIL	Charging of Line	
	3. Bantala(WB)		220 KV Subhasgram(PG) S/C	WBSETCL/PGCIL	Charging of Line	
	4. EM Bypass(CESC)		220 KV Subhasgram(PG) D/C	WBSETCL/PGCIL	Charging of Line	Meter already connected but time synchronisation yet to be done. SEM data is not received by ERLDC

In 140th OCC , BSPTCL was advised to communicate the problem of downloading the data of NPGC to Powergrid. WBSETCL was also advised to install the meters at the earliest. However NPGC end data is not received by ERLDC. Meter at WBSETCL/CESC end for New Town, Bantala and Subhasgram is yet to be installed.

PGCIL/BSPTCL/WBSETCL/may please further update the status.

Deliberation in the meeting

BSPTCL informed that meter received at NPGC and it would be installed within 2 days.

WBSETCL informed that their testing team was looking after the issue and the issue may be discussed in 63rd PCC Meeting scheduled to be held on 18th January 2018.

Item no. C.24: Less recording by Joda OPTCL end meter

Meter No NP-5937-A installed at Joda end of 220 Ramchandarpur is recording 10 % to 15 % Less as compared to Ramchandarpur end since 06.12.2017. Subsequently ERLDC vide mail dated 14.12.17 (with a copy to PGCIL) requested OPTCL to check CT/PT connection to the said meter. However the problem is still persisting and GRIDCO accounting is done with Ramchandarpur end meter.

OPTCL/PGCIL may please further update.

Deliberation in the meeting

OPTCL informed that SEM may be replaced.

OCC advised OPTCL to check CT/PT connections and CT burden first; the meter can be replaced if required.

Item no. C.25: Mock Black start exercises in Eastern Region – ERLDC

i) <u>The status of black start exercises</u>

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	*Done on 9th January 2018*
2	Maithon	1stweek of June 2017	Completed on 04.04.17	1stWeek of February2018	
3	Rengali	2ndweek of June 2017	Done on 29.06.2017	Last week of November 2017	Done on 30th November 2017
4	U. Indarvati	3rdweek ofJune 2017	November 2017	2ndweek of February2018	*January 2018*
5	Subarnarekha	1stweek of October 2017	Done on 14th October 2017	1stweek of January2018	In mid March 2018
6	Balimela	3rdweek of October 2017	November 2017	1stweek of March 2018	*January 2018*
7	Teesta-V	2ndweek of Nov 2017		Last week of February2018	Done on 26th December 2017
8	Chuzachen	Last Week of May2017	May, 2017	January2018	
9	Burla	Last Week of June 2017	Dec, 2017	Last week of February2018	Feb. 2018
10	TLDP-III	1st Week of June 2017	Done on 20th Dec, 2017.	2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017	After Mansoon	1stWeek of February2018	
12	Teesta-III		December 2017		Done on 8th January 2018

OHPC informed that the black start exercise of unit-3 of Upper Kolab P.H. has been successfully completed on 09.01.2018 at 16:07 Hrs.

The black start exercise of Upper Indravati P.H. which was scheduled to be carried out on 09.01.2018 at 11:00Hrs could not be carried out due to transmission line problem and would be performed later.

Members may update.

<u>Deliberation in the meeting</u>

Members updated the schedule as mentioned in above table.

OCC advised WBSETCL to submit the report on black start exercise of TLDP III to ERLDC and ERPC.

ii) 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 for compliance.

Item no. C.26: 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. JITPL(both units) – After the emergent inspection of OEM(BHEL)
c. Barh TPS – November 2017
d. Raghunatpur (both units) – by December 2017
e. GMR (Three units)- January 2018

Members may update.

Deliberation in the meeting

Members noted for compliance.

Item no. C.27: 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. The updated status as furnished in 140th OCC by Powergrid is given at **Annexure-C.27**.

Powergrid vide mail dated 8th January 2018 informed that they are facing difficulty in installation of PMUs at following locations:

1. MONNET: There is no response from Monnet site regarding readiness of site for Installation of PMU. Material delivered at site in the month of August 2017.
2. IBEUL: Material delivered at site in the month of August. Accordingly team was deployed for installation. But Due to non-readiness at site the team could not work and has to returned back. Till now permission has not been granted for PMU installation.
3. JITPL: Material delivered at site in the month of August. Team was deployed for PMU installation. Due to space constraint the installation could not be done.

POWERGRID may update the status.

Deliberation in the meeting

It was informed that Monnet station is not coming up in near future.

OCC advised Powergrid to take the custody of the material delivered at Monnet.

Item no. C.28: Non Payment of dues--Powergrid-Odisha

A. **JITPL**: Rs. 1.05 Crore from M/s JITPL (Rs. 52.92 Crore towards bay maintenance + Rs. 52.38 Lakh towards interest charges)
B. **Ind-Bharath Energy(Utkal) Ltd(IBEUL):** Rs.59.16746 Lakh is due from M/s Ind-Bharath (Utkal) Energy Limited towards Bay maintenance and Interest charges.

JITPL and IBEUL may update.

Deliberation in the meeting

OCC advised JITPL and IBEUL to clear the dues immediately.

PART D:: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of February'18 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-D.1**.

ERPC Secretariat is not receiving the actual figures of previous month power supply position in time. All the constituents should furnish the information to ERPC Secretariat by 10th of every month.

Members may confirm.

Deliberation in the meeting

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

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

Members may finalize the Shutdown proposals of transmission lines and generating stations for the month of February'18 as placed at **Annexure-D.2.1**.

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

Deliberation in the meeting

Approved maintenance programme of generators and transmission elements for the month of February, 2018 is given at **Annexure-D.2.1***.*

1. Deemed availability for insulator replacement works—Powergrid

Powergrid vide letter dated 29th December 2017 requested for considering deemed availability during the shutdown period availed for insulator replacement. Details are enclosed at **Annexure-D2.2.**

Members may approve.

Deliberation in the meeting

It was informed that deemed availability would be considered as per the provisions of CERC regulations.

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

(i) Thermal Generating units:

Sr. No	Generating Station	Unit Number	Capacity(MW)	Reasons For Ouatge	Outage Date
1	ADHUNIK	2	270	GENERATOR VIBRATION	7-Sep-17
2	JITPL	1	600	BOTTAM ASH EVACUATION PROBLEM	30-Dec-17
3	GMR	1	350	COAL SHORTAGE	9-Dec-17
4	VEDANTA	2	600	MAINTENANCE	28-Jun-17

5	MEJIA B	8	500	VIBRATION PROBLEM IN BEARING , TURBINE BLADE DAMAGE	7-Aug-17
6	RAGHUNATHPUR	2	600	COAL SHORTAGE	27-Dec-17
7	MEJIA	5	250	PROBLEM IS IN BARRING GEAR	22-Sep-17
8	MEJIA B	7	500	BTL	2-Jan-18
9	BOKARO B	3	210	COAL SHORTAGE	31-Dec-17
10	SAGARDIGHI	1	300	FLAME FAILURE	27-Dec-17
11	DPL	8	250	BOILER TUBE LEAKAGE	11-Dec-17
12	KOLAGHAT	3	210	BOILER TUBE LEAKAGE	30-Dec-17
13	KOLAGHAT	3	210	MAINTENANCE	22-Feb-17
14	KOLAGHAT	2	210	DYSND. FOR POLLUTION CONTROL	31-Dec-17
15	KOLAGHAT	6	210	STATOR EARTH FAULT	11-Jun-17

(ii) Hydro Generating units:

Sr. No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	BURLA	5	37.5	R & M WORK	25.10.2016
2	BURLA	6	37.5	R & M WORK	16.10.2015
3	BURLA	3	32	AMC WORK	02.01.2018
4	CHIPLIMA	3	24	R & M WORK	15.10.2015
5	BALIMELA	1	60	R & M WORK	05.08.2016
6	BALIMELA	2	60	R & M WORK	20.11.2017
7	BALIMELA	7	75	Governor & Guide vane problem	12.10.2017
8	U.KOLAB	2	80	Repair of MIV & Draft tube gate leakage	28.05.2017
9	RENGALI	5	50	Hoist gate problem	21.03.2017

(iii) Transmission elements

Transmission Element / ICT	Agency	Outage Date	Reasons for Outage
220 KV BALIMELA - U' SILERU	OPTCL / APSEB	27.04.15	LINE IDLE CHARGED FROM UPPER SILERU END AT 12:42 HRS OF 25.01.17
400KV MOTIHARI-BARH-I & II	DMTCL	14.08.17	24 NO OF TOWERS IN GANDAK RIVER WHERE WATER LEVEL IS HIGH
220 KV BUDHIPADAR KORBA- I	POWERGRID	1.11.17	MULTI CKT TOWER ERECTION AND DIVERSION WORK FROM LOC 29 to 40
400KV TALA -BINAGURI -I	POWERGRID/BHUTAN	29.12.17	S/D AVAILED BY BHUTAN

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

Members may update.

Deliberation in the meeting

Members noted.

Item no. D.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.

PART E:: ITEMS FOR INFORMATION

Item No. E.1: Swapping Scheme of 765KV Jharsuguda- Dharamjaygarh lines 1&2 with 3&4

Powergrid vide mail dated 12-01-2018 informed that 765KV Jharsuguda-Dharamjaygarh Circuit#3 and circuit#4 is ready to charge from Jharsuguda end. 765 KV Jharsuguda-Dharamjaygarh Circuit#1 and circuit#2 is already in operation. Ckt#3 and #4 need to cross existing ckt#1 and ckt#2 for termination at Jharsuguda switch yard. To avoid the crossing of lines ckt#1 and ckt#2 swapped with Circuit #3 and #4.

Line details:

Lines	Original Length(KM)	Line length after swapping			Bay swapping	
		Old portion	New Portion	Total Length(KM)	Old Bay	New Bay
Circuit #1	151.55	112.869	39.192	152.061	715	721
Circuit#2	151.55	112.869	39.192	152.061	718	724

* Note: There is no interchange of bays at Dharamjaygarh end

Members may note.

Deliberation in the meeting

Members noted.

Item No. E.2: Swapping Scheme of 765KV Jharsuguda - Angul lines 1&2 with 3&4

Powergrid vide mail dated 12-01-2018 informed that 765 KV Jharsuguda-Angul lines 1&2 is already in operation.765KV Jharsuguda-Angul lines 3 & 4 are in the last stage of completion. Circuit #3 & #4 needs to be crossed over existing ckt#1 & #2 for to termination at Jharsuguda switchyard. Hence to avoid crossing of 765 KV lines over another, ckt#1 and ckt#2 swapped with Circuit #3 and #4.

Line details:

Lines	Original Length(KM)	Line length after swapping			Bay swapping	
		Old portion(KM)	New Portion(KM)	Total Length(KM)	Old Bay	New Bay
Circuit #1	270.856	270.554	0.374	270.928	710	716
Circuit#2	276.856	276.554	0.374	276.928	707	713

Members may note.

Deliberation in the meeting

Members noted.

Item No. E.3: 2. Anti-theft Charging of 765KV Sundargarh-Dharamjaygarh ckt#3 & ckt#4.

Powergrid vide mail dated 12-01-2018 informed that circuit 3 and 4 is ready for Odisha portion(43.941KM) only and WR portion under construction. They are charging the line from Jharsuguda end to avoid theft of conductor.

Members may note.

Deliberation in the meeting

Members noted.

Item No. E.4: Restricted Governor /Free Governor Mode Operation of generators in ER

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

The latest status of the RGMO/FGMO of ER generators is enclosed in **Annexure-E4**.

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. E.5: 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.

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. E.6: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

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

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

- All NTPC stations in Eastern Region
- Teesta, NHPC
- All OHPC generating units
- All CESC generating units
- All units of WBPDCL
- DGPC units

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. E.7: Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.

The status of DR/EL and GPS as updated in previous OCCs is enclosed at **Annexure-E.7**.

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

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

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. E.8: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

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

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

Latest status is enclosed at **Annexure- E.8**.

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

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

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

Members may note.

Deliberation in the meeting

Members noted.

Item No. E.9: 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	21	61.76
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

Members noted for compliance.

Item No. E.10: Additional agenda

1. Multiple Tripping around Talcher on 9th January 2018

Pole 2 of Talcher HVDC was taken into planned shutdown at 07:36 hrs on 09/01/18. Before shutdown 600 MW generations back down SPS for JITPL, GMR and Sterlite in case of bipole tripping was bypassed and SPS 1000 was taken in to service at Talcher. At 07:51 hrs following tripping took place:

1. 400 KV Talcher-Rourkella D/C- Tripped from Talcher end only
2. A/R of 400 KV Rengali-Indravati---- Successful
3. A/R of Talcher-Meramundali ----Succcessful
4. Talcher HVDC pole 1

After tripping of above elements,High loading observed in 400 KV Talcher-Meramundali (approx. 700 MW) and 400 KV Talcher-Angul (Approx 530 MW). Further any N-1 contingency of any of the above two line would have caused blackout of south odisha system along with total generation loss of TSTPP. That in turn could have other serious security threat on the overall National Grid. Immidite action taken by system operators like manual backing down action together with tripping of TSTPP unit IV 08:05 Hrs due to furnace pressure high, bring the system out of the emergency state.

Difficulty faced in restoration:

1. Non receipt of relay indication of Rourkela substation from RTAMC ER2
2. Wrong information from NTPC Talcher(i.e tripping of line due to DT receipt , whereas originally DT was not received) and delayed Reporting of successful A/R of Talcher-Meramundali by NTPC Talcher.

Due to above reasons restoration was delayed which lead to running the system with very narrow reliability margin for longer duration of time.
After analyzing the event, following discrepancy observed in the relay indication provided by POWERGRID and Talcher NTPC:

1. Why Rourkella send Carrier in zone 2 even though their Permissive over reach scheme is now replaced with permissive under reach scheme.
2. Why Talcher end relay tripped in Zone 1 during A/R in other line.
3. Now as per information received A/R took place in both 400 KV Talcher-Meramundali and 400 KV Rengali-Indravati around that time. But in PMU at 07:51 Hrs only one Fault is seen. Is it a mere coincidence or any relation is there needs to be studied
4. Also if both the A/R is simultaneous then for which fault Rourkella Zone-2 pickup happened need to be studied. Zone 2 setting of 400 KV Talcher-Rourkella D/C at Rourkella need to be checked.

Powergrid Odisha Project and NTPC, Talcher may kindly deliberate the incidence in detail

Deliberation in the meeting

OCC referred the issue to 63rd PCC Meeting scheduled to be held on 19th January 2018.

2. Updation of black-start and restoration procedure of Eastern Region

The black-start and restoration plan for E. Region has been updated in compliance to Section 5.8(a) of the IEGC. Major changes incorporated are indicated in the **Annexure-E10.2**.

All SLDCs, ISGSs and regional IPPs may kindly provide their valuable feedback on the suggested changes preferably by 25-01-18, as the updated document is to be published in the current month.

Members may comply.

Deliberation in the meeting

Members noted for compliance.

3. UFR audit report of OPTCL substations visited on 02.01.2018 & 05.01.2018

The ERPC UFR inspection group visited 220/132/33kV Jayanagar, 132/33kV Sunabeda and 220/132/33kV Terubali substations of OPTCL for UFR Audit on 02.01.2018 & 05.01.2018. During the inspection, it was found that load (average 0.2 MW & peak 0.5 MW) of 33kV Laxmipur feeder is almost negligible compared to the desired load of 8 MW as per the UFR feeder list submitted by SLDC, Odisha.

The report is enclosed at **Annexure-E10.3**.

Deliberation in the meeting

OCC advised OPTCL to change 33kV Laxmipur feeder with suitable feeder of desired load.

4. Thrid party protection audit observations of substations visited during 1st week of January 2018.

The ERPC inspection group has carried out the protection audit of 400kV Jaypore(PG), 400kV Indravati (PG), 400kV Indravati (OHPC), 220kV Jeynagar (OPTCL), and 220kV Teruvali (OPTCL). The audit team observations are enclosed at **Annexure-E10.4**.

Deliberation in the meeting

Audit members explained that 3x105 MVA 400/220kV ICT-I tie breaker, 220kV Bus coupler and transfer bus breakers are not in service at 400/220kV Indravati (OHPC) S/s.

OCC advised OHPC to operationalize 220kV two main transfer bus scheme at 400/220kV Indravati (OHPC) S/s immediately and submit the action plan in next OCC meeting.

5. Verification of PoC Bills using WEB-NET-USE Software--GRIDCO

The PoC Inter-State Transmission Charges and losses are published by CERC on Quarterly basis. The Charges are determined by POSOCO using "WEB-NET-USE" software which is developed by IIT Mumbai. GRIDCO, Odisha has contacted IIT Mumbai, it is learnt that this software can be procured from I.I.T. Mumbai at the rate of Rs 32.2Lakhs plus applicable Taxes, per year, up to 10 logins. Thus 10 DICs can use the software simultaneously.

CTU is presently raising PoC Bills to all beneficiaries every month. Since the said software is highly essential for verification of these PoC Bills, it is proposed that let CTU may procure this software from IIT Mumbai and provide the same to ERPC so that all the beneficiaries of Eastern Region can verify / scrutinise the PoC Bills.

Members may deliberate on the issue.

Deliberation in the meeting

OCC agreed and referred to 37th TCC meeting scheduled to be held on 16th March 2018.

6. Deemed availability for insulator replacement works—Powergrid

Powergrid vide letter dated 13th January 2018 requested for considering deemed availability during the shutdown period availing for insulator replacement. Details are enclosed at **Annexure-E10.6.**

Members may approve.

Deliberation in the meeting

It was informed that deemed availability would be considered as per the provisions of CERC regulations.

7. Deemed availability for non-availability of 132kV Transfer bus at Ara—Powergrid

Powergrid vide letter dated 13th January 2018 requested for considering deemed availability for the outage period at Ara S/s due to non-availability of 132kV Transfer bus. BSPTCL has requested for utilization of 220kV Ara-Khagul line-I and 132kV Transfer bus as a temporary arrangement. The same was discussed in 139th OCC meeting.

Members may approve.

Deliberation in the meeting

It was informed that deemed availability would be considered as per the provisions of CERC regulations.

8. Additional Agenda by Powergrid ER-II

Powergrid has placed the following agenda items related to shutdown and deemed availability:

1) Diversion of 400kV S/C Berhampore-Farakka TL in between Loc No.-150-151 due to Railway Track widening in between Moregram to Sagardighi Under Eastern Railway Howrah. Powergrid requested for shutdown of 400kV S/C Farakka-Berhampore line for 25 days tentatively from 15.02.2018 to 11.03.2018. Powergrid also requested to consider the outage period as force majeure condition.

2) Replacement of defective Porcelain Insulators identified after PID Testing in following Transmission Lines under ER-II:
    a. 400kV D/C Malda-Purnea TL- 04.02.2018-15.02.2018 (Ckt-wise)
    b. 400kV S/C Farakka-Durgapur-II-16.02.2018-28.02.2018
    c. 400kV Jeerat-Subhasgram TL-01.03.2018 to 15.03.2018
    d. 400kV Subhasgram-sagardighi TL-16.03.2018 to 31.03.2018
    e. 400kV S/C Durgapur-Jamshedpur TL-01.04.2018 to 15.04.2018
    f. 400kV D/C Malda-Farakka TL-16.04.2018 to 30.04.2018(Ckt-wise)
    g. 400kV D/C Binaguri-Purnea TL(01.05.2018 to 16.05.2018)(Ckt-wise)
    h. 400kV D/C Andal-Jamshedpur TL(17.05.2018 to 30.05.2018)(Ckt wise)

    As this is an activity carried out for system improvement, it is requested to consider the outages non-attributable to POWERGRID as per CERC regulations.
3) Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

Sl. No.	Name of Element	Date	Time	S/D Type	Purpose	S/D approved in OCC meeting (Sl. No.)
1	220kV D/C Birpara-Chukha TL	12.01.2018 to 19.01.2018	08.00 Hrs to 17.00 Hrs	OCB	Line Diversion due to River course change	17 of 140th OCC
2	220kV S/C Birpara-Malbase TL	20.01.2018 to 23.01.2018	08.00 Hrs to 17.00 Hrs	OCB	Line Diversion due to River course change	194 of 140th OCC

Powergrid requested for considering the said outage period as force majeure condition i.e. beyond the control of POWERGRID and the outage shall be excluded for the purpose of availability.

4) Requisition of S/D for 400kV D/C Binaguri-Rangpo TL for attending Line Hot-spots

- 400kV Binaguri-Rangpo TL Ckt-1 from 22.01.2018 to 24.01.2018 on ODB Basis from 8:00 Hrs to 16:00 Hours
- 400kV Binaguri-Rangpo TL Ckt-2 from 25.01.2018 to 27.01.2018 on ODB Basis from 8:00 Hrs to 16:00 Hours

As this is an activity carried out for system improvement, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

5) Requisition of S/D for 400kV D/C Binaguri-Bongaigaon TL for shifting of hut of a villager based on order passed by Addl District Magistrate,Jalpaiguri

Powergrid requested for shutdown of 400kV D/C Binaguri-Bongaigaon TL for one day tentatively on 23.01.2018 from 08:00 Hours to 17:00 Hours for carrying out the dismantling of the hut. The said outage period may be treated as force majeure condition i.e. beyond the control of POWERGRID and the outage shall be excluded for the purpose of availability and deemed availability may be granted.

6) Conversion of existing fixed L/R (50 MVAR) of 400 KV Sagardighi-Subhasgram under ERSS-XV.

Powergrid requested for shutdown of 400 KV Sagardighi-Subhasgram) for 03 days(05.02.18/07.02.18 & 19.02.18) on daily basis for isolation of reactor & erection of CB and testing of PLCC coordination.

Reactor S/D required for 15 days from 05.02.18 to 20.02.18. On 20.02.18, the Reactor will be charged as switchable.
As such, the said outage period may please be treated under deemed category as S/D taken for approved implementation of schemes under ERSS-XV.

7) Capacity enhancement of 400 KV Rangpo-Binaguri-D/C terminal equipment's at both ends in view of high load flow.

   To complete the work continuous S/D of 400 KV BUS-I at Binaguri & 400 KV Binaguri-Rangpo-I & II, required for 30 Hours for each circuit.
   As this is a system strengthening/improvement measure, the outage may please be considered under deemed category.

8) Commissioning of 2nd Reactor at Berhampur
   For relocation of bays including PLCC co-ordination and SAS configuaration 05 days continuous S/D is required for existing Farakka-Berhampur Line. S/D for the same is applied from 28.01.2017 to 01.02.2018.

   As all above outages will be related to ERSS-XV pacakage, it may be considered under Deemed category as per CERC regulations.

Members may approve.

Deliberation in the meeting

Powergrid explained the requirement of shutdown with detailed presentation. Presentation is enclosed at ***Annexure-E10.8.***

On shutdown of one ckt of 400kV Rangpo-Binaguri D/c Line, Teesta Urja Ltd. informed that prior intimation regarding the shutdown of the line should be given to Teesta-III so that they can enhance the generation before the line shutdown to compensate the generation loss during the line shutdown period.

OCC approved the shutdown of transmission elements as given in ***Annexure-D.2.1***

It was informed that deemed availability would be considered as per the provisions of CERC regulations.

Members felicitated Shri U. K. Verma, ED, NLDC and Shri U. N. Mishra CGM, GRIDCO on attuning superannuation. Member Secretary, EPRC highlighted both the officers contributions to the Eastern Region grid and he extended best wishes for happy post retirement life on behalf of the OCC forum.

Meeting ended with vote of thanks to the chair

****

Annexure - A

Participants in 141st OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata   Time: 11:00 hrs   Date: 18.01.2018 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
1	J. Bandyopadhyay	Member Secretary ERPC	9432326351	mserpc-power@gov.in	[illegible]
2	P. Mukhopadhyay	ED, ERLDC	9869438073	pmukhopadhyay@posoco.in	[illegible]
3	U.K. Verma	ED NLDC	8902496220	ujwalkumar.ukverma@posoco.in	[illegible]
4	G. Mitra	DGM, NLDC	9831297392	gopalmitra@posoco.in	[illegible]
5	S.K. HAZRA	DGM, PowerGrid	9433041809	skhazra@powergridindia.com	[illegible]
6	D. SAHU.	AGM, NTPC - BARH	8544419457	debasissahu@ntpc.co.in	[illegible]
7	A.K. Datta	AGM, NTPC FARAKKA	9431215304	dattaak@ntpc.co.in	[illegible]
8	S.K. Sharma	AGM (OS), ER-I HQ NTPC	9471008359	sksharma02@ntpc.co.in	[illegible]
9	Namgyal Tashi	AtH. Engineer ENPD	77976727	namgyaltashi26@gmail.com	[illegible]
10	Langa Tshering	DGPC	00975 17297463	ltshering227@drukgreen.bt	[illegible]
11	Ugyen Tshering	BPCL.	+975 17613039	Ugyentshering17@bpc.bt.	[illegible]
12	Biplab Chatterjee	GH - OPS. MPL	9204857100	biplab.chatterjee@tatapower.com.	[illegible]
13	T.K. Sinha	D.M Sterlite Power	8889922075	tintukumar.sinha@sterlite.com	[illegible]
14	RAS PROTIM	Sr Engr, ERLDC	9903329591	rasprotim@posoco.in	[illegible]
15	T.R. Mohapatra.	Manager / ERLDC	9433041873	trmohapatra@posoco.in	[illegible]
16	D.P. Bhargava	TUL	9958833995	dpbhargava@teestavalley.com	[illegible]
17	Neelesh Gupta	Teesta - III	9816805252	neelesh.gupta@andritz.com	[illegible]
18	SK Intekhab Alam	Teesta-III	7719359966	skintekhabalam@gmail.com	[illegible]
19	A K Basak	ERLDC, Engr	9007059569	akbasak@posoco.in	[illegible]
20	Chandan Mallick	Engr., ERLDC	9007059660	chandan.mallick@posoco.in	[illegible]

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Participants in 141st OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 18.01.2018 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
21	Saibal Ghosh	Engineer	8584072070	Saibal@posoco.in	Saibal Ghosh
22	M.K. Mallick	Dy. Mgr.	9668478899	mkmallick@posoco.in	[signature]
23	Biswajit Mondal	Sr. Engr.	9903329221	biswajit.mondal@posoco.in	[signature]
24	Leki Phuntsho	S.O	+975-17908484	lekiphnst@gmail.com	[signature]
25	Tenzin Dorji	AE	975 17670070	t.dorji298@gmail.com	[signature]
26	Karma Rinchen	AE	97517757686	k.rinchen300@gmail.com	[signature]
27	Cheten Tshering	Div. Manager	97517121481	chering6875@yahoo.com.sg	[signature]
28	B.B. Bhoi	Dy Mgr	9437351830	[illegible].cet@gmail.com	[signature]
29	Surajit Banerjee	DGM, ERLDC	9433041823	surajit.banerjee@posoco.in	[signature]
30	Dawa Norbu	Engineer	9593261735	dnorbu[illegible]@gmail.com	[signature]
31	S.K. Das.	Mgr(E)	9717786724	sdas_[illegible]@yahoo.co.in	[signature]
32	S.P. Rath	Mgr.(E)	8170005662	Sakti1975@gmail.com	[signature]
33	Sudeep Kumar	Dy. Mgr, POWERGRID	9431820338	Sudeepkumar@powergridindia.com	Sudeep
34	A.N. Pal	CM, ERLDC	9831339589	a_n_pal@hotmail.com	[signature]
35	S. Konar	CM, ERLDC	9436335370	konar_s@posoco.in	[signature]
36	S.K. SAHU	CM, POWERGRID Odisha Project	9078883643	SKSahu@powergridindia.com	[signature]
37	S.P. Barnwal	Asst GM, ERLDC	9433041812	spbarnwal@posoco.in	[signature]
38	Santanu Rudrapal	Sr. Engr, ULDC POWERGRID	9434735848	Santanu.rudrapal@powergridindia.com	[signature]
39	S. Nag	CM, POWERGRID	9434748294	Sudip@powergridindia.com	[signature]
40	P. Ghosh	Dy Mgr (ER-II)	9434748263	partha.ghosh@powergridindia.com	[signature]

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Participants in 141st OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 18.01.2018 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
41	Y.K. SEHGAL	ED, Greenko Group (Dikchu)	9650293194	Kishore.sehgal.y@greenkogroup.com	
42	Jitendra h. Malik	Manager, Elec. GMR	9777AC6737	jitendra.Malik@gmrgroup.in	
43	H.P. Mahapatra	AGM, OHPC	07328840015	hpm.ohpc@gmail.com	
44	Umakanta Sahu	GM, SLDC Odisha	9438907402	dle.umakantasahu@sldcorissa.org.in	
45	V.N. Mishra	CGM PP GRIDCO	9438907774	sgm.PP@gridco.co.in	
46	P.K. Mishra	S.G.M (PS), SLDC, Odisha	9438907402	sgm.ps@sldcorissa.org.in	
47	RANJAN BISWAS	SM/DGL Durgapur	9434735985	rkldc.dgp@gmail.com.	
48	KOUSHIK BANERJEE	MGR/CESC LTD.	9831003281	koushik.banerjee@rp-sg.in	18/1
49	P.P. MUKHERJEE	CE PTD/WBSEDCL	9433227389	cepetp wbsedcl@gmail.com.	18/1/18
50	A. Kamker	CE, CPD/WBSETCL	9434910019	cpd@wbsetcl.in	
51	P.K. Kundu	CE, SLDC, WBSETCL	9434910030	ce.wbsldc@gmail.com	
52	R.K. Pandey	EEE SLDC, JUSNL	9934138298	k.rajeeb.p@gmail.com	
53	Tushar Ranjan	A.Ex.E SLDC, Ranchi	9326374226	ranjtushar@gmail.com	
54	DEEPAK KUMAR	A.Ex.E, SLDC, Patna	9472218038	dkumar27107@gmail.com	
55	Guriya kumari	A.Ex.G, SLDC, Patna	7763817980	er.gudiya91@gmail.com	
56	S.P. Datta.	AGM (NVVN), ERPC	9433067022	spdatta@reddifmail.com	
57	J. G. Rao	EE, ERPC	9547891353	eseb_ceee@yahoo.co.in	
58	D. K. Bauri	EE, ERPC	9883617236	ceop.eopc@gmail.com	
59	C. K. Haldar	ACE, WBSLDC	9434910379		
60	D. Bhattacharya	ACE, WBSLDC	9051805093	dib_bhatta@yahoo.com wbsldc.enac@gmail.com	

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Participants in 141st OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata   Time: 11:00 hrs   Date: 18.01.2018 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
61	Bibha Kumari	AExE/SLDC, Bihar	7091097885	k2010bibha@gmail.com	[signature]
62	Vishnu Pandey	D.Manager (E) Chuzachen HEP	8170036303	vishnu.pandey05@rediffmail.com	[signature]
63	Preetam Banerji	Supt. Eng.	9432140765	preetam72@gmail.com	[signature]
64	Umakanta Sahu	GRIDCO	9437185507	u.sahoo.puri@gmail.com	[signature]
65	Hemanta Ku Ghosh	I/O GRIDCO	9238688499	hemanta.02@gmail.com	[signature]
66	S.K. MISHRA	DGM(OS) NTPC, ER-II HQ	9438233207	skmishra05@ntpc.co.in	[signature]
67	Nadim Ahmad	Manager ERLD	9432351831	nadim@posoco.in	[signature]
68	Sandip Pal	DCE, SLDC, DVC	9332901432	sandip.pal@dvc.gov.in	[signature]
69	N. S. Saha	DGM, WBPDCL	8336909700	ngsaha@wbpdcl.co.in	[signature]
70	Pravin Kr Pappu	A-ExE, BSPTCL	9386870245	pravin004@gmail.com	[signature]
71	D. P. Jena	AEE, ERPC	9776198991	ppjena@erpc@gov.in	[signature]
72	A. De.	AEE, ERPC	9681932906	alixpawtha@gmail.com	[signature]
73	P. N. Sarkar	EE, ERPC	9830027532		[signature]
74	P. K. De	AS, ERPC	9433125844	pkderpc@gmail.com	[signature]
75	Ishan Singh Baghel	APNRL	9303544699	ishansinghbaghel@adhunikpower.co.in	[signature]
76					
77					
78					
79					
80					

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Power System Operation Corporation Ltd.

141st OCC Meeting

At ERPC, Kolkata

18th January, 2018

ER Grid Performances

ERLDC POSOCO

Highlights for the month of December-17

Frequency Profile

Average Freq:- 49.98 Hz

Avg FVI: - 0.051

Lowest FVI:- 0.033

Max- 50.25Hz on 03rd December'17

Min- 49.70 Hz on 15th December'17

73.86% of the time freq was with in IEGC Band

No UFR operation reported

Peak Demand

ER: 17769 MW on 27th December 2017 at 19:16 hrs

% Growth in Average Demand Met w.r.t. last year- 3.19%

BSPHCL : 3829 MW ; ON 28/12/17
JUVNL: 1177 MW; ON 11/12/17
DVC: 3202 MW; ON 30/12/17
GRIDCO: 4287 MW; ON 27/12/17
WB: 6458 MW; ON 15/12/17
SIKKIM: 111 MW; ON 06/12/17

Minimum Demand Met: 10673 MW on 03rd December 2017 at 14:44 hrs

Energy met

Max. 356 MU on 28th Dec 2017

%Growth w.r.t. last year on Max energy 7.76%

Avg. 341 MU in December *2017*

%Growth w.r.t. last year on Avg. energy – 6.9%

New Element

Generating Units-NIL

Transmission Lines-203 CKM

Open Access

STOA transactions approved -171 nos.

Energy Approved- 340.6 MUs

Achievements during the month:

a. **New generating units synchronized**: Nil

b. **New transmission elements charged**:

1) 125 MVAr B/R III at Jamshedpur (PG) charged for the first time in parallel with 50 MVAr BR I at 18:12 hrs of 02/12/17.

2) 400/220 kV, 315 MVA ICT # 3 at Jamshedpur (PG) charged for first time at 17:43 hrs of 11/12/17.

3) 400 kV Jharsuguda – IB_OPGC # I & II charged for first time at 19:05 hrs and at 18:53 hrs respectively of 19/12/17.

4) 220 kV Atri - Pandiabili # II charged and loaded for the first time at 18:53 hrs of 19/12/17.

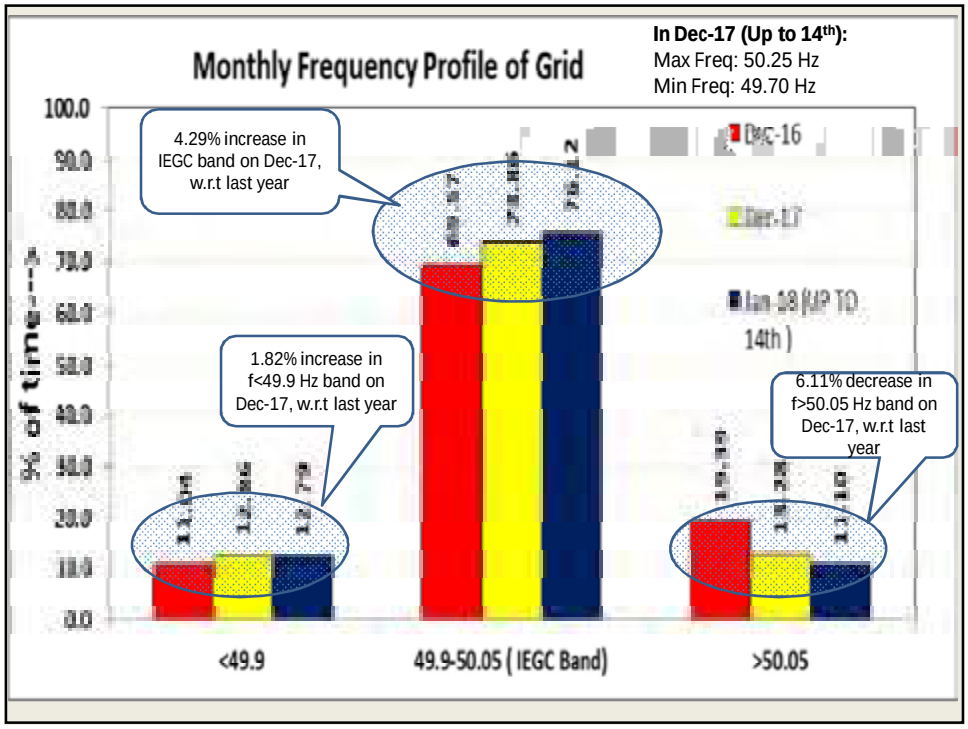
5) 220 kV Samagara - Pandiabili # II charged and loaded for the first time at 19:33 hrs of 19/12/17.

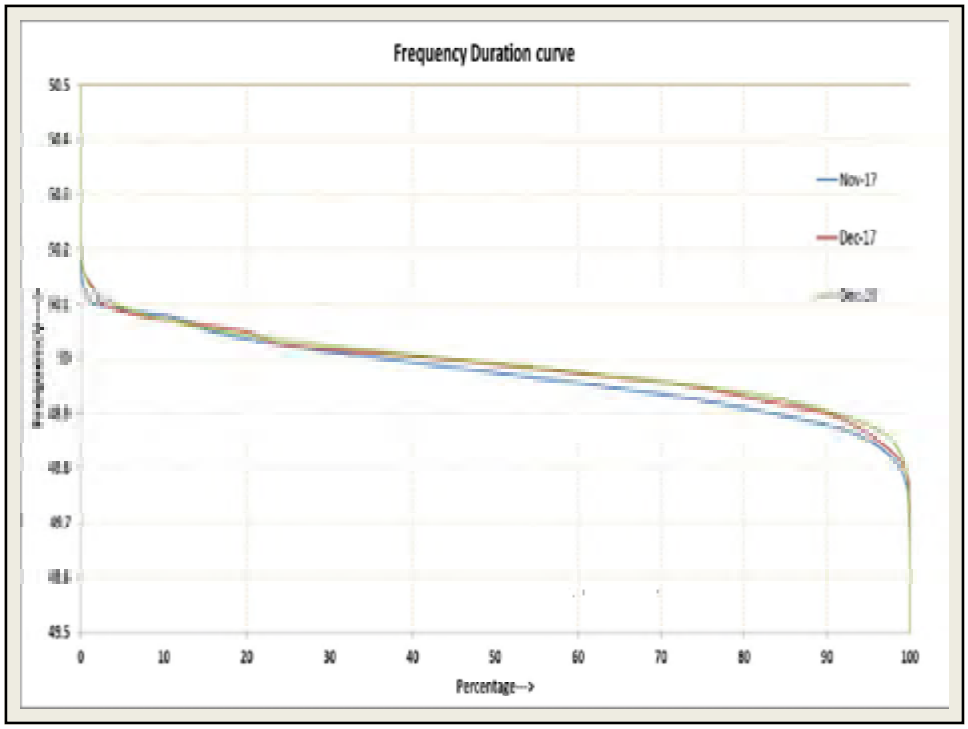
6) 400/220 kV, 315 MVA ICT # 3 at New Chanditala (WBSETCL) charged for first time at 16:09 hrs. of 20/12/17.

7) 400kV Raigarh – Jhasuguda 4 (LILO of 400kV Rourkela- Raigarh 4 at Jhasuguda) charged for first time at 00:18 hrs of 31/12/17.

Black Start operation

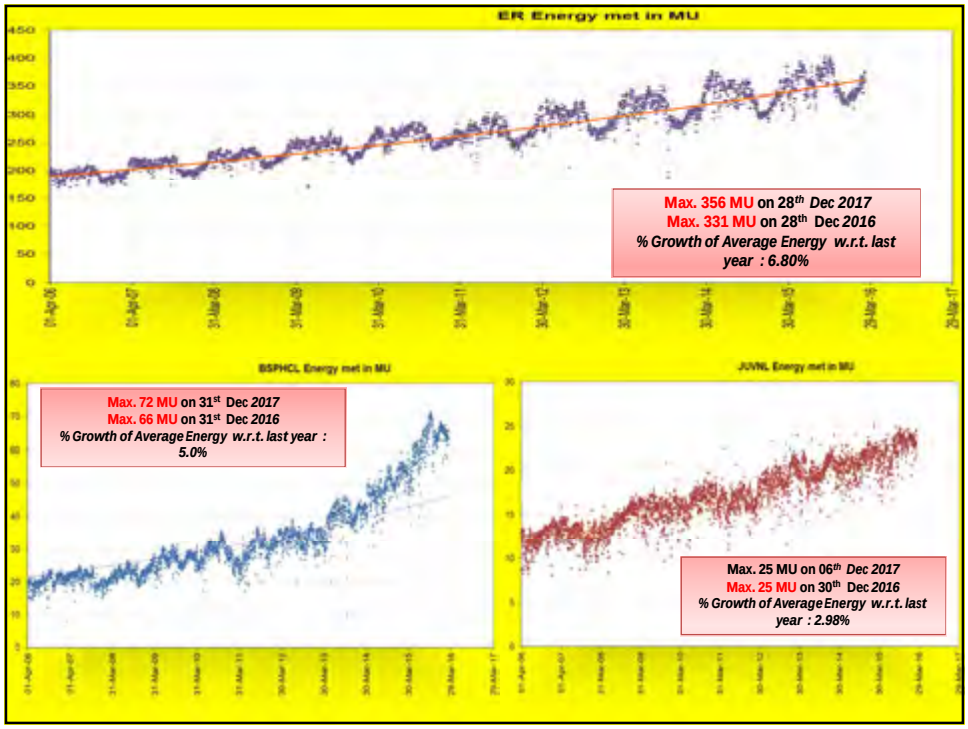
- Successful black start of Teesta-III carried out on 8th January 2018.
- Successful black start of Teesta-V carried out on 26th December 2017.
- Black start of TLDP-3 carried out on 20th December 2017.
- Black start of Upper - Kolab carried out on 09th January-2017.

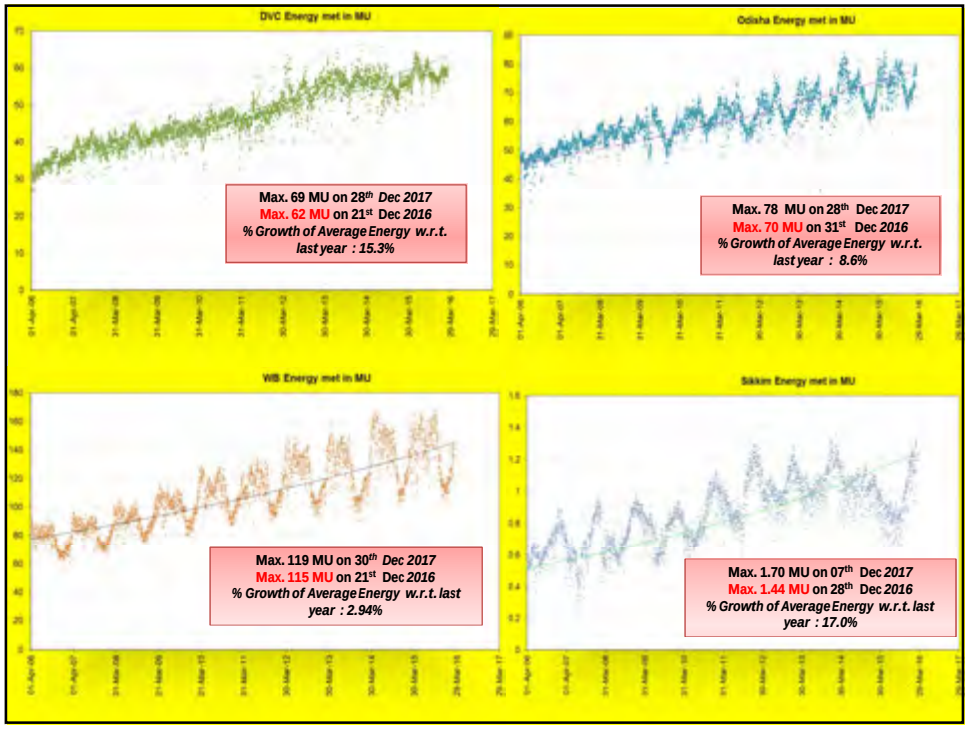

Monthly Frequency Profile of Grid
In Dec-17 (Up to 14th):
Max Freq: 50.25 Hz
Min Freq: 49.70 Hz
4.29% increase in IEGC band on Dec-17, w.r.t last year
1.82% increase in f<49.9 Hz band on Dec-17, w.r.t last year
6.11% decrease in f>50.05 Hz band on Dec-17, w.r.t last year
Dec-16
Dec-17
Jan-18 (UP TO 14th)
<49.9
49.9-50.05 (IEGC Band)
>50.05


Frequency Duration curve
Nov-17
Dec-17
Percentage-->

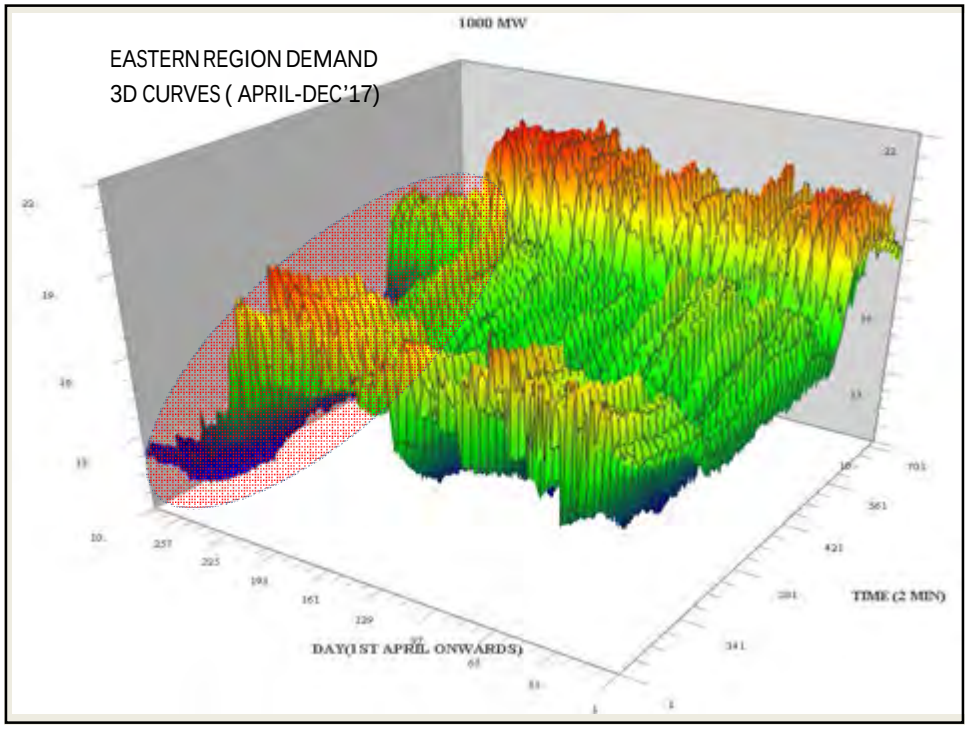
So Far Highest Demand				
Constitute	Demand (in MW)	Date	Time	Dmd met on 27th Dec'17(max dmd met day)
Bihar	4488	09-Oct-17	20:38	3810
DVC	3333	10-Apr-16	20:57	2926
Jharkhand	1262	10-Jun-17	19:54	1008
Odisha	4656	10-Oct-17	19:37	4287
W. Bengal	8605	12-Apr-17	19:56	5739
Sikkim	117	28-Oct-16	18:59	105
ER	21116	18-Oct-17	19:43	17769

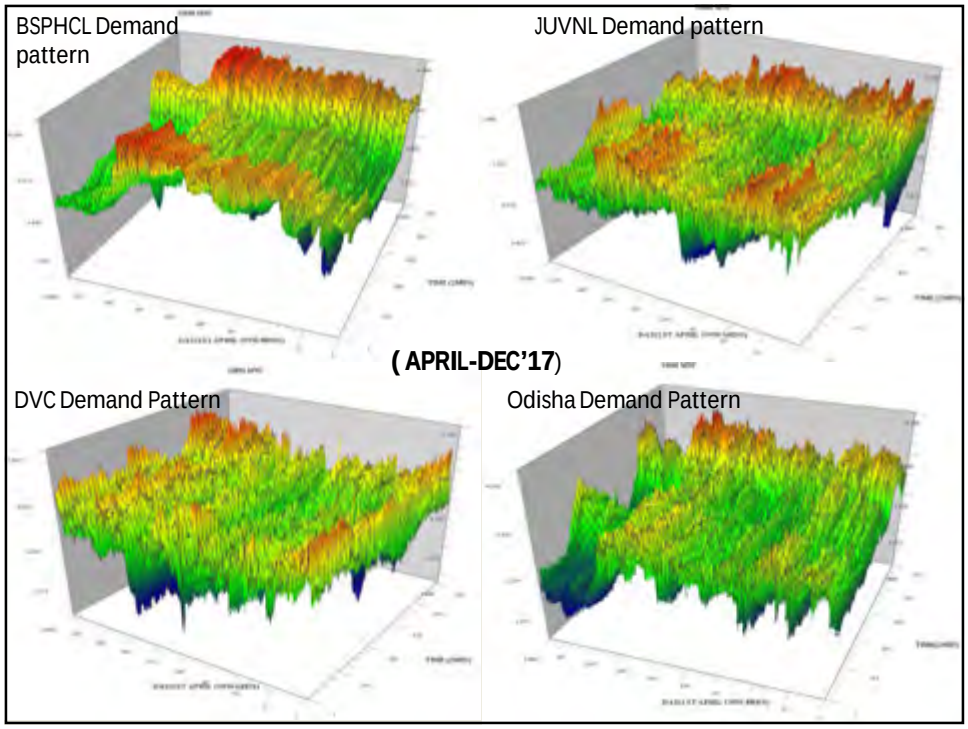
So Far Highest Energy Consumption			
Constitute	Energy consumption (in MUs)	Date	Dmd met on 27th Dec'17(max dmd met day)
Bihar	90.3	26-Sep-17	62
DVC	75	23-Mar-17	60.8
Jharkhand	26	20-Apr-16	20.3
Odisha	91.5	16-Sep-17	75.4
West Bengal	181	27-Apr-16	95.2
Sikkim	2	24-Mar-17	1.7
ER	451	26-Sep-17	326



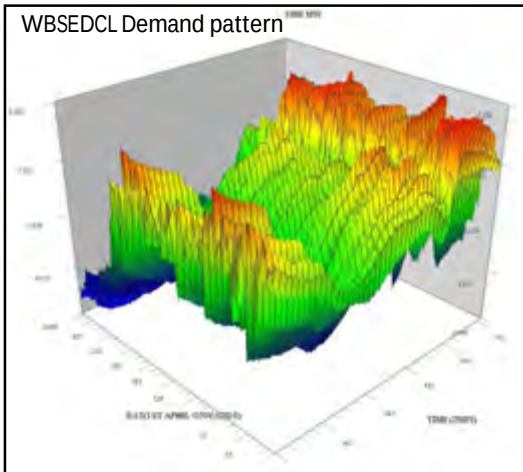


3D VIEW OF ER DEMAND PATTERN (APR-17 TO Dec-17)


1000 MW
EASTERN REGION DEMAND
3D CURVES (APRIL-DEC'17)
TIME (2 MIN)
DAY(1 ST APRIL ONWARDS)

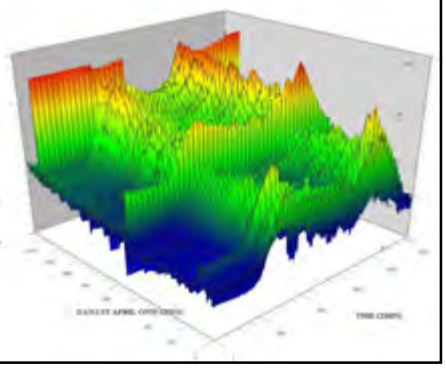

BSPHCL Demand pattern
JUVNL Demand pattern
(APRIL-DEC'17)
DVC Demand Pattern
Odisha Demand Pattern

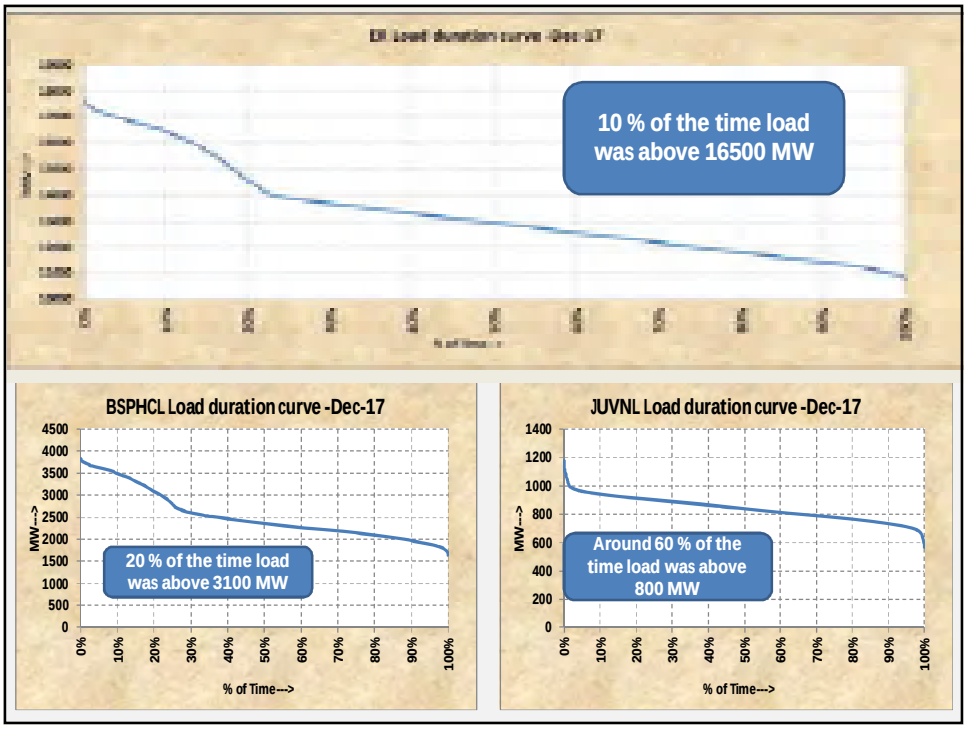
WBSEDCL Demand pattern

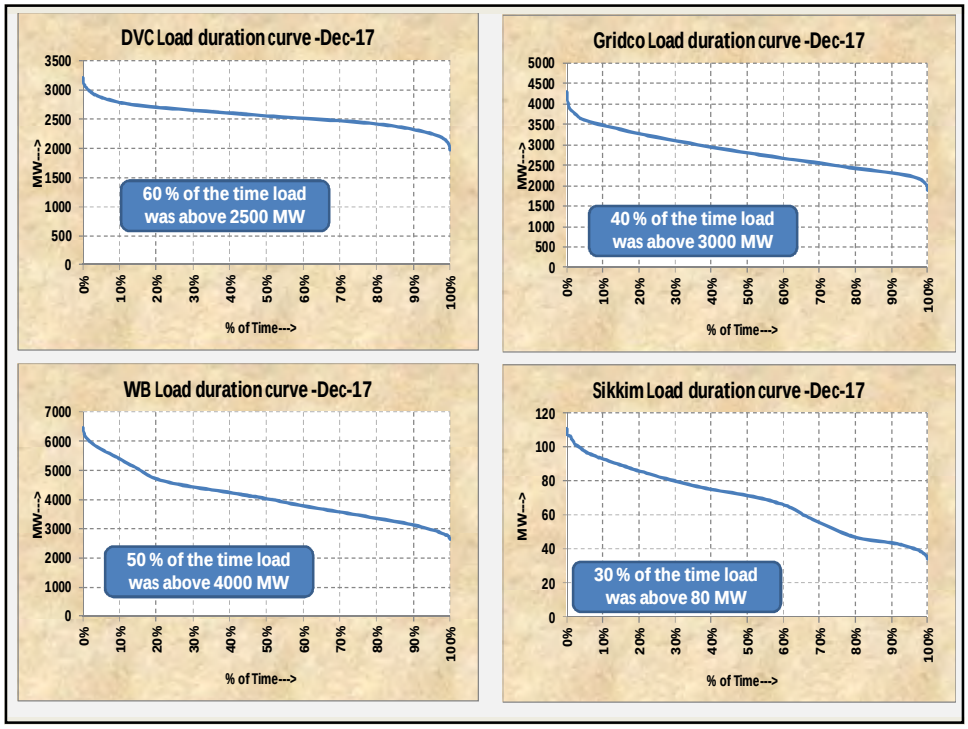


(APRIL-DEC'17)

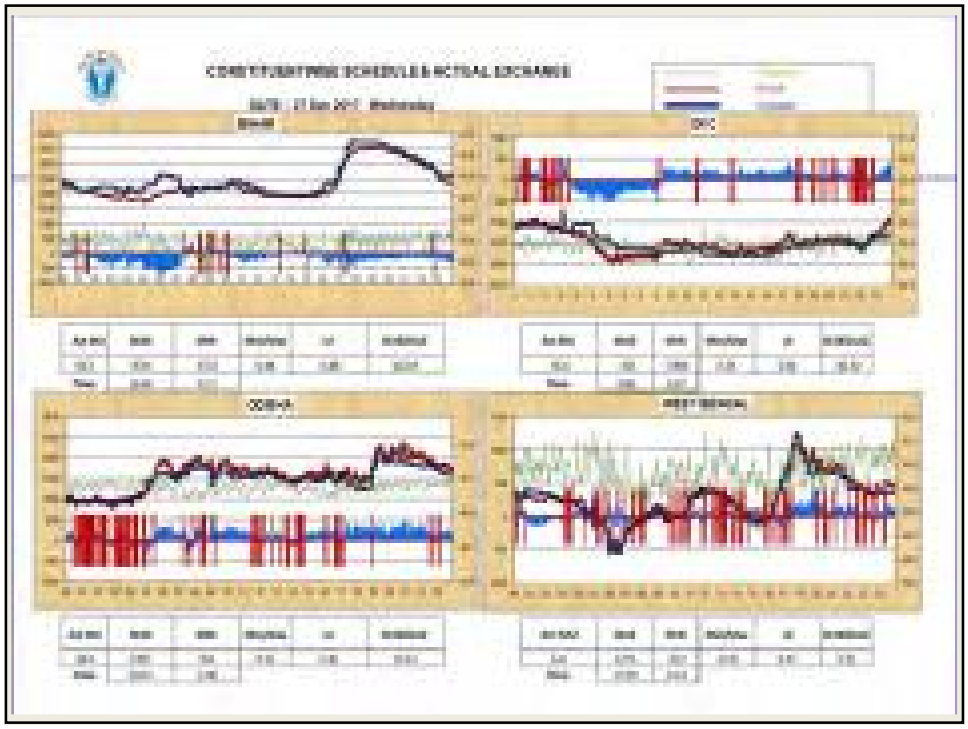
Sikkim Demand pattern

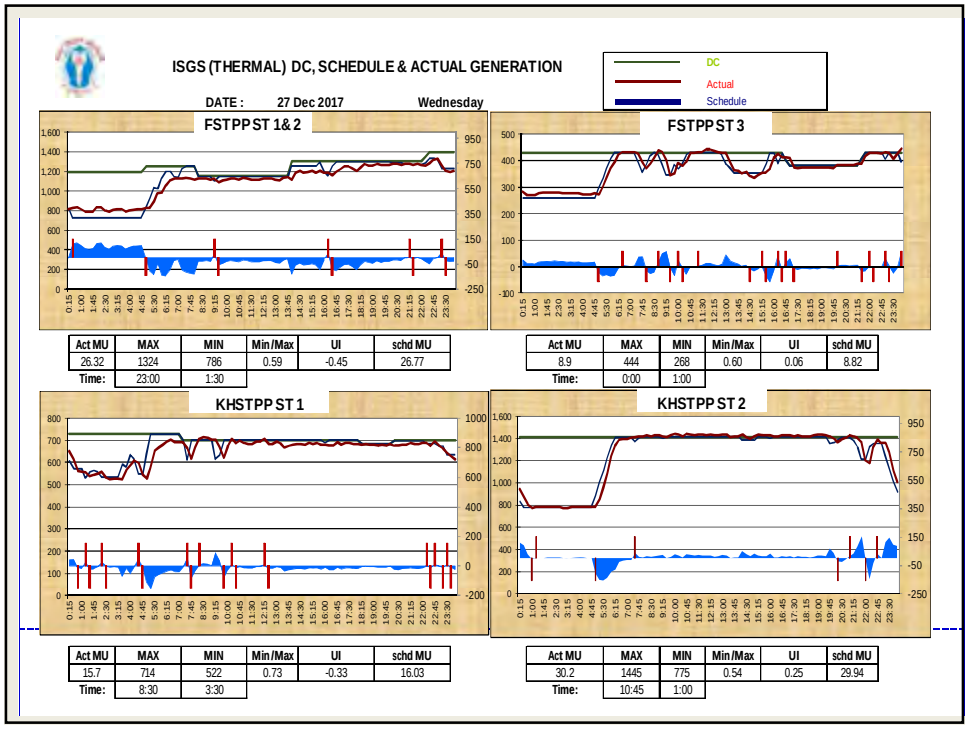






Performance of constituents/Utilities on maximum demand day in December 2017 (27-12-2017)



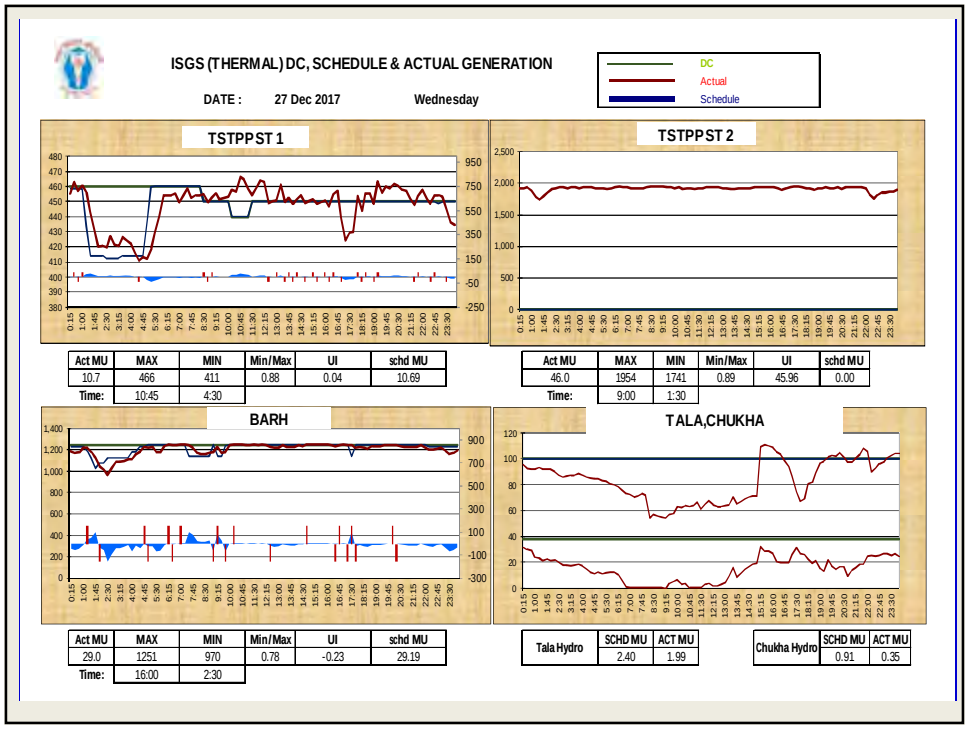


Act MU	MAX	MIN	Min/Max	UI	schd MU
26.32	1324	786	0.59	-0.45	26.77
Time:	23:00	1:30			

Act MU	MAX	MIN	Min/Max	UI	schd MU
8.9	444	268	0.60	0.06	8.82
Time:	0:00	1:00			

Act MU	MAX	MIN	Min/Max	UI	schd MU
15.7	714	522	0.73	-0.33	16.03
Time:	8:30	3:30			

Act MU	MAX	MIN	Min/Max	UI	schd MU
30.2	1445	775	0.54	0.25	29.94
Time:	10:45	1:00			



Act MU	MAX	MIN	Min/Max	UI	schd MU
10.7	466	411	0.88	0.04	10.69
Time:	10:45	4:30			

Act MU	MAX	MIN	Min/Max	UI	schd MU
46.0	1954	1741	0.89	45.96	0.00
Time:	9:00	1:30			

Act MU	MAX	MIN	Min/Max	UI	schd MU
29.0	1251	970	0.78	-0.23	29.19
Time:	16:00	2:30			

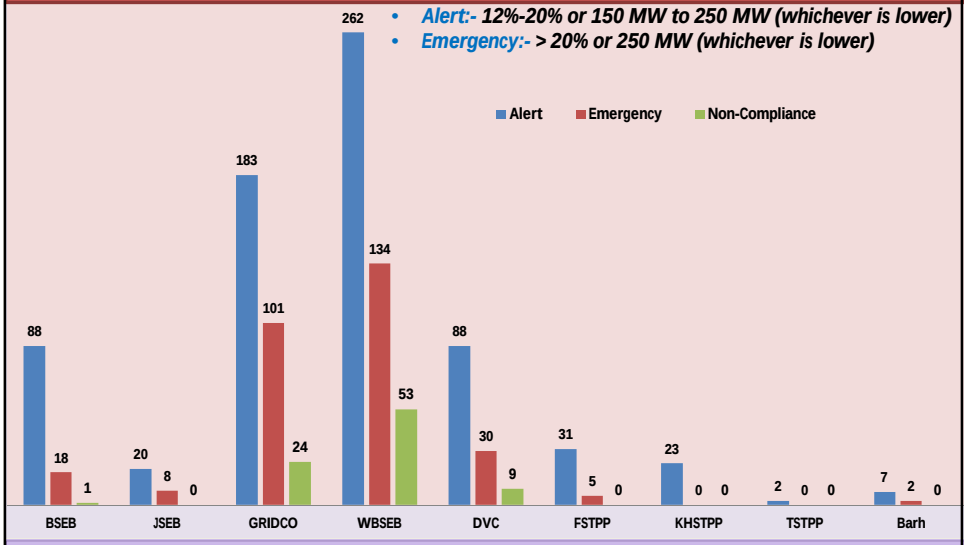
Tala Hydro	SCHD MU	ACT MU
	2.40	1.99

Chukha Hydro	SCHD MU	ACT MU
	0.91	0.35

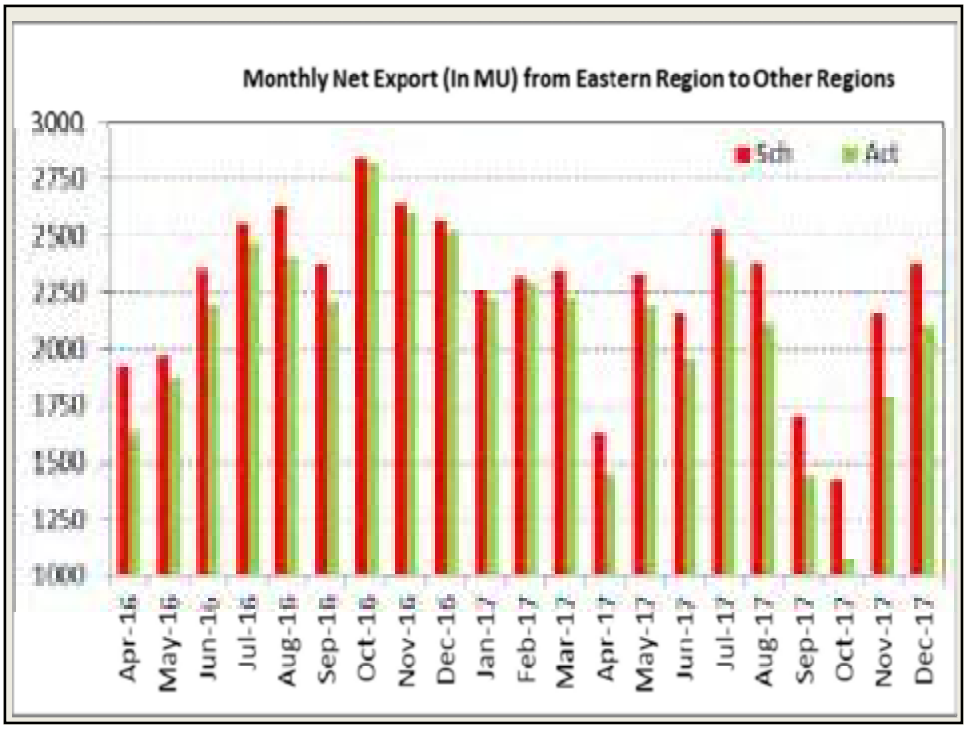
Over Drawl / Under Injection by ER Entities
Non-compliance of direction issued by SLDC

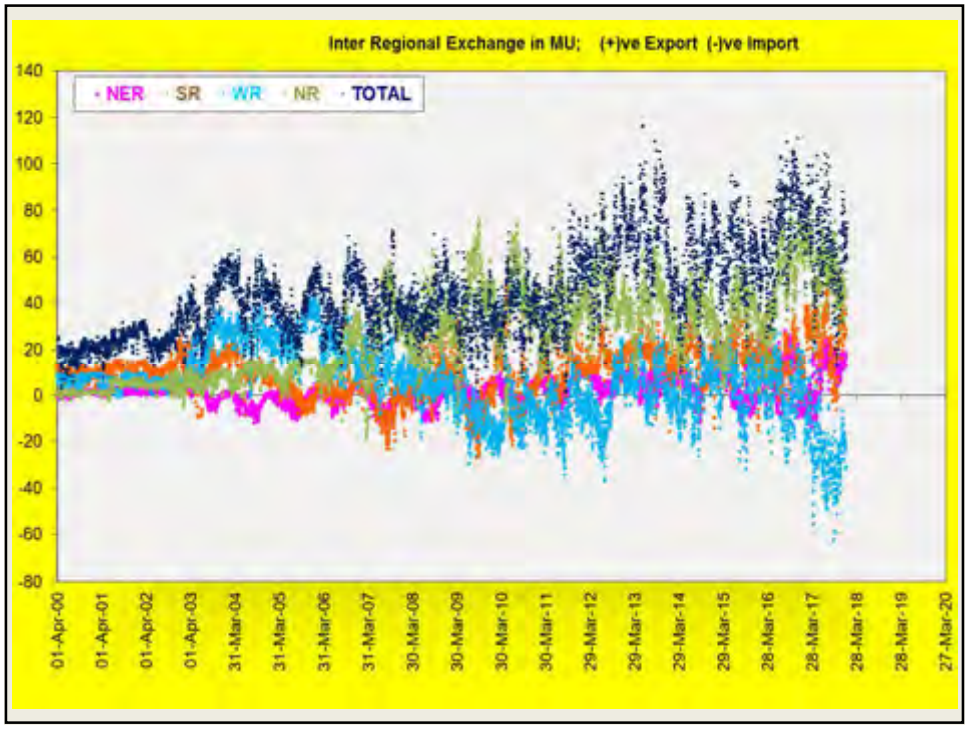
December 2017 Schedule Vs Actual Drawl					
	Schedule (Mu)	Actual (Mu)	Deviation (Mu)	Daily Avg. Dev (Mu)	% Deviation
Bihar	1799	1795	-4	-0.1	-0.2
Jharkhand	419	431	12	0.4	2.9
DVC	-1118	-1140	-22	-0.7	2.0
Odisha	910	1047	137	4.4	15.1
West Bengal	512	574	62	2.0	12.0
Sikkim	48	48	0	0.0	0.2
FSTPP I & II	927	919	-8	-0.3	-0.9
FSTPP III	264	262	-2	-0.1	-0.8
KHSTPP I	379	378	-1	0.0	-0.2
KHSTPP II	883	884	1	0.0	0.1
TSTPP I	337	337	-1	0.0	-0.2
BARH II	907	898	-9	-0.3	-1.0

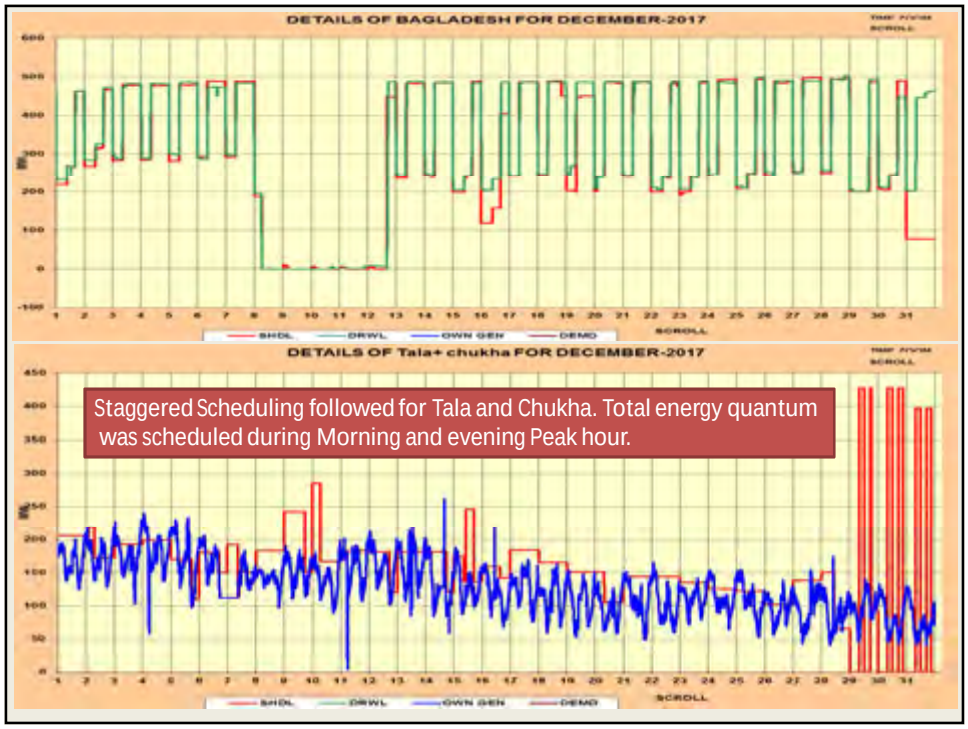
Deviation Violation Messages Issued to States and NTPC Generators during December 2017

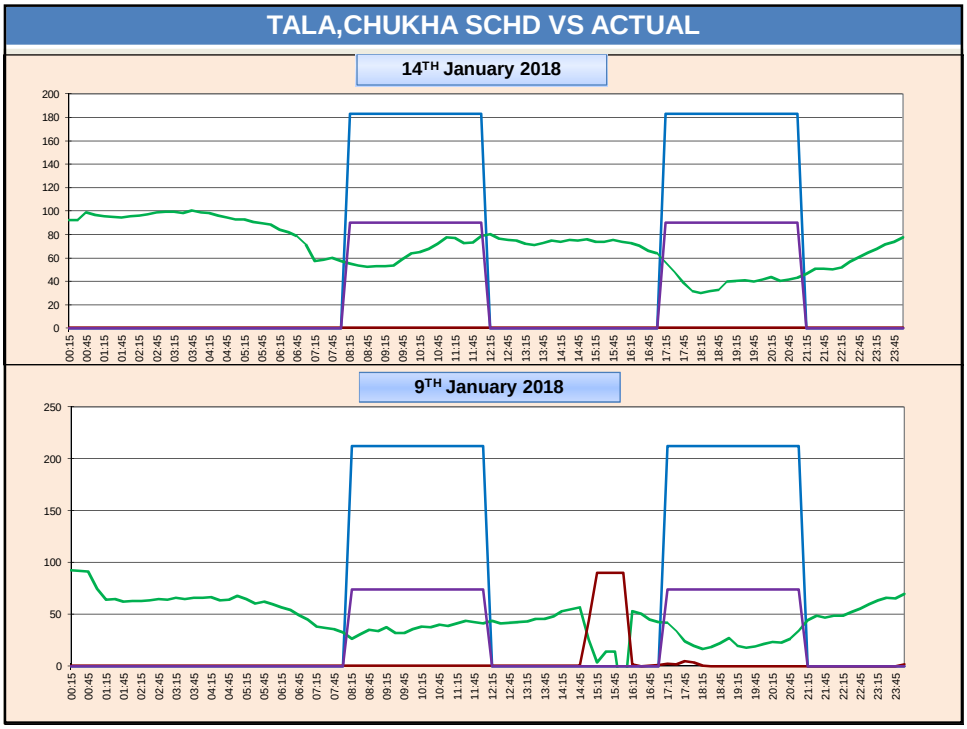


- Total Number of Deviation violation and zero crossing violation messages issued during December – 2017 :- 1438
- Deviation Violation Messages :- 1094 & Zero Crossing Violation :- 344



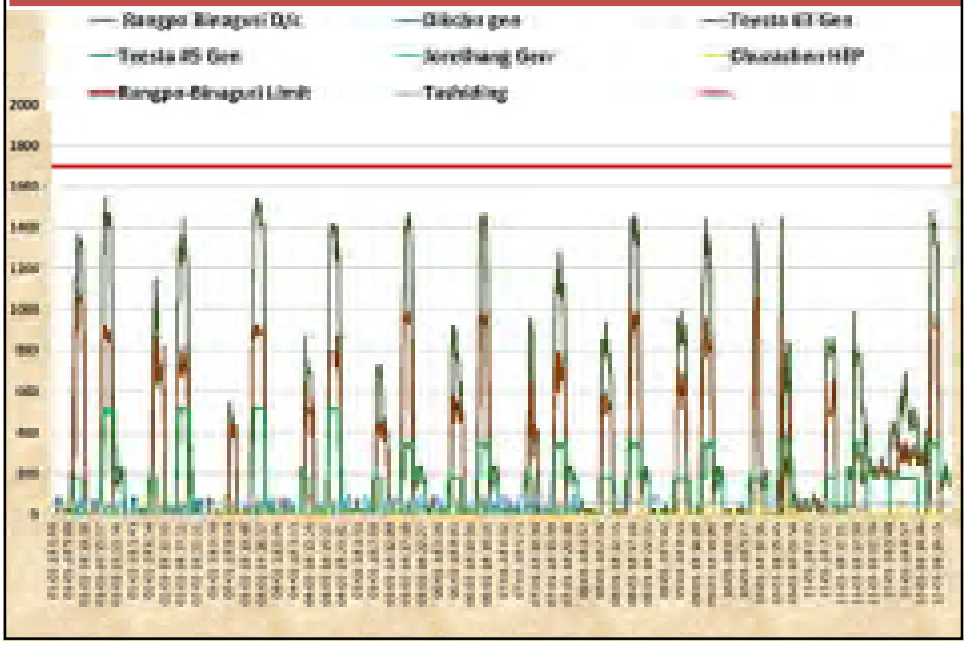

Inter Regional Exchange in MU; (+)ve Export (-)ve Import
NER
SR
WR
NR
TOTAL
140
120
100
80
60
40
20
0
-20
-40
-60
-80
01-Apr-00
01-Apr-01
01-Apr-02
01-Apr-03
31-Mar-04
31-Mar-05
31-Mar-06
31-Mar-07
30-Mar-08
30-Mar-09
30-Mar-10
30-Mar-11
29-Mar-12
29-Mar-13
29-Mar-14
29-Mar-15
28-Mar-16
28-Mar-17
28-Mar-18
28-Mar-19
27-Mar-20

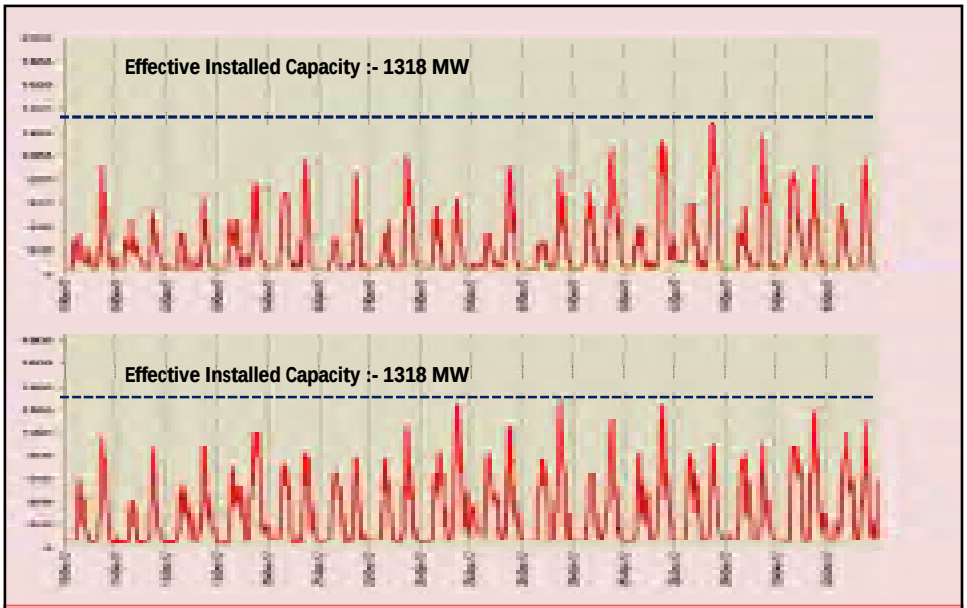

DETAILS OF BAGLADESH FOR DECEMBER-2017
SCHDL
DRWL
OWN GEN
DEMD
SCROLL
DETAILS OF Tala+ chukha FOR DECEMBER-2017
Staggered Scheduling followed for Tala and Chukha. Total energy quantum was scheduled during Morning and evening Peak hour.
SCHDL
DRWL
OWN GEN
DEMD
SCROLL



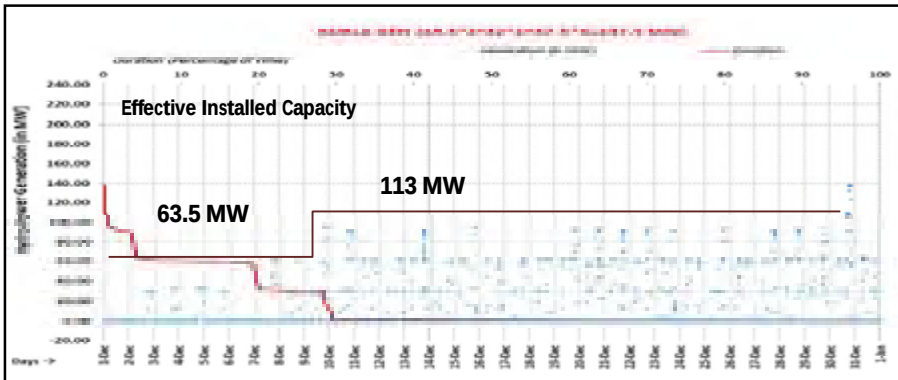
Performance of Hydro power stations during peak hour in Decemeber,2017

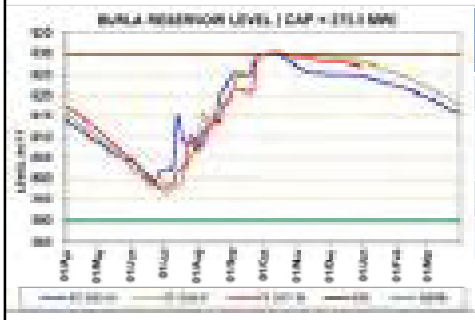
Rangpo – Binaguri D/C & Generation Pattern of Generators in Sikkim 01-01-2018 to 12-01-2018





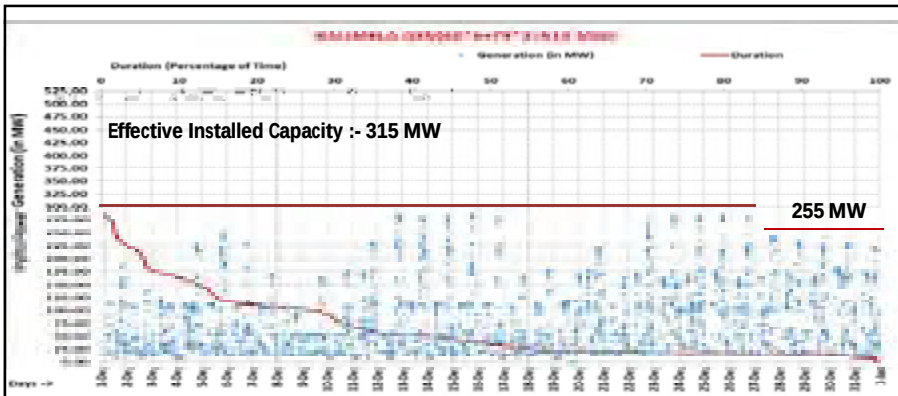
Total Installed Capacity of Odisha Hydro = 1917.5 MW
Total Effective Installed Capacity* = 1318 MW
**Effective Installed capacity is calculated considering units on bar at different Hydro Stations*

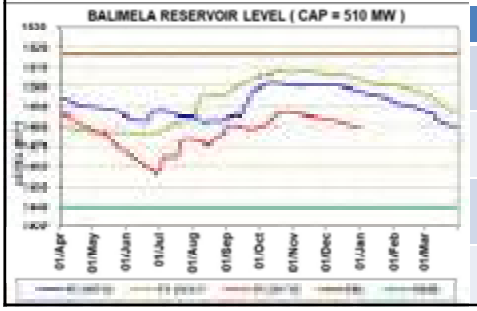




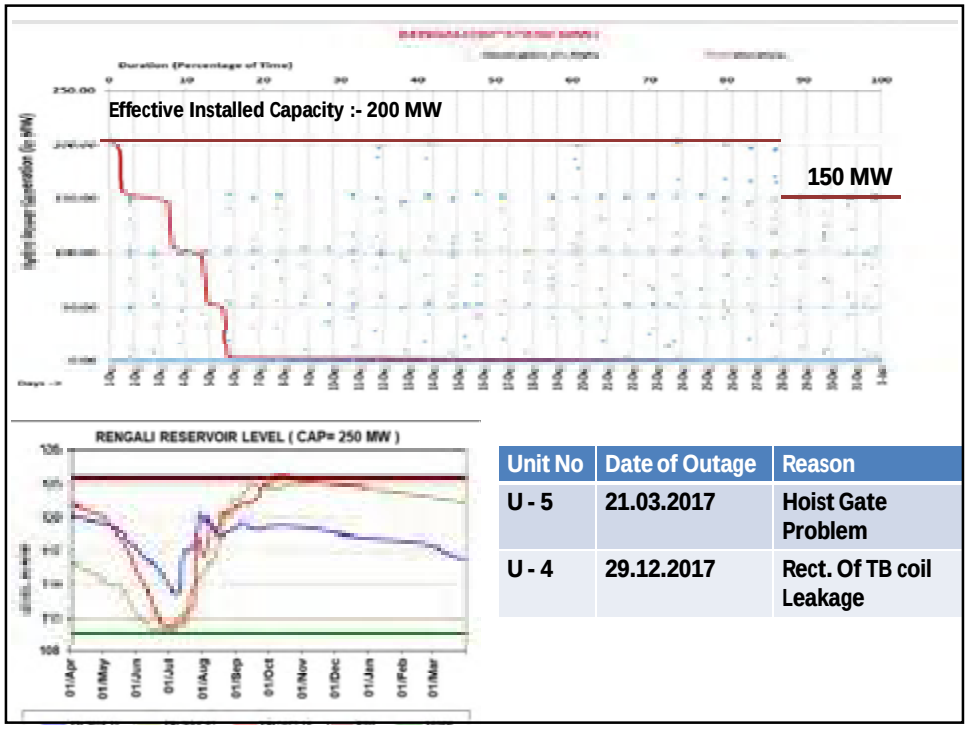
Unit No	Date of Outage	Reason
U - 1	01.12.17	Annual Maint.
U - 2	19.11.17	Gen. UGB oil temp high
U - 5	25.10.2016	R & M Work
U - 6	16.10.2015	R & M Work

- *U-1 revived on 30.12.17*
- *U-2 revived several times during month*

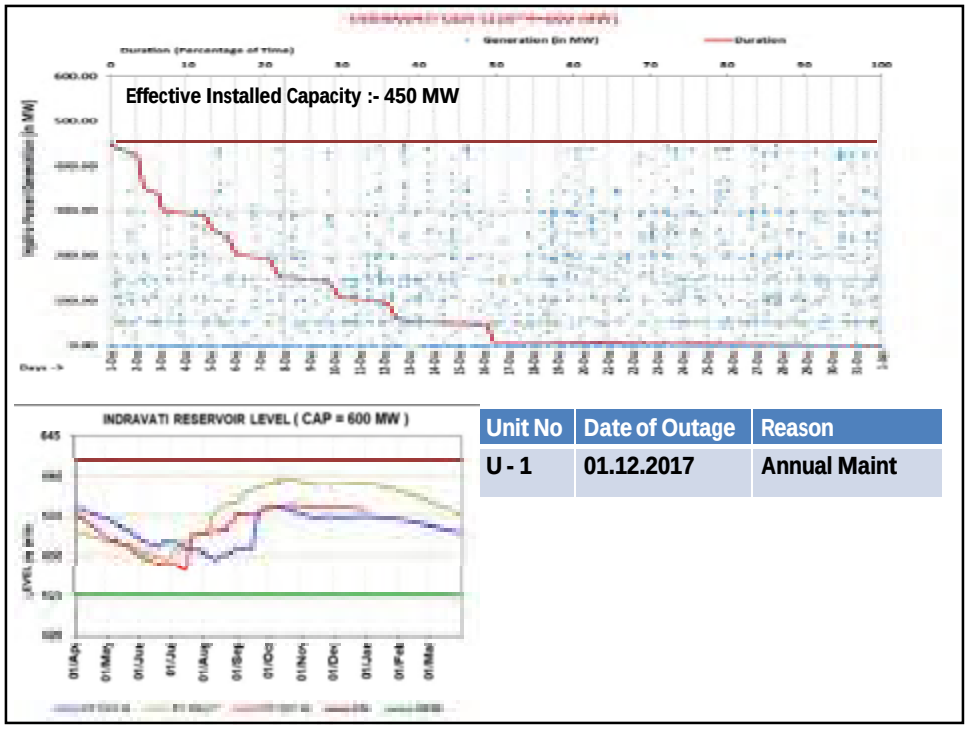




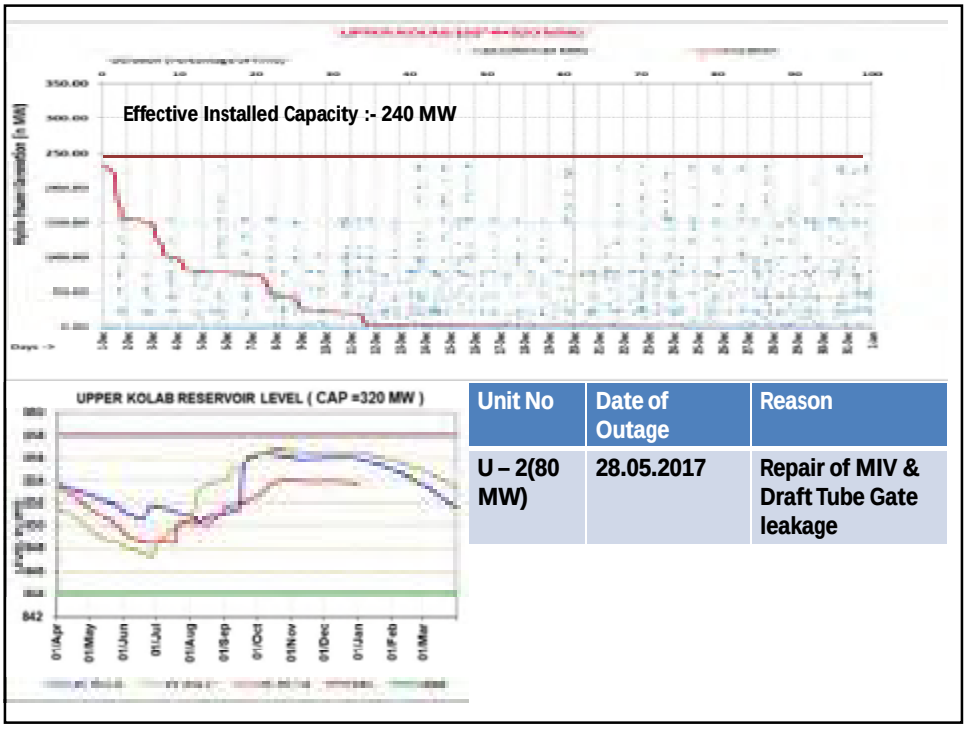
Unit No	Date of Outage	Reason
U – 1(60 MW)	05.08.16	R & M Work
U – 7 (75 MW)	12.10.17(17:30)	Generator problem
U – 2(60 MW)	20.11.17	R & M Work
U – 5(60 MW)	27.12.17	Rect. Of LGB bush leakage



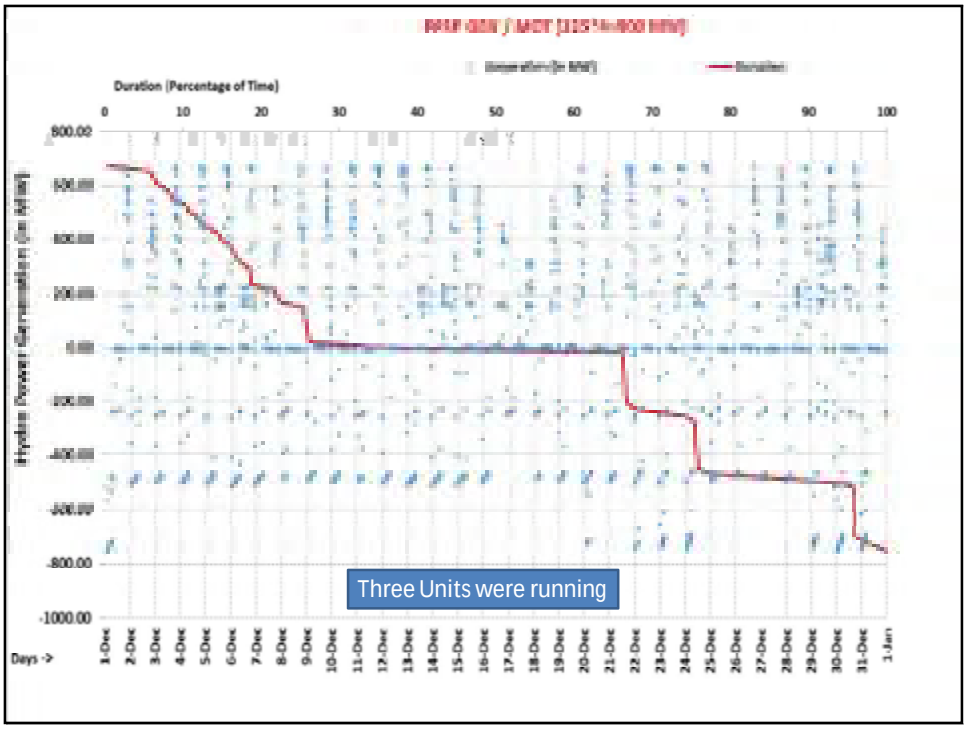
Unit No	Date of Outage	Reason
U - 5	21.03.2017	Hoist Gate Problem
U - 4	29.12.2017	Rect. Of TB coil Leakage



Unit No	Date of Outage	Reason
U - 1	01.12.2017	Annual Maint



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



Performance of ISGS during RRAS in December, 2017

Important Event /Grid Incidence

Disturbance At Rangpo on 10.01.18 at 17:34 hrs

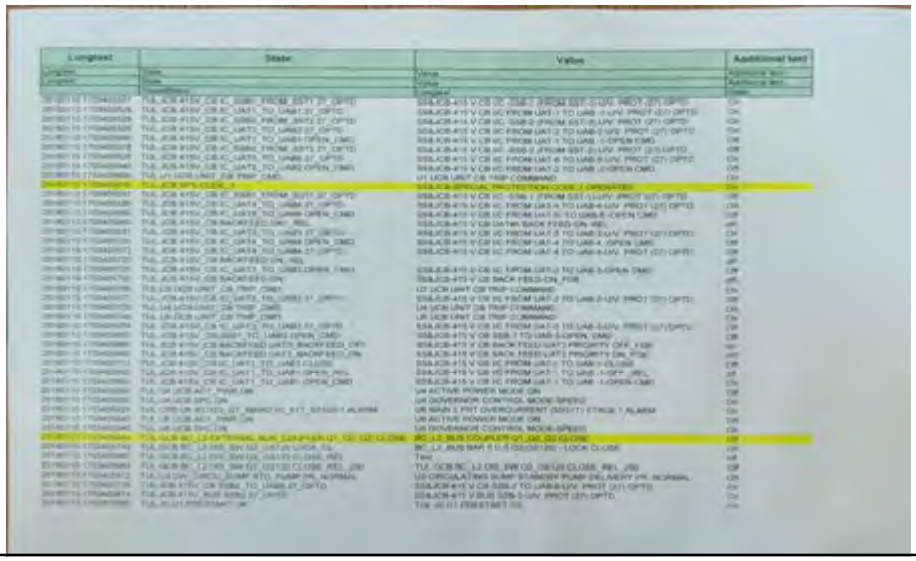
EVENT

- On 10.01.18 at 17:34:05 hrs 400 KV Rangpo-Binguri 2 tripped in R-Y-N fault followed by operation of SPS-1 and 2 designed for safe Sikkim hydro evacuation. Leading to Generation loss at Teesta-3, Dikchu and Tashiding as per logic.

SOE AT RANGPO

Date	Time		Remarks
10/01/18	05:34:05.515	Siliguri -2 (414) Line triipped on Z1 RY Phase	
10/01/18	05:34:05.590	SPS -1 Generated	
10/01/18	05:34:05.990	SPS-2 Genarated	After 400 ms of SPS-1
10/01/18	05:34:06.002	Teesta -3 Tripped	Tripped on SPS operation
10/01/18	06:01:10.460	Teesta -3 charged	

SOE AT TEESTA 3



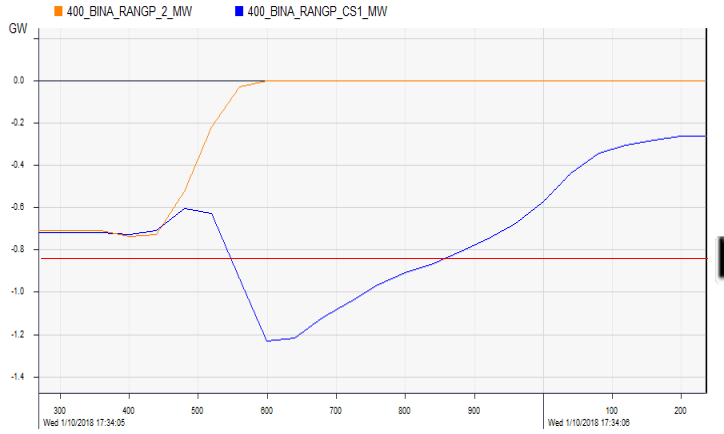
SOE AT TEESTA 3

Date	Time		Remarks
10/01/18	05:34:05.515	Siliguri -2 (414) Line tripped on Z1 RY Phase	
10/01/18	05:34:05.619	SPS -1 Received	
10/01/18	05:34:05.644	BC open	Within 25 ms of receiving SPS-1 code
10/01/18	05:34:05.700	Unit -2 trip command	
10/01/18	05:34:05.730	Unit -4 trip command	
10/01/18	05:34:05.740	Unit -6 trip command	

SOE AT TASHIDING, DIKCHU AND CHUJACHEN

- Dikchu received SPS-1 but only one unit was running that's why not tripped .But then with tripping of 400 KV Teesta 3- Rangpo it tripped due to loss of evacuation.
- At Tashiding only one unit was running. They received SPS-1 and as per SPS logic it tripped.
- Chujachen no tripping but receipt of SPS signal yet to be confirmed

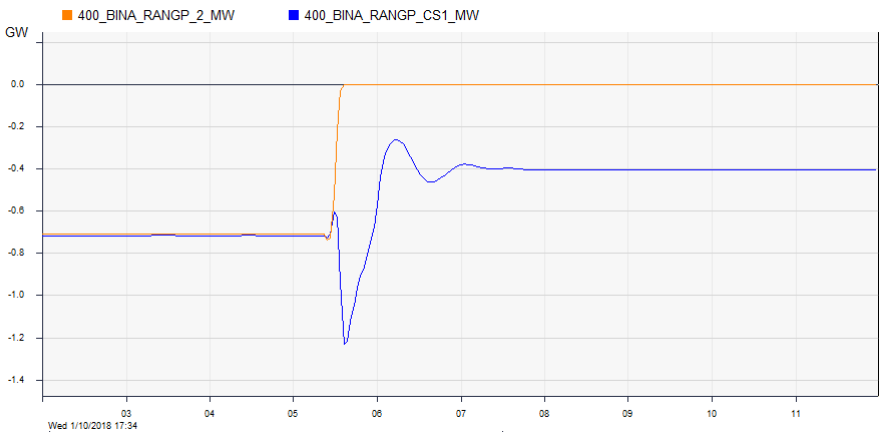
PMU OSERVATION



850 MW

FLOW > 850 MW FROM 17:34:05:543 TO 17:34:05:855 HRS i.e 312 ms

PMU OSERVATION



Discussion

- From our PMU it is seen that flow was > 850 MW FROM 17:34:05:543 TO 17:34:05:855 HRS i.e 312 ms , But as per logic SPS 2 should operate if Flow stay above 850 MW for 500 ms.
- Also from Rangpo SoE it is seen that SPS-2 transmitted within 400 ms of SPS-1 .
- In this case All generator responded perfectly and quickly for SPS-1 and initial flow per circuit was 725 MW ,still flow in the other circuit remain above 850 MW after operation of SPS-1 for 312 ms . Now if initial generation was maximum at all the station and there is a little delay in sps-1 code operation the even during the initial Dynamic period flow can stay >850 MW for 500 ms with a steady sate value less than 850 MW.
- This mean SPS 2 will operate with in the 1st swing period though as per steady sate value it should not have operated. That's why time delay for SPS 2 may be reviewed to give sufficient time for decaying 1st swing .

Multiple Tripping around Talcher

Additional Agenda

ERLDC

PRE DISTURBANCE SYSTEM CONDITION

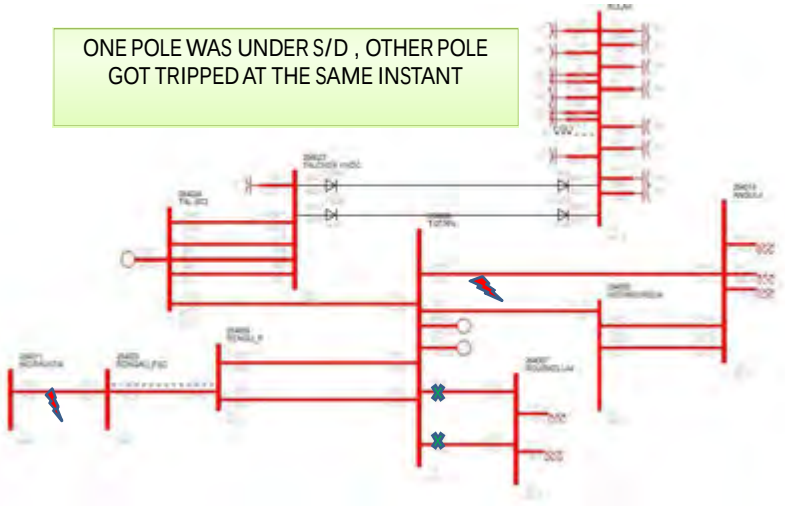
- POLE 2 WAS UNDER S/D. SPS 1000 was in operation.
- Generation reduction SPS at GMR,JITPL and Sterlite was bypassed.

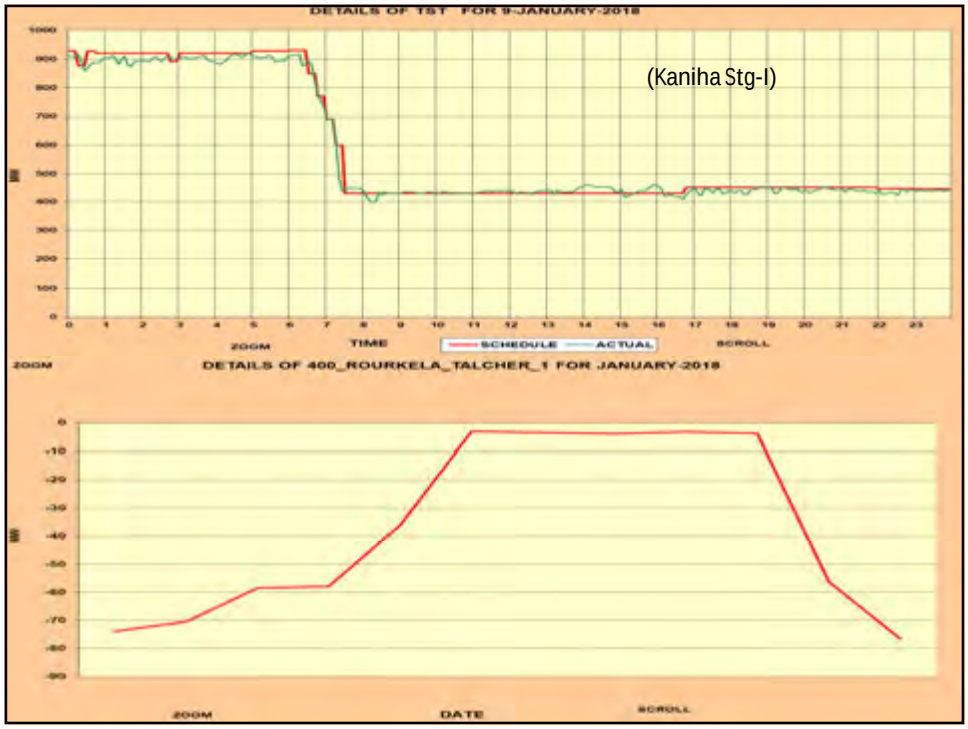
EVENTS

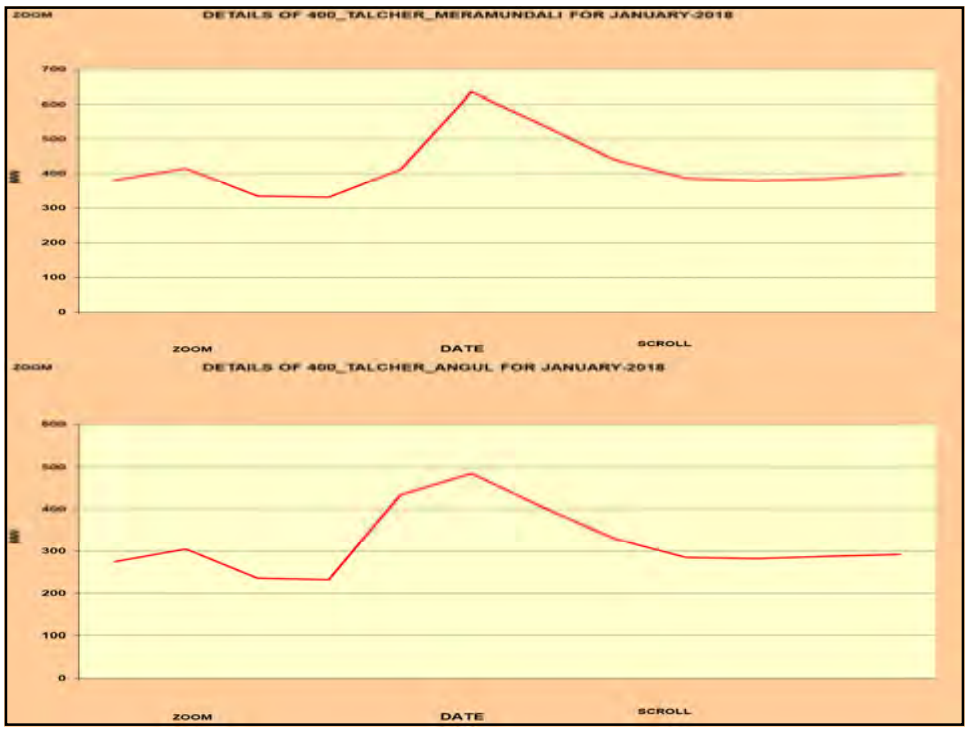
- On 09/01/18 at 07:51 hrs following tripping took place:

1. 400 KV Talcher-Rourkella D/C- Tripped from Talcher end only---Mal-operation
2. A/R of 400 KV Rengali-Indravati---- Successful
3. A/R of Talcher-Meramundali ----Succcessful
4. Talcher HVDC pole 1 -***due to operation of Valve Cooling Differential Protection at Talcher end. Emergency switch off (ESOF) was received at Kolar***

ONE POLE WAS UNDER S/D , OTHER POLE GOT TRIPPED AT THE SAME INSTANT







CONCERNS

- **Security threat caused by this multiple tripping:**
  1. High loading of 400 KV Talcher-Meramundali (approx. 700 MW) and 400 KV Talcher-Angul (Approx 530 MW)
  2. N-1 contingency of any Of the above two line would have caused blackout of south Odisha system along with total generation loss of TSTPP. That in turn could have other serious security threat on the overall National Grid.

- ***Manual backing down action together with tripping of TSTPP unit IV 08:05 Hrs due to furnace pressure high, bring the system out of the emergency state.***

DIFFICULTIES

- **Difficulty faced in restoration:**

Real time operators at ERLDC faced the following difficulty during restoration:

1. Non receipt of relay indication From RTAMC ER2
2. Wrong information from NTPC Talcher(i.e tripping of line due to DT receipt , whereas originally DT was not received)
3. Delayed Reporting of successful A/R of Talcher-Meramundali by NTPC Talcher.

- Due to above reasons restoration was delayed which lead to running the system with very narrow reliability margin for longer duration of time.

DISCREPANCY

- **Discrepancy in Relay indication:**

Finally following discrepancy found in the relay indication as Received from POWERGRID and Talcher NTPC:

1. Why Rourkella send Carrier in zone 2 even though their Permissive over reach scheme is now replaced with permissive under reach scheme.
2. Why Talcher end relay tripped in Zone 1 during A/R in other line.
3. Now as per information received A/R took place in both 400 KV Talcher-Meramundali and 400 KV Rengali-Indravati around that time. But in PMU at 07:51 Hrs only one Fault is seen. Is it a mere coincidence or any relation is there needs to be studied
4. Also if both the A/R is simultaneous then for which fault Rourkella Zone-2 pickup happened need to be studied. Zone 2 setting of 400 KV Talcher-Rourkella D/C at Rourkella need to be checked.
5. From Rourkela end DR it is seen that Circuit 2 was carrying power in one phase only other two phase are open and finally after 2.5 sec it reduces to zero

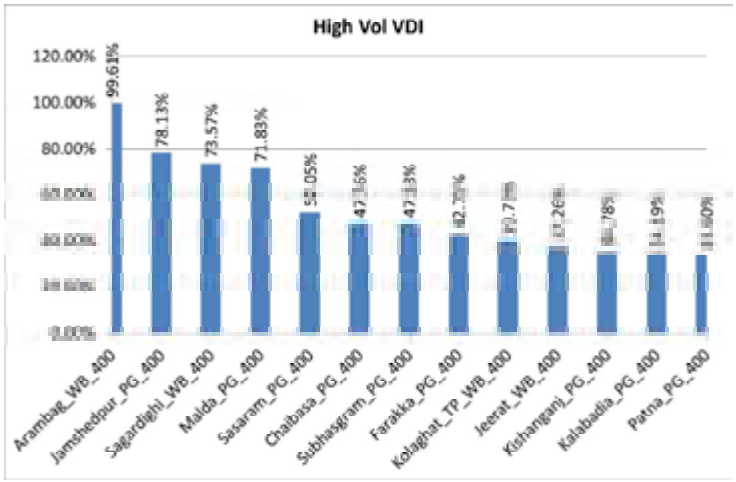
REPORTING STATUS

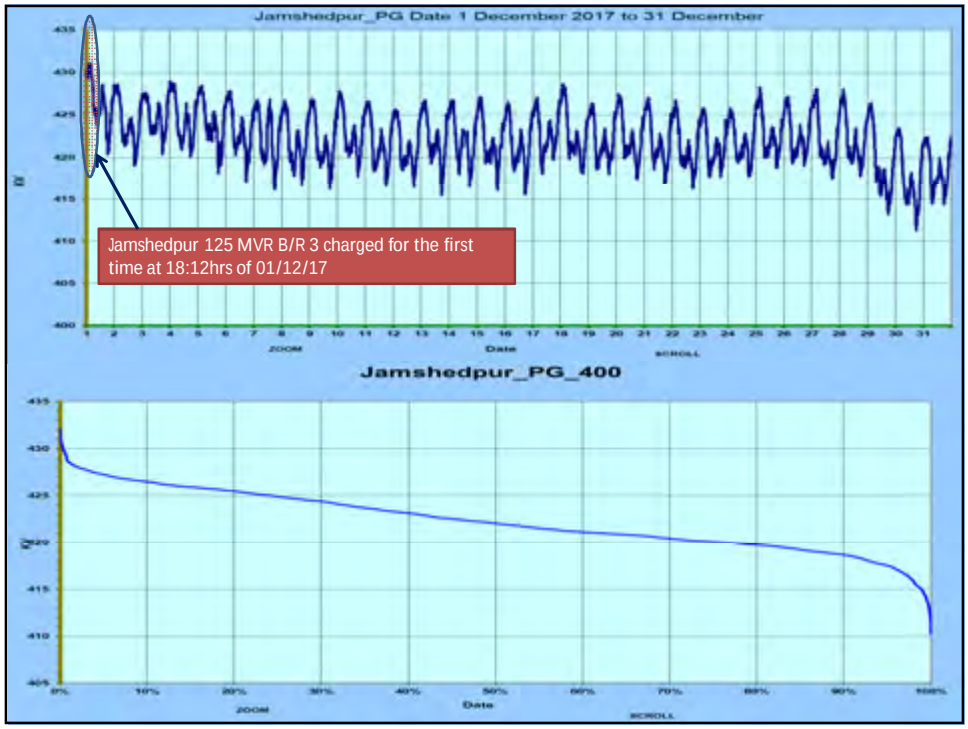
Present DR/EL reporting status:

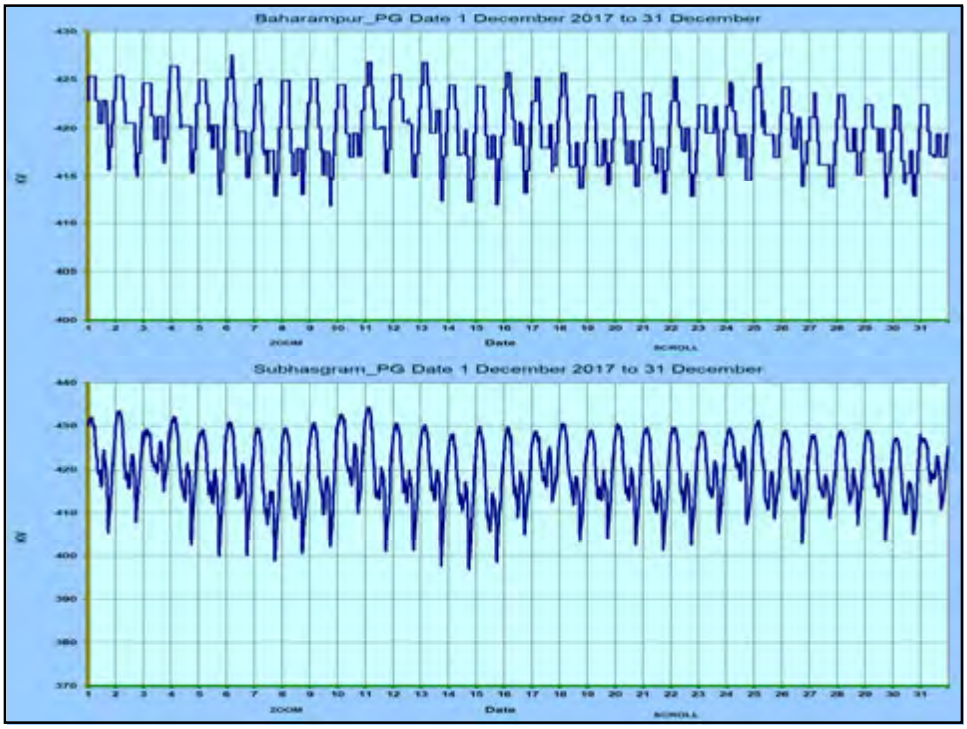
LINE	DR/EL RECEIVE STATUS		RECEIVE DATE	
	LOCAL END	REMOTE END	LOCAL END	REMOTE END
400 KV ROURKELLA-TALCHER D/C	YES	YES	09/01/18	11/01/18
400 KV RENGALI-INDRAVATI				
400 KV TALCHER-MERAMUNDALI	YES	YES(PDF)	11/01/18	16/08/17
HVDC Talcher				

Voltage Variation Index of ER Substation in December-2017

% of time voltage more than IEGC limit







Statistics of VDI of various S/S* in Eastern Region for December, 2017

% of time	No of S/S having voltage higher than IEGC limit for ...	No of S/S having voltage lower than IEGC limit for ...	No of S/S having voltage not in IEGC band for ...
100%	0	0	0
>= 50% but < 100%	**5** (Arambag, Jamshedpur, Sagardighi, Malda, Sasaram)	0	**5** (Arambag, Jamshedpur, Sagardighi, Malda, Sasaram)
>= 30% but < 50%	**8** (Chaibasa, Subhasgram, Farakka, Kolaghat, Jeerat, Kishanganj, Baripada, Patna)	0	**8** (Chaibasa, Subhasgram, Farakka, Kolaghat, Jeerat, Kishanganj, Baripada, Patna)
>= 10% but < 30%	**8** (Gokarna, Binaguri, Maithon, BHVDC, Purnea_New, Pandiabili, Ramchandrapur, New Ranchi)	0	**8** (Gokarna, Binaguri, Maithon, BHVDC, Purnea_New, Pandiabili, Ramchandrapur, New Ranchi)

* For all S/S at 400 kV and above voltage level and selective S/S at 220 kV and lower level where voltage data were available in SCADA for considerable amount of time

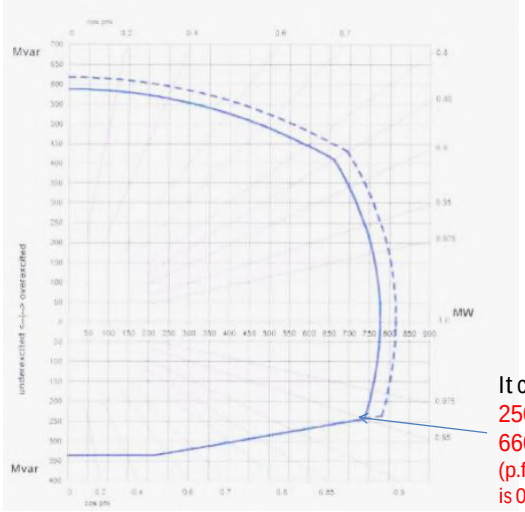
Reactive power performances of various units in the month of December, 2017

Reactive power injection and terminal bus voltage 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

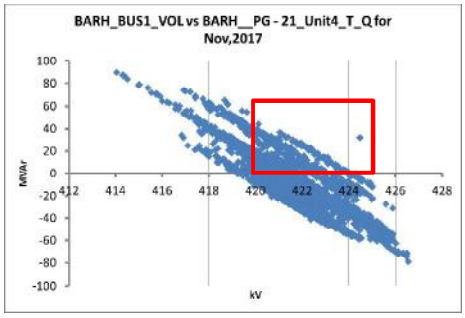
Response of the units whose MVAr injection decreases with increase in voltage but does not absorb reactive power even in high voltage period

Reactive power capability curve of Barh 660 MW units

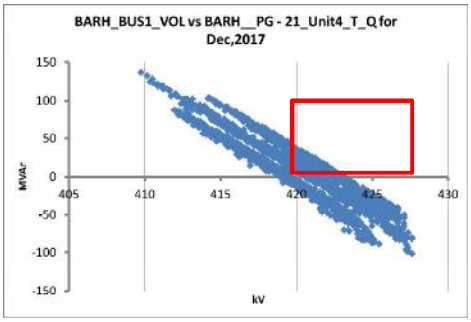


It can absorb more than 250 MVAR when output is 660 MW
(p.f. at 250 MVAR absorption is 0.935 lead)

Barh Unit# IV

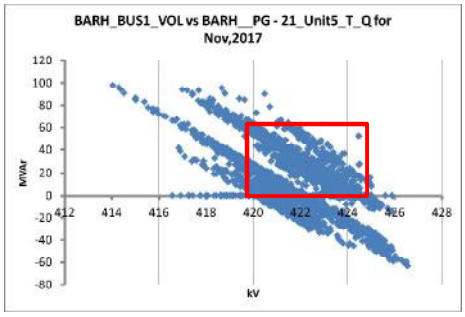


November, 2017:
Maximum MVAr absorption is 80 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 24%

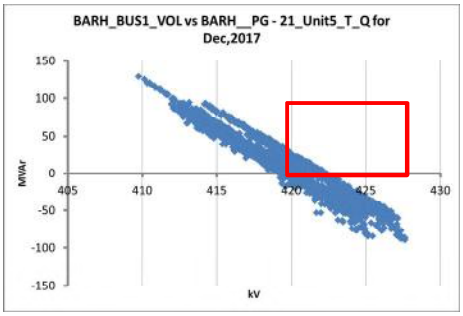


December, 2017 :
Maximum MVAr absorption is 102 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 12%

Barh Unit# V

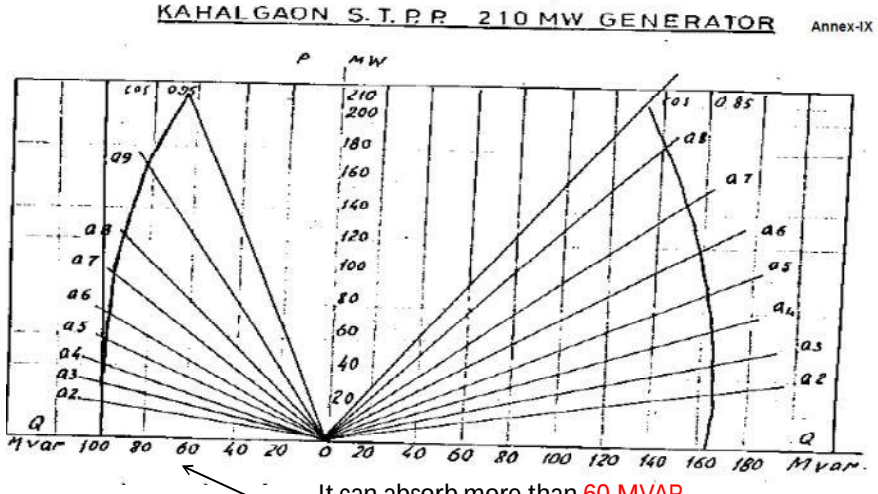


November, 2017:
Maximum MVAr absorption is 63MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 49%



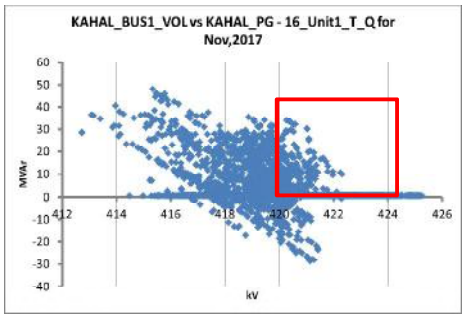
December, 2017 :
Maximum MVAr absorption is 84 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 10%

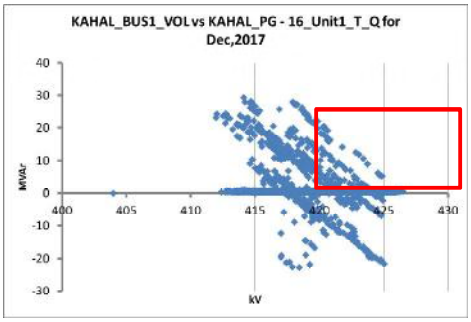
Reactive power capability curve of KhSTPP 210 MW units



It can absorb more than 60 MVAR when output is 210 MW
(p.f. at 60 MVAR absorption is 0.96 lead)

KhSTPP unit # I



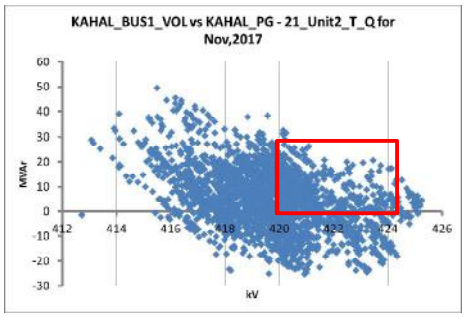


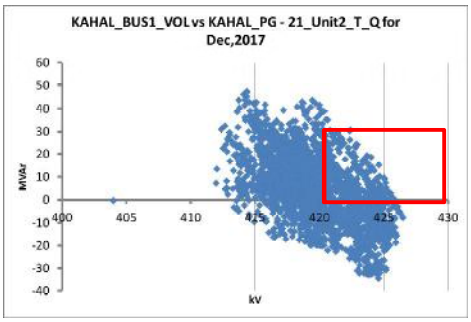
November, 2017:
Maximum MVAr absorption is 30MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 35%

December, 2017 :
Maximum MVAr absorption is 22 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 35%

No improvement has been observed in Dec, 2017 as compared to Nov, 2017

KhSTPP unit # II



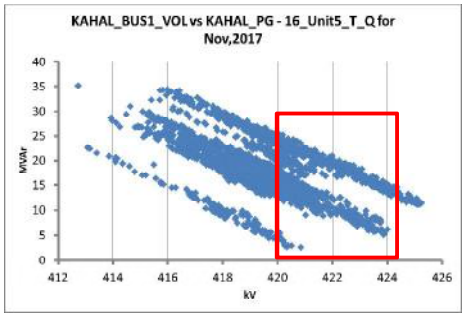


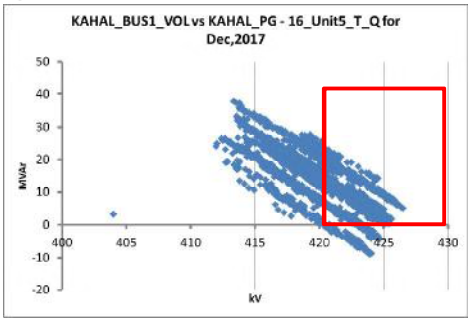
November, 2017:
Maximum MVAr absorption is 25MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 20%

December, 2017 :
Maximum MVAr absorption is 35 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 15%

No improvement has been observed in Dec, 2017 as compared to Nov, 2017

KhSTPP unit # V





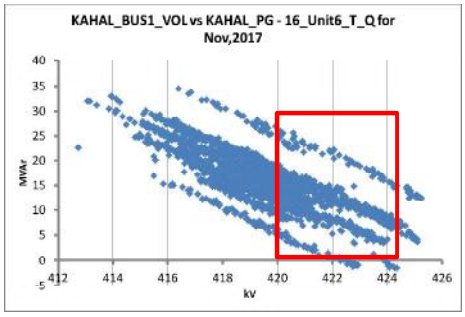
November, 2017:
Maximum MVAr absorption is O MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 39%

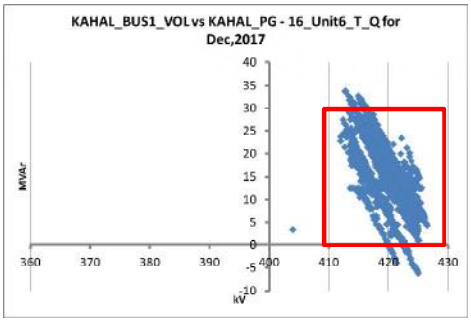
December, 2017 :
Maximum MVAr absorption is 0 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 36%

. As per reactive power capability test of unit V, maximum allowable MVAr absorption limit: 112 MVAr when output is 471 MW

No improvement has been observed in Dec, 2017 as compared to Nov, 2017

KhSTPP unit # VI





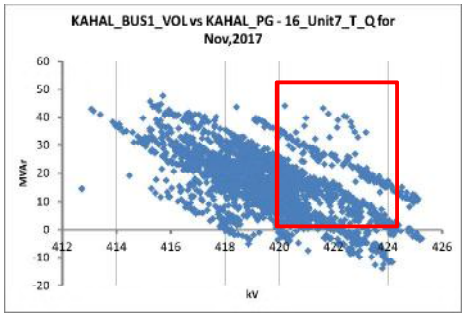
November, 2017:
Maximum MVAr absorption is 0 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 39%

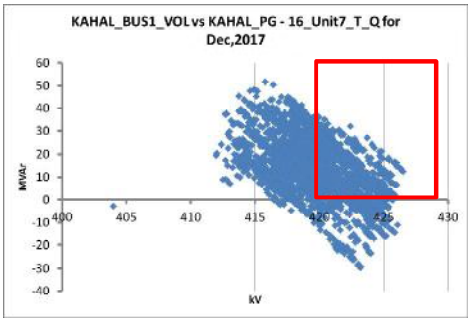
December, 2017 :
Maximum MVAr absorption is 0 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 36%

. As per reactive power capability test of unit V, maximum allowable MVAr absorption limit: 112 MVAr when output is 471 MW

No improvement has been observed in Dec, 2017 as compared to Nov, 2017

KhSTPP unit # VII





November, 2017:
Maximum MVAr absorption is 12 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 34%

December, 2017 :
Maximum MVAr absorption is 29 MVAr
% of time with positive VAR injection when voltage was more than IEGC limit 29%

. As per reactive power capability test of unit V, maximum allowable MVAr absorption limit: 112 MVAr when output is 471 MW

No improvement has been observed in Dec, 2017 as compared to Nov, 2017

Conclusion

- Non adequate reactive power absorption by ER generating units resulted high voltage condition in ER grid network.
  - Voltage rise may be worsened in winter due to reduction in system demand
- There are more than 13 nos 400/220 kV S/S, where voltage was more than 420 kV for more than 30 % of duration in the month of December, 2017

RGMO/FGMO mode of Operation

Load loss at Padge at 12:58 hrs on 12-12-17. Frequency changed from 50.05 Hz to 50.17 Hz

Name	Initial generation	Final generation	Change in generation	Ideal response	% of Ideal response	Remarks
FSTPP #4	471.6	465.1	-6.5	-22.1	29%	Unsatisfactory
FSTPP #5	376.4	371.7	-4.7	-17.6	27%	Unsatisfactory
FSTPP #3	209.8	207.9	-2.0	-9.8	20%	Unsatisfactory
KhSTPP #7	491.8	487.4	-4.4	-23.0	19%	Unsatisfactory
FSTPP #2	193.5	192.7	-0.7	-9.1	8%	Unsatisfactory
FSTPP #1	183.6	183.2	-0.4	-8.6	4%	Unsatisfactory
MPL #2	518.0	517.0	-1.0	-24.2	4%	Unsatisfactory
KhSTPP #6	485.1	484.2	-0.9	-22.7	4%	Unsatisfactory
KhSTPP #5	491.5	491.5	0.0	-23.0	0%	Unsatisfactory
Barh Unit-4	658.6	658.6	0.0	-30.8	0%	Unsatisfactory
FSTPP #6	338.0	338.0	0.0	-15.8	0%	SCADA data not available
KhSTPP #3	114.0	114.0	0.0	-5.3	0%	SCADA data not available
TSTPP #2	488.0	488.0	0.0	-22.8	0%	SCADA data not available
GMR unit-2	74.8	74.8	0.0	-3.5	0%	SCADA data not available
JITPL #1	365.0	365.0	0.0	-17.1	0%	SCADA data not available
Barh Unit-5	641.1	643.6	**2.5**	-30.0	-8%	Unsatisfactory
APNRL #1	272.8	274.9	**2.1**	-12.8	-16%	Unsatisfactory
KhSTPP #2	189.0	190.9	**1.9**	-8.8	-22%	Unsatisfactory

Generation loss at Dadri at 17:29 hrs on 12-12-17. Frequency changed from 49.93 Hz to 49.84 Hz

Name	Initial generation	Final generation	Change in generation	Ideal response	% of Ideal response	Remarks
FSTPP #1	170.2	176.2	6.0	5.7	106%	Satisfactory
KhSTPP #2	199.7	201.8	2.1	6.6	31%	Below Satisfactory
KhSTPP #7	499.5	501.2	1.8	16.6	11%	Unsatisfactory
KhSTPP #5	491.8	493.3	1.5	16.3	9%	Unsatisfactory
FSTPP #3	211.7	212.3	0.6	7.0	9%	Unsatisfactory
MPL #2	510.0	511.0	1.0	16.9	6%	Unsatisfactory
Barh Unit-4	664.3	664.7	0.4	22.1	2%	Unsatisfactory
FSTPP #2	199.3	199.4	0.1	6.6	2%	Unsatisfactory
FSTPP #4	500.9	500.9	0.0	16.6	0%	Unsatisfactory
FSTPP #6	338.0	338.0	0.0	11.2	0%	SCADA data not available
KhSTPP #3	114.0	114.0	0.0	3.8	0%	SCADA data not available
GMR unit-2	74.8	74.8	0.0	2.5	0%	SCADA data not available
KhSTPP #6	492.4	491.8	**-0.6**	16.3	-4%	Unsatisfactory
JITPL #1	469.0	468.0	**-1.0**	15.6	-6%	Unsatisfactory
FSTPP #5	465.5	464.3	**-1.2**	15.5	-8%	Unsatisfactory
Barh Unit-5	645.9	643.9	**-2.0**	21.4	-9%	Unsatisfactory
APNRL #1	275.7	273.6	**-2.1**	9.2	-23%	Unsatisfactory

Annexure

Name of the Element	Power Flow	
	Before	After
Bus I & III (Maithon A)		
400 KV Maithon-Mejia I,II	27 each (Mejia)	162 each (Maithon)
400 KV Maithon-Kahalgaon II	69 (Maithon)	189 (Maithon)
400 KV Maithon-Jamshedpur	168 (Jamshedpur)	108 (Maithon)
400 KV Maithon-Gaya D/c	228 each (Gaya)	126 each (Gaya)
2*500 MVA ICT at Maithon	374	248
Bus II & IV (Maithon B)		
400 KV Maithon-MPL D/c	360 each (Maithon)	314 each (Maithon)
400 KV Maithon-Raghunathpur	194 (Maithon)	70 (Maithon)
400 KV Maithon-Ranchi	66 (Ranchi)	112 (Ranchi)
400 KV Maithon-Durgapur D/c	36 (Maithon)	112 each (Durgapur)
400 KV Maithon-Kahalgaon I	69 (Maithon)	22 (Kahalgaon)
400 KV Maithon-Mejia III	22 (Mejia)	342 (Mejia)

Changes in 220 KV Network		
220 KV Maithon-Dhanbad D/c	134 each (Dhanbad)	125 each (Dhanbad)
220 KV Maithon-Kalyaneshwari D/c	39 each (Kalyaneshwari)	10 each (Maithon)
220 KV Mejia-Kalyaneshwari T/c	86 each (Kalyaneshwari)	110 each (Kalyaneshwari)
220 KV Kalyaneshwari-CTPS A	65 (CTPS A)	60 (CTPS A)
220 KV Dhanbad-CTPS B	41 each (CTPS B)	30 each (CTPS B)
220 KV CTPS A-CTPS B	195 each (CTPS A)	200 each (CTPS A)

Note: Direction of power flow is towards S/s mentioned in parenthesis

Voltage Changes		Bus I & III		Bus II & IV	
		Bus I	Bus III	Bus II	Bus IV
	Before Splitting	415 KV	417 KV	412 KV	414 KV
	After Splitting	414 KV	411 KV	419 KV	416 KV

Minor voltage difference between connected buses is due to measurement errors

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

नई रांची / Ranchi New			जमशेदपुर / Jamshedpur			मुजफ्फरपुर / Muzaffarpur		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
799	767	0.00	429	410	53.98	417	389	0.00

बिहार शरीफ / Bihar Sariff			बिनागुरी / Binaguri			जीरत / Jeerat		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
421	400	2.50	426	399	26.56	431	394	37.94

राउरकेला / Rourkela			जयपोर / Jeypore			कोडरमा / Koderma		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
422	407	1.97	426	380	0.23	423	409	12.12

मैथन / Maithon			तीस्ता / Teesta			रांगपो / Rangpo		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
421	407	0.45	424	393	9.25	422	389	1.51

Annexure-B5.1

Reports on real time telemetry failure of Eastern Region on 06th December 2017

Overview:

On 06th December 2017 at 17:26 hours, there was failure of real time SCADA data of 17 nos Central Sector station to ERLDC due to communication failure between Malda – Farakka OPGW link. The real time data restored at 09:37 Hours of 07th December 2017.

Background:

Real time SCADA data and voice connectivity of 17 no of Central sector station (**geographically located in North Bengal and Sikkim area**) with ERLDC is established through Malda, Farrakka. Communications link between Malda - Farakka OPGW was not healthy. On 06th December 2017 at 17:26 hours, there was some problem in Malda Farakka OPGW link causing disruption in data and voice communication of Central sector stations (located in North Bengal and Sikkim area) with ERLDC. At 09:37 Hours of 07th December 2017, maintenance team reached at site and restored the communication. Real time data and voice of these 17 no of stations were unavailable for around 16 hours and 23 minutes (as shown in figure 1)

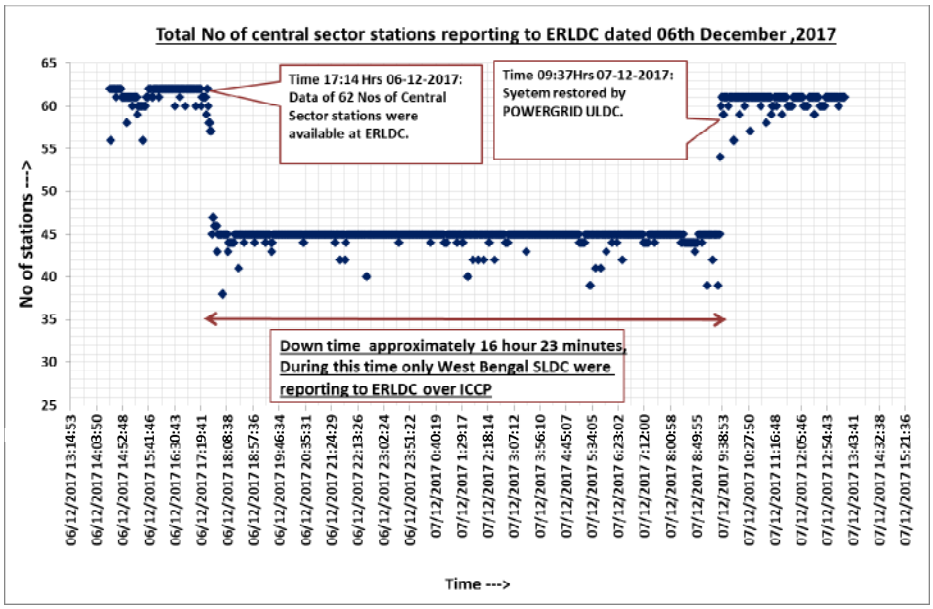


Fig 1: Total No of central sector stations reporting to ERLDC dated 06th December, 2017.

Data Availability Tabular Display of Central Sector Stations in Eastern Region

JEYPORE	TALCHER HVDC	INDRAVATI	PATNA	RENGALI
JITPL	TALCHER	ROURKELA	TALA HEP	JAMSHEDPUR
MAITHON	RANCHI	DURGAPUR	FARAKKA STPS	KAHALGAON STPS
BIHARSHARIFF(PG)	BAHARAMPUR	LALMATIA	GAZUAWAKA	MALDA(PG)
DALKHOLA(PG)	PURNEA(PG) 220KV	SILIGURI 220(PG)	BIRPARA(PG)	CHUKHA HEP
BINAGURI 400	RANGIT HEP	PURNEA 400	SASARAM PG 400KV	KALABADIA PG
SUBHASGRAM (PG)	TEESTA HEP	MUZAFFARPUR PG	GANGTOK	ARRAH PG
APNRL	STERLITE	MTHRB	BARH STPS	GAYA PG
FARAKKA SAS(III)	BOLANGIR PG	KEONJHOR PG	PANDIABILI PG	ANGUL PG
JHARSUGUDA AIS PG	CHUZACHEN HEP	BANKA PG	IBEUL	LAKHISARAI PG
CHAIBASA PG	SASARAM 765	NABINAGAR TPS	BHVDC	NEW RANCHI PG
MELLI NEW PG	KISHANGANJ PG	RANGPO PG	JORETHANG HEP	CHANDWA PG
KBUNL II	ALIPURDUAR HVDC	TEESTA III HEP	DARBHANGA DMTCL	DIKCHU HEP
DSTPP	MOTIHARI DMTCL			

Fig 2: Data availability display as on 20:01 Hrs 06-12-2017 (Green: Available, Red: Unavailable)

Findings & Conclusion:

There was communication link problem between Malda – Farakka OPGW section (shown in fig 3 below) causing the above said data interruption. The data & voice communication restored after shifting of fibre core to healthy one as informed by POWERGRID ERTS – 2 ULDC team.

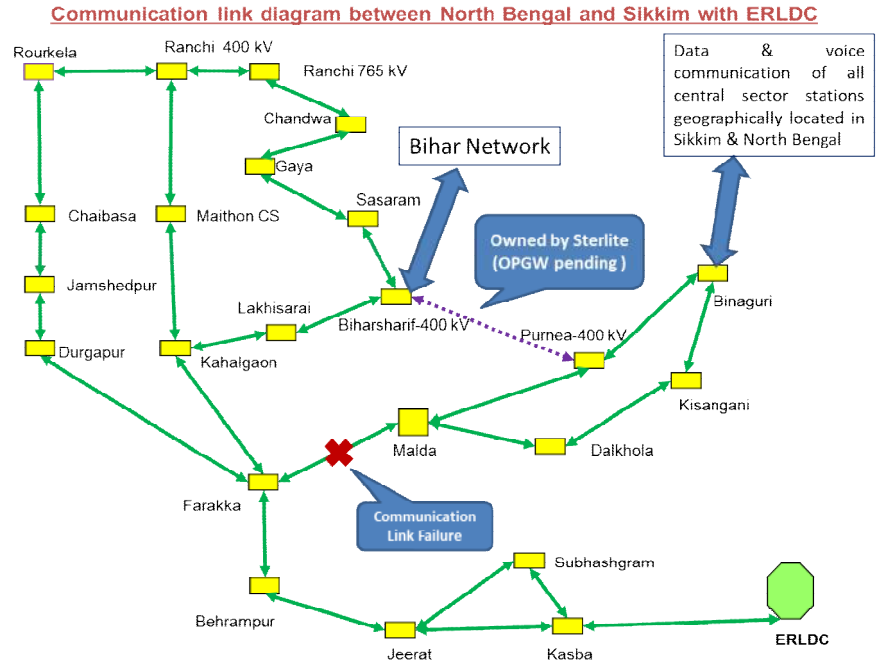


Fig 3: Communication link (OPGW) diagram between North Bengal and Sikkim with ERLDC

Availability of path redundancy of Malda – Farakka communication link could have prevented such unwanted disruption in real time voice and telemetry communication. Non availability of stand by channel to backup ERLDC located NLDC New Delhi, which is required as per Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017, is getting prompted as matter of great concerns which need immediate attention of all Eastern Regional utility and communication links provider i.e. POWERGRID ULDC.

The alternate protection path could be achieved after installation of OPGW communication link between Purnea 400 kV to Biharshariff 400 kV. This link is owned by M/s East North Interconnection Company Limited (a subsidiary of Sterlite Power Transmission Limited).

The above failure impact could be mitigated with the help of followings measure:-

a. Provision of laying OPGW communication link between Purnea 400 kV to Biharshariff 400 kV could be explored and implemented so that alternate protection path would be available for Malda – Farakka communication link data & voice transfer in case of such failure.
b. The standby / backup communication links to backup ERLDC located at New Delhi for central sectors stations are yet to be provided by POWERGRID. The availability of the standby links could have mitigated the failure of all central sector station real time SCADA data at ERLDC.

We all know that the importance of real time SCADA data & voice availability to the real time operators in making decision for ensuring integrated operation of the power system, Reliability, Security and Economy in Power System Operation in Eastern Region.

:: xx ::

Reports on real time telemetry failure of Eastern Region on 14th December 2017

Overview:

On 14th December 2017 at 12:52 hours, there was almost complete outage of real time SCADA telemetry and voice connectivity of Eastern Region due to communication failure. The real time data partially restored at 14:33 Hours and completely restored at 15:28 Hours of 14th December 2017.

Background:

Real time SCADA data and voice connectivity of PMUs installed in Eastern Region, central sector RTU/SAS, all SLDCs, NLDC with ERLDC is established through Jeerat & Kasba. There are two communications path available from Jeerat to Kasba mainly one direct Jeerat Kasba OPGW & another Jeerat – Subhashgram – Kasba OPGW (shown in fig 1). On 14th December 2017 at 12:52 hours, there was almost complete outage of real time SCADA telemetry and voice connectivity of Eastern Region due to communication failure.

The real time SCADA data was interrupted due to fibre issue between Jeerat – Kasba section.

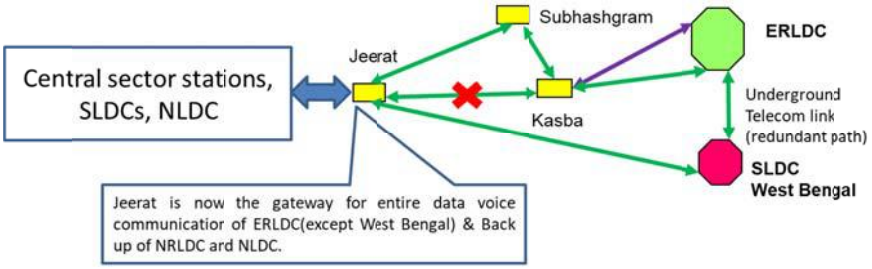


Fig 1: Communication diagram between ERLDC and Jeerat.

Real time data of entire Central sector station (as shown in fig 2) and all stations under state sector jurisdiction (except West Bengal) (as shown in fig 3) and other neighbor region, VOIP connectivity of ERLDC, data exchange with Back up ERLDC located at New Delhi, PMU data exchange of ER WAMS pilot project as well as of URTDSM project got disrupted due to the incident. Data exchange between Main NLDC & Main NRLDC located New Delhi and Back up NLDC & NRLDC, Kolkata also got interrupted.

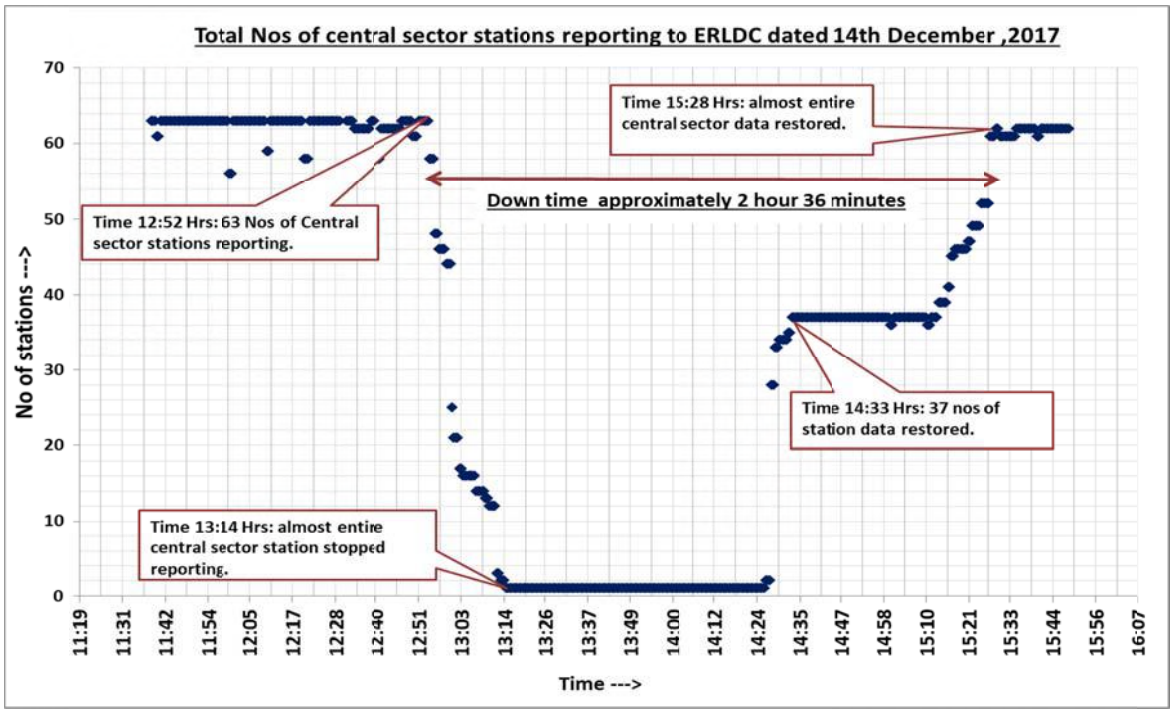


Fig 2: Total Nos of central sector stations reporting to ERLDC dated 14th December, 2017.

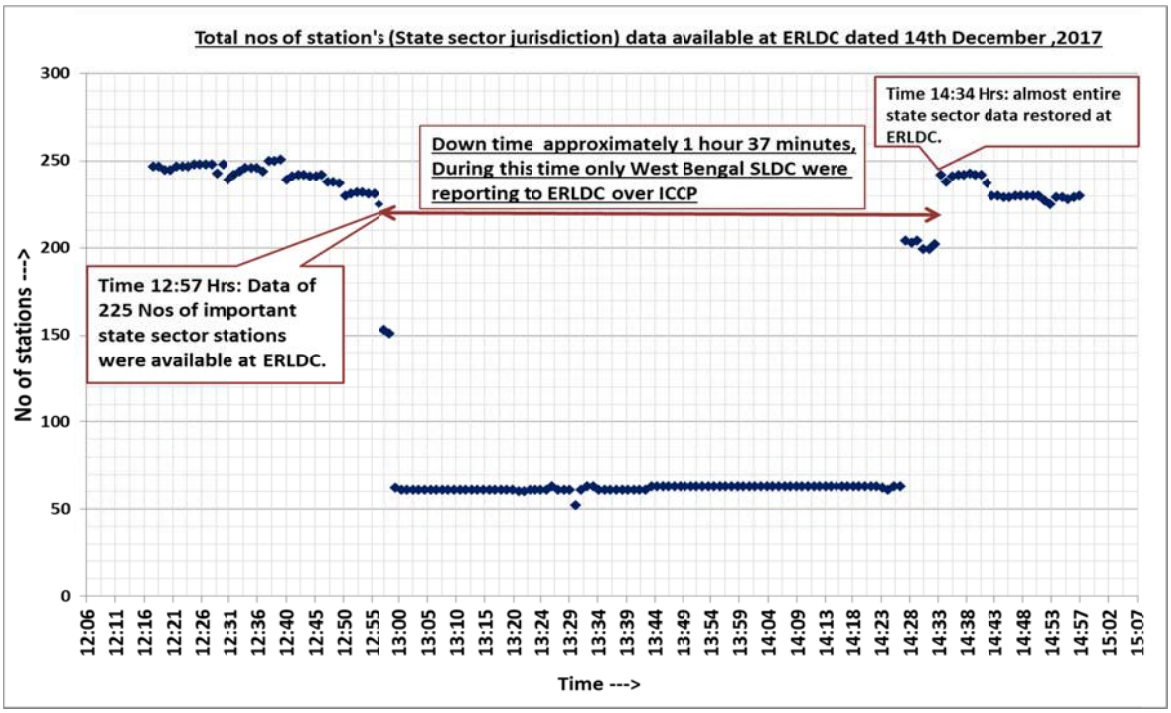


Fig 3: Total nos of station's (State sector) data available ERLDC dated 14 December, 2017.

Findings & Conclusion:

There was planned activity going on between Kasba - Jeerat OPGW section (shown in fig 1 above) in co-ordination with WBSETCL & POWERGRID. Alternate protection path via Subhasgram was configured but not worked at the time of the event. ERLDC was not aware about the ongoing activity.

The same could be avoided with the help of followings:-

a. Protection path was configured as claimed by POWERGRID but not tested. The same could have been tested taken due confidence of ERLDC.
b. The standby / backup ICCP communication links to backup ERLDC located at New Delhi are yet to be provided by POWERGRID. The availability of the standby links could have mitigated the failure of all state sector (Except West Bengal) real time SCADA data at ERLDC.
c. Similarly, the standby / backup communication links to backup ERLDC located at New Delhi for central sectors stations are yet to be provided by POWERGRID. The availability of the standby links could have mitigated the failure of all central sector station real time SCADA data at ERLDC.

We all know that the importance of real time SCADA data & voice availability to the real time operators in making decision for ensuring integrated operation of the power system, Reliability, Security and Economy in Power System Operation in Eastern Region.

To prevent such unwanted disruption in real time telemetry and Voice communication, standby/backup channel has to be implemented by POWERGRID at the earliest. Both the channel i.e. main and stand by channel has to be kept in healthy state. Drills have to be conducted at regular interval for checking healthiness of both the channels. Measures have to be taken and implemented to standardize the regional communication system as per Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 which is enforced since 01-07-2017 as per gazette notification dated 15-05-2017.

:: xx ::

Annexure-B8

PPA details for the year 2017-18 to 2019-20

Name of the State :

		2017-18			2018-19			2019-20		
		Share/Contracted power (in MW)	Fixed Charges (Rs/kwh)	Variable charges (Rs/kwh)	Share/Contracted power (in MW)	Fixed Charges (Rs/kwh)	Variable charges (Rs/kwh)	Share/Contracted power (in MW)	Fixed Charges (Rs/kwh)	Variable charges (Rs/kwh)
1. Hydro Generation										
(a)	**Own generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(b)	**CGS generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(c)	**IPP`s generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

	---									
2. Thermal Generation (Coal/Gas/Nuclear)										
(a)	**Own generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(b)	**CGS generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(c)	**IPP`s generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

	---									
	3. RES Generation									
(a)	**Own generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(b)	**CGS generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

(c)	**IPP`s generation**									
i.	Power station I									
ii.	Power station II									
iii.	Power station III									
iv.	Power station IV									

Annexure-B9

FoR Technical Committee on Grid Integration of Renewable Energy (RE), with reference to regional cooperation and other options for managing intra-day load / generation variation due to RE or otherwise -– Record of Proceedings of the meeting held on 18.8.2017.

In order facilitate implementation of Framework on Renewables at State Level, FoR constituted a Technical Committee under the Chairmanship of Shri A.S. Bakshi, Member, CERC. The mandate given to the Committee *inter alia* includes evolving a roadmap for implementation of Framework on Forecasting, Scheduling and Deviation Settlement of Wind & Solar generating stations at State Level, implementation of ABT Framework, introduction of Ancillary Services and Reserves, implementation of Automatic Generation and Primary Control etc.

2. The Technical Committee in its meeting held on 28.3.2017 at Chennai, discussed the matter related to Co-operation among States for Optimum Utilization of their Generation Resources, amongst the other issues. During the discussion, it was decided that sub-groups be constituted in the Northern Region, Western Region and Southern Region (the three RE rich regions) headed by the Member Secretaries of the respective Regional Power Committees (RPCs). The Sub-groups were mandated to examine the feasibility and modality of co-operation among States in the respective region for ensuring optimum utilization of generation resources with least cost options for balancing across the region and submit their findings before the Technical Committee.

3. A meeting of the Heads / Representatives of the Sub-Groups was convened under the Chairmanship of Shri A.S.Bakshi, Member, CERC on 18.8.2017 in CERC, New Delhi to review the progress on framework for regional co-operation. The list of participants is at **Annexure - I.**

4. The following emerged during the deliberations in the meeting:-

- Of late, the States have recognized the value of electricity resource vis-à-vis the cost of generation. Some of the States are not willing to cooperate with other States in the Region on “cost” basis.
- It was also observed that some of the Regions are predominantly “Surplus” in power, leaving little scope for co-operation within the region. This necessitates a national level framework / product for optimum resource utilization.
- Various other options for handling intra-day load / generation variation due to RE or otherwise were also discussed as at **Annexure-II,** viz. (i) Banking; (ii) DAM price on PX as reference; (iii) Pool based on VC as approved by the Regulator and on payment of cost; (iv) Pool based on VC as approved by the Regulator and on payment of MC; (v) Pool based on auction for intra-day for the rest of the day; (vi) Pool based on auction for intra-day on hourly basis; (vii) Pool based on auction for intra-day on intra-hour basis i.e for 15 min. block-wise etc.

5. During the meeting it was decided to share with all RPCs the options raised therein and seek feedback.

Annexure - I

List of participants attended meeting of the Sub-Group under FOR Technical Committee Meeting held on 18.8.2017 under the Chairmanship of Shri A.S. Bakshi, Member, CERC

1. Shri A.S. Bakshi, Member, CERC
2. Dr. M.K. Iyer, Member, CERC
3. Shri M.A.K.P. Singh, Member Secretary, NRPC
4. Shri A. Balan, Member Secretary, WRPC
5. Shri S.R. Bhat, Member Secretary, SRPC
6. Shri S.C. Shrivastava, Chief (Engineering), CERC
7. Dr. S.K. Chatterjee, Joint Chief (Regulatory Affairs), CERC
8. Shri K.V.S. Baba, CEO, POSOCO
9. Shri S.K. Soonee, Advisor (POSOCO)
10. Smt. Shilpa Agarwal, Joint Chief (Engg.)
11. Shri S.S. Barpanda, GM, NLDC
12. Shri Samir Saxena, DGM, NLDC
13. Shri M.M. Chaudhari Deputy Chief (Engg.)
14. Smt. Shruti Deorah, Advisor (RE), CERC
15. Shri Anil, SRPC
16. Shri H.K. Pandey, S.E, NRPC
17. Shri Rajasekhar Devaguptapu, Regulatory Executive Officer, CERC
18. Shri Siddharth Arora, Research Officer, CERC

Annexure-II

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

Seven options have been proposed for Hour Ahead Transactions.

Option-1: Banking

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

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

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

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

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

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

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

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

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

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

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

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

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

II. Illustration:

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

****

Agenda C.5: Identification of suitable loads for disconnection to control overdrawal by constituents

141 st OCC Meeting

IEGC Section 5.4.2 : Demand Disconnection

5.4.2 (b) The SLDC/ SEB/distribution licensee and bulk consumer shall ensure that requisite load shedding is carried out in its control area so that there is no overdrawal.

5.4.2 (c) Each user/STU/SLDC shall formulate contingency procedures and make arrangements that will enable demand disconnection to take place, as instructed by the RLDC/SLDC, under normal and/or contingent conditions. These contingency procedures and arrangements shall regularly be/updated by User/STU and monitored by RLDC/SLDC. RLDC/SLDC may direct any User/STU to modify the above procedures/ arrangement, if required, in the interest of grid security and the concerned User/STU shall abide by these directions.

5.4.2 (f) To comply with the direction of RLDC, SLDC may direct any SEB/ distribution licensee/bulk consumer connected to the STU to curtail drawal from grid. SLDC shall monitor the action taken by the concerned entity and ensure the reduction of drawal from the grid as directed by RLDC.

Feeders already identified by W. Bengal in 138th OCC for demand disconnection (in case of persistent overdrawal)

Priority	Feeders/ICTs	Point of Disconnection	Expected Load Relief (MW)
1	220 kV Dalkohla (PG)-Dalkohla(WB)	220 kV Dalkohla-PG	
2	132 kV Malda (PG)-Malda(WB)	132 kV Malda-PG	
3	132 kV Birpara(PG)-Birpara(WB)	132 kV Birpara(PG)	

Additional feeders proposed to be included in the scheme for demand disconnection

Feeders	Expected load relief
132kV Satgachhia-Kalna D/C	
132kV Bidhannagar-Ukhra D/C	
132kV Arambag-Raina D/C	
132kV Domjur-Jangipara D/C	
132kV N. Bisnupur-Khatra D/C	
132kV L'kantapur-Kakdwip D/C	

There are several 132kV load centres in W. Bengal which have the scope for receiving power from alternative 220/132kV S/Stns. Normally however, they are supplied radially from one of the 220/132kV S/stns only. W. Bengal may please furnish the list of such 132kV S/Stns with their usual sources, and indicate the feasibility of including them in the demand management scheme.

Feeders already identified for demand disconnection (in case of persistent overdrawal) in Odisha

Priority	Feeders/ICTs	Point of Disconnection	Expected Load Relief (MW)
1	220 kV Rengali(PG)-Rengali(OPTCL)	220 kV Rengali-PG	
2	220/132 kV Baripada 160 MVA ICT	220 kV Baripada-PG	
3	220 kV Baripada(PG)-Balsore (Odisha)	220 kV Baripada-PG	

Additional feeders proposed to be included in the scheme for demand disconnection

Feeders	Remarks	Expected load Relief (MW)
132kV Bolangir(New)-Patnagarh S/C		
132kV Chhatrapur – Ganjam S/C		
132kV Bhanjanagar-Phulbani S/C		
132kV Bhadrak-Dhamra D/C		
132kV Chandaka-Nimapara / Ranasighpur		
132kV Jeynagar-Raygada / Sunabeda or 132kV Therubali-Raygada S/C	Depending upon source of supply	
132kV Baripada(PG)-Jaleswar/Bhograi Or 132kV Bhadrak-Jaleswar/Bhograi	Depending upon source of supply	
132kV Jajpur Rd. – Kendrapara D/C or 132kV Paradeep-Kendrapara D/C	Depending upon source of supply	

Feeders already identified for demand disconnection (in case of persistent overdrawal) in DVC

Priority	Feeders/ICTs	Point of Disconnection	Expected Load Relief (MW)
1	220 kV Maithon (PG)-Kalyaneswari (DVC)	220 kV Maithon-PG	
2	220 kV Parulia (PG)-Parulia (DVC)	220 kV Parulia PG	
3	220 kV Maithon (PG)-Dhanbad (DVC)	220 kV Maithon-PG	

Note: Kalyaneswari, Parulia(DVC) and Dhanbad have alternative sources of supply. Therefore if both the 220kV circuits from PGCIL to these S/stns are switched off, either there may be no load relief or the transmission system of the alternative source may trip on overload, leading to widespread load loss

Additional feeders proposed to be included in the scheme for demand disconnection

Feeders	Remarks	Expected load Relief (MW)
132kV Barhi-Hazaribagh D/C		
132kV Waria-Kalipahari D/C AND 132kV Kalyaneswari-Kalipahari D/C	Kalipahari supplied from both sources *	
132kV Waria-Bardhaman D/C AND 132kV Belmuri - Bardhaman D/C	Bardhaman supplied from both sources *	
132kV Kharagpur-Mosabani D/C AND 132kV Jamshedpur-Mosbani D/C	Mosabani supplied from both sources *	
132kV CTPS-Purulia D/C AND 132kV Jamshedpur-Purulia D/C	Purulia supplied from both sources *	

* Negligible availability of 132kV radial loads in DVC. Most of the 132kV S/Stns cater to traction / colliery loads in addition to other non-critical loads.

Feeders already identified by JUSNL for demand disconnection in 138th OCC(in case of persistent overdrawal)

Priority	Feeders/ICTs	Point of Disconnection	Expected Load Relief (MW)
1	One 400/220 kV 315 MVA ICT Jamsedpur	400 kV Jamsedpur	
2	220 kV Ranchi(PG)-Chandil(JUVNL)	220 kV Ranchi-PG	

Note: Above elements are either inadequate to effect any load relief or may lead to widespread load loss due to consequent overload of other interconnected elements

Feeders proposed to be included in the scheme for demand disconnection in Jharkhand

Feeders	Remarks	Expected load Relief (MW)
132kV Lohardaga-Latehar D/C		
132kV Chandil – Golmuri D/C		
132kV Dumka-Pakur S/C		
132kV Lalmatia-Sahebganj S/C		

NOTE: Most of the 132kV S/Stns in JUSNL supply traction loads besides other non-critical loads. Identification of 132kV feeders whose disconnection would not affect traction supply, is difficult.

Feeders identified by Bihar in 138th OCC meeting, for demand disconnection (in case of persistent overdrawal)

Priority	Feeders/ICTs	Point of Disconnection	Expected Load Relief (MW)
1	132kV Banka(PG)-Banka D/C line	132kV Banka PG	60
2	132kV Banka(PG)-Sultanganj D/C	132kV Banka PG	80
3	132kV Ara(PG)-Jagdishpur S/C line	132 kV Ara PG	45

Additional feeders proposed to be included in the scheme for demand disconnection

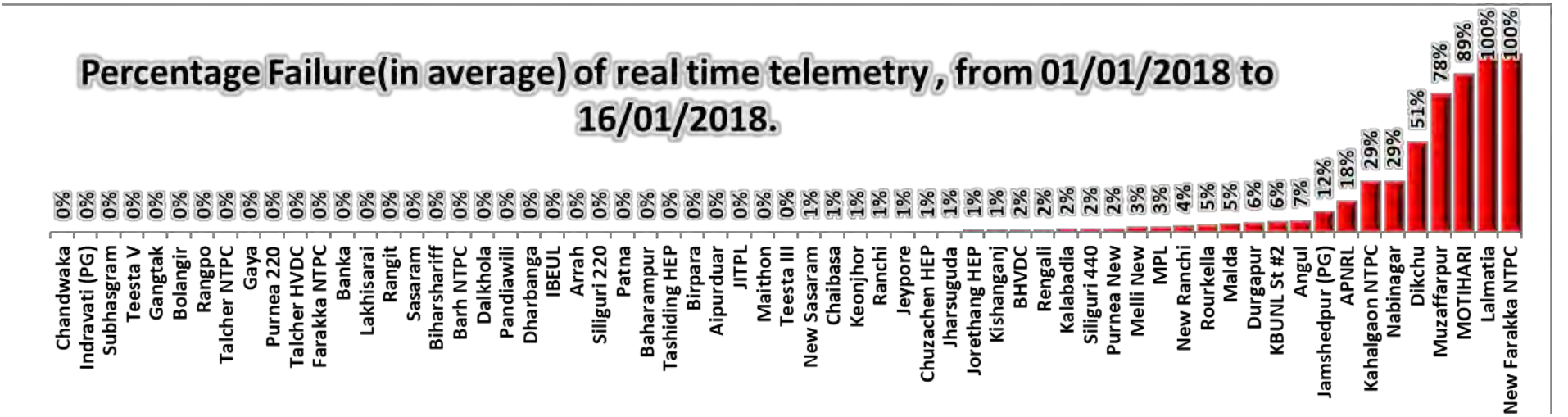
Feeders	Remarks	Expected load Relief (MW)
132kV Khagaul-Digha D/C		
132kV Khagaul-Bihta D/C		
132kV Bodhgaya-Sherghati S/C		
132kV Biharshariff-Hulasgarh / Ekangarsarai D/C		
132kV Sonenagar-Aurangabad D/C		

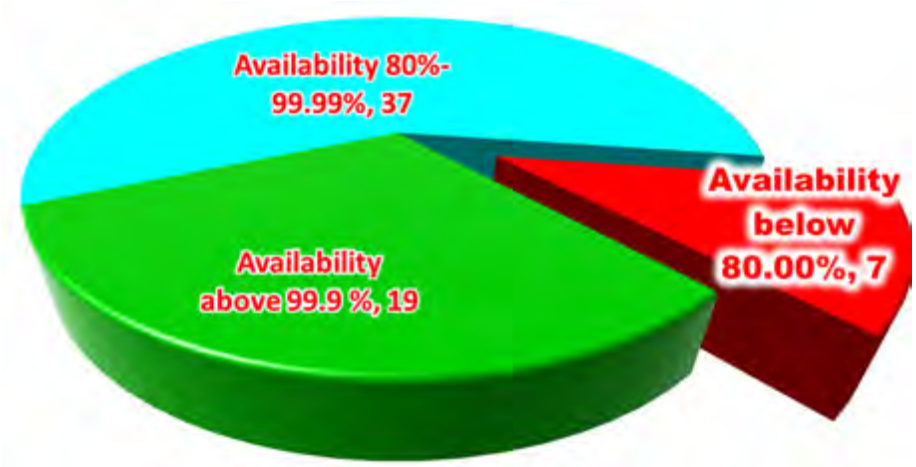
There are several 132kV load centres in Bihar which have the scope for receiving power from alternative 220/132kV S/Stns. Normally however, they are supplied radially from one of the 220/132kV S/stns only. Bihar may please furnish the list of such 132kV S/Stns with their usual sources, and indicate the feasibility of including them in the demand management scheme.

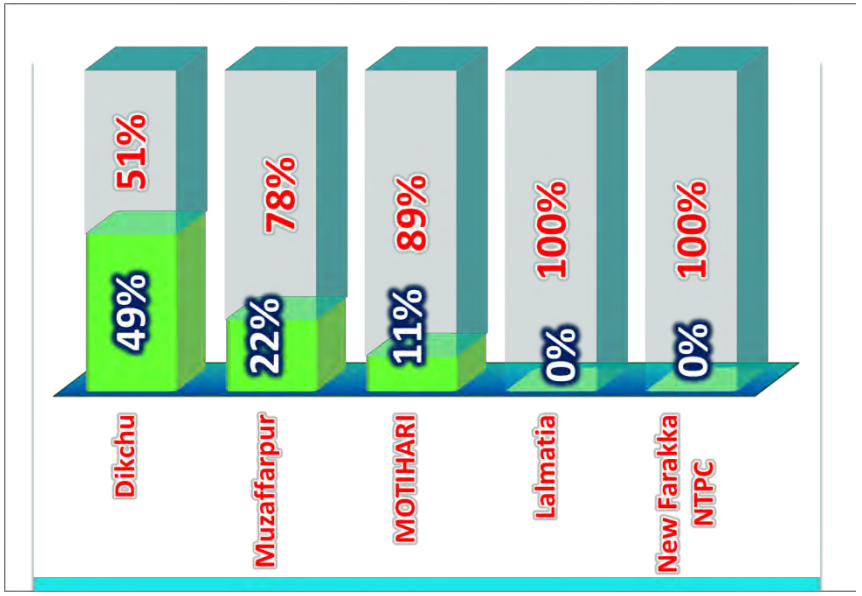
Overview of real time telemetry of Eastern region

Agenda No: C.18

Annexure-C18

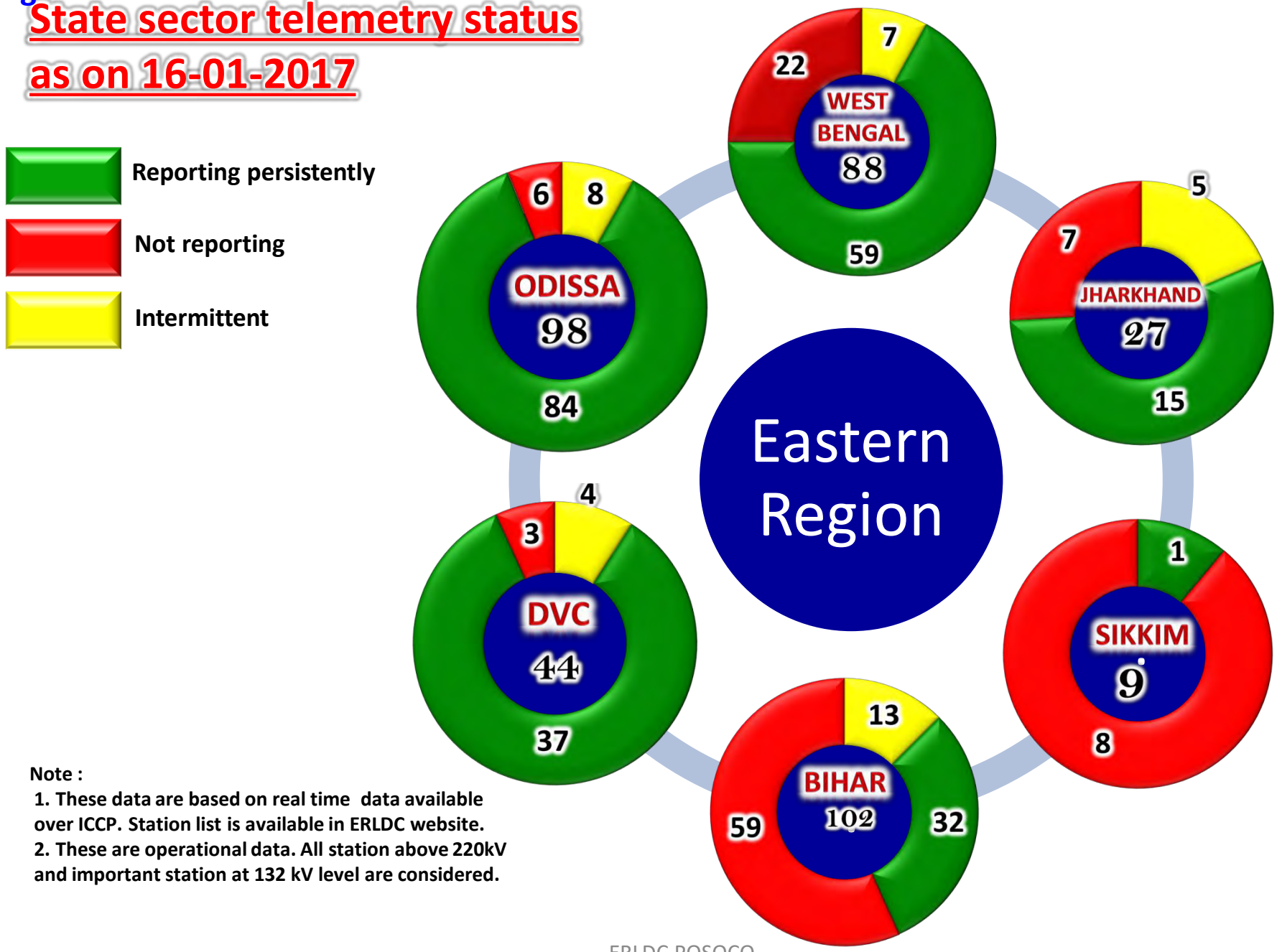






Agenda No: C.18

State sector telemetry status as on 16-01-2017



Note :

1. These data are based on real time data available over ICCP. Station list is available in ERLDC website.
2. These are operational data. All station above 220kV and important station at 132 kV level are considered.

Agenda No: C.18

VOIP

(Voice over Internet Protocol)

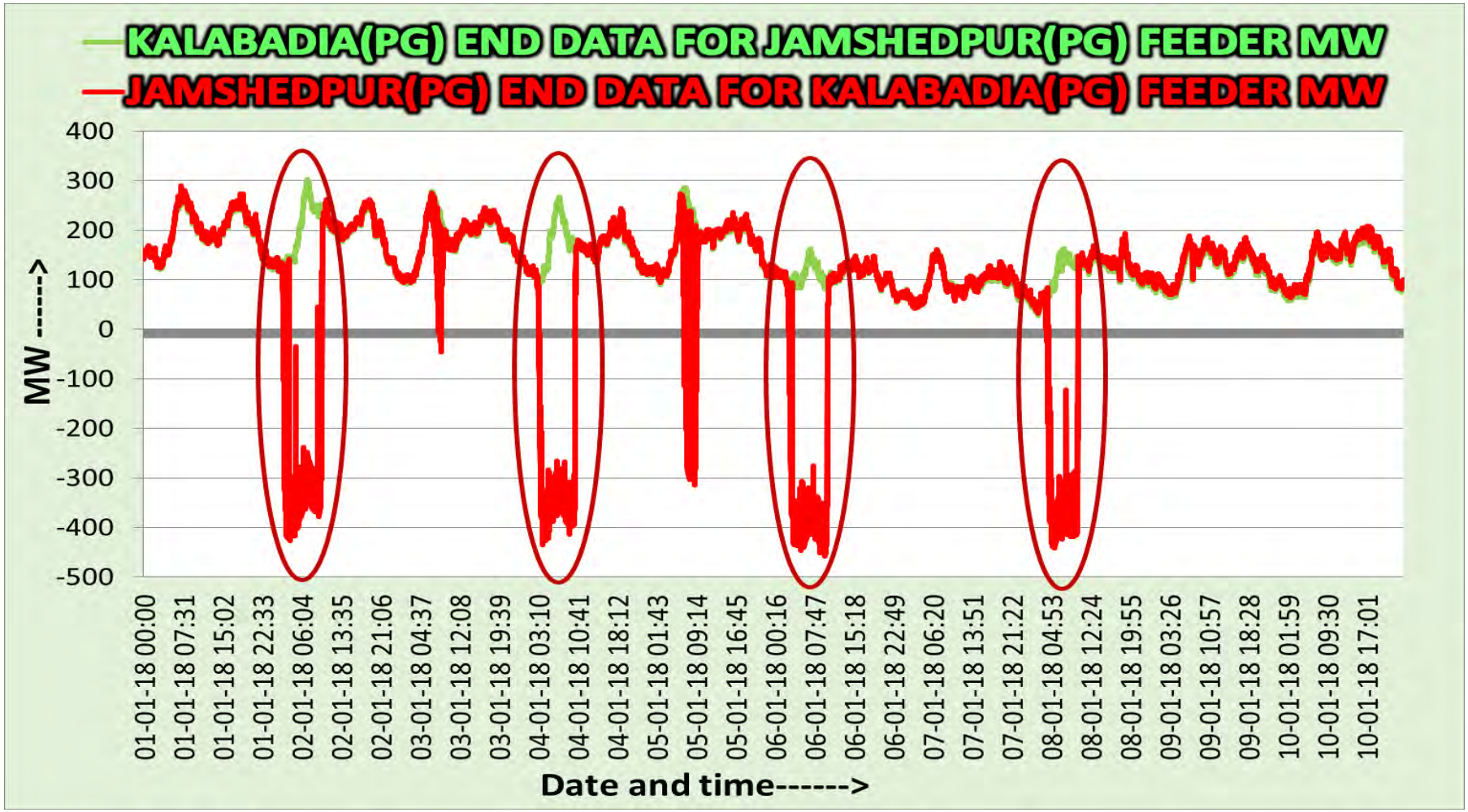
Note: Above statistics are based on result of 5 minutes interval ping response of VOIP (Voice Over Internet Protocol) handset.

Complete Outage (< 10% avl)	Partial outage (10% to 90% avl)	Availability > 90 %

Sl No	Station Name	Monthly average	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan
1	Jeypore	0.0%															
2	Daltonganj	0.0%															
3	Indrabati	0.0%															
4	Dalkhola	38.0%															
5	Durgapur	70.1%															
6	Kisanganj	71.8%															
7	Purnia 220	86.8%															
8	Patna	87.5%															
9	Gangtok	87.8%															
10	Ranchi 400	88.8%															
11	Sikkim	91.0%															
12	Pandiavil	92.6%															
13	Kehelgaon NTPC	96.1%															
14	Bolangir	96.8%															
15	Ranchi 765	97.0%															
16	Biharsarif 400kv	98.0%															
17	Rangit	98.7%															
18	Maithon	99.0%															
19	Bhubaneswar	99.0%															

Agenda No: C.18

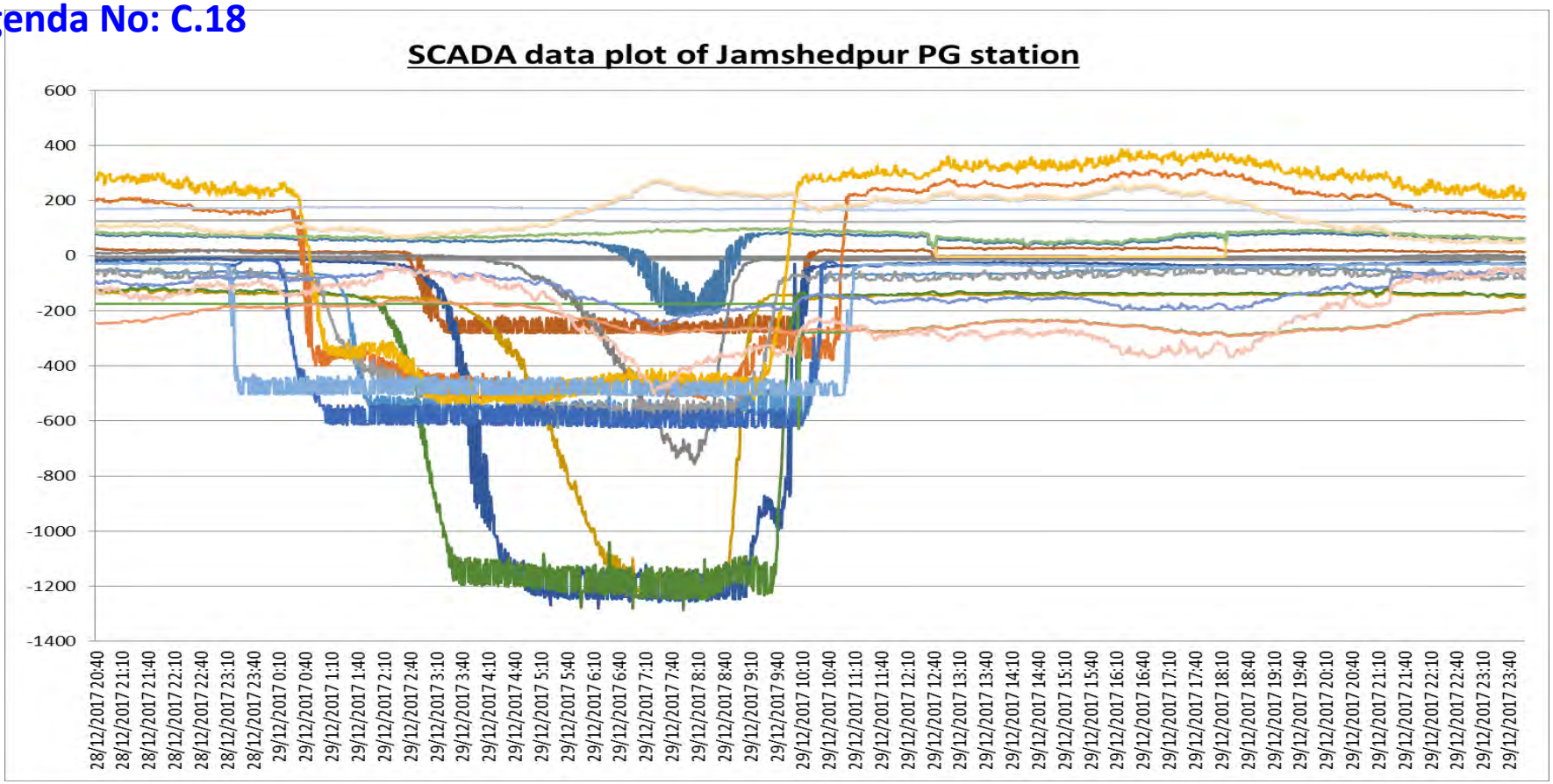
Erroneous real time data of Jamshedpur RTU



During night hours (starting approximately from 11:30 PM to 10:00 AM of Next day), Jamshedpur RTU is reporting absurd analog value for all feeder emanating from Jamshedpur station.

Erroneous real time data of Jamshedpur RTU

Agenda No: C.18



- One of such event dated 29th December,2017 is depicted above.
- These absurd values are coming from RTU with good quality, which is creating difficulties in making real time decision.
- POWERGRID ULDC were informed about the incidents, the same is yet to be rectified.

Agenda No: C.18

Major concerns

- Non availability of real time data of Muzaffarpur station having inter-regional connectivity (04/Jan/18).
- Prolonged outage of Motihari SCADA data (PLCC link between Barh and Motihari is down).
- Long outage of New Farakka SCADA data.
- VOIP for JITPL yet to be provided, Commissioning PLCC for data communication via 765 kV Angul Station.
- No redundancy or stand by in communication channel
- Non availability of Unit side data→
  - Farakka STPS (Unit #6).
  - Non availability of Unit side data is affecting the FRC and MVAr response calculation. We are again requesting concerned utility to make these real time data available to real time operator at the earliest.

Agenda No: C.18

BIHAR

List of station having availability higher than 90%

Begusarai(220kV)	Biharsharif(220kV)	BODH GAYA(220kV)	Darbhanga(220kV)	Hajipur(220kV)	KHAGAUL(220kV)
Kishanganj new(220kV)	Madhepura(220kV)	Pusauli(220kV)	Samastipur new(220kV)	Sipara(220kV)	Uda Kishanganj(220kV)
BANJARI(132kV)	BARIPAHARI(132kV)	BETIAH(132kV)	BIHTA(132kV)	Chhapra(132kV)	DIGHA(132kV)
Hajipur Old(132kV)	Jakkanpur(132kV)	KARBIGAHIA(132kV)	Karpi(132kV)	Kundra(132kV)	LAKHISARAI(132kV)
Raxaul (132kV)	Runisaidpur(132kV)	Sabour(132kV)	Sasaram(132kV)	Shekhpura(132kV)	Shitalpur(132kV)
Sonenagar(132kV)	Vaishali(132kV)	Wazirganj(132kV)			

List of station having availability higher than 10% and less than 90%

GOPALGANJ(220kV)	BARH(132kV)	DHAKA(132kV)	Dumraon(132kV)	Jagdishpur(132kV)	Jai Nagar(132kV)
Khagaria(132kV)	Samastipur(132kV)	Sitamarhi(132kV)	SKMCH(132kV)		

List of stations having availability (less than 10% or RTU not integarated)

DEHRI(220kV)	Fatuha(220kV)	sonenagar new(220kV)	Arrah(132kV)	Aurangabad(132kV)	Banka(132kV)
Belaganj(132kV)	BIKRAMGANJ(132kV)	BUXAR(132kV)	Chandauti(132kV)	Dalsinghsarai(132kV)	Dhandaha(132kV)
Ekangarsarai(132kV)	Ekma(132kV)	Forbisganj(132kV)	Gaighat(132kV)	Gangwara(132kV)	GOH(132kV)
Harnaut(132kV)	Hathidah(132kV)	HULASGANJ(132kV)	Imamgunj(132kV)	Jahanabad(132kV)	Jamalpur(132kV)
Jamui(132kV)	Jandaha(132kV)	Kahalgaon(132kV)	Karmnasa(132kV)	Katihar(132kV)	Katra(132kV)
Kishanganj(132kV)	Kochas (Dinara)(132kV)	Koshi(132kV)	Kusheswar Asthan (132kV)	Madhubani(132kV)	MASAURHI(132kV)
MASRAKH(132kV)	Mithapur(132kV)	Mohania(132kV)	Motihari(132kV)	Muzaffarpur (Ramdayalu)(132kV)	Nalanda(132kV)
Naugachhia(132kV)	Nawada(132kV)	Pandaul(132kV)	Phulparas (132kV)	Purnea(132kV)	RAFIGANJ(132kV)
Rajgir(132kV)	Ramnagar(132kV)	SAHARSA(132kV)	Sherghati(132kV)	Siwan(132kV)	Sonebarsa(132kV)
Sultanganj(132kV)	Supaul(132kV)	TEHTA(132kV)	Tekari(132kV)	Valmikinagar(132kV)	

Agenda No: C.18

DVC

List of station having availability higher than 90%

BOKARO A TPS(400kV)	DURGAPUR TPS(400kV)	MEJIA B TPS(400kV)	RAGHUNATHPUR(400kV)	TISCO(400kV)	BARHI(220kV)
BURNPUR(220kV)	CTPS 1(220kV)	CTPS 2(220kV)	CTPS B(220kV)	DURGAPUR(220kV)	HOWRAH(220kV)
JAMSHEDPUR(220kV)	KALYANESWARI(220kV)	MEJIA A TPS(220kV)	PATRATU(220kV)	RAMGARH(220kV)	WARIA TPS(220kV)
ASP(132kV)	BAIDA(132kV)	BARDWAN(132kV)	BARJORA(132kV)	BELMURI(132kV)	CHANDIL(132kV)
GOLA(132kV)	JAMURIA(132kV)	KALIPAHARI(132kV)	KODARMA(132kV)	KUMARDHUBI(132kV)	MAITHON HPS(132kV)
PANCHET HPS(132kV)	PARULIA(132kV)	PATHERDIH(132kV)	PURULIA(132kV)	PUTKI(132kV)	RAMGARH(132kV)
RAMKANAL(132kV)					

List of station having availability higher than 10% and less than 90%

DHANBAD(220kV)	MOSABANI(220kV)	HAZARIBAG(132kV)	JORTH KARANPURA(132kV

List of station having availability less than 10%

GIRIDHI(132kV)	KHARAGPUR(132kV)	NIMIAGHAT(132kV)

JHARKHAND

List of station having availability higher than 90%

Chandil(220kV)	Patratu(220kV)	Ramchandrapur(220kV)	Tenughat(220kV)	Adityapur(132kV)	Dumka(132kV)
Hatia-I(132kV)	Jadugoda(132kV)	Japla(132kV)	Kanke(132kV)	Lalmatia(132kV)	Manique(132kV)
Namkum(132kV)	Pakur(132kV)	Sahebganj(132kV)			

List of station having availability higher than 10% and less than 90%

Chakradharpur(132kV)	Daltonganj(132kV)	Golmuri(132kV)	Kamdara(132kV)	Noamundi(132kV)

List of station having availability less than 10%

Hatia-II(220kV)	Deoghar(132kV)	Garawah(132kV)	Goilkera(132kV)	Jamtara(132kV)	Latehar(132kV)
Rajkharsawan(132kV)					

Agenda No: C.18

WEST BENGAL

List of station having availability higher than 90%

Arambag(400kV)	Domjur(220kV)	Gokarna 400kv(400kV)	Haldia TPP(400kV)	Howrah(220kV)	Kasba(220kV)
KTPS(400kV)	Midnapur(220kV)	PPSP(400kV)	Satgachia(220kV)	Durgapur(400kV)	Bakreswar(400kV)
Kharagpur(400kV)	Sagardighi(400kV)	CHANDITALA(400kV)	Asansol(220kV)	DPL(220kV)	Gokarna(220kV)
Rishra(220kV)	STPS(220kV)	NJP(220kV)	Bishnupur(132kV)	BTPS(132kV)	Liluah(132kV)
Rammam(132kV)	Saltlake(132kV)	Titagarh(132kV)	NBU(132kV)	Ashoknagar(132kV)	Adisaptagram(132kV)
New Bishnupur(220kV)	Borjora(132kV)	Bighati(132kV)	Kursiang(132kV)	NPPSP(400kV)	FOUNDRY PARK(220kV)
IPCHL(220kV)	JK NAGAR(220kV)	NEWTOWN3(220kV)	SADAIPUR(220kV)	DHARAMPUR(220kV)	Budge Budge(CESC)(220kV)
Chakmir(CESC)(132kV)	Majherhat(CESC)(132kV)	Southern(CESC)(132kV)	Botanical gurden(CESC)(132kV)	New Coshipur(CESC)(220kV)	Princep street(CESC)(132kV)
Parklane(CESC)(132kV)	Titagarh(CESC)(132kV)	BT Road(CESC)(132kV)	Jadavpur(CESC)(132kV)	EM Bypass(CESC)(220kV)	Chakmir(CESC)(132kV)
East Calcutta(CESC)(132kV)	Dum Dum(CESC)(132kV)	Taratala(CESC)(132kV)	BBD Bag(CESC)(132kV)	Belur(CESC)(132kV)	

List of station having availability higher than 10% and less than 90%

Jeerat(400kV)	Lakshmikantapur(220kV)	Subhasgram(220kV)	Durgapur(220kV)	Haldia Old(132kV)	Maldah(132kV)

List of station having availability less than 10%

Haldia New(220kV)	Dalkhola(220kV)	Krishnanagar(220kV)	KLC Bantala(220kV)	Barasat(132kV)	Bongaon(132kV)
Kolaghat(132kV)	Raigunj(132kV)	Sainthia(132kV)	Birpara(132kV)	Chalsa(132kV)	Tcf-1(132kV)
Tcf-3(132kV)	Tarakeswar(132kV)	Alipuduar(132kV)	Gangarampur(132kV)	Joka(132kV)	Kalimpong(66kV)
Hizli(132kV)	TLDP3(220kV)	TLDP4(220kV)	Patuli(CESC)(132kV)		

Agenda No: C.18

ODISHA

List of station having availability higher than 90%

Mendhasal(400kV)	Meramundali(400kV)	JSPLA(400kV)	GMR(400kV)	Jayanagar(220kV)	Balimela HPS(220kV)
Uper Kolab HPS(220kV)	Theruvalli(220kV)	Indravati HPS(220kV)	Bhanjanagar(220kV)	Narendrapur(220kV)	Nayagarh(220kV)
Rengali HPS(220kV)	TTPS(220kV)	NALCO(220kV)	gali swiching station(220	Joda(220kV)	Duburi New(400kV)
Duburi Old(220kV)	Paradeep(220kV)	Bhdrakh(220kV)	Balasore(220kV)	Budhipadar(220kV)	IB TPS(220kV)
Bolangir New(220kV)	Tarkera(220kV)	TATA POWER(220kV)	JSL(220kV)	TSIL(220kV)	VEDANTA(220kV)
JSPL(220kV)	MIL(220kV)	OPTCL (Podia)(220kV)	Sunabeda(132kV)	Machhkund HPS(132kV	Rayagada(132kV)
Chhatrapur(132kV)	Aska(132kV)	Bhubaneswar (132kV)	Khurda(132kV)	Puri(132kV)	Cuttack(132kV)
Choudwar(132kV)	ICCL(132kV)	Chainpal(132kV)	Rairangpur(132kV)	Dhenkanal(132kV)	Baripada(132kV)
Jajpur Road(132kV)	Angul(132kV)	Boinda(132kV)	Kendrapara(132kV)	Kamakhyanagar(132kV)	Rourkela(132kV)
Burla HPS(132kV)	Chiplima HPS(132kV)	Sambalpur(132kV)	Rajgangapur(132kV)	Bargarh(132kV)	ARYAN(132kV)
NBVL(132kV)	EMAMI(132kV)	ARATI(132kV)	AISCL(132kV)	IMFFA(132kV)	MINAKHEE(132kV)
OPCL(132kV)	OCLRJ(132kV)	OCL(132kV)	Bolangir Old(132kV)	Bolani(132kV)	Soro(132kV)
Sonepur(132kV)	Anandpur (132kV)	Barpalli(132kV)	Digapahandi(132kV)	Jaleswar(132kV)	Chhend(132kV)
Karanjia(132kV)	Kesura(132kV)	Patnagarh(132kV)	Pattamundai(132kV)	Phulbani(132kV)	Sundargarh(132kV)

List of station having availability higher than 10% and less than 90%

Bidanasi(220kV)	Chandaka(220kV)	Barkote(220kV)	Akhusinga(132kV)	Basta(132kV)	Balugaon(132kV)
ACC, Bargarh(132kV)	Kalarangi(132kV)				

List of station having availability less than 10%

VISA(220kV)	Kesinga(132kV)	Sijua(132kV)	SHYAM(132kV)	ANTA(LANGIGARH)(13	Parlakhemundi(132kV)

Annexure-C19

List of the ICT/ATR/TRF belong to ISGS & ISTS transmission licensees

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Angul	765/400	1500	4	HV	23	4	12	12	NA
Gaya	765/400	1500	3	HV	23	4	12	12	NA
Jharsuguda	765/400	1500	2	HV	23	4	12	12	NA
New Ranchi	765/400	1500	2	HV	23	4	12	12	NA
New Sasaram	765/400	1500	2	HV	23	4	12	12	NA
Alipurduar	400/220	315	2	NA	NA	NA	NA	NA	NA
Baripada	400/220	315	2	HV	17	5	11	9	NA
Baripada	400/220	500	1	NA	NA	NA	NA	NA	NA
Biharshariff	400/220	315	3	HV	17	5	12	9	NA
Binaguri	400/220	315	2	HV	17	5	10	9	NA
Bolangir	400/220	315	2	HV	17	5	9B	9	NA
Chaibasa	400/220	315	2	HV	17	5	9B	9B	NA
Darbhanga	400/220	500	2	NA	NA	NA	NA	NA	NA
FSTPP	400/220	315	1	HV	17	5	11	9B	NA
Gaya	400/220	315	1	HV	17	5	12	9	NA
Gaya	400/220	500	1	HV	17	5	12	9	NA
Indravati	400/220	315	1	HV	17	5	9B	9	NA
Jamshedpur	400/220	315	3	HV	17	5	15	9	NA
Jeypore	400/220	315	2	HV	17	5	14	9	NA
Keonjhar	400/220	315	2	HV	17	5	9B	9B	NA
Kishangunj	400/220	500	2	HV	17	5	9B	9B	NA
Maithon	400/220	315	1	HV	17	5	9B	9B	NA
Maithon	400/220	500	1	HV	17	5	9B	9B	NA
Malda	400/220	315	2	HV	17	5	10	9	NA
Muzzaffarpur	400/220	315	2	HV	17	5	12	9B	NA
Muzzaffarpur	400/220	500	1	HV	17	5	12	9B	NA
New Purnea	400/220	500	2	HV	17	5	11	9	NA
Pandiabili	400/220	500	2	HV	17	5	9B	9B	NA
Parulia	400/220	315	2	HV	17	5	11	9	NA
Patna	400/220	315	1	HV	17	5	9B	9B	NA
Patna	400/220	500	1	HV	17	5	9B	9B	NA
Ranchi	400/220	315	2	HV	17	5	9B	9	NA
Rangpo	400/220	315	5	HV	17	5	9	9	NA
Rengali	400/220	315	2	HV	17	5	9	9	NA
Rourkela	400/220	315	2	HV	17	5	10	9	NA
Sasaram	400/220	315	1	HV	17	5	14	9	NA
Sasaram	400/220	500	1	HV	17	5	14	9	NA
Subhasgram	400/220	315	4	HV	17	5	9	9	NA
Subhasgram	400/220	500	1	HV	17	5	9	9	NA
TSTPP	400/220	315	2	HV	17	5	13	9	NA
Banka	400/132	200	2	HV	17	5	7	9	NA
Barh	400/132	200	2	NA	NA	NA	NA	NA	NA
KhSTPP	400/132	200	2	HV	17	5	10	9	NA
Lakhisarai	400/132	200	2	HV	17	5	9	9	NA
Nabinagar	400/132	200	2	NA	NA	NA	NA	NA	NA
Arrah	220/132	100	2	LV	17	1.65	9	13	NA
Arrah	220/132	160	1	LV	17	1.65	9	13	NA
Baripada	220/132	160	2	NA	NA	NA	NA	NA	NA
Birpara	220/132	160	2	LV	17	1.65	12	13	NA
Bolangir	220/132	160	1	NA	NA	NA	NA	NA	NA
Dikchu	400/132	270	1	NA	NA	NA	NA	NA	NA
Malda	220/132	160	2	LV	17	1.65	10	13	NA
Malda	220/132	50	1	LV	17	1.65	10	13	NA
Muzzaffarpur	220/132	100	1	NA	NA	NA	NA	NA	NA
NJP	220/132	100	2	LV	17	1.65	9	13	NA
NJP	220/132	160	1	LV	13	1.65	7	13	NA
Purnea	220/132	160	3	LV	17	1.65	9	13	NA
Rangpo	220/132	100	3	LV	17	1.65	NA	13	NA
Gangtok	132/66	50	2	HV	17	1.65	9B	9	NA

* NA means data not available

List of the ICT/ATR/TRF belong to BSPHCL

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Begusarai	220/132	100	2	HV	17	1.75	4	9	NA
Biharshariff	220/132	150	3	HV	17	2.75	4	5	NA
Bodhgaya	220/132	150	4	HV	25	1.85	9 (216.5 kV)	7	NA
Darbhanga	220/132	100	2	HV	13	2.75	10	9	NA
Dehri	220/132	100	4	HV	17	2.75	5	5	NA
Fatuah	220/132	100	4	HV	17	2.75	7	9	NA
Gopalgunj	220/132	100	2	HV	13	2.75	7	9	NA
Hazipur	220/132	100	3	HV	17	2.75	NA	9	NA
Khagul	220/132	100	3	HV	17	2.75	7	9	NA
Madhepura	220/132	100	2	NA	NA	NA	NA	NA	NA
Madhepura	220/132	160	1	NA	NA	NA	NA	NA	NA
MTPS	220/132	100	2	LV	17	1.65	1	9	NA
MUSHAHRI	220/132	160	2	HV	17	1.65	9	9	NA
Muzzaffarpur	220/132	100	3	HV	17	2.75	NA	9	NA
New Kishangunj	220/132	160	2	HV	17	2.75	NA	9	NA
Pusouli	220/132	150	2	HV	17	1.75	9	9	NA
Samastipur	220/132	160	2	LV	17	1.65	1	9	NA
Sipara	220/132	150	2	HV	17	1.65	9	9	NA
Sipara	220/132	160	1	HV	17	1.65	9	9	NA
Sonenagar	220/132	160	2	HV	17	2.75	NA	9	NA

* NA means data not available

List of the ICT/ATR/TRF belong to JUVNL

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Chaibasa	220/132	50	2	HV	17	2.75	5	9	
Chaibasa	220/132	150	2	HV	13	2.75	9	9	
Chandil	220/132	100	4	HV	17	2.75	9	5	
Dumka	220/132	150	2	HV	17	2.75	7	9	
Hatia	220/132	150	3	HV	17	2.75	5	9	
Lalmatia	220/132	100	2	HV	17	2.75	5	9	
Patratu	220/132	150	2	HV	17	2.75	12	9	
Ramchandrapur	220/132	150	2	HV	19	2.75	10	9	
Ramchandrapur	220/132	150	1	HV	17	2.75	5	9	

* NA means data not available

List of the ICT/ATR/TRF belong to DVC

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Bokaro A	400/220	315	2	NA	NA	NA	NA	NA	NA
Koderma	400/220	315	2	HV	17	5	9B	9B	NA
RTPS	400/220	315	2	NA	NA	NA	NA	NA	NA
TISCO	400/220	315	2	HV	17	5	9B	9B	NA
Bokaro B	220/132	150	2	HV	17	2.75	NA	9	NA
Borojora	220/132	150	2	HV	17	2.75	7	9	NA
CTPS	220/132	150	2	HV	17	2.75	NA	9	NA
CTPS	220/132	100	2	LV	17	1.65	NA	9	NA
Giridih	220/132	150	1	HV	17	2.75	9B	9B	NA
Giridih	220/132	160	1	HV	17	2.75	9B	9B	NA
Jamshedpur	220/132	150	1	HV	17	2.75	3	9	NA
Jamshedpur	220/132	160	1	HV	17	2.75	3	9	NA
Kalyaneswari	220/132	150	3	HV	17	2.75	11	9	NA
Ramgarh	220/132	150	2	HV	17	2.75	10	9	NA
Waria	220/132	150	2	HV	17	2.75	NA	9	NA
Borojora	220/33	50	2	NA	NA	NA	NA	NA	NA
Burnpur	220/33	50	2	NA	NA	NA	NA	NA	NA
Durgapur	220/33	80	1	NA	NA	NA	NA	NA	NA
Giridih	220/33	80	1	NA	NA	NA	NA	NA	NA
Muchipara	220/33	80	1	NA	NA	NA	NA	NA	NA
Muchipara	220/33	50	2	NA	NA	NA	NA	NA	NA

* NA means data not available

List of the ICT/ATR/TRF belong to GRIDCO

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Indravati	400/220	315	1	HV	17	5	9B	9B	NA
Mendasal	400/220	315	2	HV	17	5	9	9	NA
Meramundali	400/220	315	2	HV	17	5	10	9	NA
New Duburi	400/220	315	2	HV	17	5	9	9	NA
STERLITE	400/220	315	2	HV	17	5	11	9	NA
Atri	220/132	160	1	NA	NA	NA	NA	NA	NA
Balasore	220/132	160	2	LV	17	1.65	NA	9	NA
Bhanjanagar	220/132	160	2	LV	17	1.65	NA	9	NA
Bidansi	220/132	160	1	LV	17	1.65	NA	9	NA
Bidansi	220/132	100	2	LV	17	1.65	NA	9	NA
Budipadar	220/132	160	2	LV	17	1.65	NA	9	NA
Chandaka	220/132	100	3	LV	17	1.65	NA	9	NA
Duburi	220/132	100	3	LV	17	1.65	NA	9	NA
Jaynagar	220/132	100	2	HV	17	2.75	NA	9	NA
Joda	220/132	100	3	LV	33	-0.83	11	17	NA
Katapalli	220/132	160	1	LV	17	1.65	NA	9	NA
Katapalli	220/132	100	2	LV	17	1.65	NA	9	NA
Mendasal	220/132	160	2	NA	NA	NA	NA	NA	NA
Meramundali	220/132	100	3	LV	17	1.65	NA	9	NA
Narendrapur	220/132	160	2	NA	NA	NA	NA	NA	NA
Narendrapur	220/132	100	1	LV	17	1.65	NA	13	NA
Paradeep	220/132	160	1	NA	NA	NA	NA	NA	NA
Paradeep	220/132	100	1	NA	NA	NA	NA	NA	NA
Puri	220/132	160	2	NA	NA	NA	NA	NA	NA
New Bolangir	220/132	160	2	LV	17	1.65	NA	9	NA
Samungara	220/132	NA	NA	HV	17	2.75	NA	9	NA
Tarkera	220/132	100	4	LV	17	1.65	NA	9	NA
Theruvali	220/132	100	2	LV	17	1.65	NA	9	NA
TTPS	220/132	160	2	LV	17	1.65	NA	9	NA
TTPS	220/132	150	1	LV	33	-0.83	NA	17	NA

* NA means data not available

List of the ICT/ATR/TRF belong to WBPDCL/WBSETCL/WBSEDCL

Name of S/S	Voltage level	Capacity (MVA)	No of ICT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Arambag	400/220	315	4	HV	17	5	13	9	NA
Bakreswar	400/220	315	2	HV	17	5	11	9	NA
Bidhannagar	400/220	315	2	HV	17	5	9B	9	NA
Gokarna	400/220	315	2	NA	NA	NA	NA	NA	NA
Jeerat	400/220	315	4	LV	17	2.88	11	NA	NA
Kharagpur	400/220	315	3	HV	17	5	7	9	NA
KTPP	400/220	315	2	HV	17	5	12	9	NA
Sagardighi	400/220	315	1	HV	17	5	NA	9	NA
Arambag	220/132	160	1	LV	17	1.65	NA	9	NA
Arambag	220/132	100	1	LV	17	1.65	NA	9	NA
Asansol	220/132	160	2	LV	17	1.65	NA	9	NA
BBGS	220/132	NA	2	HV	16	5.55	10	9	NA
Bantala	220/132	160	1	NA	NA	NA	NA	NA	NA
Bidhannagar	220/132	160	2	LV	17	1.65	NA	9	NA
Dalkhola	220/132	160	2	LV	17	1.65	NA	9	NA
Dharma	220/132	160	2	LV	17	1.65	NA	9	NA
Domjur	220/132	160	2	LV	17	1.65	NA	9	NA
DPL (AREVA)	220/132	160	1	LV	17	1.65	9	9	NA
DPL (BHEL)	220/132	100	1	LV	17	1.65	9	9	NA
DPL (China)	220/132	160	1	HV	19	2.75	10	10	NA
EMSS	220/132	160	3	NA	NA	NA	NA	NA	NA
Egra	220/132	160	2	NA	NA	NA	NA	NA	NA
Foundry Park	220/132	160	2	NA	NA	NA	NA	NA	NA
Gokarna	220/132	160	2	LV	17	1.65	NA	9	NA
Howrah	220/132	150	3	LV	17	1.65	NA	9	NA
Howrah	220/132	160	1	NA	NA	NA	NA	NA	NA
Jeerat	220/132	160	3	LV	17	1.65	NA	9	NA
Kasba	220/132	160	2	LV	17	1.65	NA	9	NA
Kasba	220/132	150	2	NA	NA	NA	NA	NA	NA
Kharagpur	220/132	160	2	NA	NA	NA	NA	NA	NA
Krishnanagar	220/132	160	2	LV	17	1.65	NA	9	NA
KTPP	220/132	160	1	LV	17	1.65	NA	9	NA
KTPP	220/132	150	2	LV	17	1.65	NA	9	NA
Laxmikantapur	220/132	160	3	LV	17	1.65	NA	9	NA
New Bishnupur	220/132	160	3	NA	NA	NA	NA	NA	NA
New Haldia	220/132	160	2	NA	NA	NA	NA	NA	NA
N Jalpaiguri	220/132	160	2	LV	17	1.65	NA	9	NA
Rajarhat	220/132	160	2	NA	NA	NA	NA	NA	NA
Rishra	220/132	160	2	LV	17	1.65	NA	9	NA
Santaldih	220/132	100	1	LV	17	1.65	NA	9	NA
Santaldih	220/132	130	1	NA	NA	NA	NA	NA	NA
Satgachia	220/132	160	2	LV	17	1.65	NA	9	NA
Subhasgram	220/132	160	2	NA	NA	NA	NA	NA	NA
Vidyasagar Park	220/132	160	2	NA	NA	NA	NA	NA	NA

* NA means data not available

List of the GT situated in the Eastern Region

Name of Generating Unit	Voltage level	Capacity (MVA)	No of GT	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Owner	Make
APNRL I	400/16.5	330	1	HV	19	4.83	8(420 KV)	NA	APNRL	NA
APNRL II	400/16.5	340	1	HV	5	10.5	3 (420 KV)	NA	APNRL	NA
CHPC - I	220/11	105.882353	1	HV	5	4.5	NA	4 (220 KV)	Bhutan	NA
Nabinagar (250 MW)	NA	NA	1	NA	NA	NA	NA	NA	BRBCL	NA
Nabinagar (250 MW)	NA	NA	1	NA	NA	NA	NA	NA	BRBCL	NA
BTPS VI & VII	139/11	147.058824	2	HV	5	3.475	2 (142.5 KV)	3 (139 KV)	BSPHCL	NA
MTPS - I & II	230/11	164.705882	2	HV	6	5.75	NA	4 (230 KV)	BSPHCL	NA
MTPS -III (195 MW)	NA	NA	1	NA	NA	NA	NA	NA	BSPHCL	NA
BBGS I & II	132/16.5	294.117647	2	LV	9	0.4125	6 (16.09 KV)	5 (16.50 KV)	CESC	NA
BBGS III	235/16.5	294.117647	1	HV	9	5.875	5 (235 KV)	5 (235 KV)	CESC	NA
Jorethang (48 MW)	NA	NA	2	NA	NA	NA	NA	NA	DEPL	NA
Bokaro A (500 MW)	NA	NA	1	NA	NA	NA	NA	NA	DVC	NA
Bokaro B (210 MW)	NA	NA	3	NA	NA	NA	NA	NA	DVC	NA
CTPS (140 MW)	132/13.8	164.705882	2	HV	5	3.3	NA	3 (132 KV)	DVC	NA
CTPS B (210 MW)	NA	NA	2	NA	NA	NA	NA	NA	DVC	NA
DSTPS I & II	400/21	588.235294	2	HV	9	10.5	5 (420 KV)	7 (399 KV)	DVC	NA
Koderma I & II	400/21	588.235294	2	HV	9	10.5	5 (420 KV)	7 (399 KV)	DVC	NA
Mejia I - IV	220/15.75	247.058824	4	HV	5	5.5	NA	3 (220 KV)	DVC	NA
Mejia V & VI	220/16.5	294.117647	2	HV	5	6	NA	NA	DVC	NA
Mejia VII & VIII	400/21	588.235294	2	HV	9	10.5	4 (430.5)	7 (399 KV)	DVC	NA
RTPS (600 MW)	NA	NA	2	NA	NA	NA	NA	NA	DVC	NA
Waria IV	220/16	294.117647	1	HV	5	5.5	NA	3 (220 KV)	DVC	NA
Chujachen (110 MW)	NA	NA	2	NA	NA	NA	NA	NA	GIPL	NA
GMR (350 MW)	NA	NA	3	NA	NA	NA	NA	NA	GKEL	NA
Haldia (300 MW)	NA	NA	2	NA	NA	NA	NA	NA	HEL	NA
Ind Bharat (350 MW)	NA	NA	1	NA	NA	NA	NA	NA	IBEUL	NA
Ind Bharat (350 MW)	NA	NA	1	NA	NA	NA	NA	NA	IBEUL	NA
IBTPS I & II	220/15.75	294.117647	2	HV	5	5.5	NA	3 (220 KV)	IBTPS	NA
JITPL (600 MW)	NA	NA	2	NA	NA	NA	NA	NA	JITPL	NA
SUBARNAREKHA	132/11	94.1176471	2	HV	5	3.3	2 (138.6 KV)	4 (132 KV)	JUVNL	NA
Maithon RB (525 MW)	NA	NA	2	NA	NA	NA	NA	NA	MPL	NA
NALCO I - VIII	220/10.5	141.176471	8	HV	5	5.875	NA	NA	NALCO	NA
Teesta V (170 MW)	400/13.8	70	9	HV	5	10	3 (400 kV)	3 (400 kV)	NHPC	ALSTOM
Barh IV & V (660 MW)	NA	NA	2	NA	NA	NA	NA	NA	NTPC	NA
FSTPP -I	400/15.75	247.058824	1	HV	5	10.5	3 (420 KV)	5 (399 KV)	NTPC	NA
FSTPP -II & III	400/15.75	247.058824	2	HV	13	5.25	6 (414.8 KV)	9(399 KV)	NTPC	NA
FSTPP -IV, V & VI	400/21	588.235294	3	HV	13	5.25	7 (409.5 KV)	9(399 KV)	NTPC	NA
KhSTPP I, II, III & IV (210 MW)	NA	NA	4	NA	NA	NA	NA	NA	NTPC	NA
KhSTPP V, VI & VII (500 MW)	NA	NA	3	NA	NA	NA	NA	NA	NTPC	NA
TSTPP I & II	400/21	588	2	HV	13	5.25	8 (404.3 KV)	9(399 KV)	NTPC	NA
Balimela I - VI	132/11	70.5882353	6	HV	5	3.615	NA	NA	OHPC	NA
Balimela VII - VIII	132/11	88.2352941	2	HV	7	3.615	NA	NA	OHPC	NA
Rengali I - V	220/11	58.8235294	5	HV	5	5	NA	NA	OHPC	NA
U Indravati (150 MW)	NA	NA	4	NA	NA	NA	NA	NA	OHPC	NA
U Kolab I - IV	220/11	94.1176471	4	HV	6	6.25	NA	NA	OHPC	NA
TTPS I - IV	132/13.8	70.5882353	4	HV	6	3.2	NA	NA	OPGC	NA
TTPS V - VI	132/11	129.411765	2	HV	9	6	NA	NA	OPGC	NA
SEL	242.4/22	750	4	HV	5	5.45	3 (242.45)	3 (242.45)	SEL	NA
Dikchu (48 MW)	NA	NA	2	NA	NA	NA	NA	NA	SKPPPL	NA
Teesta III (200 MW)	NA	NA	6	NA	NA	NA	NA	NA	TUL	NA
TENUGHAT	220/15.75	294.117647	2	HV	9	5.5	1 (231 KV)	3 (220 KV)	TVNL	NA
BKTPS	420/15.75	247.058824	5	HV	5	10.5	3 (420 KV)	NA	WBPDCL	NA
BTPS I, II & IV	132/13.2	117.647059	3	HV	7	3.3	2 (135.3 KV)	3 (132 KV)	WBPDCL	NA
BTPS V	138/15.75	276.470588	1	HV	3	3.45	3 (134.55)	2 (138 KV)	WBPDCL	NA
DPL III & V	132/10.5	100	2	HV	18	1.88	8 (135.76)	10 (132 KV)	WBPDCL	NA
DPL VI	235/11	125	1	HV	5	5.87	3(235 KV)	3(235 KV)	WBPDCL	NA
DPL VII	220/20	370	1	HV	5	5.87	3(235 KV)	NA	WBPDCL	NA
DPL VIII	220/16.5	315	1	HV	5	5.87	3(235 KV)	NA	WBPDCL	NA
KTPS I, II, III	220/15.75	247.058824	3	HV	5	5.75	3 (230 KV)	NA	WBPDCL	NA
KTPS IV, VI	420/15.75	247.058824	2	HV	5	10.5	4 (409.5 KV)	3 (420 KV)	WBPDCL	NA
KTPS V	420/15.75	247.058824	1	HV	5	10.5	5 (399 KV)	3 (420 KV)	WBPDCL	NA
Sagardighi I & II	400/20	352.941176	2	HV	5	10	NA	3 (400 KV)	WBPDCL	NA
STPS	220/13.8	164.705882	4	HV	5	5.5	NA	3 (220 KV)	WBPDCL	NA
STPS V & VI	220/16.5	294.117647	2	HV	5	5.875	4 (229.13)	NA	WBPDCL	NA

* NA means data not available

Checklist for Submission of new transmission elements for updation in Protection Database

NAME OF ORGANISATION:
FOR THE MONTH OF:

SUBSTATION DETAIL:

Sl No	DETAILS OF ELEMENTS	DATA TYPE	Status of Submission (Y/N)	Remarks
1	TRANSMISSION LINE	LINE LENGTH, CONDUCTOR TYPE, VOLTAGE GRADE		
2	POWER TRANSFORMER	NAMEPLATE DETAILS		
3	GENERATOR	TECHNICAL PARAMETERS		
4	CURRENT TRANSFORMER	NAMEPLATE DETAILS		
5	VOLTAGE TRANSFORMER	NAMEPLATE DETAILS		
6	RELAY DATA	MAKE, MODEL and FEEDER NAME		
7	RELAY SETTINGS	NUMERICAL RELAYS: CSV or XML file extracted from Relay ELECTROMECHANICAL RELAYS: SNAPSHOT of RELAY		
8	REACTOR	NAMEPLATE DETAILS		
9	CAPACITOR	NAMEPLATE DETAILS		
9	UPDATED SLD			

SIGNATURE:
NAME OF REPRESENTATIVE:
DESIGNATION:
CONTACT:
E-MAIL ID:

PMU Installation and commissioning status of ER as on 22.07.2017

Annexure-C27

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			296	175	74	75	66	65	61	62	42	58	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	Yes	done	done	done	done	done	done	
2	ER-II	West Bengal	BAKRESHWAR TPS	WBSETCL	CR	4	1	Yes	Yes	done	done	done	done	done	done	
3	ER-II	West Bengal	Bidhannagar	WBSETCL	CR	3	1	Yes	Yes	done	done	done	done	done	done	
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.
57	ER-II	West Bengal	Alipurduar	Powergrid	CR	6	7	Yes	Yes	partially done	partially done	partially done	partially done	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.
6	ER-II	West Bengal	KASBA	WBSETCL	CR	3	1	Yes	Yes	done	done	done	done	done	done	
7	ER-II	DVC	DSTPS	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
67	ER-I	BIHAR	BANKA	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	pending	Integration is in progress, SAT pending.
9	ER-II	DVC	MEJIA-B	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	Integrated on 07.12.2016
45	ER-II	Jharkhand	Bokaro TPS	DVC	CR	1	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.
11	ER-II	DVC	Raghunathpur TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	done	done	
33	Odisha	Orissa	Bolangir	Powergrid	CR+Kiosk	2	3	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
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.
78	ER-I	Bihar	Barauni PP	Bihar	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	Substation will be deleted, verbal communication from PG.
16	Odisha	Orissa	MENDHASAL	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	done	done	
17	Odisha	Orissa	MERAMANDALI	OPTCL	CR	6	2	Yes	Yes	done	done	done	done	done	done	
18	Odisha	Orissa	RENGALI	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	done	done	Integrated on 22.06.2017
37	Odisha	Orissa	GMR	GMR	Kiosk	3	4	Yes	Yes	done	done	done	done	Pending	pending	SDH Panel not commisioned, powergrid supervision required for SAT activity
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	Yes	Yes	done	done	done	done	done	done	
21	ER-II	West Bengal	Durgapur	Powergrid	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.05.2016.
15	Odisha	Orissa	Budhipadar	OPTCL	CR	10	0	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Under Manufacturing. Will be dispatched in next month.
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	done	done	done	done	done	done	Team deployed in substation. Permission for panel installation & cable laying given but no work permission in existing control panel is given. Team was idle for more than. 10 days.
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

PMU Installation and commissioning status of ER as on 22.07.2017

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
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.
75	ER-I	Jharkhand	Jharkhand Pool (Chand	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.
34	Odisha	Orissa	ANGUL	Powergrid	Kiosk	10	11	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.03.2017.
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
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.
8	ER-II	DVC	Kodarma TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	SDH panel does not exist.
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	Yes	done	done	done	done	done	done	CT cable laying permission. I&C done. mom/sat signature pending from powergrid end.
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	Yes	done	done	done	done	done	done	
66	ER-I	BIHAR	LakhiSarai	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	done	SAT completed. Integration planed
46	ER-II	West Bengal	Durgapur TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	done	done	
73	ER-I	Jharkhand	Daltonganj	Powergrid	Kiosk	2	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Site on-hold as Substation is under construction.
22	ER-II	West Bengal	FARRAKA	NTPC	CR	5	2	Yes	Yes	done	done	pending	pending	pending	pending	Termination pending due to no permission for shutdwon
54	Odisha	Orissa	Ind barath	Ind barath	Kiosk	1	1	Yes	Yes	pending	pending	pending	pending	pending	pending	Permission awaited
10	ER-II	DVC	Maithon RB TPS	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Work started on 04.07.2016. Panel shifted. Team demobilised due to access issue and panel location issue. Team deputed again 18th August, I&C done, integration pending due to communication break with control center.
51	Odisha	Orissa	Jindal	JITPL	CR	2	1	Yes	Yes	pending	pending	pending	pending	pending	pending	Permission awaited
5	ER-II	West Bengal	Kolaghat TPS	WBSETCL	CR	4	1	Yes	Yes	done	done	pending	pending	Pending	pending	Work under progress
52	Odisha	Orissa	Monnet	Monnet	CR	1	1	Yes	Yes	pending	pending	pending	pending	pending	pending	Permission awaited
55	ER-II	Sikkim	New Melli	Powergrid	CR	0	0	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BOQ submitted, yet to be approved. Substation will be deleted, verbal communication from PG.
76	ER-I	Jharkhand	Patratu	Jharkhand	CR	3	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
53	Odisha	Orissa	Strelite	Strelite	CR	3	1	Yes	Yes	done	done	done	done	pending	done	SDH not commisioned
48	Odisha	Orissa	TALCHER	NTPC	CR	5	2	Yes	Yes	pending	pending	pending	pending	pending	pending	Permission awaited
58	ER-II	West Bengal	Rajarhat	Powergrid	CR	2	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Site on-hold. 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 on-hold. NTPC asked to use Armoured cable. Out of scope. Team idemobilized from site. Site assumed as closed as per PRM in Kolkatta.
61	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 13.04.2017

PMU Installation and commissioning status of ER as on 22.07.2017

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
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**	**done**	**done**	**done**	**done**	**done**	
64	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	9	3	**Yes**	**Yes**	**done**	**done**	**done**	**done**	**done**	**done**	
65	ER-I	BIHAR	BARH	NTPC	CR	4	1	**Yes**	**Yes**	**done**	**done**	**done**	**done**	**Pending**	**done**	**Communication Link not available.**
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.**
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.**
68	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	**Yes**	**Yes**	**done**	**done**	**done**	**done**	**done**	**done**	
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**	**done**	**done**	**done**	**done**	**done**	**done**	
72	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	5	2	Yes	Yes	done	done	done	done	done	done	
49	ER-II	Sikkim	TEESTA	NHPC	CR	1	1	Yes	Yes	done	done	pending	done	done	pending	SAT due to no supervision & & interfacing pending which is to be done by NHPC/PG whenever shutdwon will be available as per PRM
77	ER-I	Jharkhand	Tenughat	Jharkhand	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	SDH panel not commisioned
19	Odisha	Orissa	U.KOLAB	OPTCL	CR	2	1	**Yes**	**Yes**	**done**	**done**	**done**	**done**	**Pending**	**done**	**Communication Link not available.**
56	ER-II	Sikkim	TT Pool	Powergrid	CR	0	0	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Substation deleted, verbal communication from PG.
50	Odisha	Orissa	Uttara	Powergrid	CR	2	1	**Yes**	**Yes**	**done**	**done**	**done**	**done**	**Pending**	**done**	**Communication link from s/s to ERLDC and NTAMC to be provided by PGCIL.**
47	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	3	1	Yes	Yes	pending	pending	pending	pending	pending	pending	Permission awaited

ER PMU site activity Summary:

Sl. No.	Region	Utility	As per approved BOQ		Supplied		Installed		Commissioned		Integrated to ERLDC/ SLDC	
			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	14	92	14	92	10	76
2	ER-I	NTPC	2	10	2	10	2	10	1	4	0	0
3	ER-I	Jharkhand	2	5	2	5	1	2	1	2	0	0
4	ER-I	Bihar	1	0	0	0	0	0	0	0	0	0
	ER-I	**Total**	**20**	**109**	**19**	**109**	**17**	**104**	**16**	**98**	10	76
1	ER-II	Powergrid	12	41	11	42	9	35	8	33	7	29
	ER-II	NHPC	1	1	1	1	1	1	1	1	1	1
2	ER-II	NTPC	1	5	1	5	1	5	0	0	0	0
3	ER-II	DVC	13	37	13	37	13	37	13	37	7	22
4	ER-II	WBSETCL	7	21	7	21	7	21	6	17	6	17
	ER-II	**Total**	**34**	**105**	**33**	**106**	**31**	**99**	**28**	**88**	**21**	**69**
1	Odisha	Powergrid	10	38	10	38	10	38	10	38	6	30
2	Odisha	OPTCL	8	29	7	19	6	16	6	16	5	14
3	Odisha	NTPC	1	5	1	5	0	0	0	0	0	0
4	Odisha	IPP	5	10	5	10	2	6	2	6	0	0
	Odisha	**Total**	**24**	**82**	**23**	**72**	**18**	**60**	**18**	**60**	**11**	**44**
	ER	**Total**	**78**	**296**	**75**	**287**	**66**	**263**	**62**	**246**	**42**	**189**

Annexure-D.1

Anticipated Power Supply Position for the month of
Feb-18

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	4200	2000
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	600	148
		- Central Sector	2724	1395
	iii)	SURPLUS(+)/DEFICIT(-)	-876	-457
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1200	750
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	435	242
		- Central Sector	700	268
	iii)	SURPLUS(+)/DEFICIT(-)	-65	-239
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2770	1553
	ii)	NET POWER AVAILABILITY- Own Source	4892	2409
		- Central Sector	489	281
		Long term Bi-lateral (Export)	1300	874
	iii)	SURPLUS(+)/DEFICIT(-)	1310	263
4		**ORISSA**		
	i)	NET MAX DEMAND	4000	2184
	ii)	NET POWER AVAILABILITY- Own Source	3022	1616
		- Central Sector	1110	606
	iii)	SURPLUS(+)/DEFICIT(-)	132	38
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	5320	2827
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	5320	2827
	iv)	NET POWER AVAILABILITY- Own Source	3779	1877
		- Import from DPL	-20	0
		- Central Sector	2357	1001
	v)	SURPLUS(+)/DEFICIT(-)	796	51
	vi)	EXPORT (TO B'DESH & SIKKIM)	5	3
5.2		**DPL**		
	i)	NET MAX DEMAND	250	170
	ii)	NET POWER AVAILABILITY	230	170
	iii)	SURPLUS(+)/DEFICIT(-)	-20	0
5.3		**CESC**		
	i)	NET MAX DEMAND	1600	705
	ii)	NET POWER AVAILABILITY - OWN SOURCE	700	443
		FROM HEL	540	306
		FROM CPL/PCBL	40	0
		Import Requirement	320	27
	iii)	TOTAL AVAILABILITY	1600	776
	iv)	SURPLUS(+)/DEFICIT(-)	0	71
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	7170	3702
	ii)	NET POWER AVAILABILITY- Own Source	4709	2489
		- Central Sector+Others	3257	1307
	iii)	SURPLUS(+)/DEFICIT(-)	796	94
7		**SIKKIM**		
	i)	NET MAX DEMAND	90	35
	ii)	NET POWER AVAILABILITY- Own Source	3	2
		- Central Sector+Others	96	48
	iii)	SURPLUS(+)/DEFICIT(-)	9	15
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	18864	10224
		Long term Bi-lateral by DVC	1300	874
		EXPORT BY WBSEDCL	5	3
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	22037	10812
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1867	-289

Annexure- D.2.1

Proposed Maintenance Schedule of Thermal Generating Units of ER during February, 2018

(as finalised in LGBR meeting)

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
NTPC	KhSTPS	2	210	03.02.18	27.02.18	25	Boiler, DAVR
WBPDCL	BKTPS	1	210	08.01.18	17.01.18	40	For overhauling

EASTERN REGIONAL LOAD DESPATCH CENTRE
KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 141TH OCC MEETING OF ERPC

		FROM		TO					
SL. No	**NAME OF THE ELEMENTS**	**DATE**	**TIME**	**DATE**	**TIME**	**REMARKS**	**S.D availed BY**	**Reason**	**SUBJECT TO CONSENT FROM AGENCY**
1	400 kV Jamshedpur/Mejia-1 Tie Bay	16/01/18	10:00	18/01/18	17:30	ODB	ER-II	Replacement of rest 2 nos. Tie bay CT	
2	400KV Berhampore Sagardighi Ckt-II Tie Bay (411 Bay) and Future Bay 412	18/01/18	00:00	09/00	18/00	OCB	ER-II	Construction work of newly upcoming Berhampore Farakka Ckt-II Line Bay (412 Bay) under ERSS-XV	
3	400KV BUS-I	19/01/18	00:00	09/00	18/00	ODB	ER-II	Construction work of newly upcoming Berhampore Farakka Ckt-II Line Bay (412 Bay) under ERSS-XV	
4	765 main bus-II at Angul	19/01/18	08:00	20/01/18	18:00	OCB	powergrid/odisha	commissioning of 765 line 3 and 4 bays	NLDC
5	400kV ICT3 Main & Tie bay 436 & 437	20/01/18	08:00	10/02/18	18:00	OCB	ER-II/Odisha/Sundergarh	For installation work of external ICT Busduct, Auxiliary Bus, Airbushings & Trnaformer DS	
6	Angul Line Tie BAY CB(40102)	20/01/18	09:00	20/01/18	18:00	ODB	ER-II/Odisha/BOLANGIR	Replacement of damaged control cable of 40102 CT,40102 89 A&AE and 40102 89 b&be	
7	765KV Bus-I	21/01/18	09:00	24/01/18	18:00	OCB	ER-II/Odisha/Sundergarh	Dismantling, shifting and re-erection of 765 Bus E/s to a new location for casting of foundation of 765KV GIS Bus sectionalizer	NLDC
8	Angul Line main BAY CB(401)	22/01/18	09:00	22/01/18	18:00	ODB	ER-II/Odisha/BOLANGIR	Replacement of damaged control cable of 401 CT,401 89 A&AE and 401 89 B&BE	
9	**220kv Budhipadar-Korba S/C Fdr-III**	**22/01/18**	**00:00**	**06/02/18**	**17:30**	OCB	ER-II/ODISHA/Sundargarh 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 IV (direct) and 400kv Sundargarh-Raigarh-fdr-II from 385 to 375 for construction of dedicated MGR (Rail Line) at Village Belpahar,Amdhara & Chualiberna (Depositary works on behalf of OPGC)**	NLDC
10	Jeypor Line Tie BAY CB(40304)	23/01/18	09:00	23/01/18	18:00	ODB	ER-II/Odisha/BOLANGIR	Replacement of damaged control cable of 40304 CT,40304 89 A&AE and 40304 89 B&BE	
11	400 KV BINAGURI-BONGAIGAON-II	23/01/18	09:00	23/01/18	16:00	ODB	ER-II	FOR REMOVAL OF HUTMENT AS PER INSTRUCTION OF DM (JALPAIGURI) & SP (JALPAIGURI). MATTER DISCUSSED IN 141TH OCC.	NLDC
12	Jeypore Line main BAY CB(403)	24/01/18	09:00	24/01/18	18:00	ODB	ER-II/Odisha /Bolangir	Replacement of damaged control cable of 403 CT,403 89 A&AE and 403 89 B&BE	
13	Non auto mode of auto reclose of 400KV Angul-Bolangir Line	**25/01/18**	09:00	**31/01/2018**	17:30	ODB	ER-II/ODISHA/Rengali	**For PID testing of Porceline insulator**	
14	Non auto mode of auto reclose of 400KV Talcher-Rourkela D/C Line	**25/01/18**	09:00	**31/01/2018**	17:30	ODB	ER-II/ODISHA/Rengali	**For PID testing of Porceline insulator**	
15	125 MVAR BUS RECATOR-2 AT PATNA	25/01/18	08:00	25/04/18	17:00	OCB	POWERGRID ER-I	As approved in the 19th SCM(Ref: Para:30 of MOM) and 36th ERPC(Ref:para-D19 of MOM),the 500 MVA ICT-3 is being installed, in the bay of 125 MVAr Bus Reactor-2 , at Patna sub-station. 125 MVAR BR-2 will be commissioned as switchable L/R in one of 400kV Patna-Barh ckt at Patna end.	
16	765KV Bus-II	28/01/18	09:00	31/01/18	18:00	OCB	ER-II/Odisha/Sundergarh	Dismantling, shifting and re-erection of 765 Bus E/s to a new location for casting of foundation of 765KV GIS Bus sectionalizer	NLDC
17	400KV BARIPADA - PANDIABILI LINE	28/01/18	08:00	28/01/18	18:00	ODB	ER-II/Odisha/Cuttack TL	For attending defects in M/C lines by M/s TATA	
18	400KV PANDIABILI - MENDHASAL CKT#-I	28/01/18	08:00	28/01/18	18:00	ODB	ER-II/Odisha/Cuttack TL	For attending defects in M/C lines by M/s TATA	GRIDCO
19	400kV ICT4 Main & Tie bay 434 & 435	28/01/18	08:00	10/02/18	18:00	OCB	ER-II/Odisha/Sundergarh	For installation work of external ICT Busduct, Auxiliary Bus, Airbushings & Trnaformer DS	
20	400KV BUS-I	29/01/18	00:00	09/00	18/00	ODB	ER-II	Construction work of newly upcoming Berhampore Farakka Ckt-II Line Bay (412 Bay) under ERSS-XV	
21	400KV Maithon-Ranchi Line	29/01/18	10:00	29/01/18	17:30	ODB	ER-II	Line Bay AMP work	
22	400KV DUBURI - PANDIABILI LINE	29/01/18	08:00	29/01/18	18:00	OCB	ER-II/Odisha/Cuttack TL	For attending defects in M/C lines by M/s TATA	GRIDCO
23	400KV PANDIABILI - MENDHASAL CKT#-II	29/01/18	08:00	29/01/18	18:00	ODB	ER-II/Odisha/Cuttack TL	For attending defects in M/C lines by M/s TATA	GRIDCO
24	432 (TIE OF RNC-III & 125MVAR B/R) BAY AT 400/220 KV RANCHI	30/01/18	10:00	30/01/18	17:00	ODB	POWERGRID ER-I	AMP	
25	**400kv Sundargarh -Raigarh Fdr -IV**	**30/01/18**	**00:00**	**06/02/18**	**17:30**	OCB	ER-II/ODISHA/Sundargarh TLM	**Erection & stringing of M/C tower of Diversion Works. (Dismantling of Loc 375 and Erection of New Tower loc 375 and stringing for M/C portion). Also other Diversion works of loc 366 to 368 of 400kv Rourkela-Raigarh line IV (direct) and 400kv Sundargarh-Raigarh-fdr-II on behalf on OPGC**	NLDC
26	**400kv Sundargarh-Raigarh-Fdr-II**	**30/01/18**	**00:00**	**06/02/18**	**17:30**	OCB	ER-II/ODISHA/Sundargarh TLM	**Erection & stringing of M/C tower of Diversion Works. (Dismantling of Loc 375 and Erection of New Tower loc 375 and stringing for M/C portion) . Also other Diversion works of loc 366 to 368 of 400kv Rourkela-Raigarh line IV (direct) and 400kv Sundargarh-Raigarh-fdr-II on behalf on OPGC**	NLDC
27	132 KV D/C Raghunathganj - Gokarna T/L (WBSETCL)	30/01/18	09:00	31/01/18	17:00	ODB	ER-II	FOR POWERLINE CROSSING WORK FOR 400 KV BERHAMPUR-FARAKKA-D/C.	WB
28	431 (125MVAR B/R MAIN BAY) BAY AT 400/220 KV RANCHI	31/01/18	10:00	31/01/18	17:00	ODB	POWERGRID ER-I	AMP	
29	220 KV Bus 1 AT PATNA	01/02/18	09:30	02/02/18	17:30	ODB	POWERGRID ER-I	AMP work	BIHAR
30	400kV HVDC North side Converter Tnx Main Bay @ Pusauli	01/02/18	09:00	03/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
31	50 MVAR Line Reactor of 400KV Sagradighi Line	01/02/18	08:00	20/02/18	17:30	OCB	ER-II	Construction work under ERSS-XV to make the reactor switchable	WB
32	400KV Berhampore Sagardighi Ckt-I Main Bay (407 Bay) AT BERHAMPUR	01/02/18	08:00	01/02/18	17:30	ODB	ER-II	Bay Amp	
33	132 kV 101 BAY (Jaleswar Line main Bay) at Baripada	01/02/18	09;00	01/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT & CVT junction Box Replacement	GRIDCO
34	400KV ROURKELA-CHAIBASA#2	01/02/18	09:00	01/02/2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP Work.	
35	400kV Rengali-Indravati Main Bay-412 at Rengali	01/02/18	09/00/	03/02/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and AMP.	
36	**Auto reclose to be kept in non auto mode of 400kv Rourkela-Sundargarh -I(one)**	**01/02/18**	**08:00**	**15/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**PID testing of Porceline insulator**	
37	**Auto reclose to be kept in non auto mode of 400kv Sundargarh -Raigarh- I (one)**	**01/02/18**	**08:00**	**15/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	NLDC
38	**Auto reclose to be kept in non auto mode of 400kv Rourkela-Sundargarh- III (Three)**	**01/02/18**	**08:00**	**15/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	
39	**Auto reclose to be kept in non auto mode of 400kv Sundargarh -Raigarh- III (Three)**	**01/02/18**	**08:00**	**15/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	NLDC
40	Non auto mode of auto reclose of 400KV Rengali-Indravati Line	**01/02/18**	09:00	**05/02/2018**	17:30	ODB	ER-II/ODISHA/Rengali	**For PID testing of Porceline insulator**	
41	765kV Gaya-VNS-1 line	01/02/18	08:00	15/02/18	17:00	OCB	POWERGRID ER-I	For rectification work of Tower no 338 & 339 (Railway crossing)	NLDC
42	132 KV PURNEA (PG)- PURNEA (BSPTCL)#2 LINE	02/02/18	09:00	16/02/18	16:00	OCB	POWERGRID ER-I	GIS WORK (Load will be catered through 132 kV feeder BSPTCL- 3 & KISHANGANJ to BSPTCL/Purnea through 02 No. 160 MVA ICT for next 4 days.)	BIHAR
43	400 kV Bay No.- 408 (Tie Bay of 400 kV KHG-1 & 80 MVAR Bus Reactor) AT LAKHISARAI	02/02/18	10:00	02/02/18	14:00	ODB	POWERGRID ER-I	Cable replacement of CB Spring Charging Motor.	

44	50 MVAR BR-1 AT JSR	02/02/18	09:30	02/02/18	17:30	ODB	POWERGRID ER-I	MOG REPLACEMENT WORK	
45	125 MVAR BUS REACTOR AT 400/220 KV RANCHI	02/02/18	10:00	02/02/18	17:00	ODB	POWERGRID ER-I	AMP	
46	400 kV Bus-Bar -II at chaibasa	02/02/18	09:00	02/02/18	17:00	ODB	POWERGRID ER-I	Bay extension work	
47	400KV Berhampore Sagardighi Ckt-I tie Bay (408 Bay) AT BERHAMPUR	02/02/18	08:00	02/02/18	17:30	ODB	ER-II	Bay Amp	
48	132 kV 103 BAY (BhograiLine main Bay) at Baripada	02/02/18	09;00	02/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT & CVT junction Box Replacement	GRIDCO
49	400KV TALCHER#2-CHAIBASA#2 TIE BAY (BAY NO.-408)	02/02/18	09:00	02/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK.	
50	765KV 240 MVAr Bus reactor-I at Sundargarh	02/02/18	09:00	02/02/18	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of spare Reactor to -Y Ph reactor of 765KV B/R-I after attending oil leakage of the Reactor.	NLDC
51	400 kV Bus -I at Jeypore	02/02/18	09:00	02/02/18	16:00	ODB	ER-II/Odisha /Jeypore	For Pipe structure connection from Existing 400KV Bus-I to Ongoing 400KV Bus-I Erection under ongoing STATCOM Project Works (Outage to be booked under Construction Head)	GRIDCO
52	400 KV Farakka- Malda-I	02/02/18	10:00	02/02/18	14:00	ODB	ER-II	For attending Noise in R ph- WT of 400 KV Farkka- Malda-I	
53	200 MVA ICT-1 AT LAKHISARAI	03/02/18	08:00	04/02/18	18:00	ODB	POWERGRID ER-I	Checking of Air Cell.	BIHAR
54	132KV D/C LALMATIA - SAHEBGANJ	03/02/18	08/00	04/02/18	17/00	ODB	ER-I POWERGRID	CONSTRUCTION OF 400KV RJT-PRN LINE	JSEB
55	200 kV Malda -Dalkhola-I	03/02/18	08:00	03/02/18	17:00	ODB	ER-II	Insulator replacement	
56	400 kV Bus-II at Baripada	03/02/18	08:30	03/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for isolation of GIS Bus-II)	
57	400 kV Bay 415 CB(GIS) at Baripada	03/02/18	08:30	12/02/18	17:30	OCB	ER-II/Odisha/BARIPADA S/S	For GIS Bus-II ext. works	
58	500MVA ICT #3 at Baripada	03/02/18	09:30	03/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	PRD replacement & Insulation sleeves work on 52 kV buhsings	GRIDCO
59	400KV CHAIBASA#2 MAIN BAY (BAY NO.-409)	03/02/18	09:00	03/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK.	
60	765KV 240 MVAr Bus reactor-II at Sundargarh	03/02/18	09:00	03/02/18	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of R-Ph Reactor to Spare Reactor to attend oil leakage in R-Ph Reactor.	NLDC
61	Jeypore Line TIE BAY CB(40304)	03/02/18	09:00	03/02/18	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP work for 40304 CB	
62	400 kV Bus -II at Jeypore	03/02/18	09:00	03/02/18	16:00	ODB	ER-II/Odisha /Jeypore	For Pipe structure connection from Existing 400KV Bus-II to Ongoing 400KV Bus-II Erection under ongoing STATCOM Project Works (Outage to be booked under Construction Head)	GRIDCO
63	200 kV Malda -Dalkhola-II	04/02/18	08:00	04/02/18	17:00	ODB	ER-II	Insulator replacement	
64	63MVAr Dubri Line reactor(407R)	04/02/18	09:30	04/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO
65	400kV Rengali-Indravati Tie Bay-411 at Rengali	04/02/18	09/00/	09/02/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and AMP.	
66	400kV D/C Malda-Purnea-D/C	04/02/18	09:00	15/02/18	17:00	ODB	ER-II	One circuit will be required at a time, for insulator replacement identified during PID testing. Matter discussed during 141th OCC.	
67	400KV NEW PURNEA SILIGURI-I	05/02/18	10:00	05/02/18	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
68	765 kV, 3X500 MVA ICT-I AT 765/400 KV NEW RANCHI	05/02/18	08:00	07/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Tower Erection)	NLDC
69	400KV NEW PURNEA SILIGURI-I	05/02/18	10:00	05/02/18	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
70	400kV JSR-ANDAL 2 LINE	05/02/18	09:30	05/02/18	17:30	ODB	POWERGRID ER-I	AMP WORK	DVC
71	220KV Bus 2 AT PATNA	05/02/18	09:30	06/02/18	17:30	ODB	POWERGRID ER-I	AMP work	BIHAR
72	3X500 MVA ICT-I AT 765/400 KV NEW RANCHI	05/02/18	08:00	07/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Tower Erection)	NLDC
73	220 KV Ranchi-Chandil-I	05/02/18	08:00	05/02/18	17:30	ODB	POWERGRID ER-I	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
74	220 KV Ranchi-Hatia-I	05/02/18	08:00	05/02/18	17:30	ODB	POWERGRID ER-I	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
75	220 KV Chandil Hatia-I	05/02/18	08:00	05/02/18	17:30	ODB	POWERGRID ER-I	to facilitate changing of polymer insulator in 220 KV Ranchi-Hatia-I (powerline crossing)	JSEB
76	400kV HVDC East side Converter Tnx Main Bay @ Pusauli	05/02/18	09:00	07/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
77	400/220kV 500MVA ICT-I at Pusauli	05/02/18	09:00	05/02/18	18:00	ODB	POWERGRID ER-I	FOR PROVIDING INSULATION SHLEAVE OF TERTIARY CONDUCTORS	BIHAR
78	132KV NEW CHHAPRA (RASULPUR) - SIWAN -D/C	05/02/18	09:00	05/02/18	17:00	ODB	ER-I POWERGRID	Crossing of 132KV D/C Masrakh-Marhaura TL (under consultancy services to EC Rly)	
79	220KV BIRPARA-ALIPURDUAR Ckt-I	05/02/18	08:00	05/02/18	17:30	ODB	ER-II	CT AMP WORK AND A/R OPERATION & NTAMC ISOLATOR OPERATION CHECK	
80	125 MVAR-Bus Reactor-2	05/02/18	09:00	05/02/18	17:00	ODB	ER-II	FF commissioning balance works under BHEL (ERSS-IX)	
81	50 MVAR Bus Reactor-I	05/02/18	09:00	05/02/18	17:00	ODB	ER-II	AMP of Equipment	
82	400KV Maithon-Mejia 3 Line	05/02/18	09:00	06/02/18	17:30	ODB	ER-II	Line AMP work	DVC
83	Dubri Bus reactor at Dubri end	05/02/18	09:30	05/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO
84	315MVA ICT#1	05/02/18	09:00	08/02/18	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 leakage problem from tan delta test tap assemblies of its bushings.	GRIDCO
85	Main Bay-701 of 765KV 240MVAR B/R-I	05/02/18	08:00	05/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
86	765KV Main BUS-2 at Angul	05/02/18	08:00	05/02/18	18:00	ODB	Angul SS	AMP Work.	NLDC
87	Tie bay (417) of 63Mvar Reactor & 315MVA ICT #2 at Jeypore	05/02/18	09:00	07/02/18	16:00	OCB	ER-II/Odisha /Jeypore	For rectification of SF6 gas leakage and overhaulling of B-ph CB of Tie bay (417) of 63Mvar Reactor & 315MVA ICT #2	
88	Bay-9 (Main Bay of 50 MVAR BR-I)	05/02/18	10:00	07/02/18	18:00	OCB	ER-II	For commissioning and final tuning of CSD of Bay-9 (Main Bay of 50 MVAR BR-I) under ERSS-XII	
89	400 kV Jeerat-Subhasgram	05/02/18	09:00	15/02/18	17:00	ODB	ER-II	One circuit will be required at a time, for insulator replacement identified during PID testing. Matter discussed during 141th OCC. Alternate circuit between Jeerat-Subhasgram & Sagardighi-Subhasgram will be applied on daily basis.	WB
90	400 kV Subhasgram-sagardighi	05/02/18	09:00	15/02/18	17:00	ODB	ER-II	One circuit will be required at a time, for insulator replacement identified during PID testing. Matter discussed during 141th OCC. Alternate circuit between Jeerat-Subhasgram & Sagardighi-Subhasgram will be applied on daily basis.	WB
91	50 MVAR L/R of Sagardigghi-Subhasgram	05/02/18	09:00	20/02/18	17:00	OCB	ER-II	FOR CONVERTING FIXED L/R TO SWITCHABLE L/R AT SUBHASGRAM.	WB
92	400 KV SAGARDIGHI-SUBHASGRAM	05/02/18	09:00	05/02/18	17:00	ODB	ER-II	FOR ISOLATING THE REACTOR FROM SERVICE.	WB
93	**765 KV GAYA-BALIA**	**06/02/2018**	**09:00**	**07/02/2018**	**17:00**	**ODB**	**POWERGRID ER-I**	**FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES**	**NLDC**
94	400KV NEW PURNEA SILIGURI-II	06/02/18	10:00	06/02/18	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
95	400 KV MUZ_GKP-2	06/02/18	10:00	06/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC
96	400 kV PTN-BARH CKT – III & 400KV BARH MOTIHRI CKT-I	06/02/18	08:00	08/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
97	765 KV GAYA-BALIA	06/02/18	09:00	07/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES	NLDC
98	132 KV Ara - Jagdishpur	06/02/18	10:00	06/02/18	17:00	ODB	POWERGRID ER-I	AMP	BIHAR
99	400KV NEW PURNEA SILIGURI-II	06/02/18	10:00	06/02/18	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
100	400 kV Main Bus-1 AT LAKHISARAI	06/02/18	10:00	06/02/18	14:00	ODB	POWERGRID ER-I	AMP	
101	400 KV MUZ_GKP-2	06/02/18	10:00	06/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC
102	400 KV BSf-Koderma-1	06/02/18	10;00	06/02/18	14;00	ODB	POWERGRID ER-I	Autoreclose relay replacement	DVC
103	400 kV PTN-BARH CKT – III & 400KV BARH MOTIHRI CKT-I	06/02/18	08:00	08/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
104	220 KV Ranchi-Chandil-II	06/02/18	08:00	06/02/18	17:30	ODB	POWERGRID ER-I	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB

105	220 KV Ranchi-Hatia-II	06/02/18	08:00	06/02/18	17:30	ODB	POWERGRID ER-I	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS	JSEB
106	411 Bay (Tie bay of BR and RKL-II) at chaibasa	06/02/18	10:00	06/02/18	17:00	ODB	POWERGRID ER-I	AMP	
107	132KV NEW CHHAPRA (RASULPUR) - SIWAN -D/C	06/02/18	09:00	06/02/18	17:00	ODB	ER-I POWERGRID	Crossing of 132KV D/C Masrakh-Marhaura TL (under consultancy services to EC Rly)	
108	400 KV PATNA - BALIA - I	06/02/18	08/00	07/02/18	17/00	ODB	NR-3 POWERGRID	FOR RELACEMENT OF BUSHING OF LR AT BALIA END DUE TO HIGH TAN DELTA VALUES	NLDC
109	220KV Bus-1 at Subhasgram	06/02/18	08:00	06/02/18	17:30	ODB	ER-II	Jumper and dropper tightness	WB
110	80 Mvar Bus Reactor At Berhampore	06/02/18	08:00	06/02/18	17:30	ODB	ER-II	AMP	
111	Farakka-Baharampore	06/02/18	09:00	07/02/18	17:00		ER-II	execution of FKK-BHP D/C TWIN LINE. CROSSING T/L:400KV D/C SAGARDIGHI-DURGAPUR T/L	
112	400KV D/C Malda- New Purnea-I	06/02/18	09:00	07/02/18	17:00	ODB	ER-II	REF/DIFFERENTIAL RELAY REPLACEMENT AT LINE REACTOR AS DETAILED IN 139OCC	
113	160 MVA ICT#1 at Baripada	06/02/18	09:00	06/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement	GRIDCO
114	Tie Bay-702 of 765KV 240MVAR B/R-I & 765/400KV ICT-I	06/02/18	08:00	06/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
115	Angul Line main BAY CB(401)	06/02/18	09:00	06/02/18	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP work for 401 CB and 401CT	
116	765KV SRIKAKULAM LINE 1 MAIN BAY (729) at Angul	06/02/18	10:00	06/02/18	18:00	ODB	Angul SS	AMP Work	NLDC
117	400KV ICT-I AT KEONJHAR	06/02/18	09:00	06/02/18	18:00	ODB	ER-II,Odisha/Keonjhar	AMP Work	
118	400/220/33 KV ICT#2 (400 KV BAY-4,5)	06/02/18	09:00	09/02/2018	18:00	OCB	TSTPP	Bay#5 CT Replacement 'B'ph & Annual O/H	
119	400 KV SAGARDIGHI-DURGAPUR-D/C	06/02/18	09:00	07/02/18	17:00	ODB	ER-II	FOR POWERLINE CROSSING WORK FOR 400 KV BERHAMPUR-FARAKKA-D/C.	WB
120	Alipurduar-Siliguri Ckt-1	07/02/18	07:00	07/02/18	17:00	ODB	ENICL	For Maintenance work	
121	400 KV MUZ_GKP-1	**07/02/18**	**10:00**	**07/02/18**	**18:00**	**ODB**	POWERGRID ER-I	**AMP WORK**	NLDC
122	132 kv Ara - Ara (BSPTCL)	07/02/18	10:00	07/02/18	17:00	ODB	POWERGRID ER-I	AMP	BIHAR
123	400 KV MUZ_GKP-1	07/02/18	10:00	07/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC
124	315MVA ICT-1 AT BSF	07/02/18	10:00	08/02/18	18:00	OCB	POWERGRID ER-I	Both PRD replacemnt	BIHAR
125	421 (Main bay Barh 3) AT PATNA	07/02/18	09:30	07/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
126	418 (80MVAR B/R MAIN BAY) BAY AT 400/220 KV RANCHI	07/02/18	10:00	07/01/18	17:00	ODB	POWERGRID ER-I	AMP	
127	400KV Sagardighi-Subhasgram Line	07/02/18	08:00	09/02/18	17:30	ODB	ER-II	To attend line deffects and replacement of insulators	WB
128	400KV Tala-NSLG Ckt-I	07/02/18	07:00	07/02/18	17:30	ODB	ER-II	For repairing and replacement of damaged conductor and fitting of CC Ring	NLDC
129	125MVAR BUS REACTOR-3	07/02/18	09:00	07/02/18	17:00	ODB	ER-II	FF commissioning balance works under BHEL (ERSS-IX)	
130	220 KV Maithon-Kalyaneswari 1	07/02/18	10:00	07/02/18	17:30	ODB	ER-II	Line Bay AMP work	DVC
131	132 KV Kursoeng-Rangit S/c Line	07/02/18	09:00	22/02/18	17:00	OCB	ER-II	Insulator Replacemnt	WB
132	132 kV 109 BAY (Baripada Line bay) at Baripada	07/02/18	09;00	07/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT & CT junction Box Replacement	GRIDCO
133	Main Bay-703 of 765/400KV ICT-I	07/02/18	08:00	07/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
134	315 MVA, ICT-II BAY CB(404)	07/02/18	09:00	07/02/18	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP work for 4034CB and 404 CT	
135	765KV 240 MVAR Line Reactor-1 at Angul	07/02/18	10:00	07/02/18	16:00	ODB	Angul SS	B-phase Reactor to be taken out of service for attending Oil Leakage by full Gasket replacement by M/s. TBEA under TBEA warranty.	NLDC
136	400KV Kahalgaon-Lakhisarai Line-2	07/02/18	09:30	07/02/18	17:30	ODB	KAHALGAON	PM works & relay testing	
137	Alipurduar-Siliguri Ckt-2	08/02/18	07:00	08/02/18	17:00	ODB	ENICL	For Maintenance work	
138	160 MVA ICT#3 AT 220/132 KV PURNEA SS	08/02/18	09:00	15/02/18	16:00	OCB	POWERGRID ER-I	FOR GIS WORK	BIHAR
139	500MVA ICT-II AT NEW PURNEA	08/02/18	10:00	08/02/18	18:00	ODB	POWERGRID ER-I	AMP	BIHAR
140	400 kV Main Bus-2 AT LAKHISARAI	08/02/18	10:00	08/02/18	14:00	ODB	POWERGRID ER-I	AMP	
141	400KV Muz - DBG-2	08/02/18	10:00	08/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	BIHAR
142	400/220kV, 315MVA ICT-3 AT JSR	08/02/18	09:30	08/02/18	17:30	ODB	POWERGRID ER-I	CSD TESTING WORK	JSEB
143	424 (Main bay Barh 4) AT PATNA	08/02/18	09:30	08/02/18	17:30	ODB	POWERGRID ER-I	**AMP work**	
144	400kV HVDC East side Converter Tnx_Filter Tie Bay @ Pusauli	08/02/18	09:00	10/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
145	400 kV Bus-Bar -I at chaibasa	08/02/18	09:00	08/02/18	17:00	ODB	POWERGRID ER-I	AMP	
146	220KV Bus-2 at Subhasgram	08/02/18	08:00	08/02/18	17:30	ODB	ER-II	Jumper and dropper tightness	WB
147	400KV Tala-NSLG Ckt-II	08/02/18	07:00	09/02/18	17:30	ODB	ER-II	For repairing and replacement of damaged conductor and fitting of CC Ring	NLDC
148	220 KV Maithon-Kalyaneswari 2	08/02/18	10:00	08/02/18	17:30	ODB	ER-II	Line Bay AMP work	DVC
149	400KV D/C Malda- New Purnea-II	08/02/18	09:00	09/02/18	17:00	ODB	ER-II	REF/DIFFERENTIAL RELAY REPLACEMENT AT LINE REACTOR AS DETAILED IN 139OCC	
150	400 kV Malda -Faraka-I	08/02/18	08:00	09/02/18	17:00	ODB	ER-II	Insulator replacement	
151	132 kV 108 BAY (Bangriposiline bay) at Baripada	08/02/18	09;00	08/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT & CT junction Box Replacement	GRIDCO
152	Main Bay-704 of 765KV 240MVAR B/R-II	08/02/18	08:00	08/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
153	220KV Sadaipali line Bay CB (205)	08/02/18	09:00	08/02/18	18:00	ODB	ER-II/Odisha /Bolangir	AMP work for 205 CB and 205 CT	GRIDCO
154	400KV.BUS-I	08/02/18	09:00	14/02/18	18:00	ODB	ER-II/Odisha /Bolangir	Stringign Work Under New 125 MVAR Reactor Bay	GRIDCO
155	400kV JITPL Line-1 Main Bay (428) at Angul	08/02/18	10:00	08/02/18	16:00	ODB	Angul SS	AMP Work.	
156	400KV Keonjhar-Rengali Line at Keonjhar	08/02/18	09:00	08/02/18	18:00	ODB	ER-II/Odisha/Keonjhar	For AMP Works	
157	400KV Gazuwaka Line1 Main Bay CB (413) at Jeypore	08/02/18	10:00	10/02/18	17:00	OCB	ER-II/Odisha /Jeypore	For rectification of SF6 gas leakage and overhaulling of B-ph CB of Main bay (413) of 400KV Gazuwaka Line1	
158	400KV Bus Reactor-2	08/02/18	09:00	08/02/18	17:00	ODB	FSTPP	Relay Test	
159	Bay-8 (Tie Bay of 50 MVAR BR-I)	08/02/18	10:00	12/02/18	18:00	OCB	ER-II	For commissioning and final tuning of CSD of Bay-8 (Tie Bay of 50 MVAR BR-I) & Oil sampling of CT for DGA under ERSS-XII	
160	66 KV GANGTOK-LAYGAP	08/02/18	09:00	08/02/18	17:00	ODB	ER-II	FOR AMP WORKS.	SIKKIM
161	400 kV PTN-BARH CKT – IV & 400KV BARH MOTIHARI CKT-II	09/02/18	08:00	11/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
162	220KV BUS-II AT NEW PURNEA	09/02/18	10:00	09/02/18	18:00	ODB	POWERGRID ER-I	BUS AMP WORK	BIHAR
163	400KV Muz-DBG-1	09/02/18	10:00	09/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	BIHAR
164	400 KV BSF-Koderma-2	09/02/18	10;00	09/02/18	14;00	ODB	POWERGRID ER-I	Autoreclose relay replacement	DVC
165	400 kV PTN-BARH CKT – IV & 400KV BARH MOTIHARI CKT-II	09/02/18	08:00	11/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
166	315 MVA ICT-I AT 400/220 KV RANCHI	09/02/18	10:00	09/02/18	17:00	ODB	POWERGRID ER-I	To attend low oil level in OLTC of ICT-I	JSEB
167	400/220kV 315MVA ICT-II @ Pusauli	09/02/18	09:00	09/02/18	18:00	ODB	POWERGRID ER-I	For Oil Top Up in Main tank	BIHAR
168	220KV Newtown Line at Subhasgram	09/02/18	08:00	09/02/18	0/729166 6666666 67	ODB	ER-II	Bay AMP work	WB
169	400KV Maithon-Jamsedpur line	09/02/18	09:00	09/02/18	17:30	ODB	ER-II	Line AMP work	
170	400 KV Subhasgram- Jeerat Line	09/02/18	08:00	09/02/18	17:30	ODB	ER-II	Replacement of R Ph CVT at Jeerat End and AMP of bay equipments	WB
171	132kV BUS	09/02/18	09:30	09/02/18	12:30	ODB	ER-II/Odisha/BARIPADA S/S	Bus CVT JB replacement	GRIDCO
172	400KV ROURKELA-SUNDARGARH#1	09/02/18	09:00	09/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Retrofitting & Commissioning of its Main CB A/R Relay.	
173	Tie Bay-705 of 765KV 240MVAR B/R-II & 765/400KV ICT-II	09/02/18	08:00	09/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
174	400kV JITPL Line-1 & GMR Line-2 Tie Bay (429) at Angul	09/02/18	10:00	09/02/18	16:00	ODB	Angul SS	AMP Work.	

175	220 KV Bus Coupler Bay-204 at Rengali	09/02/18	09/00/	09/02/19	17/00/	ODB	ER-II/Odisha	For AMP work.	
176	765 KV D/C Jharsuguda- Dharamjaygarh Transmission line (Ckt-I & II)	09/02/18	08:00	11/02/18	17:00	OCB	POWERGRID	Swapping arrangement :Stringing work of 765KV Jharsuguda - Dharamjaygarh TL, Ckt-III & IV with Ckt-I & II	NLDC
177	400KV FKK-Kahalgaon Line-4	09/02/18	09:00	10/02/18	17:00	ODB	FSTPP	Relay & CT Test	
178	66 KV GANGTOK-TADONG	09/02/18	09:00	09/02/18	17:00	ODB	ER-II	FOR AMP WORKS.	SIKKIM
179	80 MVAR Bus Reactor AT LAKHISARAI	10/02/18	08:00	11/02/18	18:00	ODB	POWERGRID ER-I	For checking/rectification of alignment of Bus Reactor Isolator	
180	401(Main bay Kishanganj 1) AT PATNA	10/02/18	09:30	10/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
181	400KV Tala-NSLG Ckt-III	10/02/18	07:00	10/02/18	17:30	ODB	ER-II	For repairing and replacement of damaged conductor and fitting of CC Ring	NLDC
182	400 KV Rangpo Line-1 & Bus-1	10/02/18	08:00	11/02/18	12:00	OCB	ER-II	Strung Bus Replacement	
183	MALDA:ICT-I	10/02/18	09:00	10/02/18	17:00	ODB	ER-II	NTAMC ADAPTATION WORK	WB
184	400KV ROURKELA-SUNDARGARH#3	10/02/18	09:00	10/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Retrofitting & Commissioning of its Main CB A/R Relay.	
185	Main Bay-706 of 765/400KV ICT-II	10/02/18	08:00	10/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
186	400kV GMR Line-2 Main Bay Bay (430) at Angul	10/02/18	10:00	10/02/18	16:00	ODB	Angul SS	AMP Work.	
187	400kV Rengali-Keonjhar Main Bay-401 at Rengali	10/02/18	09/00/	15/02/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and Pole overhaulling work and AMP.	
188	400 KV SAGARDIGHI-SUBHASGRAM	10/02/18	09:00	10/02/18	17:00	ODB	ER-II	FOR ERECTION OF CB	WB
189	765/400kV, 1500MVA, ICT for regular changeover in 06 month	11/02/18	09:00	13/02/18	18:00	pm 11.01.2018to	POWERGRID ER-I	02 days for stability test and changing of Delta connection in LV side and 01 day for idle charging (without load) for 24 hrs for first time charging of 500MVA, B-Phase ICT	NLDC
190	765/400kV, 1500MVA, ICT for regular changeover in 06 month	11/02/18	09:00	13/02/18	18:00	pm 11.01.2018to	POWERGRID ER-I	02 days for stability test and changing of Delta connection in LV side and 01 day for idle charging (without load) for 24 hrs for first time charging of 500MVA, B-Phase ICT	
191	400KV Tala-NSLG Ckt-IV	11/02/18	07:00	14/02/18	17:30	ODB	ER-II	For repairing and replacement of damaged conductor and fitting of CC Ring	NLDC
192	MALDA:ICT-II	11/02/18	09:00	11/02/18	17:00	ODB	ER-II	NTAMC ADAPTATION WORK	WB
193	765 kV, 3X500 MVA ICT-II AT 765/400 KV NEW RANCHI	12/02/18	08:00	14/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (foundation for Tertiary loading)	NLDC
194	220 KV MAIN BUS-1 AT 220/132 KV PURNEA SS	12/02/18	09:00	12/02/18	16:00	ODB	POWERGRID ER-I	AMP 2017-18	BIHAR
195	132 KV PURNEA (PG)- PURNEA (BSPTCL)#1 LINE	12/02/18	09:00	16/02/18	16:00	OCB	POWERGRID ER-I	GIS WORK (Load will be catered through 132 kV feeder BSPTCL- 3 & KISHANGANJ to BSPTCL/Purnea through 02 No. 160 MVA ICT for next 4 days.)	BIHAR
196	220KV BUS-I AT NEW PURNEA	12/02/18	10:00	12/02/18	18:00	ODB	POWERGRID ER-I	BUS AMP WORK	BIHAR
197	404(Main bay Kishanganj 2) AT PATNA	12/02/18	09:30	12/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
198	3X500 MVA ICT-II AT 765/400 KV NEW RANCHI	12/02/18	08:00	14/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (foundation for Tertiary loading)	NLDC
199	433 (RNC-RNC-III MAIN BAY) BAY AT 400/220 KV RANCHI	12/02/18	10:00	12/02/18	17:00	ODB	POWERGRID ER-I	AMP	
200	400kV North Side Filter Main Bay@Pusauli	12/02/18	09:00	14/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
201	400/220kV 500MVA ICT-I Main Bay @Pusauli	12/02/18	09:00	14/02/18	18:00	OCB	POWERGRID ER-I	To attend CB SF6 Leakege Problem	
202	500 MVA ICT -2 AT KISHENGANJ	12/02/18	09:00	12/02/18	13:00	ODB	POWERGRID ER-I	Providing insulation sleeves on tertiary conductor	BIHAR
203	220KV CESC Line, Ckt-2 at Subhasgram	12/02/18	08:00	12/02/18	17:30	ODB	ER-II	Bay AMP work	WB
204	220KV BIRPARA-ALIPURDUAR Ckt-II	12/02/18	08:00	12/02/18	17:30	ODB	ER-II	CT AMP WORK AND A/R OPERATION & NTAMC ISOLATOR OPERATION CHECK	
205	400 KV Bidhannagar line-II	12/02/18	09:00	12/02/18	17:00	ODB	ER-II	CVT & LA shifting in new foundation	WB
206	400 KV Farakka- Durgapur-I	12/02/18	09:00	12/02/18	18:00	ODB	ER-II	For Insulator replacement work at tower location no- 222	
207	400 KV Binaguri-Purnea Ckt 1	12/02/18	09:00	13/02/18	17:00	ODB	ER-II	Insulator replacement	
208	400 KV Rangpo Line-2 & Bus-1	12/02/18	08:00	13/02/18	12:00	OCB	ER-II	Strung Bus Replacement	
209	MALDA:ICT-III	12/02/18	09:00	12/02/18	17:00	ODB	ER-II	NTAMC ADAPTATION WORK	WB
210	400 kV Bus-II at Baripada	12/02/18	08:30	12/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-II)	
211	400KV ROURKELA-CHAIBASA#1	12/02/18	09:00	13/02/18	18:00	OCB	ER-II/ODISHA/ROURKELA	Retrofitting & Commissioning of its Main & Tie CB A/R Relays.	
212	Main Bay-707 of 765KV Angul L/R-II	12/02/18	08:00	12/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
213	765kV ICT-3 Main Bay (710) at Angul	12/02/18	10:00	12/02/18	18:00	ODB	Angul SS	AMP Work.	NLDC
214	400KV Jeypore-Bolangir line at Jeypore	12/02/18	09:00	12/02/18	17:00	ODB	ER-II/Odisha /Jeypore	For AMP of 400KV Jeypore-Bolangir line by Bhawanipatna TLM group	NLDC
215	220KV Kaniha -Meramundali#1 (220KV Bay - 3)	12/02/18	09:00	16/02/2018	18:00	OCB	TSTPP	For LA Replacement Rph,Yph,B,ph & CT Replacement Rph,Yph,Bph & Annual O/H	GRIDCO
216	400 KV Farakka- Durgapur-I	12/02/18	09:00	12/02/18	18:00	ODB	ER-II	For Insulator replacement work at tower location no- 222	
217	400 KV BSF- BALIA -1	13/02/18	09:00	14/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES	NLDC
218	400 kV PTN-BARH CKT – II & 400KV KHL BARH CKT-I	13/02/18	08:00	14/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
219	400 KV BSF- BALIA -1	13/02/18	09:00	14/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES	NLDC
220	220 KV MAIN BUS-2 AT 220/132 KV PURNEA SS	13/02/18	09:00	13/02/18	16:00	ODB	POWERGRID ER-I	AMP 2017-18	BIHAR
221	BAY OF 220KV PRN-I (20152CB) AT NEW PURNEA	13/02/18	10:00	13/02/18	18:00	ODB	POWERGRID ER-I	AMP	BIHAR
222	200 MVA ICT-2 & 80 MVAR Bus Reactor AT LAKHISARAI	13/02/18	08:00	16/02/18	18:00	ODB	POWERGRID ER-I	Fire wall Construction and Checking of Aircel of ICT-2	BIHAR
223	315 MVA ICT-1 AT MUZ	13/02/18	10:00	13/02/18	18:00	ODB	POWERGRID ER-I	AMP WORK	BIHAR
224	400kV BUS 1 AT JSR	13/02/18	09:30	13/02/18	17:30	ODB	POWERGRID ER-I	AMP WORK	
225	400 kV PTN-BARH CKT – II & 400KV KHL BARH CKT-I	13/02/18	08:00	14/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
226	409(Main bay ICT-2) AT PATNA	13/02/18	09:30	13/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
227	436 (RNC-RNC-IV MAIN BAY) BAY AT 400/220 KV RANCHI	13/02/18	10:00	13/02/18	17:00	ODB	POWERGRID ER-I	AMP	
228	400kV D/C Koderma-Gaya-1 line	13/02/18	08:00	13/02/18	18:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant	DVC
229	400KV 50MVAR L/R OF MAITHON(RB)-I AT RANCHI	13/02/18	10:00	13/02/18	13:00	ODB	ER-I POWERGRID	FOR CHECKING OF CSD	
230	160MVA ICT-I at Birpara	13/02/18	08:00	13/02/18	16:00	ODB	ER-II	NTAMC ISOLATOR OPERATION CHECK	WB
231	400KV Maithon-Mejia 1 Line	13/02/18	09:00	14/02/18	17:30	ODB	ER-II	Line AMP work	DVC
232	Farakka-Baharampore	13/02/18	08:00	28/02/18	17:00	ODB	ER-II		
233	MALDA:ICT-IV	13/02/18	09:00	13/02/18	17:00	ODB	ER-II	NTAMC ADAPTATION WORK	WB
234	400 kV Bus-I at Baripada	13/02/18	08:30	13/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for isolation of GIS Bus-I)	
235	400 kV Bay 413CB(GIS) at Baripada	13/02/18	08:30	22/02/18	17:30	OCB	ER-II/Odisha/BARIPADA S/S	For GIS Bus-I ext. works	
236	125 MVAR BUS REACTOR-I	13/02/18	09:00	13/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Commissioning of CSD in its Tie CB (42352).	
237	Tie Bay-708 of 765KV Anul L/R-II	13/02/18	08:00	13/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
238	765kV ICT-3 & B/R-1 Tie Bay (711) at Angul	13/02/18	10:00	13/02/18	18:00	ODB	Angul SS	AMP Work.	NLDC
239	400KV Barh Patna line -4	13/02/18	09:30	14/02/18	18:00	OCB	BARH	Attending defect of isolator & annual testing of bay equipments.	
240	HVDC BTB System @ Pusauli	14/02/18	09:00	28/02/18	18:00	OCB	POWERGRID ER-I	During The S/D period there shall be no power flow between 400kV East Bus and North Bus at Pusauli Through HVDC system .However 400kV East and North Bus shall remain connected through AC Bypass . For Overhauling of 6 nos Converter Transformer	NLDC

241	BAY OF 220KV PRN-II (20152CB) AT NEW PURNEA	14/02/18	10:00	14/02/18	18:00	ODB	POWERGRID ER-I	AMP	BIHAR
242	410(Main bay 80 Bus reactor) AT PATNA	14/02/18	09:30	14/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
243	220kV Main Bus-I @ Pusauli	14/02/18	09:00	14/02/18	18:00	ODB	POWERGRID ER-I	AMP work	BIHAR
244	HVDC BTB System @ Pusauli	14/02/18	09:00	28/02/18	18:00	OCB	POWERGRID ER-I	During The S/D period there shall be no power flow between 400kV East Bus and North Bus at Pusauli Through HVDC system .However 400kV East and North Bus shall remain connected through AC Bypass . For Overhauling of 6 nos Converter Transformer	NLDC
245	400kV D/C Koderma-Gaya-2 line	14/02/18	08:00	14/02/18	18:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant	DVC
246	400KV 50MVAR L/R OF MAITHON(RB)-II AT RANCHI	14/02/18	10:00	14/02/18	13:00	ODB	ER-I POWERGRID	FOR CHECKING OF CSD	
247	220KV CESC Line, Ckt-1 at Subhasgram	14/02/18	08:00	14/02/18	17:30	ODB	ER-II	AMP of bay equipments.	WB
248	160MVA ICT-II at Birpara	14/02/18	08:00	14/02/18	16:00	ODB	ER-II	NTAMC ISOLATOR OPERATION CHECK	WB
249	315 MVA ICT#2 at DGP	14/02/18	09:00	14/02/18	17:00	ODB	ER-II	OTI, WTI calibration	DVC
250	400 KV Binaguri-Purnea Ckt 2	14/02/18	09:00	15/02/18	17:00	ODB	ER-II	Insulator replacement	
251	MALDA:ICT-V	14/02/18	09:00	14/02/18	17:00	ODB	ER-II	NTAMC ADAPTATION WORK	WB
252	403BAY ICT-1 Mani bay) at Baripada	14/02/18	09;00	14/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement	
253	Main Bay-710 of 765KV Angul L/R-I	14/02/18	08:00	14/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
254	765kV Bus Reactor-1 Main Bay (712) at Angul	14/02/18	10:00	14/02/18	18:00	ODB	Angul SS	AMP Work.	NLDC
255	ICT-I (3x 105 MVA) at Jeypore	14/02/18	09:00	14/02/18	18:00	ODB	ER-II/Odisha /Jeypore	For Extending Tertiary of Existing ICT-I (3x105MVA) for STATCOM Projects for Back-up Auxiliary supply, AMP Works & Isolator Retrofitting work (Outage to be booked under Construction Head)	GRIDCO
256	220KV FKK-Lalmatia Line	14/02/18	09:00	16/02/18	17:00	OCB	FSTPP	CVT Replacement, Relay & CT Testing	JSEB
257	400 KV BSF- BALIA -2	15/02/18	09:00	16/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES	NLDC
258	400 kV PTN-BARH CKT – I & 400KV KHL BARH CKT-II	**15/02/18**	**08:00**	**16/02/18**	**17:30**	**ODB**	POWERGRID ER-I	**FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION**	NLDC
259	400 KV BSF- BALIA -2	15/02/18	09:00	16/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES	NLDC
260	400 KV BUS 2 AT JSR	15/02/18	09:30	15/02/18	17:30	ODB	POWERGRID ER-I	AMP WORK	
261	400 kV PTN-BARH CKT – I & 400KV KHL BARH CKT-II	15/02/18	08:00	16/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION	NLDC
262	412(Main bay ICT-1) AT PATNA	15/02/18	09:30	15/02/18	17:30	ODB	POWERGRID ER-I	AMP work	
263	400 KV BUS -I AT 765/400 KV NEW RANCHI	15/02/18	08:00	17/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Isolator & Bus BPI erection)	
264	400kV East Side Filter Main Bay@Pusauli	15/02/18	09:00	17/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
265	400KV Maithon-Gaya Line 2	15/02/18	10:00	15/02/18	17:30	ODB	ER-II	Line Bay AMP work	
266	400 KV BUS-I of NTPC Farakka	15/02/18	10:00	15/02/18	16:00	ODB	ER-II	For disconnecting BUS isolator of bay no-22 & 33 from BUS-I1 (For augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
267	Main Bay of 400 KV Farraka- Kahalgaon-II (Bay-22)	15/02/18	10:00	10/03/18	18:00	OCB	ER-II	For augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
268	Tie Bay of 400 KV Farrak- Kahalgaon-III (Bay-33 & 34)	15/02/18	10:00	10/03/18	18:00	OCB	ER-II	For augmentation of Isolator & CT from 2000A to 3150 A in bay-34 & for installation of new equipment in Bay-33 under ERSS-XV projects.	
269	315MVA ICT#1 at Binaguri	15/02/18	09:00	15/02/18	17:00	ODB	ER-II	Back up O/C Relay Replacement	WB
270	405 (400Kv Bus coupler) at Rangpo	15/02/18	09:00	15/02/18	14:00	ODB	ER-II	AMP	
271	500MVA, ICT-1 at Maithon SS	15/02/18	10:00	15/02/18	17:30	ODB	ER-II	Onload testing of CSD and validation of OFS	DVC
272	220 kV Balaosre-I	15/02/18	09;00	15/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT junction Box Replacement	GRIDCO
273	400KV ROURKELA-TALCHER#1	15/02/18	09:00	15/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Re-fixing of dislocated VD & Spacers at various locations.	
274	Tie Bay-711 of 765KV Anul L/R-I	15/02/18	08:00	15/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
275	400KV,BUS-II	15/02/18	09:00	21/02/18	18:00	ODB	ER-II/Odisha /Bolangir	Stringign Work Under New 125 MVAR Reactor Bay	GRIDCO
276	765/400kV, 1500MVA ICT-4 at Angul	15/02/18	10:00	15/02/18	18:00	ODB	Angul SS	AMP Work.	NLDC
277	765 KV D/C Angul - Jharsuguda Transmission line (Ckt-I & II)	15/02/18	08:00	21/02/18	17:00	OCB	POWERGRID	Swapping arrangement :Stringing work of 765KV Angul - Jharsuguda Ckt-III & IV with Ckt-I & II	NLDC
278	132 KV Kh- Kahalgaon Line	15/02/18	09:30	15/02/18	17:30	ODB	KAHALGAON	PM works & relay testing	BIHAR
279	Non auto mode of auto reclose of 765 Angul-Jharsuguda Ckt#2	15/02/18	09:00	28/02/2018	17:00	ODB	ER-II/Odisha	For OPGW rectification work	NLDC
280	400kv Sundargarh-Raigarh-Fdr-II	15/02/18	08:00	28/02/17	17:00	OCB	powergrid/odisha	for rectification work of TL no-426	NLDC
281	400kv Sundargarh-Raigarh-Fdr-IV	15/02/18	08:00	28/02/17	17:00	OCB	powergrid/odisha	for rectification work of TL no-426	NLDC
282	63MVAR MUZAFFARPUR-I L/R AT NEW PURNEA	16/02/18	10:00	16/02/18	18:00	ODB	POWERGRID ER-I	AMP	
283	220 KV Ara khagaul line 1	16/02/18	09:30	16/02/18	17:30	ODB	POWERGRID ER-I	AMP work	BIHAR
284	400KV MTN-GAYA TL-II	16/02/18	09:00	16/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS AT LOC No.-290-291,326-327,348-349 DAMAGED BY MISCREANTS	
285	315 MVA ICT-III at Subhasgram	16/02/18	08:00	16/02/18	17:30	ODB	ER-II	Bay AMP work	WB
286	400 KV Bidhannagar line-I	16/02/18	09:00	16/02/18	17:00	ODB	ER-II	CVT JB replacement work	WB
287	400 KV Farraka- Kahalgaon-II line	16/02/18	10:00	16/02/18	18:00	ODB	ER-II	For disconnecting bay-22 (Main Bay of 400 KV Farakka- Kahalgaon-II) from line side for augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
288	315MVA ICT#2 at Binaguri	16/02/18	09:00	16/02/18	17:00	ODB	ER-II	Back up O/C Relay Replacement	WB
289	206 (220kV Bus coupler) at Rangpo	16/02/18	09:00	16/02/18	14/00	ODB	ER-II	AMP	
290	400KV Maithon-Kahalgaon Line 2	16/02/18	10:00	16/02/18	13:00	ODB	ER-II	Retrofitting of Diff relay	
291	220 kV Balasore-II	16/02/18	09;00	16/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT & CVT junction Box Replacement	GRIDCO
292	400KV ROURKELA-TALCHER#2	16/02/18	09:00	16/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Re-fixing of dislocated VD & Spacers at various locations.	
293	Tie Bay-714 of 765KV Sundargarh-Dharamjaygarh Line-I	16/02/18	08:00	16/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
294	765KV Line Reactor-1 Bay (706R) at Angul	16/02/18	10:00	16/02/18	16:00	ODB	Angul SS	AMP Work.	NLDC
295	400kV Rengali-Keonjhar Tie Bay-402 at Rengali	16/02/18	09/00/	21/02/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism overhaulling work and AMP.	
296	220KV JEYNAGAR-I Main BAY (204)	16/02/18	09:30	16/02/18	17:30	ODB	ER-II/Odisha /Jeypore	For AMP Works (204)	
297	Shut down of Bus-2	16/02/18	09:30	16/02/18	18:00	ODB	BARH	Attending defect of isolator connected to Bus	
298	**Auto reclose to be kept in non auto mode of 400kv Rourkela-Sundargarh -II(Two)**	**16/02/18**	**08:00**	**28/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	
299	**Auto reclose to be kept in non auto mode of 400kv Sundargarh - Raigarh- II (Two)**	**16/02/18**	**08:00**	**28/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	NLDC
300	**Auto reclose to be kept in non auto mode of 400kv Rourkela-Sundargarh- IV (Four)**	**16/02/18**	**08:00**	**28/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	NLDC
301	**Auto reclose to be kept in non auto mode of 400kv Sundargarh - Raigarh- IV(Four)**	**16/02/18**	**08:00**	**28/02/18**	**17:00**	ODB	ER-II/ODISHA/Sundargarh TLM	**For PID testing of Porceline insulator**	NLDC
302	400 kV S/C Farakka-Durgapur-II	16/02/18	09:00	28/02/18	17:00	ODB	ER-II	One circuit will be required at a time, for insulator replacement identified during PID testing. Matter discussed during 141th OCC.	
303	132 Kv Transfer Bus Coupler AT LAKHISARAI	17/02/18	10:00	17/02/18	14:00	ODB	POWERGRID ER-I	AMP	BIHAR
304	220 KV Ara khagaul line 2	17/02/18	09:30	17/02/18	17:30	ODB	POWERGRID ER-I	AMP work	BIHAR
305	400KV MTN-GAYA TL-I	17/02/18	09:00	17/02/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS AT LOC No.-290-291,326-327,348-349 DAMAGED BY MISCREANTS	
306	220 KV BUS-I at Gaya S/S	17/02/18	08:00	17/02/18	18:00	ODB	POWERGRID ER-I	For KHIJARSARAI bay commisioning work	BIHAR
307	220KV S/C FKK-LALMATIA LINE	17/02/18	08/00	18/02/18	17/00	ODB	ER-I POWERGRID	CONSTRUCTION OF 400KV RJT-PRN LINE	JSEB
308	315 MVA ICT-IV at Subhasgram	17/02/18	08:00	17/02/18	17:30	ODB	ER-II	Bay AMP work	WB

309	400 KV Farraka- Kahalgaon-III line	17/02/18	10:00	17/02/18	18:00	ODB	ER-II	For disconnecting bay-34 (Tie Bay of 400 KV Farakka- Kahalgaon-III) from line side for augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
310	132 kV BUS SECTIONALIZER- 2 AT RANGPO	17/02/18	09:00	17/02/18	17:00	ODB	ER-II	110 Bay AMP works	
311	408 BAY(Duburi &jamshedpur line tie bay) at Baripada	17/02/18	09;00	17/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work	
312	400KV ROURKELA-SUNDARGARH#2	17/02/18	09:00	17/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Re-fixing of dislocated VD & Spacers at various locations.	
313	Main Bay-715 of 765KV Sundargarh-Dharamjaygarh Line-I	17/02/18	08:00	17/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
314	765KV Line Reactor-2 Bay (709R) at Angul	17/02/18	10:00	17/02/18	16:00	ODB	Angul SS	AMP Work.	NLDC
315	220KV ICT-II Main BAY (208)	17/02/18	09:30	17/02/18	17:30	ODB	ER-II/Odisha /Jeypore	For AMP Works (208)	
316	765kV Gaya-VNS-2 line	17/02/18	08:00	04/03/18	17:00	OCB	POWERGRID ER-I	For rectification work of Tower no 448	NLDC
317	400kV HVDC North side Converter Tnx_Filter Tie Bay @ Pusauli	18/02/18	09:00	20/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	NLDC
318	500MVA, ICT-1 at Maithon SS	18/02/18	10:00	18/02/18	17:30	ODB	ER-II	Onload testing of CSD and validation of OFS	DVC
319	410 BAY(pandiabilli line main bay) at Baripada	18/02/18	09:00	18/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work	
320	132 KV PURNEA (PG) - KISHANGANJ	19/02/18	10:00	19/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
321	63MVAR MUZAFFARPUR-II L/R AT NEW PURNEA	19/02/18	10:00	19/02/18	18:00	ODB	POWERGRID ER-I	AMP	
322	400 kV Bay No.- 401 (Main Bay of 400 kV LKR-BSF-1) AT LAKHISARAI	19/02/18	10:00	19/02/18	14:00	ODB	POWERGRID ER-I	AMP	
323	400kV BSF-Sasaram-2	19/02/18	10:00	19/02/18	14:00	ODB	POWERGRID ER-I	Autoreclose relay replacement	NLDC
324	400 KV BUS -2 AT 765/400 KV NEW RANCHI	19/02/18	08:00	21/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Isolator & Bus BPI erection)	
325	220KV BUS -I AT 400/220 KV RANCHI	19/02/18	10:00	19/02/18	17:00	ODB	POWERGRID ER-I	AMP	JSEB
326	220 KV BUS-II at Gaya S/S	19/02/18	08:00	19/02/18	18:00	ODB	POWERGRID ER-I	For KHIJARSARAI bay commisioning work	BIHAR
327	220KV Subhashgram Line, Ckt-1	19/02/18	08:00	19/02/18	17:30	ODB	ER-II	Bay AMP work	WB
328	220KV D/C DLK-K'GANJ -I	19/02/18	09:00	20/02/18	17:00	ODB	ER-II	LINE AMP	
329	125MVAR B/R of baripada SS	19/02/18	09:30	19/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
330	400KV ROURKELA-SUNDARGARH#1	19/02/18	09:00	19/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	Re-fixing of Arcing Horn, Dislocated VD, CC Ring Nut bolt fixing.	
331	Tie Bay-717 of 765KV Sundargarh-Dharamjaygarh Line-I	19/02/18	08:00	19/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
332	765kV Angul- Srikakulam Line-1 at Angul	19/02/18	10:00	19/02/18	16:00	ODB	Angul SS	AMP Work.	NLDC
333	400 KV Indravati-Jeypore line	19/02/18	08/00	19/02/18	18:00	ODB	ER-II/Odisha /Indravati	Fixing of BPI structures on BPI foundation	NLDC
334	315MVA ICT#2 MAIN BAY (418)	19/02/18	09:00:00	20/02/2018	16:00:00	ODB	ER-II/Odisha /Jeypore	ELPRO isolator(02 Nos) allignment work	
335	400 kV PTN-BALIA CKT IV	20/02/18	08:00	20/02/18	17:30	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATORS WITH POLYMER INSULATOR AT LOC NO 296.	NLDC
336	400KV MTN-RANCHI TL	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For replacement of Flashover insulator(Y-ph top) string at tension tower (DD+25) loc.-24	
337	220KV DVC line(Kalyaneshwari to MTP) Line no.:L#228	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
338	220KV DVC line(Kalyaneshwari to burnpur) Line no.:L#229	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
339	132KV DVC line(Kalyaneshwari to Kalipahri) Line no.:L#18	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
340	132KV DVC line(Kalyaneshwari to Kalipahri) Line no.:L#19	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
341	132 KV PURNEA (PG) -PRN(BSPTCL)-3	20/02/18	10:00	20/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
342	400 kV PTN-BALIA CKT IV	20/02/18	08:00	20/02/18	17:30	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATORS WITH POLYMER INSULATOR AT LOC NO 296.	NLDC
343	400 KV RNC - NRNC Ckt-3	20/02/18	08:00	20/02/18	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Tower Erection)	
344	400KV MTN-RANCHI TL	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For replacement of Flashover insulator(Y-ph top) string at tension tower (DD+25) loc.-24	
345	220KV DVC line(Kalyaneshwari to MTP) Line no.:L#228	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
346	220KV DVC line(Kalyaneshwari to burnpur) Line no.:L#229	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
347	132KV DVC line(Kalyaneshwari to Kalipahri) Line no.:L#18	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
348	132KV DVC line(Kalyaneshwari to Kalipahri) Line no.:L#19	20/02/18	09:00	20/02/18	17:00	ODB	POWERGRID ER-I	For saftey purpose during Shut down related work of 400KV D/C MTN-RNC TL	DVC
349	400 KV BUS-I at Gaya S/S	20/02/18	08:00	20/02/18	18:00	ODB	POWERGRID ER-I	for isolator mantanance work	BIHAR
350	200MVA ICT-1 AT BANKA	20/02/18	10:00	20/02/18	18:00	ODB	POWERGRID ER-I	Providing insulation sleeves on tertiary conductor	BIHAR
351	400KV Maithon-Mejia 2 Line	20/02/18	09:00	21/02/18	17:30	ODB	ER-II	Line AMP work	DVC
352	50 MVAR Bus Reactor-II	20/02/18	10:00	15/03/18	18:00	OCB	ER-II	For Installation of new CB and other associated work for Bus Reactor-II to make Bus Reactor-II switchable.	
353	500MVA, ICT-2 at Maithon SS	20/02/18	10:00	20/02/18	17:30	ODB	ER-II	Onload testing of CSD and validation of OFS	DVC
354	132 KV RANGPO-GANGTOK	20/02/18	10:00	22/02/18	18:00	OCB	ER-II	A/R IMPLEMENTATION AND RELAY RETROFITTING AT GANGTOK	
355	402 Bay Tie bay of Keonjhar & ICT-1	20/02/18	09:00	20/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT JB replacement works	
356	400KV RAIGARH#2 MAIN BAY (BAY NO.-419)	20/02/18	09:00	20/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK	
357	Main Bay-718 of 765KV Sundargarh-Dharamjaygarh Line-I	20/02/18	08:00	20/02/18	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	NLDC
358	765kV Angul- Srikakulam Line-2 at Angul	20/02/18	10:00	20/02/18	16:00	ODB	Angul SS	AMP Work.	NLDC
359	400 KV Indravati-Jeypore line	20/02/18	08/00	21/02/18	18:00	OCB	ER-II/Odisha /Indravati	Shifting or interchanging the position of LAs & CVTs and pre commissioning testing.	NLDC
360	220 KV Kaniha- Rengali (220 KV Bay – 7)	20/02/18	09:00	22/02/2018	18:00	OCB	TSTPP	For annual maint activities of bay equipments	
361	400KV FKK-Bahrampore Line	20/02/18	09:00	22/02/18	17:00	ODB	FSTPP	CT Replacement	
362	Bus Reactor AT BARH	20/02/18	09:30	23/02/18	18:00	OCB	BARH	Annual testing of Bus Reactor	
363	Maintenance work for Bus Reactor BAY Equipments	20/02/18	09:30	21/02/18	18:00	OCB	BARH	Annual testing of Bay equipments	
364	50 MVAR Bus Reactor-II	20/02/18	10:00	15/03/18	18:00	OCB	ER-II	For Installation of new CB and other associated work for Bus Reactor-II to make Bus Reactor-II switchable.	
365	400 KV SAGARDIGHI-SUBHASGRAM	20/02/18	09:00	20/02/18	17:00	ODB	ER-II	FOR TESTING AND TAKING THE REACTOR IN SERVICE.	WB
366	132 KV BUSCOUPLER AT PURNEA	21/02/18	10:00	21/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
367	400 kV Bay No.- 402 (Tie Bay of 400 kV BSF-1 & ICT-1) AT LAKHISARAI	21/02/18	10:00	21/02/18	14:00	ODB	POWERGRID ER-I	AMP	
368	400 KV BSF - Lakhisarai-1	21/02/18	10:00	21/02/18	14:00	ODB	POWERGRID ER-I	Autoreclose relay replacement	
369	400 KV RNC - NRNC Ckt-4	21/02/18	08:00	21/02/2010 7	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Tower Erection)	
370	220KV BUS -II AT 400/220 KV RANCHI	21/02/18	10:00	21/02/18	17:00	ODB	POWERGRID ER-I	AMP	JSEB

371	400kV Allahabad Main bay @ Pusauli	21/02/18	09:00	23/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	
372	400 KV BUS-II at Gaya S/S	21/02/18	08:00	21/02/18	18:00	ODB	POWERGRID ER-I	for isolator mantanance work	BIHAR
373	200MVA ICT-2 AT BANKA	21/02/18	10:00	21/02/18	18:00	ODB	POWERGRID ER-I	Providing insulation sleeves on tertiary conductor	BIHAR
374	400KV Bus-1 at Subhasgram	21/02/18	08:00	21/02/18	17:30	ODB	ER-II	Jumper and dropper tightness	WB
375	220KV D/C DLK-K'GANJ -II	21/02/18	09:00	22/02/18	17:00	ODB	ER-II	LINE AMP	
376	220 kV BUS-I	21/02/18	09:30	21/02/18	13:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT JB replacement works	GRIDCO
377	125 MVAR BUS REACTOR	21/02/18	09:00	21/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK of Reactor & Bay Equipments.	
378	Main Bay-713 of 765KV Angul L/R-III	21/02/18	09:00	22/02/18	18:00	OCB	ER-II/Odisha/Sundergarh	Jumpering of 765KV Angul Line-III Checking of Protection for Commissioning of 765KV Angul L/R-III including Reactor stability test	NLDC
379	765kV Bus Reactor-2 at Angul	21/02/18	10:00	21/02/18	16:00	ODB	Angul SS	B-phase Reactor to be taken in service after attending Oil Leakage by full Gasket replacement by M/s. TBEA under TBEA	NLDC
380	220 KV Transfer Bus Coupler Bay-204 at Rengali	21/02/18	09/00/	21/02/18	17/00/	ODB	ER-II/Odisha	For AMP work.	
381	400kV D/C OPGC-Jharsuguda Line	21/02/18	08:00	22/02/18	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP 140/0- AP 141/0(OGPTL tower Nos: 03-04)	
382	160 MVA ICT-2 AT 220/132 KV PURNEA SS	22/02/18	10:00	22/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
383	400kV Nabinagar-I Main Bay @ Pusauli	22/02/18	09:00	22/02/18	18:00	ODB	POWERGRID ER-I	AMP work	
384	765 KV BUS-I at Gaya S/S	22/02/18	08:00	22/02/18	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	NLDC
385	400kV Bus-1 AT BANKA	22/02/18	09:30	22/02/18	17:30	ODB	POWERGRID ER-I	FOR AMP	
386	400KV Jeerat-Subhasgram Line	22/02/18	08:00	24/02/18	17:30	ODB	ER-II	To attend line deffects and replacement of insulators	WB
387	400 kV Bus-I at Baripada	22/02/18	08:30	22/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-I)	
388	400KV ROURKELA-SUNDARGARH#1	22/02/18	09:00	22/02/18	09:30	ODB	ER-II/ODISHA/ROURKELA	FOR ISOLATION OF LINE REACTOR	
389	63 MVAR SUNDARGARH#1 LINE REACTOR	22/02/18	09:30	22/02/18	17:30	ODB	ER-II/ODISHA/ROURKELA	AMP WORK OF LINE REACTOR	
390	400KV ROURKELA-SUNDARGARH#1	22/02/18	17:30	22/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR TAKING LINE REACTOR INTO SERVICE.	
391	Angul Line Tie BAY CB(40102)	22/02/18	09:00	28/02/18	18:00	ODB	ER-II/Odisha /Bolangir	Civil Work on the top of ACP Room of New 125 MVAR,BUS Reactor	
392	400kV Rengali-Talcher # 1 Main Bay-404 at Rengali	22/02/18	09/00/	25/02/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and Pole overhaulling work and AMP.	
393	220 kV Bus -I at Jeypore	22/02/18	09:00	23/02/18	18:00	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-I side Isolators	GRIDCO
394	400KV Kahalgaon-Lakhisarai Line-1	22/02/18	09:30	22/02/18	17:30	ODB	KAHALGAON	PM works & relay testing	
395	132 KV PURNEA (PG) -PRN(BSPTCL)-1	23/02/18	10:00	23/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
396	400 kV Bay No.- 403 (Main Bay of 200 MVA ICT-1) AT LAKHISARAI	23/02/18	10:00	23/02/18	14:00	ODB	POWERGRID ER-I	AMP	
397	400 kV PTN-KSNGJ CKT I	23/02/18	08:00	23/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS.	NLDC
398	400KV MTN-Kahalgaon TL-II	23/02/18	09:00	23/01/18	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS AT LOC No. 281, 283 DAMAGED BY MISCREANTS	
399	765 KV BUS-II at Gaya S/S	23/02/18	08:00	23/02/18	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	NLDC
400	400kV Bus-2 AT BANKA	23/02/18	09:30	23/02/18	17:30	ODB	POWERGRID ER-I	FOR AMP	
401	400KV Bus-2 at Subhasgram	23/02/18	08:00	23/02/18	17:30	ODB	ER-II	Jumper and dropper tightness	WB
402	220 KV Binaguri-Birpara Ckt-1	23/02/18	09:00	24/02/18	17:00	OCB	ER-II	Line AMP works/For replacement of damaged conductor and jumper	
403	220 kV BUS-II	23/02/18	09:30	23/02/18	13:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT JB replacement works	GRIDCO
404	220KV BUS-I	23/02/18	09:00	23/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK	GRIDCO
405	Main Bay-713 of 765KV Angul L/R-IV	23/02/18	09:00	24/02/18	18:00	OCB	ER-II/Odisha/Sundergarh	Jumpering of 765KV Angul Line-III Checking of Protection for Commissioning of 765KV Angul Line-III	NLDC
406	220KV Bus coupler Bay CB (204 Bay)	23/02/18	09:00	23/02/18	18:00	ODB	ER-II/Odisha /Bolangir	AMP work for 204 CB and 204 CT	GRIDCO
407	Main Bay-716 of 765KV Angul L/R-IV	23/02/18	09:00	24/02/18	18:00	OCB	ER-II/Odisha/Sundergarh	Jumpering of 765KV Angul Line-IV Checking of Protection for Commissioning of 765KV Angul Line-IV	NLDC
408	765 kV 240 MVAR Bus Reactor-1 AT GAYA	24/02/18	08:00	24/02/18	18:00	ODB	POWERGRID ER-I	AMP work	NLDC
409	132 KV PURNEA (PG) -PRN(BSPTCL)-2	24/02/18	10:00	24/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
410	400 kV Bay No.- 404 (Main Bay of 400 kV LKR-BSF-1) AT LAKHISARAI	24/02/18	10:00	24/02/18	14:00	ODB	POWERGRID ER-I	AMP	
411	400 kV PTN-KSNGJ CKT II	24/02/18	08:00	24/02/18	17:30	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS.	NLDC
412	400kV Saranath_Future Tie bay @ Pusauli	24/02/18	09:00	26/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	
413	125MVAR Bus Reactor-II Main Bay	24/02/18	09:00	24/02/18	18:00	ODB	POWERGRID ER-I	AMP work	
414	765 kV 240 MVAR Bus Reactor-1 AT GAYA	24/02/18	08:00	24/02/18	18:00	ODB	POWERGRID ER-I	AMP work	NLDC
415	400KV D/C FKK KAHALGOAN CKT I&II	24/02/18	08/00	25/02/18	17/00	ODB	ER-I POWERGRID	CONSTRUCTION OF 400KV RJT-PRN LINE	
416	765 kV GAYA - VARANASI- I	24/02/18	09:00	28/02/18	18:00	ODB	NR-3 POWERGRID	FOR STRENGHTENING OF TOWER NO 136 AS PER MOP INSTRUCTION	NLDC
417	400kV baripada-Kharagpur line	24/02/18	09:30	24/02/18	13:30	ODB	ER-II/Odisha/BARIPADA S/S	Replacement of CVT JB	WB
418	220KV BUS-II	24/02/18	09:00	24/02/18	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORK.	GRIDCO
419	220 kV Bus -II at Jeypore	24/02/18	09:00	25/02/18	18:00	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-II side Isolators	GRIDCO
420	220 KV Binaguri-Birpara Ckt-2	25/02/18	09:00	26/02/18	17:00	OCB	ER-II	Line AMP works/For replacement of damaged conductor and jumper	
421	765 kV 240MVAR Bus Reactor-2 AT GAYA	26/02/18	08:00	26/02/18	18:00	ODB	POWERGRID ER-I	AMP work	NLDC
422	160 MVA ICT-3 AT 220/132 KV PURNEA SS	26/02/18	10:00	26/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
423	400 kV Bay No.- 405 (Tie Bay of 400 kV BSF-2 & ICT-2) AT LAKHISARAI	26/02/18	10:00	26/02/18	14:00	ODB	POWERGRID ER-I	AMP	
424	400/220kV, 315MVA ICT-2 AT JSR	26/02/18	09:30	26/02/18	17:30	ODB	POWERGRID ER-I	OLTC OVERHAULING WORK	JSEB
425	400kV BSF-LAKHISARAI-2	26/02/18	10:00	26/02/18	14:00	ODB	POWERGRID ER-I	Reactor & Line bay AMP	
426	400KV BUS -II AT 400/220 KV RANCHI	26/02/18	10:00	26/02/18	17:00	ODB	POWERGRID ER-I	AMP	
427	765 kV 240MVAR Bus Reactor-2 AT GAYA	26/02/18	08:00	26/02/18	18:00	ODB	POWERGRID ER-I	AMP work	NLDC
428	315MVA ICT-I	26/02/18	09;00	26/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement on 220 kV Side	GRIDCO
429	765kV Angul- Sundargarh Line-1 at Angul	26/02/18	09:00	26/02/18	18:00	ODB	Angul TLAM	To attend accumulated line defects.	NLDC
430	400kV Rengali-Talcher # 1 Tie Bay-406 at Rengali	26/02/18	09/00/	01/03/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and Pole overhaulling work and AMP.	
431	400KV FKK-Malda Line-1	26/02/18	09:00	27/02/18	17:00	ODB	FSTPP	Relay, CB & CT Testing	
432	765 kV 240MVAR Line Reactor-1 AT GAYA	27/02/18	08:00	27/02/18	18:00	ODB	POWERGRID ER-I	For Commissioning of HVW spray system	NLDC

433	160 MVA ICT-1 AT 220/132 KV PURNEA SS	27/02/18	10:00	27/02/18	16:00	ODB	POWERGRID ER-I	FOR INSTALLATION OF GIS NEW CONTROL PANEL AT CONTROL ROOM AND TERMINATION FOR ERLDC DATA TRANSMISSION	BIHAR
434	417 (TIE OF RGP-III & 80MVAR B/R) BAY AT 400/220 KV RANCHI	27/02/18	10:00	27/02/18	17:00	ODB	POWERGRID ER-I	AMP	
435	400kV Biharsharif-IV Main Bay @ Pusauli	27/02/18	09:00	27/02/18	18:00	ODB	POWERGRID ER-I	AMP work	
436	400kV Allahabad_Future Tie Bay @ Pusauli	27/02/18	09:00	28/02/18	18:00	OCB	POWERGRID ER-I	For Breaker Drive overhauling and Bay AMP work	
437	765 kV 240MVAR Line Reactor-1 AT GAYA	27/02/18	08:00	27/02/18	18:00	ODB	POWERGRID ER-I	For Commissioning of HVW spray system	NLDC
438	400KV D/C FKK KAHALGOAN CKT III & IV	27/02/18	08/00	28/02/18	17/00	ODB	ER-I POWERGRID	CONSTRUCTION OF 400KV RJT-PRN LINE	
439	160 MVA ICT#1 at Baripada	27/02/18	09:00	27/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement on 220 kV Side	GRIDCO
440	765kV Angul- Sundargarh Line-2 at Angul	27/02/18	09:00	27/02/18	18:00	ODB	Angul TLAM	To attend accumulated line defects.	NLDC
441	400 kV Jeypore-Indravati S/C Line	27/02/18	08:00	28/02/18	18:00	ODB	ER-II/Odisha /Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line	NLDC
442	220KV Kaniha-TTPS(220KV Bay-6)	27/02/18	09:00	01/03/2018	18:00	OCB	TSTPP	For annual maint activities of bay equipments & replacement of 3 number of CTs	GRIDCO
443	400kV D/C TL LILO to 765/400kV Kenapalli Grid S/S	27/02/18	08:00	01/03/18	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP141/0-AP142/0.(VEDANTA Limited Tower nos 1/2-2/0)	NLDC
444	400kV D/C SUNDARGARH-SAHAJBAHAL Line	27/02/18	08:00	01/03/18	18:00	OCB	OGPTL	for Overhead Stringing of U/C 765KV D/C Raipur- Sundargarh Transmission line(of OGPTL) at OGPTL Location numbers AP141/0-AP142/0.(VEDANTA Limited Tower nos 1/2-2/0)	NLDC
445	765 kV 240MVAR Line Reactor-3 AT GAYA	28/02/18	08:00	28/02/18	18:00	ODB	POWERGRID ER-I	For Commissioning of HVW spray system	NLDC
446	400 kV Bay No.- 406 (Main Bay of 200 MVA ICT-2) AT LAKHISARAI	28/02/18	10:00	28/02/18	14:00	ODB	POWERGRID ER-I	AMP	
447	402 (TIE OF MTN-1 & ICT-I) AT 400/220 KV RANCHI	28/02/18	10:00	28/02/18	17:00	ODB	POWERGRID ER-I	AMP	
448	765 kV 240MVAR Line Reactor-3 AT GAYA	28/02/18	08:00	28/02/18	18:00	ODB	POWERGRID ER-I	For Commissioning of HVW spray system	NLDC
449	50MVAr Reactor of keonjhar at baripada end	28/02/18	09:30	28/02/18	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
450	400kV Rengali-Talcher # 2 Main Bay-403 at Rengali	02/03/18	09/00/	05/03/18	17/00/	OCB	ER-II/Odisha	For CB Mechanism and Pole overhaulling work and AMP.	
451	400 KV Farraka- Kahalgaon-II line	10/03/18	10:00	10/03/18	18:00	ODB	ER-II	For connecting bay-22 (Main Bay of 400 KV Farakka- Kahalgaon-II) from line side after augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
452	400 KV Farraka- Kahalgaon-III line	12/03/18	10:00	12/03/18	18:00	ODB	ER-II	For connecting bay-34 (Tie Bay of 400 KV Farakka- Kahalgaon-III) from line side after augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV projects.	
453	400 KV BUS-I of NTPC Farakka	13/03/18	10:00	13/03/18	16:00	ODB	ER-II	For connecting BUS isolator of bay no-22 & 33 to BUS-I1 (After augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
454	Farakka-Baharampore	30/02/18	09:00	31/02/18	17:00		ER-II	execution of FKK-BHP D/C TWIN LINE. CROSSING T/L:132KV D/C RAGHUNATHGANJ-GOKARNA T/L	

Outages proposed in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	outages proposed in	Reason	Remarks
		Date	Time	Date	Time				
1	400kV Jeypore-Gazuwaka D/C	20-Jan-18	09:00	21-Jan-18	17:00	Continuous	SRPC	For ERECTION OF 400KV DC LINE FROM KALPAKA TO PROPOSED 400KV SS MARADAM (GARIVIDI) CROSSING AT LOC 95-96	650MW TTC Curtailment in ER-SR.
2	765D'JAIGARH-RANCHI II	06-Feb-18	09:00	06-Feb-18	18:00	Daily	WRPC	First time swapping of Spare Reactor unit (Non-switachble) at D'garh.	
3	765D'JAIGARH-RANCHI I	12-Feb-18	09:00	14-Feb-18	18:00	Daily	WRPC	Replacement of Conventional Insulators with Polymer insulators in major crossings line Power, River, N.H., S.H., Railway Crossings for public safety. AR in Non Auto Mode for other ckt will be required during above period.	
4	765D'JAIGARH-RANCHI II	14-Feb-18	09:00	14-Feb-18	18:00	Daily	WRPC	Replacement of Conventional Insulators with Polymer insulators in	
5	765D'JAIGARH-JHARSUGUDA-I& II	21-Feb-18	09:00	22-Feb-18	18:00	Continuous	WRPC	Powerline crossing of under construction 765Jharsuguda-D'Jaigarh Ckt-03&04	
6	765 kV GAYA - VARANASI- I	24-Feb-18	09:00	28-Feb-18	18:00	Daily	NRPC	FOR STRENGHTENING OF TOWER NO 136 AS PER MOP INSTRUCTION	
7	400 KV PATNA - BALIA - I	06-Feb-18	08.00	07-Feb-18	17.00	Daily	NRPC	For replacement of all 03(R,Y,B) 400KV BHEL make Bushing of 50MVAR Line Reactor due to finding of high ten delta value, at Ballia	
8	Agra-BNC Bipole line.	1st week of February 18				Daily	NERPC	for facilitating shifting of vulnerable tower locations in ER-2 Region	

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

प्लाट नं.- 4, युनिट - 41, निलाद्री विहार, चंन्द्रसेखरपुर - 751021
दुरभाष : 0674 - 2720754
Plot. No. 4, Unit - 41, Niladri Vihar, Chandrasekharpur,
Bhubaneswar-751021, Tel: 0674-2720754

Ref: ODP/BB/AM/TLM/3179

Date:29th Dec 2017

To
The Member Secretary
Eastern Regional Power Committee
14, Golf Club Road
Tollygunge, Kolkata-700033

Sub: Request for approval of deemed availability for the insulator replacement works at NH/SH/River/Power line/Railway Crossing in various transmission lines of POWERGRID in Odisha.

Dear Sir,

During Insulator de-capping, Conductor is grounded and if such incident occurs in crossing span of other transmission line/Railway line/Road/River, consequential effects are much higher. To minimize consequential effects in case of de-Capping the above said crossing span will be provided with punctured proof Composite Long Road Polymer Insulator for which no incident of de-capping has been reported. Insulator replacement work in the above said crossings in most of the transmission lines in Odisha have been completed except few lines.

Accordingly, the s/d of the bellow mentioned lines were planned and approved in the 139th OCC meeting for replacement of porcelain insulator with Polymer insulator as follows:

Sl NO	Name of the line	Date	Time	Date	Time	Remark
1	400KV Rengali-Indravati S/C	10/12/2017	07:00	16/12/2017	18:00	ODB
2	400KV Rourkela-Talcher Ckt#2	04/06/2017	07:00	06/12/2017	18:00	ODB

Actual Shut down availed/Proposed date and time

Sl NO	Name of the line	Date	Time	Date	Time	Remark
1	400KV Rengali-Indravati S/C	19/12/2017	08:33	19/12/2017	19:34	ODB(availed)
		20/12/2017	9:09	20/12/2017	19:56	
		21/12/2017	7:59	21/12/2017	18:33	
		22/12/2017	08:05	22/12/2017	21:08	
		23/12/2017	9:37	23/12/2017	18:46	
		31/12/2017	8:00	31/12/2017	18:00	ODB (proposed)

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

प्लाट नं.- 4, युनिट - 41, निलाद्री विहार, चंन्द्रसेखरपुर - 751021
दुरभाष : 0674 - 2720754
Plot. No. 4, Unit - 41, Niladri Vihar, Chandrasekharpur,
Bhubaneswar-751021, Tel: 0674-2720754

Sl NO	Name of the line	Date	Time	Date	Time	Remark
2	400KV Rourkela-Talcher Ckt#2	27/12/2017	08:42	27/12/2017	19:06	ODB(Availed)
		28/12/2017	8:57	28/12/2017	18:52	

It is requested that the approved Shut down for the said lines may please be granted as deemed availability. Earlier also ERPC has granted deemed availability in same activities.

Regards.

29/12/17
(A.K. BEHERA)
Dy. General Manager(AM)
POWERGRID, Odisha Projects

Copy: GM(AM), POWERGRID, Odisha Projects
for kind information

Annexure-E4

Details of stations/Units required to operate under RGMO/FGMO as per IEGC							Whether operating under RGMO	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)		
JHARKHAND	Thermal	TVNL	SS	Tenughat	1	210	No	Difficulties in implementing RGMO & exemption not
			SS		2	210	No	
	Hydro	JSEB	SS	Subarnrekha	1	65	Yes	
			SS		2	65	Yes	
WEST BENGAL	Termal	WBPDCL	SS	Bandel TPS	1	82.5	No	
			SS		2	82.5	No	
			SS		3	82.5	No	
			SS		4	82.5	No	
			SS		5	210	No	
			SS	Santaldih	5	250	No	Unit#6 could not be implemented because of some technical problem
			SS		6	250	No	
			SS	Kolaghat	1	210	No	Nil
			SS		2	210	No	Nil
			SS		3	210	No	Nil
			SS		4	210	No	Nil
			SS		5	210	No	Nil
			SS		6	210	No	Nil
			SS	Bakreshwar	1	210	Yes	
			SS		2	210	Yes	
			SS		3	210	Yes	
			SS		4	210	Yes	
			SS		5	210	Yes	
			SS	Sagardighi	1	300	No	Without OEM support it is not possible to put in FGMO/RGMO. At present OEM support is not
			SS		2	300	No	
	Hydro		SS	PPSP	1	225	Yes	In 134th OCC WBPDCL informed that the units are in RGMO/FGMO mode
			SS		2	225	Yes	
			SS		3	225	Yes	
			SS		4	225	Yes	
	Thermal	CESC	SS	Budge-Budge	1	250	Yes	
			SS		2	250	Yes	
			SS		3	250	Yes	
			SS	Haldia	1	300	Yes	
			SS		2	300	Yes	
	Thermal	DPL	SS	DPL	7	300	Yes	
Orissa		OPGC	SS	IB TPS	1	210	No	Not adequate response in RGMO
			SS		2	210	No	
	Hydro	OHPC	SS	Burla	1	49.5	No	
			SS		2	49.5	No	
			SS		3	32	No	
			SS		4	32	No	
			SS		5	37.5	No	
			SS		6	37.5	No	
			SS		7	37.5	No	
			SS	Balimela	1	60	No	
			SS		2	60	No	
			SS		3	60	No	
			SS		4	60	No	
			SS		5	60	No	
			SS		6	60	No	
			SS		7	75	No	
			SS		8	75	No	
			SS	Rengali	1	50	No	
			SS		2	50	No	
			SS		3	50	No	
			SS		4	50	No	
			SS		5	50	No	
			SS	Upper Kolab	1	80	No	
			SS		2	80	No	
			SS		3	80	No	
			SS		4	80	No	
			SS		1	150	No	

			SS	Indravati	2	150	No	
			SS		3	150	No	
			SS		4	150	No	
			64					
Central Sector	Thermal	DVC	CS	Bokaro-A	1	500	No	RGMO will be service once the unit comes in CMC mode of operation. It will be done shortly in presence of BHEL experts.
			CS	Bokaro-B	1	210	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS		2	210	No	
			CS		3	210	No	
			CS	CTPS	2	140	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS		3	140	No	
			CS		7	250	Yes	
			CS		8	250	Yes	
			CS	DTPS	4	210	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS	Mejia	1	210	No	Not possible due to non availability of Electro
			CS		2	210	No	
			CS		3	210	No	Action has been initiated to put in RGMO, but testing is not yet completed.
			CS		4	210	Yes	
			CS		5	250	Yes	
			CS		6	250	Yes	
			CS	Mejia - B	7	500	Yes	
			CS		8	500	Yes	
			CS	DSTPS	1	500	Yes	
			CS		2	500	Yes	
			CS	KODERMA	1	500	Yes	
			CS		2	500	Yes	
			CS	RTPS	1	600	Yes	
			CS		2	600	Yes	
	Hydro		CS	Panchet	1	40	No	RGMO mode of operation
			CS		2	40	No	would not be possible for
	Thermal	NTPC	CS	Farakka STPP-I	1	200	Yes	
			CS		2	200	Yes	
			CS		3	200	Yes	
			CS	Farakka STPP-II	1	500	Yes	
			CS		2	500	Yes	
			CS	Farakka-U#6		500	Yes	Kept in RGMO mode from April, 2014
			CS	Kahalgoan STPP	1	210	Yes	
			CS		2	210	Yes	
			CS		3	210	Yes	
			CS		4	210	Yes	
			CS		5	500	Yes	
			CS		6	500	Yes	
			CS		7	500	Yes	
			CS	Talcher STPP Stg-I	1	500	Yes	
			CS		2	500	Yes	
			CS	Barh	5	660	Yes	
			CS	Barh	6	660	Yes	
	Hydro	NHPC	CS	Teesta HEP	1	170	Yes	
			CS		2	170	Yes	
			CS		3	170	Yes	
			45					
	Thermal	IPP	PS	Maithon RB TPP	1	525	Yes	
			PS		2	525	Yes	
			PS	Sterlite	1	600	Yes	
			PS		2	600	Yes	
			PS		3	600	Yes	
			PS		4	600	Yes	
			PS	Adhunik Power	1	270	Yes	
			PS		2	270	Yes	

IPP	Hydro	IPP	PS	JLHEP	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	
			PS	Chujachen HEP	1	49.5	No	(RoR project with 3 hours pondage)
			PS		2	49.5	No	
			PS	Teesta Urja	1	200	No	could be put in RGMO mode but because of transmission evacuation constraint RGMO/FGMO is disabled
			PS		2	200	No	
			PS		3	200	No	
			PS		4	200	No	
			PS		5	200	No	
			PS		6	200	No	
			PS	Dikchu	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	
		20						

Annexure – E.7

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	

Annexure- E.8

Eastern Regional Power Committee

The status of ERS towers in Eastern Region as updated in OCC meetings is given below:

1) ERS towers available in Powergrid S/s 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) 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 recieved.
- Another, 16 nos of 400 kV towers accompanied with 6 sets of T&P are required which is under process

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

Availability of Emergency Restoration System in BSPTCL system

Sl. No.	Type	Quantity	Remarks
1	Tension ERS Tower	12	New
2	Suspension ERS Tower	20	New
3	Old ERS Tower	10	1 no. is defective
Total		**42**	

Note:-

- As informed in ERS meeting held on 10-11-2014 taken by Member (Power System), CEA; **2 sets (12 tension & 20 suspension) of ERS towers had been procured and is currently available in our system** (as mentioned in above table with remarks "New").
- Same ERS tower is used in both 220 Kv and 132 kV circuits.

Annexure –E10.2

List of Changes Made in Restoration procedure

Sl No	Page No	Changes made	Further input required
1	Page No: 6	Point 31 Typical largest motor size for 660 MW plant included	
2	Page No: 10	POWER STATIONS WITH BLACK START FACILITY : Teesta III included	WBSEDCL may confirm the present status of black start facility at Jaldhaka, Rammam, TCF Dikchu, Jorethang and Tashiding may confirm their black start capability status.
3	Page No: 11	PERIODIC BLACK START PROCEDURE Procedure for periodic exercise of black starting Teesta-III is included in Annexure XI	
4	Page No: 12,13,14	MINIMUM SURVIVAL / AUXILLIARY POWER REQUIRED FOR POWER STATIONS	• NTPC may provide data for 195 MW units of KBUNL • JUUNL may provide final status of Patratu plants (else it can be removed from list) • DVC may provide details for Ragunathpur • WBPDCL may provide details for 500 MW unit of Sagardighi
5	Page No: 15-17	LIST OF POWER STATIONS AND S/S HAVING SYNCHRONISING FACILITY	All constituents are requested to go through list and provide the missing details particular for newly commissioned substation.
6	Page No: 18	RESTORATION PLAN FOR BSPHCL POWER STATIONS Extension of start-up power from Nepal via 132 kV Parmanipur-Raxual lines is included Restoration path modified for LILO of existing lines or commissioning of new substation	BSPTCL may provide details of CPP with islanding facility(if any) which can be used as start-up power source.
7	Page No: 21	RESTORATION PLAN FOR JUUNL & TVNL POWER STATIONS	JUSNL may provide details of CPP with islanding facility(if any) which can be used as start-up power source.
8	Page No: 26	RESTORATION PLAN FOR POWER STATIONS IN ODISHA Restoration path modified for LILO of existing lines or commissioning of new substation	
9	Page No: 29	RESTORATION PLAN FOR WBPDCL, WBSEDCL & DPL POWER STATIONS Restoration path modified for LILO of	WBSETCL may provide details of CPP with islanding facility(if any) which can be used as start-up

		existing lines or commissioning of new substation.	power source.
10	Page No: 34	RESTORATION PLAN FOR CENTRAL SECTOR POWER STATIONS Restoration path modified for LILO of existing lines or commissioning of new	
11	Page No: 38	RESTORATION PLAN FOR IPP POWER STATIONS Restoration plan for Teesta-III, Dikchu and Tasheding included Restoration path modified for LILO of existing lines or commissioning of new	
12	Page No: 40-43	Traction map of ER, ECR,ECR updated based on input received from railways	Details awaited from South Eastern Railways
13	Page No: 44-47	Traction demand of ER, ECR,ECR updated based on input received from railways	Details awaited from South Eastern Railways
14	Page No: 48	Semantic Diagram for restoration plan of BSPHCL system Updated for change in electrical network	
15	Page No: 49	Semantic Diagram for restoration plan of JUVNL system Updated for change in electrical network	
16	Page No: 50	Semantic Diagram for restoration plan of DVC system Updated for change in electrical network	
17	Page No: 51	Semantic Diagram for restoration plan of GRIDCO system Updated for change in electrical network	
18	Page No: 52	Semantic Diagram for restoration plan of W.Bengal system Updated for change in electrical network	
19	Page No: 54	Semantic Diagram for restoration plan of Central Sector system Updated for change in electrical network	
20	Page No: 55	Semantic Diagram for restoration plan of Thermal IPP system Updated for change in electrical network	
21	Page No:56-61	All power map updated	
22	Page No: 62-65	Nodal representatives of various utilities (required to be contacted during restoration) and their contact numbers:	All are requested to reconfirm the contact details.
23	Page No: 66	Mock Black Start carried out last year Updated based on mock black start exercise carried out in last year	
24	Page No: 106	Annexure-11 Procedure for periodic exercise of blackstarting Teesta-III included.	

Annexure-E10.3

UFR Inspection Report of OPTCL substations on 02.01.2018 & 05.01.2018

The ERPC UFR inspection group visited 220/132/33kV Jayanagar, 132/33kV Sunabeda and 220/132/33kV Terubali substations of OPTCL for UFR Audit on 02.01.2018 & 05.01.2018. 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	Adopted UFR setting	Tested initiated frequency	UFR make
			(kV)	(Hz)	(Hz)	
1	220/132/33kV Jayanagar	Tentui Khunti	132	48.6	48.6	Alstom Micom P442
2		Boriguma	33	49.0	49.04	AREVA Micom P141
3	132/33kV Sunabeda	Laxmipur	33	49.0	49.02	AREVA Micom P141
4		Nandapur	33	48.6	48.63	AREVA Micom P141
5	220/132/33kV Terubali	Bisam Cuttak	33	49.0	49.0	SEL-751A

The above UFR setting were tested with help of Secondary injection Kit owned by OPTCL. The UFRs are provided with direct trip wiring and tripped at desired frequency. During the inspection, it was found that load (average 0.2 MW & peak 0.5 MW) of 33kV Laxmipur feeder is almost negligible compared to the desired load of 8 MW as per the UFR feeder list submitted by SLDC, Odisha.

Annexure-E10.4

2nd Third Party Protection Audit Observations of substations visited during 1st week of January 2018

Sl. No.	Name of Sub-station	Date of Audit	Observations/Remarks	Category	Compliance/Action plan
1	220kV Terubali	05/01/2018	1. Protection relays may be divided into two independent groups, capable of providing uninterrupted protection even in the event of one protection group failure.	**B**	
			2. All indicating instruments in control room may be upgraded to digital meters as old analog instruments give high burden to CT	**B**	
			3. Automatic DR downloading fecility integrated with all the numerical relays may be implemented.	**B**	
			4. REF protection should be provided for 100MVA, 220/132kV Transformer I & II	**B**	
			5. No fire fighting system is available for 100MVA, 220/132kV Transformer I & II	**B**	
			6. Fire wall should be constructed in between 100MVA, 220/132kV Transformer I & II	**B**	
			7. Overload alarm for 100MVA, 220/132kV ATRs is not available	**B**	
			8. Protection coupler is not available for all the lines, carrier protection and autoreclose features are disabled	**B**	
2	220kV Jayanagar	02/01/2018	1. Protection relays may be divided into two independent groups, capable of providing uninterrupted protection even in the event of one protection group failure.	**B**	
			2. All indicating instruments in control room may be upgraded to digital meters as old analog instruments give high burden to CT	**B**	
			3. Automatic DR downloading fecility integrated with all the numerical relays may be implemented.	**B**	
			4. No fire fighting system is available for 160MVA, 220/132kV Transformer I & II	**B**	
			5. Fire wall should be constructed in between 160MVA, 220/132kV Transformer I & II	**B**	
			6. Protection coupler is not available for all the lines, carrier protection and autoreclose features are disabled	**B**	
			7. 220kV Upper Kolab line Main-I relays are not time synchronized (PORT not available)	**B**	
3	400kV Indravati(OHPC)	04/01/2018	1. Automatic DR downloading fecility integrated with all the numerical relays may be implemented.	**B**	
			2. No fire fighting system is available for 3x105 MVA 400/220kV ICT-I	**B**	
			3. Overload alarm for 3x105 MVA 400/220kV ICT-I is not available	**B**	
			4. Protection coupler is not available for all the lines, carrier protection and autoreclose features are disabled	**B**	
			5. Second set of 48V Battery bank along with charger should be provided	**B**	
			6. 220kV Bus coupler and transfer bus breakers are not in service. 220kV system is operating at single bus from 2013.	**B**	
			7. 3x105 MVA 400/220kV ICT-I tie breaker is not in service	**B**	
			8. Differential protection may be implemented for 400kV Indravati (PG)-Indravati (OHPC) line as the line length is 4 km	**B**	
			9. Main-I & Main II of 400kV & 220kV line protection are of same make	**B**	
			10. LBB is not available for 400kV and 220kV lines	**B**	
			11. Time synchronizing equipment is old and the relays are not time synchronized.	**B**	
4	400kV Indravati (PG)	04/01/2018	1. Frequent tripping of 11kV auxilary supply from WESCO-OPTCL (300 trippings/month)	**A**	
			2. Differential protection may be implemented for 400kV Indravati (PG)-Indravati (OHPC) line as the line length is 4 km	**B**	
5	400kV Jeypore	02/01/2018	1. PLCC system is out of service for 220kV Jaynagar line I & II.	**B**	
			2. Overload alarm for 400/220kV ICT-I is not available	**B**	

Note:
1. Red and bold indicates the observations which are not complied till date
2. As per CERC order dated 21st Feb 2014 protection deficiencies are categorised as

Category-A : The deficiencies which can be corrected without any procurement.

Category-B : The deficiencies involving procurement of equipments.

Annexure-E10.6

Annex. -I

SL. NO.	NAME OF THE ELEMENTS	DATE	TIME (HRS)	DATE	TIME (HRS)	REMARKS	S/D availed BY	OUTAGE OF ELEMENT (Bay/ Line/ICT/Reactor)	POWER INTERRUPTION	REASON OF OUTAGE
1	765 KV GAYA-BALIA	06.02.18	8:00	07.02.18	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES
2	400 KV BSF- BALIA -1	13.02.18	8:00	14.02.18	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES
3	400 KV BSF- BALIA -2	15.02.18	8:00	16.02.18	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES
4	400 kV PTN-BARH CKT – III & 400KV BARH MOTIHRI CKT-I	06.02.2018	8:00	08.02.2018	17:30	ODB	POWERGRID ER-I	LINE	Yes	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION
5	400 kV PTN-BARH CKT – IV & 400KV BARH MOTIHARI CKT-II	09.02.2018	8:00	11.02.2018	17:30	ODB	POWERGRID ER-I	LINE	Yes	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION
6	400 kV PTN-BARH CKT – II & 400KV KHL BARH CKT-I	13.02.2018	8:00	14.02.2018	17:30	ODB	POWERGRID ER-I	LINE	Yes	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION
7	400 kV PTN-BARH CKT – I & 400KV KHL BARH CKT-II	15.02.2018	8:00	16.02.2018	17:30	ODB	POWERGRID ER-I	LINE	Yes	FOR REPLACEMENT OF 120 KN PORCELAIN INSULATOR BY POLYMER ONES IN MULTI CKT PORTION
8	400 kV PTN-BALIA CKT IV	20.02.2018	8:00	20.02.2018	17:30	ODB	POWERGRID ER-I	LINE	Yes	REPLACEMENT OF PORCELAIN INSULATORS WITH POLYMER INSULATOR AT LOC NO 296.
9	220 KV Ranchi-Chandil-I	05.02.2018	8:00	05.02.2018	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS
10	220 KV Ranchi-Hatia-I	05.02.2018	8:00	05.02.2018	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS
11	220 KV Chandil Hatia-I	05.02.2018	8:00	05.02.2018	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS
12	220 KV Ranchi-Chandil-II	06.02.2018	8:00	06.02.2018	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS
13	220 KV Ranchi-Hatia-II	06.02.2018	8:00	06.02.2018	17:30	ODB	POWERGRID ER-I	LINE	YES	FOR CHANGING OF PORCELAIN INSULATORS WITH POLYMER INSULATORS

ADDITIONAL AGENDA FOR 141TH occ Meeting

AGENDA-1

Diversion of 400kV S/C Berhampore-Farakka TL in between Loc No.-150-151 due to Railway Track widening in between Moregram to Sagardighi Under Eastern Railway Howrah

Diversion of 400kV S/C Berhampore-Farakka TL in between Loc No.-150-151 due to Railway Track widening in between Moregram to Sagardighi Under Eastern Railway Howrah

- Based on the request as received from Eastern Railway Howrah in connection with doubling work of Nalhati-Sagardighi Section of Eastern Railway in between Sagardighi and Moregram Railway Station , POWERGRID have taken up the Line Diversion work of 400kV S/C Farakka-Berhampore section of original 400kV S/C Farakka-Jeerat Line-1.
- Shifting of Line shall be carried out through construction of 4 Nos. New Towers.
- As per present status of work ,Foundation work completed in 1 location and rest 3 shall be completed within Jan-18

Diversion of 400kV S/C Berhampore-Farakka TL in between Loc No.-150-151 due to Railway Track widening in between Moregram to Sagardighi Under Eastern Railway Howrah

- Since 2 Nos. of new towers are on-line towers as such for taking up the erection work S/D of 400kV S/C Berhampore-Farakka TL is required.
- As per our planning, we require complete S/D of 400kV S/C Farakka-Berhampore TL for 25 days tentatively from 15.02.2018 to 11.03.2018.
- In view of the above, the said outage period may be treated as force majeure condition i.e. beyond the control of POWERGRID and the outage shall be excluded for the purpose of availability.

AGENDA-2

Replacement of defective Porcelain Insulators identified after PID Testing in Trans. Lines under ER-II

Replacement of defective Porcelain Insulators identified after PID Testing in Trans. Lines under ER-II

- As part of improving the System availability, POWERGRID ER-II have carried out Puncture Insulator Detection Testing in lines which are 25 years in service and those lines which are frequently getting auto-reclosed/de-capped during lightening.
- The list of lines under ER-II where PID Testing have been carried out are as per the following:-
- 400kV D/C Malda-Purnea TL
- 400kV S/C Farakka-Durgapur-II
- 400kV Jeerat-Subhasgram TL
- 400kV Subhasgram-Sagardighi TL
- 400kV S/C Durgapur-Jamshedpur TL
- 400kV D/C Malda-Farakka TL
- 400kV D/C Binaguri-Purnea TL
- 400kV D/C Andal-Jamshedpur TL

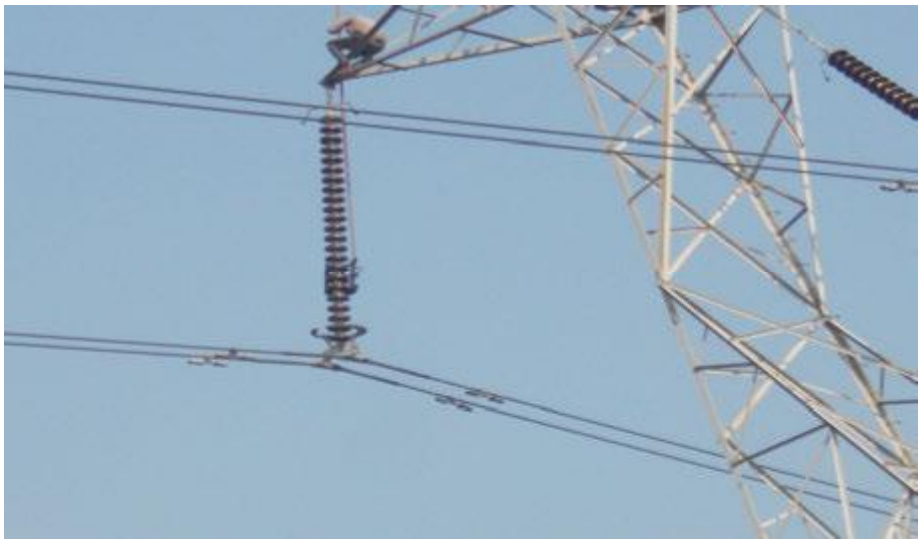
Replacement of defective Porcelain Insulators identified after PID Testing in Trans. Lines under ER-II

- Upon analysing the test-results of PID testing, it has came into observation that in above mentioned lines more than 20% Porcelain Insulator strings have been found defective.
- As such, it is urgently required to replace those insulators as those defective porcelain insulator strings are very vulnerable to sudden de-capping/Auto-reclosure of lines.
- As such, we are planning to replace all those defective porcelain insulators with new CLR Insulators one line at a time and Ckt-wise.
- The list of lines where Insulator Replacement shall be carried out and tentative date proposed for availing S/D are as per the following:-

Replacement of defective Porcelain Insulators identified after PID Testing in Trans. Lines under ER-II

- 400kV D/C Malda-Purnea TL- 04.02.2018-15.02.2018 (Ckt-wise)
- 400kV S/C Farakka-Durgapur-II-16.02.2018-28.02.2018
- 400kV Jeerat-Subhasgram TL-01.03.2018 to 15.03.2018
- 400kV Subhasgram-sagardighi TL-16.03.2018 to 31.03.2018
- 400kV S/C Durgapur-Jamshedpur TL-01.04.2018 to 15.04.2018
- 400kV D/C Malda-Farakka TL-16.04.2018 to 30.04.2018(Ckt-wise)
- 400kV D/C Binaguri-Purnea TL(01.05.2018 to 16.05.2018)(Ckt-wise)
- 400kV D/C Andal-Jamshedpur TL(17.05.2018 to 30.05.2018)(Ckt wise)
- As this is an activity carried out for system improvement, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

PHOTOS OF PID WORK IN 400KV S/C DGP-JSR TL



AGENDA-3

Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

- 4 Nos. Tower in between Loc 81-85 of 220KV D/C Birpara-Chukha TL and 4 Nos. Tower in between Loc 39A - 44 of 220 KV S/C Birpara-Malbase TL had got vulnerable due to change in river course of Torsa River from 2015 Monsoon onwards.
- In order to protect the line, we have constructed 3 Nos. Pile with Multi-Ckt Tower in order to shift 220kV D/C Birpara-Chukha TL and 220okV S/C Birpara malbase TL. Presently, we have completed all possible non-shut-down works and balance tower erection & Stringing work could only be taken up after availing Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birapara-Malbase one by one.
- We have applied for S/D of the 2(Two) lines as per the following schedule:-

Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

Sl. No.	Name of Element	Date	Time	S/D Type	Purpose	S/D approved in OCC meeting (Sl. No.)
1	220kV D/C Birpara-Chukha TL	12.01.2018 to 19.01.2018	08.00 Hrs to 17.00 Hrs	OCB	Line Diversion due to River course change	17 of 140th OCC
2	220kV S/C Birpara-Malbase TL	20.01.2018 to 23.01.2018	08.00 Hrs to 17.00 Hrs	OCB	Line Diversion due to River course change	194 of 140th OCC

Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

- However, S/D of two lines not approved due to internal S/D issues at Bhutan end
- Since, both 220kV D/C Birpara-Chukha TL & 220kV S/C Birpara-Malbase TL are being shifted on 3 nos. common Multi-Ckt Towers and 220kV S/C Birpara-Malbase is on the bottom cross-arms of the Multi-ckt Tower as such availing S/D for 220kV S/C Birpara-Malbase TL first shall not serve the purpose since during taking up the stringing work of 220kV D/C Birpara-Chukha TL , S/D of 220kV S/C Birpara-Malbase shall have to be taken once again and shall result in unnecessary outage of 3 lines at a time.
- Since, we have mobilized a group of 60 man-power with T&P as such delaying the S/D shall lead to huge idling charge payment.in view of above, it is requested that the S/D as proposed above may please be approved. In this regard, it is for your kind information that last year also, we could not carry-out the said work due to non-approval of Shut-down from Bhutan and as a result towers of both the lines remain vulnerable for collapse and the towers have been protected somehow with temporary protection wall with bamboo and sand bags.
- Also the said outage period may be treated as force majeure condition i.e. beyond the control of POWERGRID and the outage shall be excluded for the purpose of availability.

Requisition for Shut-down of 220kV D/C Birpara-Chukha TL and 220kV S/C Birpara-Malbase TL for carrying out Line Diversion work due to Torsa River course change.

AGENDA-4

Requisition of S/D for 400kV D/C Binaguri-Rangpo TL for attending Line Hot-spots

Requisition of S/D for 400kV D/C Binaguri-Rangpo TL for attending Line Hot-spots

- 400kV D/C Binaguri-Rangpo TL is catering continuous power of around 800 MW per ckt for continuous one year.
- Due to this continuous Power Flow at few locations Hot-spots in line have been recorded which requires immediate attention.
- In this regard it is requested to approve S/D of 400kV D/C Binaguri-Rangpo TL for 3 days each Ckt tentative as per following schedule
- i) 400kV Binaguri-Rangpo TL Ckt-1 from 22.01.2018 to 24.01.2018 on ODB Basis from 8:00 Hrs to 16:00 Hours
- ii) 400kV Binaguri-Rangpo TL Ckt-2 from 25.01.2018 to 27.01.2018 on ODB Basis from 8:00 Hrs to 16:00 Hours
- As this is an activity carried out for system improvement, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

AGENDA-5

Requisition of S/D for 400kV D/C Binaguri-Bongaigaon TL for shifting of hut of a villager based on order passed by Addl District Magistrate,Jalpaiguri

Requisition of S/D for 400kV D/C Binaguri-Bongaigaon TL for shifting of hut of a villager based on order passed by Addl District Magistrate,Jalpaiguri

- One no. hut of a villager named Sh Sisisr Barui was existing below the 400kV D/C Binaguri-Bongaigaon TL for long.
- Several times the owner was requested to shift the hut from below the line.
- However, the owner was not willing to shift the hutment from below the line.
- As such, POWERGRID approached the District Magistrate Jalpaiguri with the plea for taking necessary action for shifting the hutment.
- Based on the request, Additional District Magistrate passed an order dated 17/10/2017 for shifting the hutment from below the line with suitable compensation to the owner.However, before disbursement of compensation , the hut-ment needs to be shifted.
- In this regard, we require S/D of 400kV D/C Binaguri-Bongaigaon TL for one day tentatively on 23.01.2018 from 08:00 Hours to 17:00 Hours for carrying out the dismantling of the hut.
- As such, the said outage period may be treated as force majeure condition i.e. beyond the control of POWERGRID and the outage shall be excluded for the purpose of availability and deemed availability may be granted.
- Copy of order passed by ADM,Jalpaiguri and Photos of Hut enclosed for reference.

Requisition of S/D for 400kV D/C Binaguri-Bongaigaon TL for shifting of hut of a villager based on order passed by Addl District Magistrate,Jalpaiguri

- Conversion of existing fixed L/R (50 MVAR) of 400 KV Sagardighi-Subhasgram under ERSS-XV.

Conversion of 50 MVAR L/R at Subhasgram from non switchable to switchable.

- Under ERSS-XV package, the Reactor is to be converted from fixed to switchable.
- All foundation work and required cable laying is completed.
- S/D of the Line (400 KV Sagardighi-Subhasgram) required for 03 days(05.02.18/07.02.18 & 19.02.18) on daily basis for isolation of reactor & erection of CB and testing of PLCC coordination.
- Reactor S/D required for 15 days from 05.02.18 to 20.02.18. On 20.02.18, the Reactor will be charged as switchable.
- As such, the said outage period may please be treated under deemed category as S/D taken for approved implementation of schemes under ERSS-XV.

Capacity enhancement of 400 KV Rangpo-Binaguri-D/C terminal equipment's at both ends in view of high load flow.

- In view of high power flow through both the 400 KV Rangpo-Binaguri-D/C, it has been decided to strengthen the terminal equipment's at both ends for increasing reliability.
- Strengthening works include stringing of quad conductor In jack bus against existing twin moose and replacement of terminal connector with high capacity connectors. To complete the work huge mobilisation is required as string of quad conductor is involved for a span of almost 65 meters.
- To complete the work continuous S/D of 400 KV BUS-I at Binaguri & 400 KV Binaguri-Rangpo-I & II, required for 30 Hours for each circuit.
- As this is a system strengthening/improvement measure, the outage may please be considered under deemed category.

Commissioning of 2nd Reactor at Berhampur

- **Under ERSS-XV, 01 NO 125 MVAR Bus Reactor to be commissioned at Berhampur. As per original scheme, existing 400 KV Farakka-Berhmapur Bay will be shifted to its new place and in old bays of Farakka-Berhmapur upcoming Reactor will be commissioned.**
- **Accordingly, for shifting to new bay existing Farakka - Berhampur Ckt require S/D of 10 Days on continuous basis. Now the work for the bays are ready and existing 400 KV Farakka-Berhampur Circuit will be relocated to newly constructed bay.**
- **For relocation of bays including PLCC co-ordination and SAS configuaration 05 days continuous S/D is required for existing Farakka-Berhampur Line. S/D for the same is applied from 28.01.2017 to 01.02.2018.**
- **As all above outages will be related to ERSS-XV pacakage, it may be considered under Deemed category as per CERC regulations.**
-