



AGENDA
FOR
211TH OCC MEETING

Date: 24.01.2024

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700033

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EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 211TH OCC MEETING TO BE HELD ON 24.01.2024 (WEDNESDAY) AT 10:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 210th OCC Meeting held on 15th December 2023 physically at ERPC Secretariat, Kolkata

The minutes of 210th Operation Coordination Sub-Committee meeting held on 15.12.2023 was circulated vide letter dated 26.12.2023.

Members may confirm the minutes of 210th OCC meeting.

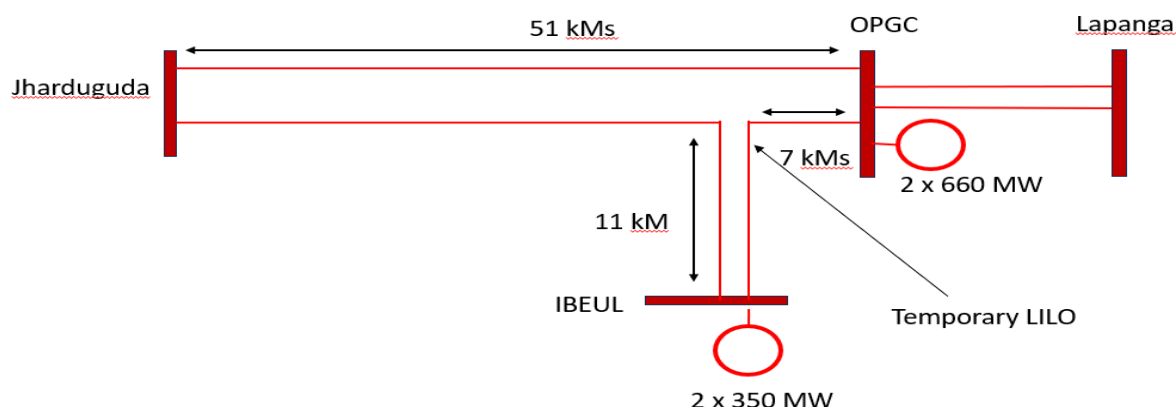
2. PART-B: ITEMS FOR DISCUSSION

2.1 Revival of 2X350 MW IBEUL-JSW, Jharsuguda: ERLDC

Following extensive discussions in ER-CMETS, OCC meeting of ERPC and a CEA meeting led by the chairperson, a temporary solution was agreed upon to reconnect the IBEUL power plant to the grid. As existing DTL viz 400 kV IBEUL- Jharsuguda is heavily damaged due to tower collapse and theft of conductor and restoration of same will require some time.

This temporary solution involves LILO connection on the existing 400 kV OPGC (Odisha) - Jharsuguda (PG) Circuit-2 at IBEUL. The line is owned by OGPTL (Indigrid). This temporary LILO connection will be permitted upto 30th March 2024 to facilitate commissioning activities at the IBEUL plant. However, commercial operation of the plant will only be allowed through the permanent 400 kV IBEUL- Jharsuguda Double Circuit (DTL) line, which is expected to be operational by the end of March 2024.

Sequence of event for reviving IBEUL Connectivity and Plant is attached as **Annexure B.1**.



ERLDC may update. Members may discuss.

2.2 Metering philosophy of 2X350 MW IBEUL-JSW, Jharsuguda & Odisha State: ERLDC

In the 210th OCC meeting, it was discussed that 400kV OPGC-Sundergarh -2 is to be LILO at IBEUL end on a temporary basis. In the interim arrangement shall be allowed only till 30.03.2024 or completion of DTL by M/S IBEUL, whichever is earlier, subsequent to which original ISTS line at LILO point shall be restored by IBEUL. The interim arrangement is shown below in Fig-1

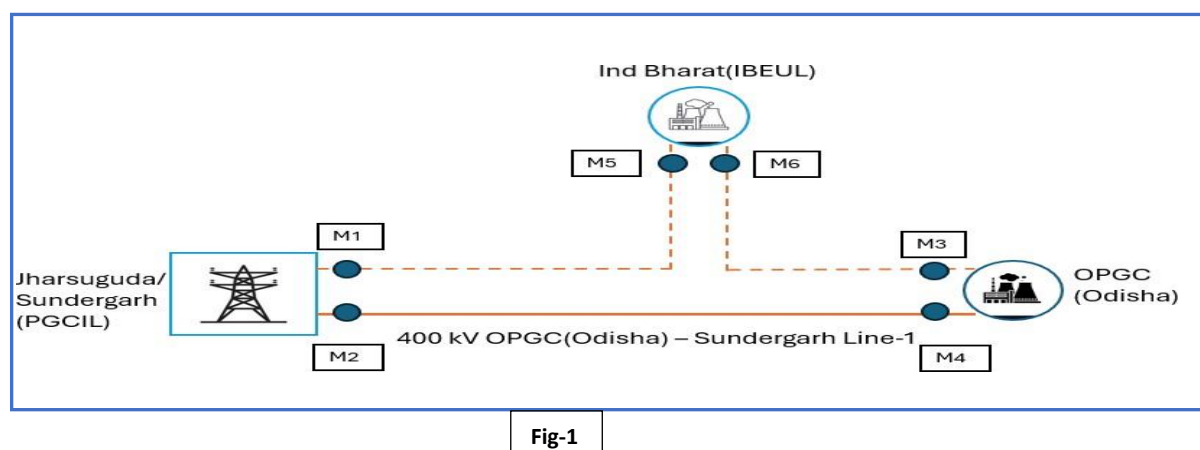


Fig-1

Accordingly, 400kV OPGC-Sundergarh -2 was made LILO at IBEUL. Prior to this, the drawl of Odisha was taken considering the 400KV Sundergarh (PG) end meter data. After the LILO arrangement the proposed metering philosophy is as below-

1. IBEUL injection: summation of both meters at IBEUL end i.e., $\sum (M5 \text{ and } M6)$.
2. Gridco Drawl: summation of both meters at OPGC end i.e., $\sum (M3 \text{ \& } M4)$.

After the construction of a dedicated line by IBEUL i.e. 400 KV IBEUL-Sundergarh D/C , the injection of IBEUL shall be considered at 400kV Sundergarh-IBEUL at Sundergrh end. The final arrangement is shown below in Fig-2.

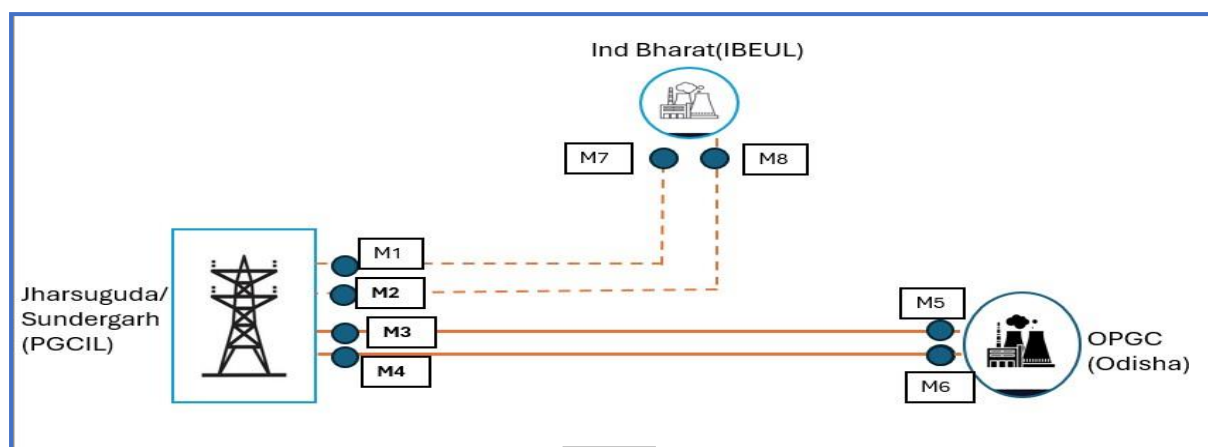


Fig-2

IBEUL injection: summation of both meters at Sundergarh end i.e., $\sum (M1 \text{ and } M2)$.

ERLDC may update. Members may discuss.

2.3 SPS for LILO arrangement/Power evacuation of 350 MW IBEUL: ERLDC

SPS for IBEUL power evacuation has been implemented and tested successfully on 14.01.2024. However, communication is being done through OPGW with one channel only. JSW has given an undertaking that redundancy for SPS communication will be made available within 10 days. SPS as implemented is attached as **Annexure B.3**.

ERLDC may update.

2.4 Approval for re-conductoring in 220kV Lines (more than 35 years in service) commissioned under CTS: Powergrid ER-II.

The transmission network build under CTS scheme was commissioned in mid of 1980's. List of lines are tabulated below: -

Sl. No.	Name of TL	Total Length of Line (in KM)	Route Length of Line (in KM) under POWERGRID	Name of conductor	Year of commissioning	Remarks

1	220kV D/C Birpara-Chukha TL	70	36	Zebra	1986	
2	220kV D/C Birpara-Alipurduar TL	57.5	57.5	Zebra	1987	
3	220kV D/C Siliguri-Kishanganj TL	108.26	108.26	Zebra	1986	
4	220kV D/C Dalkhola-Kishanganj TL	30.96	30.96	Zebra	1986	
5	220kV D/C Malda-Gazole TL	18.41	16.49	Zebra	1986	
6	220kV D/C Dalkhola-Gazole TL	99.24	97.52	Zebra	1986	
7	220kV D/C Birpara- Binaguri TL	80	80	Zebra	1986	
8	220kV D/C Siliguri-Binaguri TL	6	6	Zebra	1986	
9	220kV S/C Birpara-Malbase TL	41	38	Zebra	1988	
	Total		470.73			
10	220kV D/C Alipurduar-Salakati TL	101	101	Zebra	1987	Re-conductoring work is in progress under NERSS-XII

In most of the above-mentioned lines, the conductor damage from VD, MSCJ and repair sleeve, jumper, dead ends etc. have been noticed at several places. The damage might be occurring due to ageing of the conductors & earth-wire due to natural wear & tear. Also, conductor and earth wire getting snapped during seasonal temperature changes. Some snaps of sections of lines where breakage has been reported are enclosed.

The line tripping due to conductor & earth-wire snapping is gradually increasing. (2 Nos. conductor snapping incident occurred in 220kV Birpara-Binaguri Ckt-2 in the month of October-23 itself) In addition to the line outages which is severely deteriorating the transmission availability, it creates potential risk of any severe accident/hazard in the nearby area due to

snapping of Conductor/Earth-wire. Further, any incident of conductor/earth-wire snapping at major crossings (Railway, NH X-Ings) may lead to undesired safety hazard as well as damage to public/national property. List of tripping in said lines due to conductor & earth-wire breakage is enclosed.

All the above-mentioned lines are more than 35 years in service so have completed useful life as per CERC regulation. Considering the increase in conductor & earth-wire snapping incidents, the issue was taken up during 209th OCC Meeting. Upon detail discussion during the 209th OCC Meeting, OCC forum advised POWERGRID to submit a detailed survey report along with health assessment report of conductor installed in old 220kV Lines commissioned under CTS.

Accordingly, vide mail dated 12.12.2023, Powergrid ER-II has shared detail test report of old 220kV Line conductor carried out by NSIC Howrah along with detail survey report. From the test report, it can be observed that the conductor sample has failed in mostly all technical parameters as tabulated below.

During 210th OCC Meeting, OCC forum technically agreed to the above proposal.

In view of above, it is proposed to consider the re-conductoring & earth-wire replacement of 220kV Lines commissioned under CTS under the ADDCAP 2024-2029 tariff block of Chukha Transmission System. A tentative cost for carrying out the re-conductoring work with HTLS conductor & Earth-wire replacement in above mentioned 9(Nine) lines 470.73 KM route length is approx. Rs. 281 Crores.

In 50th CCM meeting, Representative of ERPC highlighted the seriousness of re-conductoring & earth-wire replacement of 220kV Lines commissioned under Chukha Transmission System in view of the continuous increase in flow of power through these lines. Injection from Phunatsangchhu is also likely to be started shortly. Considering the facts reliability of the said lines of CTS is very important.

Representative of Powergrid submitted that the cost mentioned above is tentative and the final cost would be approved in CCM forum before further submission to CERC under ADDCAP 2024-2029 block.

Sl No.	Tests performed	Observation/Findings	Remarks
1	Freedom from defects (Visual Inspection)	Conductor found blackened & surface not smooth	Condition Poor
2	Surface Condition Test	Upon applying 50% of UTS Load, the diameter of the conductor measured at 4 places are more than the sum of minm. Specified diameter of the individual Al & Steel strands	Failed
3	Ultimate Breaking Load (Whole conductor & individual Aluminium Strands also)	Conductor strength found (114.25kN) way below the minm. UTS requirement of 130.32kN	Failed
4	DC Resistance test	Average value of resistance observed (0.12846 ohm/ KM) is way above the Max. allowable DC resistance (0.06868 ohm/ KM) of conductor as per TS.	Failed

Upon enquiring about the timelines for completion of project, representative of Powergrid submitted that nearly 24 months would be required from the date of approval and till commissioning of the lines.

CCM approved the re-conductoring work with HTLS conductor & Earth-wire replacement in above mentioned 9(Nine) lines 470.73 KM route length with approx. cost of Rs. 281 Crores.

and further advised Powergrid to carry out the healthiness checkup work of tower members along with the re-conductoring work.

CCM referred the issue to the 51st TCC/ERPC meeting for further concurrence.

In 51st TCC Meeting, TCC agreed with the proposal for the re-conductoring work, including the replacement of Earth-wire (with OPGW), for the nine specified transmission lines, totalling 470.73 kms with an estimated cost of approximately Rs. 281 Crores and referred the agenda to 51st ERPC for further approval.

However, representative of CTU informed that the issue should be referred to CMETS along with CEA first for further study and ascertain the requirement of re-conductoring works and other necessary activities, if required.

In 51st ERPC Meeting, Powergrid was instructed to segregate the lines based on their criticality and to consider load patterns when deciding on HTLS conversions. Only the critical lines should undergo HTLS conversion in a phased manner. Powergrid was advised to submit a revised cost estimate accordingly, at the next TCC/ERPC meeting.

POWERGRID ER-II may explain & Members may discuss.

2.5 Proposal for procurement of Reactor spares (cold spares) for Eastern Region: Powergrid ER-II.

In Eastern Region-II following Reactors are in service at present as POWERGRID asset:

STATE	VOLTAGE LEVEL	CAPACITY	IN SERVICE (In No)	Number of Spares available (In No)
WEST BENGAL	400 KV	125 MVAR	13	NIL
		80 MVAR	07	NIL
		63 MVAR	05	NIL
		50 MVAR	08	01 at Maithon
Odisha	400 KV	125 MVAR	15	01 at Angul
		80 MVAR	08	01 at Rourkela
		63 MVAR	07	NIL
		50 MVAR	06	01 at Rourkela
SIKKIM	400 KV	80 MVAR	02	NIL
	220 KV	31.5 MVAR	02	NIL
BIHAR	400 KV	125 MVAR	16	NIL
		80 MVAR	12	NIL
		63 MVAR	11	NIL
		50 MVAR	10	01 at Biharsharif
JHARKHAND	400 KV	125 MVAR	8	NIL
		80 MVAR	3	NIL
		63 MVAR	2	01 at Daltonganj
		50 MVAR	8	01 at Jamshedpur

However, apart from 400 KV, 50 MVAR Reactor at Maithon SS, no other spare Reactor are available till date. As per CEA spare norms (circulated in July-2020, refer page-18/19), for maintaining spares under GST regime, each state should be provisioned with respective sized Reactor. Accordingly, as per available sizing following Reactors are required at following locations: -

STATE	VOLTAGE	SIZE	STORAGE PLACE
WEST BENGAL	400 KV	125 MVAR	DURGAPUR SS
		80 MVAR	BINAGURI SS
		63 MVAR	BINAGURI SS

SIKKIM	400 KV	80 MVAR	RANGPO SS
	220 KV	31.5 MVAR	NEW MELLI SS
BIHAR	400 KV	125 MVAR	BIHARSARIFF SS
		80 MVAR	PATNA SS
		63 MVAR	MUZAFFARPUR SS
JHARKHAND	400 KV	125 MVAR	NEW RANCHI SS
		80 MVAR	RANCHI SS
ODISHA	400 KV	63 MVAR	ROURKELA SS

All above Reactors will be kept as regional spare and based upon urgency the same shall be utilised in ISTS system and as per CEA spare norms in state level.

Members may discuss and approve the technical requirements for further submission of cost data to subsequent meetings.

As per decision taken vide agenda point-B11 of 202nd OCC, forum agreed of the proposal for procurement of spare Reactor in ER as per CEA guideline. Further in minutes it is stated to update the detail cost implications in 49th CCM meeting, for deliberations.

Accordingly, details work out for tentative cost implications done and total value comes as, **Rs. 111,52,97,192/-** (RS. ONE HUNDRED AND ELEVEN CRORES FIFTY-TWO LACS NINETY-SEVEN THOUSAND ONE HUNDRED NINETY-TWO ONLY). Details cost break up given for reference purpose.

In the 49th CCM Meeting, West Bengal representative informed that the cost of keeping spare reactor for eastern Region is very high and procurement plan should be implemented in phase wise, so that financial burden on beneficiaries should be less. After detailed deliberation, CCM opined that the required number of spare reactors may be again deliberated in the OCC.

In 50th CCM meeting, Representative of ERPC submitted that the availability of spare reactors as per above-mentioned table is as per the CEA guidelines.

After detailed deliberations CCM advised for procurement of 125 MVA reactor for West Bengal, Bihar and Jharkhand and explore the possibilities for procurement of 63 MVA Reactor in lieu of 50/80 MVA Reactor for more redundancy.

CCM further advised Powergrid to submit the cost estimate in the upcoming TCC/ERPC meeting.

TCC referred the issue back to OCC meeting for further deliberation.

POWERGRID ER-II may explain. Members may discuss.

2.6 Requirement of OPTCL Power Line Crossings for reconductoring work of 400 KV D/C Rourkela-Sundargarh#1&3 POWERGRID Line: Powergrid Odisha

Reconductoring work for package OH02 (i.e. Reconductoring Pkg. No. OH02 for reconductoring of Sundergarh (POWERGRID)-Rourkela (POWERGRID) 400kV D/C Twin Moose line 1 (Ckt 1 & 3)) with Twin HTLS conductor under ERES-XXIX Scheme is in progress since 18.10.2023. As on

date, cumulative reconductoring work completed in Ckt -1 is 63.191 ckm out of total 141.503 ckm and in Ckt-3 is 56.710 ckm out of total 129.870 ckm.

In order to carry out balance reconductoring work, outage of following OPTCL lines are required for completion of OPTCL Powerline crossings.

- 220 KV D/C Budhipadar-Kuarmunda Line (Crossing at location no: 1084- 1085-1086) proposed plan for Xing on 17/01/2024 to 27/01/2024 on daily basis from 09:00 hrs to 17:00 hrs.
- 220 KV D/C Budhipadar-Tarkera Line (Crossing at location no: 1014- 1015) proposed plan for Xing on 17/01/2024 to 27/01/2024 on daily basis from 09:00 hrs to 17:00 hrs.
- 132 KV D/C Budhipadar-Rajgangpur Line (Crossing at location no: 1013- 1014) proposed plan for Xing on 17/01/2024 to 27/01/2024 on daily basis from 09:00 hrs to 17:00 hrs.
- 220 KV D/C Budhipadar-Tarkera Line (Crossing at location no: 944- 945) proposed plan for Xing on 17/01/2024 to 27/01/2024 on daily basis from 09:00 hrs to 17:00 hrs.
- 132 KV D/C Budhipadar-Rajgangpur-Kalunga Line (at location no: 944- 946) proposed plan for Xing on 17/01/2024 to 27/01/2024 on daily basis from 09:00 hrs to 17:00 hrs.

In this regard, communications made with ED (EHT-O&M), OPTCL-Burla letter dtd. 28.12.2023, DGM (EHT-O&M), OPTCL- Rajgangpur letter dtd. 08.12.2023 and MoM dtd. 01.01.2024 are enclosed for reference(**Annexure B.6**). Despite several follow ups, no confirmation has been received yet due to which reconductoring work in powerline crossings of OPTCL lines are pending.

Powergrid Odisha may update. Members may discuss.

2.7 Permanent outage of 105 MVA 400/220/33kV Y phase unit of ICT-1 at Jeypore SS to carry out 315 MVA ICT-1 replacement with new 500MVA,400/220/33kV Transformer: Powergrid Odisha

4*105 MVA, 400/220/33 kV BHEL make ICT-1 at Jeypore was commissioned on 24.03.1990. The said equipment has completed its useful service life of more than 33 years. Based on the RLA assessment by CPRI, ICT-1 replacement with upgradation to 500MVA has been approved in the 45th ERPC meeting (MoM dtd. 11.04.2022 attached- **Annexure B.7**) under the JTTS ADDCAP 2019-24 Block. Subsequently LOA have been issued to M/s Toshiba Transmission & Distribution Systems (India) Pvt. Ltd. As per the approved POWERGRID scope of work, following preliminary works are to be carried out to make the front ready for the construction of the foundation for the new 500 MVA (TOSHIBA MAKE) ICT Transformer. • Dismantling and dragging out of ICT-1 Y-ph unit. • Demolition of existing ICT-1 Y-ph. Foundation. • Foundation Construction for new 500MVA, 400/220/33 kV ICT. As currently ICT-1 is under service; hence it is planned to carry out replacement work without taking shutdown of ICT-1. One unit (i.e. 1x 105MVA Y-phase unit) needs to be shifted from its location so that new foundation work can be started in its place. Proposed timelines for various activities for 500MVA ICT commissioning are as follows:

SL NO	ACTIVITY	TIMELINE
1	Dismantling and dragging out of 1x105 MVA Y-phase unit	1st February'24 to 7th February'24

2	Demolition of existing ICT-1 Y-phase Foundation	8th February'24 to 24th February '24
3	Construction of Foundation for new 500MVA, 400/220/33 kV TOSHIBA Make Transformer.	25th February'24 to 15th April'24
4	Erection & Commissioning of 500MVA, 400/220/33 kV TOSHIBA Make Transformer.	16th April'24 to 31st May 2024

PGCIL Submitted for approval of the permanent shutdown of 1x105 MVA Y-phase unit of ICT1 from 1st February 2024 to carry out foundation work for new 500 MVA, 400/220/33 kV (Toshiba Make) Transformer. The other three units (R-phase, B-phase and Spare phase) of existing 315 MVA (BHEL MAKE) ICT-1 will be in service till completion of foundation work for the new 500MVA Transformer.

Powergrid Odisha may update. Members may discuss.

2.8 Permanent outage (DECAPPING) of 315 MVA 400/220/33kV ICT-2 at Rengali SS and Installation of New 500MVA ICT-2 (ADDCAP) under the JTTS ADDCAP 2019-24 Block: Powergrid Odisha

315 MVA 400/220/33 kV BHEL make ICT-2 at Rengali SS was commissioned on 18.03.1990 and it has completed its service life of more than 33 years. Based on the RLA assessment by CPRI, ICT-2 replacement approval has been accorded in the 45th ERPC meeting (MoM attached – **Annexure B.7**) under the JTTS ADD-CAP 2019-24 block. Subsequently LOA have been issued on dtd. 17.03.2023 to M/s Toshiba Transmission & Distribution Systems (India) Pvt. Ltd. (TOSHIBA INDIA). As per the approved POWERGRID scope of work, following preliminary works are to be carried out to make the front ready for the Construction of the Foundation for the new 500 MVA (TOSHIBA MAKE) Transformer. • Dismantling and dragging out of existing 315 MVA ICT-2. • Demolition of existing 315 MVA ICT-2 foundation • Foundation construction/modification for new 500MVA, 400/220/33 kV ICT.

Proposed time lines for different activities for ICT replacement work are as follows:

S No	Activity	Timeline
1	Dismantling and dragging out of old 315 MVA ICT-2	01st Feb'24 to 07th Feb24
2	Demolition of existing BHEL make 315 MVA ICT-2 foundation	08th Feb'24 to 20th Feb'24
3	Foundation construction/modification for new 500MVA, 400/220/33 kV ICT	21st February'24 to 31st March'24
4	Erection & Commissioning of 500MVA, 400/220/33 kV New TOSHIBA Make Transformer.	1 st Apr'24 to 20th Apr'24

PGCIL Submitted for approval of the permanent shutdown of 315MVA ICT-2 from 1st Feb'24 till charging of new 500MVA ICT.

Powergrid Odisha may update. Members may discuss.

2.9 Shutdown proposal of generating units for the month of February'2024: ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2023-24 in the month of February '2024							
System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2023-24)		No. of Days	Reason
				From	To		
DVC	Mejia TPS	3	210	21.01.2024	14.02.2024	25	AOH-Blr, LPT, FGD
	Shutdown not availed as per 210th OCC						
	Bokaro-A TPS	1	500	15.02.2024	20.03.2024	35	COH- Blr, Turb, Gen
WBPDC	Kolaghat TPS	3	210	26.01.2024	14.02.2024	20	AOH/BOH
	Approved Date (As per 210 th OCC)			02.02.2024	23.02.2024	21	AOH/BOH
NTPC	KhSTPS	7	500	10.01.2024	08.02.2024	30	Boiler Maintenance
	Shutdown not availed as per 210th OCC						
	Barh-II	5	660	20.01.2024	18.02.2024	30	BLR Modification Balance work
	Shutdown not availed as per 210th OCC						

Members may discuss.

2.10 Overhauling of Unit#6 (500 MW) of Kahalgaon: NTPC

As per approved LGBR 2023-24 , overhauling of U#6 was scheduled from 12-08-2023 till 25-09-2023, which was further rescheduled to 01-03-2024 to 30-03-2023 in light of high demand period in September 2023. As per MOP guidelines dated 07-11-2023 no planned outages were to be taken from March to May 2024. Further LGBR data for 2024-25 was sent by NTPC on 08-09-2023.

As per above facts overhauling of Unit#6 of Kahalgaon may be included in LGBR 2024-25 as the unit has been running for near about 2 years since last overhauling in February 2022.

NTPC may update. Members may discuss.

2.11 Islanding scheme study of Patna with NPGC by M/s Solvina: NTPC

M/s Solvina has been awarded the contract for studying islanding scheme of Patna with NPGC units. M/s Solvina has requested to carry out linearity test of generator and open loop testing of load and frequency response of generator. For above mentioned test, ramping up and down of units will be required as per conditions during the test. For implementation of study committee may allow scheduling as per requirements of test, further during test inhibition of SCED and TRAS, SRAS may also be allowed for the units.

NTPC may update. Members may discuss.

2.12 Exclusion of ramps given below minimum turndown level for calculation of ramp performance: NTPC

When Schedule of a station is below minimum turndown level, in such cases ramps given cannot be achieved due to technical constraint. Such ramps must not be included in calculation of ramp performance of a station.

NTPC may update. Members may discuss.

2.13 Minimum turndown Schedule issue of CERC order 18/SM/2023 - compliance: ERLDC

As per CERC order no 18/SM/2023 dated 18.12.2023, Discoms are allowed to requisite any quantum of power from its entitlement from the generator for D Day up to 1430 hrs on 'D-1' day. However, post 1430 hrs on 'D-1' day, requisition cannot be reduced below 55% of respective entitlement.

In this regard, ERLDC advised all stakeholders including SLDCs (**Annexure B.13.A**) regarding the compliance of said SM order. Also, NLDC informed that the rolling out of the corresponding locking features in Web based Scheduling Software would require some time. However, various instances of non-compliance with the direction have been observed. Instances are attached as **Annexure B.13.B**. Subsequently, ERLDC issued letter (**Annexure B.13.C**) to Bihar, West Bengal & Odisha about instances of the non-compliance and requested to adhere to the direction.

States are requested to follow the CERC direction.

ERLDC may update. Members may discuss.

2.14 Non-submission of digital proof for partial outage by NTPC: ERLDC

As per CERC order no 14/SM/2023 dated 30.09.2023, ISGS is permitted to revise DC due to partial outage, twice a day. Subsequently, CERC allowed 4 no of DC revisions in a day for partial outages with a monthly limit of 60 for thermal power plants. In this regard, the matter was discussed in the 209th OCC meeting under agenda point "Digital proof of downward DC revision"

and it was decided that digital proof will be submitted to ERLDC with copy ERPC on a weekly basis by next Wednesday.

However, no such compilation of digital proof is yet to be received from NTPC for its thermal plants other than Darlipalli and Kahalgaon for the week 8th to 14th January 2024. ERLDC communicated the list of instances to NTPC over mail on each Monday after completion of the week. Several reminder emails were also sent to NTPC in this regard. A list of instances and mail communication from ERLDC is attached in **Annexure B.14**.

NTPC may submit the digital proof as decided in the OCC forum.

ERLDC may update. Members may discuss.

3. PART-C: ITEMS FOR UPDATE/FOLLOW-UP

3.1. ER Grid performance during December 2023.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month December-2023 were as follows:

AVERAGE CONSUMPTION (MU)	MAXIMUM CONSUMPTION(MU)/ DATE	MAXIMUM DEMAND (MW)	MINIMUM DEMAND (MW)	SCHEDULE EXPORT	ACTUAL EXPORT
		DATE/TIME	DATE/TIME	(MU)	(MU)
412 MU	438 MU 29.12.2023	22011 MW, 27.12.2023 at 10:20 Hrs.	13474 MW, 18.12.2023 at 04:09 Hrs.	4582	4502

ERLDC/ERPC may highlight the performance of the ER grid.

3.2. Ensuring the healthiness of ADMS

State	Criteria for ADMS operation	Number of instances for which ADMS criteria satisfied	Number of instances for which detail received	Discussion regarding previous month performance	Update in 209 th OCC meeting
West Bengal	1. System Frequency < 49.7 Hz 2. WB over-drawl > 150 MW 3. Delay = 4 min	0	-	-	-
Jharkhand	1. System Frequency < 49.9 Hz 2. Jharkhand over-drawl > 25 MW 3. Delay = 3 min	241	Nil	-	-
DVC	1. System Frequency < 49.9 Hz 2. DVC over-drawl > 150 MW	5	Nil	-	-

	3. Delay = 3 min				
Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. Delay = 3 min	9	Nil	-	-

Members may note.

3.3. Commissioning status of ADMS

Automatic demand management scheme (ADMS) has been already commissioned in West Bengal, DVC, Odisha and Jharkhand. However, for Bihar it is yet to be implemented, the last status as confirmed in the earlier meeting is as follows.

SI No	State/Utility	Logic for ADMS operation	Target Date
1	Bihar	F < 49.7 AND deviation > 12 % or 150 MW	

Bihar may update the status of the implementation of ADMS scheme.

Members may note.

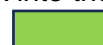
3.4. Primary frequency response of generating units in ER

The availability of sufficient primary frequency response is one of the fundamental requirement of power system operation not only from reliability point of view but also from regulatory compliance point of view. Based on the assessed FRC re-testing of primary frequency response can be recommended. Therefore, the accurate and high-resolution data from generator end is extremely important in absence of which assessment of FRC is done as per low resolution ERLDC SCADA data. The plant wise data submission statistic for frequency event flagged by ERLDC upto 30.11.2023 is given below:

STATIONS	17.12.2023	05.01.2024
	13:01	05:16
ADHUNIK	Received	Pending
BARH	Pending	Pending
BRBCL	Pending	Pending
DARLIPALLI	Received	Pending
DIKCHU	Pending	Pending
FARAKKA	Pending	Pending
GMR	Received	Pending
JITPL	Pending	Received
KAHALGAON	Pending	Pending
MPL	Received	Received
NPGC	Received	Pending
TALCHER	Received	Pending
TEESTA III	Pending	Pending
TEESTA V	Pending	Pending
North Karanpura	Pending	Pending
ADHUNIK		
BARH		
BRBCL		
DARLIPALLI		
DIKCHU		
FARAKKA		
GMR		
JITPL		
KAHALGAON		
MPL		

STATIONS	17.12.2023	05.01.2024
	13:01	05:16
NPGC		
TALCHER		
TEESTA III		
TEESTA V		
North Karanpura		

In view of the same all utilities are once again requested to kindly look into the matter and take necessary action to ensure consistent.

 = Data received

Data submission for every frequency event flagged by ERLDC.
r

 = Data not received

Members may note.

4. PART-D: OPERATIONAL PLANNING

4.1. Anticipated power supply position during February 2024

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of February 2024 were prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2023-24 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc.

Members may update.

4.2. Major Thermal Generating Units/Transmission Element outages/shutdown in ER Grid (as on 18-01-2024)

a) Thermal Generating Stations outage report:

SL NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BARAUNI TPS	BIHAR	NTPC	7	110	Poor condenser vacuum	19-Jul-2023
2	BARAUNI TPS	BIHAR	NTPC	6	110	Low vacuum	22-Jul-2023
3	BARH	BIHAR	NTPC	1	660	Initially the unit was out due to Boiler Tube Leakage, from 00:00 Hrs. of 24/11/2023 the unit was taken under annual overhauling. Unit was out for capital overhauling till 05/01/2024. Unit is out for rotor replacement work w.e.f. 06/01/2024	19-Nov-2023
4	SOUTHERN	WEST BENGAL	CESC	1	67.5	Taken under shutdown from 00:00 hrs of 12.01.2024 for 20 days for carrying out condenser retubing job. Earlier it was under RSD from 29.11.2023.	29-Nov-2023

5	NABINAGAR (BRBCL)	BIHAR	NTPC	1	250	Annual Overhauling	01-Dec-2023
6	DPL	WEST BENGAL	WBPDC	7	300	Previously out due to Flashin excitation system. Then taken for annual overhauling since 00:00 hrsof 13.12.2023.	12-Dec-2023
7	NABINAGAR (NPGC)	BIHAR	NTPC	2	660	Eco Flow Low during load reduction, later unit Annual Overhauling for 60 Days	15-Dec-2023
8	GMR	ODISHA	GMR-Infra	2	350	Capital Overhauling	16-Dec-2023
9	HEL HIRANMAYEE	WEST BENGAL	HEL	1	150	Coal Shortage	03-Jan-2024
10	TSTPP	ODISHA	NTPC	1	500	Annual Overhauling	04-Jan-2024
11	BUDGE-BUDGE	WEST BENGAL	CESC	2	250	Annual overhauling	04-Jan-2024
12	BANDEL TPS	WEST BENGAL	WBPDC	5	215	Unit Overhauling	05-Jan-2024
13	SAGARDIGHI	WEST BENGAL	WBPDC	3	500	Turbine shaft vibrationhigh	07-Jan-2024
14	MEJIA TPS	DVC	DVC	3	210	Tripped due to Generator Protection (inter-turn differential relay operated)	10-Jan-2024
15	BARAUNI TPS	BIHAR	NTPC	8	250	Boiler tube leakage	12-Jan-2024
16	DSTPS	DVC	DVC	2	500	Unit overhauling	13-Jan-2024
17	Sterlite	ODISHA	SEL	3	600	PA Fan Problem	14-Jan-2024

All Generating stations are requested to update expected restoration time and reason outage to ERLDC/ERPC on weekly basis in case of any change at their end.

b) Major Generating stations Out on Reserve Shutdown due to low system demand:

NIL

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R&M since 08/07/2022 for 18 months.	08-Jul-2022
2	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R&M since 08/07/2022 for 18 months.	08-Jul-2022
3	TLDP	WEST BENGAL	WBPDC	1	33	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct 2023
4	TLDP	WEST BENGAL	WBPDC	2	33		
5	TLDP	WEST BENGAL	WBPDC	3	33		
6	TLDP	WEST BENGAL	WBPDC	4	33		
7	TEESTA STG III Hep	SIKKIM	TUL	1	200		
8	TEESTA STG III Hep	SIKKIM	TUL	2	200		
9	TEESTA STG III Hep	SIKKIM	TUL	3	200		
10	TEESTA STG III Hep	SIKKIM	TUL	4	200		
11	TEESTA STG III Hep	SIKKIM	TUL	5	200		
12	TEESTA STG III Hep	SIKKIM	TUL	6	200		
13	DIKCHU Hep	SIKKIM	SKPPL	1	48		
14	DIKCHU Hep	SIKKIM	SKPPL	2	48		
15	TEESTA HPS	SIKKIM	NHPC	1	170		
16	TEESTA HPS	SIKKIM	NHPC	2	170		
17	TEESTA HPS	SIKKIM	NHPC	3	170		

18	INDRAVATI	ODISHA	OHPC	2	150	Capital Maintenance	23-Nov-2023
19	CHIMPLIMA HPS / HIRAKUD II	ODISHA	OHPC	1	24	Capital Overhauling	15-Dec-2023
20	BALIMELA HPS	ODISHA	OHPC	8	75	Annual Maintenance work	18-Dec-2023
21	RANGIT HPS	SIKKIM	NHPC	1	20	Capital maintenance	02-Jan-2024
22	RANGIT HPS	SIKKIM	NHPC	3	20	Special annual maintenance	02-Jan-2024
23	BURLA HPS/HIRAKUD I	ODISHA	OHPC	6	43.65	Maintenance work	06-Jan-2024

d) Long outage report of transmission lines (As on 15.01.2024):

Transmission Element / ICT	Outage From	Reasons for Outage
220/132KV 100 MVA ICT II AT LALMATIA	22.01.2019	Commissioning work of 220/132KV, 100MVA Transformer and its associated control Panel under progress.
220 KV PANDIABILI - SAMANGARA D/C	03.05.2019	Tower Collapsed during Cyclone FANI (Restoration project is entrusted upon PGCIL & 220kV Samangara-Pandiabili ckt-I&II are anti-theft charged from Pandiabili end from loc no.01 to loc no.74)
220/132KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	Due to Fire hazard ICT damaged and burnt.
400/220KV 315 MVA ICT 4 AT JEERAT	09.04.2021	Due to Fire hazard ICT damaged and burnt. It was decided that 315MVA, 400/220KV spare ICT from Regional Pool at Malda to be replaced in place of defective 315 MVA ICT (4th) at Jeerat 400 KV S/S(WB). Work under progress.

220KV-FSTPP-LALMATIA-I	21.04.2021	Conductor stringing 12.965 km has been completed and Stringing between Tower Loc. no. 152 to 159 is under progress. Transmission line is idle charged between Lalmatia GSS end to Tower Loc.no.169
220KV-MUZAFFARPUR(PG)-GORAUL(BH)-1	11.06.2022	Main Bay is under breakdown due to flashing in GIS module
220KV-WARIA-BIDHANNAGAR-1 & 2	08.06.2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
400/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT tripped on few occasions due to Buchholz later DGA violation found, internal fault in transformer to be rectified. (DGA violation)
132KV-BARHI-RAJGIR-1	25.03.2023	Dismantling of tower no. 227, 228, and 229 crossing the premises of Mahabodhi Cultural centre along with Destraining of conductor of both circuits and Earthwire between tension tower no. 218-237 in same line.
132KV-NALANDA-BARHI(DVC)-1	25.03.2023	
220KV-TSTPP-MEERAMUNDALI-2	10.06.2023	Tower collapse at loc no 41, 42 (from Meramundali end). Ckt1 charged through ERS.
400KV/220KV 315 MVA ICT 3 AT BIDHANNAGAR	31.08.2023	For jumpering of 220 kV dropper from strung bus at 315MVA ICT-3. 220KV side Bay of said ICT is under construction at Bidhannagar.
400KV-RANGPO-TEESTA-V-1 & 2	04.10.2023	Tower near gantry of Teesta V powerhouse collapsed due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-RANGPO-1	04.10.2023	Hand tripped from Teesta-III end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-DIKCHU-1	04.10.2023	
400KV-RANGPO-DIKCHU-1	04.10.2023	Hand tripped from Rangpo end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage

		of Teesta III Dam & downstream Powerhouses
400KV JHARSUGUDA-ROURKELA-1 &3	26.10.2023	Reconductoring work
400KV-BINAGURI-BONGAIGAON-2	27.10.2023	Reconductoring work
220KV/132KV 160 MVA ICT 2 AT MALDA	30.11.2023	For shifting of the ICT- 2 from 132KV AIS to GIS
400KV-INDRAVATI(PG)-INDRAVATI(GR)	28-12-2023	Isolator problem at GRIDCO end
400KV-BINAGURI-TALA-1	11-12-2023	Maintenance Work
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-2	08-01-2024	To rectify polarity, change in Energy meterat Bhutan end

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5th of each month so that status of restoration can be reviewed in OCC. Utilities are also requested to update outage of any elements within their substation premises like isolator/breaker to ERLDC/ERPC regularly. (Reported as per Clause 5.2(e) of IEGC)

4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of December-2023.

The details of new units/transmission elements commissioned in the month of December - 2023 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING DECEMBER, 2023							
GENERATING UNITS							
SL · N O.	Location	OWNER/ UNIT NAME	Unit No/ Source	Capacity added (MW)	Total/ Installed Capacity (MW)	DATE	Remarks
NIL							
ICTs/ GTs / STs							
SL · N O.	Agency/ Owner	SUB- STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks

1	NTPC NORTH KARANP URA	NTPC NORTH KARANP URA SS	ST-2	400/11.5	120	18-12- 2023	ST-2 first time charged through tie bay
2	JUSNL	LATEHA R (JUSN L)	ICT-2	400/220	315	02-12- 2023	400/220 Kv 315 MVA ICT- 2 at latehar(JUSNL) charged on no load from 220 kv side.

TRANSMISSION LINES

SL · N O.	Agency/ Owner	LINE NAME	Length (KM)	Conductor Type	DATE	Remarks
1	BSPTCL	132KV- RAXAUL(NEW)- PARWANIPUR(Nepa l)-1	26.8(India) + 15(Nepal)	ACSR Panther	26-12- 2023	Anti-theft charged from Raxaul (New) end upto Indian side location no 92
2	BSPTCL	132KV- RAXAUL(NEW)- PARWANIPUR(Nepa l)-2	26.8(Indi a)+ 15(Nepal)	ACSR Panther	26-12- 2023	Anti-theft charged from Raxaul (New) end upto Indian side location no 92

LILO/RE-ARRANGEMENT OF TRANSMISSION LINES

SL NO.	Agency/ Owner	Line Name/LILO at	Length (KM)	Conductor Type	DATE	Remarks
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NIL

BUS/LINE REACTORS

SL NO.	Agency/ Owner	Element Name	SUB- STATION	Voltage Level (kV)	DATE	Remarks
1	JUSNL	LATEHAR(JUSNL) - 400KV - Bus 1	LATEH AR (JUSNL)	400	19-12- 2023	

HVDC /AC Filter bank / FACTS DEVICE associated System

SL · N O.	Agency/ Owner	Element Name	SUB- STATION	Voltage Level (kV)	DATE	Remarks
NIL						
BAYS						
SL · N O.	Agency/ Owner	Element Name	SUB- STATION	Voltage Level (kV)	DATE	Remarks
1	JUSNL	400KV TIE BAY (Bay No-411) OF (CHANDWA(PG) -1 AND FUTURE) AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
2	JUSNL	400KV MAIN BAY OF Chandwa (PG)-1 (Bay No-410) at LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
3	JUSNL	400KV TIE BAY (Bay No-408) OF (CHANDWA(PG) -2 AND FUTURE) at LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
4	JUSNL	400KV TIE BAY OF (315 MVA ICT 1 AND PATRATU-2) (Bay No-402) AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
5	JUSNL	400KV MAIN BAY OF CHANDWA(PG) - 2 AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
6	JUSNL	400KV TIE BAY OF (315 MVA ICT 2 AND PRATU-1) (Bay No-405) AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	
7	JUSNL	400KV MAIN BAY OF Patratu#1 (Bay No-404) at LATEHAR(JUSNL)	LATEHAR (JUSNL)	400	19-12-2023	

8	JUSNL	220KV MAIN BAY OF 315 MVA ICT 2 (Bay No- 207) AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	220	02-12-2023	FTC Done (No load charging from 220 KV side)
9	JUSNL	220KV MAIN BAY OF 315 MVA ICT - 1(Bay No-205) AT LATEHAR(JUSNL)	LATEHAR (JUSNL)	220	02-12-2023	
10	NTPC NORTH KARANPURA	400KV TIE BAY OF (ST-2 AND FUTURE) (Bay No-408) AT NORTH KARANPURA	NTPC NORTH KARANPURA	400	18-12-2023	

Members may note.

4.4. UFR operation during the month of December 2023.

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
	(DATE/TIME)	(DATE/TIME)			
Dec, 2023	50.41 Hz on 17-12-2023 at 06:04 hrs	49.53 Hz on 07-12-2023 at 09:17 hrs	7.8	75.2	17.0

Hence, no report of operation of UFR has been received from any of the constituents.

Members may note.

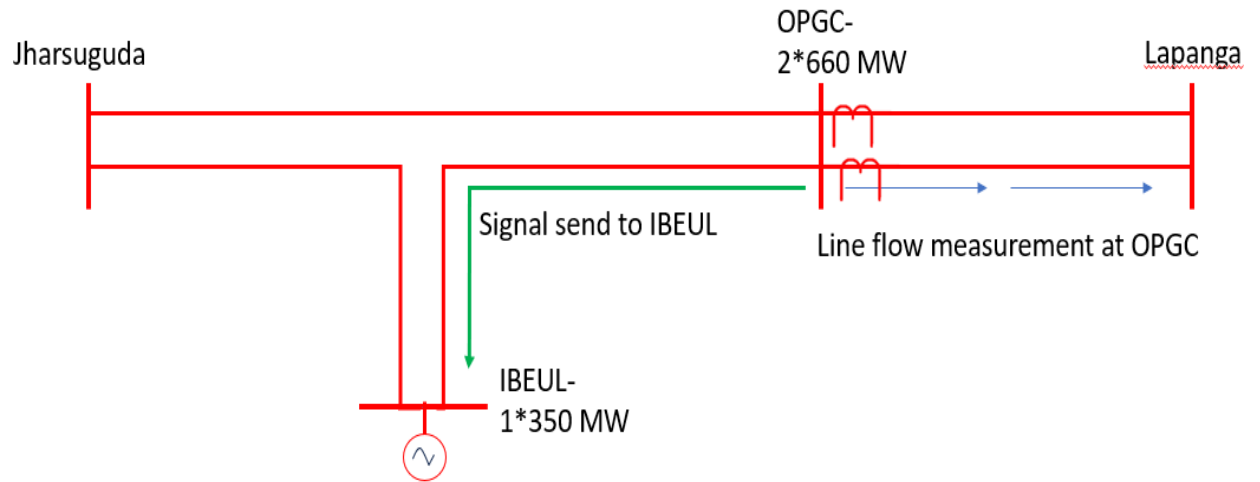
Reviving IBEUL Connectivity and Plant: Sequence of Events

- **Grant of connectivity and user registration (November 2023 - January 2024):**
 - **Nov 17, 2023:**
 - CTU grants interim connection to IBEUL for integration with ISTS via letter.
 - **Jan 1, 2024:**
 - IBEUL registers as ERLDC user.
 - Connection agreement signed between IBEUL, OPGC, CTU, and OGPTL.
- **Shutdown and Grid Connection (January 3-9, 2024):**
 - **Jan 3-6, 2024:**
 - Shutdown of 400 kV OPGC(Odisha)-Jharsuguda(PG) Ckt-2 allowed based on IBEUL's application.
 - **Jan 9, 2024:**
 - IBEUL connects to the grid through LILO of the same circuit (400 kV OPGC(Odisha)-Jharsuguda(PG) Ckt-2).
- **Synchronization and Power Injection (Jan 10-14, 2024):**
 - **Jan 10, 2024:**
 - IBEUL informs about their plan to synchronize one unit and subsequently offer the unit for 72-hour trial run at the rated capacity of 350 MW in phase-wise manner.
 - **Jan 11, 2024:**
 - IBEUL receives approval for drawing 35 MW startup power for commissioning activities.
 - IBEUL applies for NoC to inject 315 MW and the same was allowed based on Clause 22.4 of Connectivity and General Network Access to the inter-State Transmission System Regulations, 2022.
 - **Jan 12, 2024:**
 - ERLDC emphasizes the importance of operationalizing SPS (System Protection System) before power injection commences.
 - **Jan 13, 2024:**
 - IBEUL requests permission to inject 50 MW after SPS commissioning at 19:00 Hrs via letter and email.
 - Around 22:10 Hrs, IBEUL commissions SPS through optical fiber as planned. However, testing requires sequential shutdowns of 400 kV OPGC-Lapanga lines, which could not be done due to night hours.
 - At 23:02 Hrs Unit-1 synchronizes with the grid and generates 20 MW but trips at 23:15 Hrs.
 - **Jan 14, 2024:**
 - IBEUL confirms successful SPS testing and commissioning in the presence of OPGC and OPTCL representatives.
- **Current Status and Future Plans:**
 - As of Jan 17, 2024, IBEUL's maximum injection stands at around 120 MW.
 - The final connection through the dedicated 400 kV Jharsuguda-IBEUL D/C line is expected by March 31, 2024.

Annexure B.3

SPS Logic

Generation reduction/Tripping of Unit at IBEUL based on line flow of 400 kV Lapanga-OPGC D/c



S.no		Triggering Criteria (Current Based)*	Signal to IBEUL
1	Flow in 400 kV Lapanga-OPGC S/c (either line)	1440 A (950 MW) < Flow < 1520 A (1000 MW)	Alarm to <u>IndBharat</u> (IBEUL) to reduce load manually
2		1520 A (1000 MW) < Flow < 1550 A (1020 MW)	Trip Signal to IBEUL. Unit will trip after 10 minutes.
3		>1550 A (1020 MW)	Trip signal to IBEUL. Unit will trip after 10 seconds.

*SPS based on current measurement. MW values considered with .95 p.f.



पावरग्रिड
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprises)

400/220KV राउरकेला उपकेन्द्र, नया बजार, सेक्टर - 21, राउरकेला, जिला सुन्दरगढ़ (ओडिशा) 769010
400/220KV Rourkela Sub Station, Nayabazar, Sector -21, Rourkela, Dist.- Sundargarh (ODISHA) -769010
दूरभाषा : 0661-2600080, Mobile No. : 9437575632, E-mail: rourkelass@powergrid.co.in, rourkelatlm@powergrid.co.in

Ref. No.:ER2/ODP/OH02/SHUTDOWN/ 77

Date:28.12.2023

TO,

The Executive Director
(EHT O&M)
OPTCL BURLA, Odisha

Subject: Request for accord shutdown of 132 kV and 220 kV TL under your jurisdiction in the month of January 2024 regarding.

Reference: - POWERGRID ROURKELA request letter no. ER2/ODP/OH02/SHUTDOWN/TPWODL/23-24/33, Dated: - 08.12.2023

Dear Sir,

It is for your kind information that Power Grid Corporation of India Limited, Rourkela Substation has taken up the reconductoring Work of 400 KV 2x D/C ROURKELA - SUNDERGARH (Jharsuguda) transmission line by HTLS conductor. The executing agency is M/s Sterlite Power Transmission Limited who has been on the role since 07/03/2023.

The reconductoring activities/works has been planned in section wise of the said lines and accordingly the reconductoring activities has been scheduled to be carried out in the Power Lines crossing section (OPTCL) tabulated below in the month of January-2024 (01.01.2024 to 31.01.2024) on daily basis.

Name of Village / area	Name of Line	Date	Location	Time
Padampur	220 KV DC Kaurmunda to Budhipadar	02.01.2024 to 10.01.2024	TN1084 - TN 1085	09.00 am to 5:00 pm (Every day)
Padampur	220 KV DC Kaurmunda to Budhipadar	02.01.2024 to 10.01.2024	TN1085 - TN 1086	09.00 am to 5:00 pm (Every day)
Bada Gudiali	220 KV Budhipadar to Tarkera	17.01.2024 to 27.01.2024	TN1014 - TN 1015	09.00 am to 5:00 pm (Every day)
Bada Gudiali	132 KV DC Rajgangpur to Budhipadar	17.01.2024 to 27.01.2024	TN1013 - TN 1014	09.00 am to 5:00 pm (Every day)
Bada Gudiali	132 KV DC Rajgangpur to Kuchinda	17.01.2024 to 27.01.2024	TN1013 - TN 1014	09.00 am to 5:00 pm (Every day)
Fulbari	220 KV DC Budhipadar to Tarkera	17.01.2024 to 27.01.2024	TN944 - TN 945	09.00 am to 5:00 pm (Every day)
Fulbari	132 KV DC Rajgangpur to Budhipara-Kalunga	17.01.2024 to 27.01.2024	TN944 - TN 945	09.00 am to 5:00 pm (Every day)

Necessary clearance may please be obtained and intimate for above mentioned dated positively



पावरग्रिड
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprises)

400/220KV राउरकेला उपकेन्द्र, नया बजार, सेक्टर - 21, राउरकेला, जिला सुन्दरगढ (ओडिशा) 769010

400/220KV Rourkela Sub Station, Nayabazar, Sector -21, Rourkela, Dist.- Sundargarh (ODISHA) -769010

दूरभाषा : 0661-2600080, Mobile No. : 9437575632, E-mail: rourkelass@powergrid.co.in, rourkelatlm@powergrid.co.in

Mr. B.K.Munda, Manager POWERGRID Rourkela TLC (mobile no. 8638300376) and Mr. Shiv Kumar Raman/ Mr. Nitesh Sharma, M/s Sterlite Power Transmission Limited (mobile no. 7200633115/ 7302206208) are authorized person to take shutdown and return the same on time.

Therefore, we request your good office kindly arrange the shutdown of the feeder on the dates and time as mentioned above.

Your kind co-operation in this regard is highly solicited.

Thanking You.

Yours Faithfully

(P.K. PANDA)

GM(I/c), POWERGRID RKL, SS

Copy to: -

1. RTAMC, BBSR
2. In-Charge, RTAMC, BBSR
3. In-Charge, SLDC, Bhubaneswar
4. CGM, Projects, ODP
5. CGM, AM, ODP

P2/2

Note No. #1



भारत सरकार
विद्युत मंत्रालय
पूर्वी क्षेत्रीय विद्युत समिति
GOVERNMENT OF INDIA
MINISTRY OF POWER
EASTERN REGIONAL POWER COMMITTEE

Attachment:45th-ERPC-Minutes.pdf



No: ERPC/TCC&ERPCCOMMITTEE/2022/ 71

Date: 11.04.2022

To:

As per List

Sub: Minutes of the 45th ERPC Meeting-reg

Sir,

The Minutes of the 45th ERPC Meeting held on 26th March'2022 at Rajgir, Bihar has been issued and uploaded on www.erpc.gov.in . As per the decision of ERPC, distribution of hard copies of the Minutes of the Meeting has been discontinued as Go-Green initiative.

Encl: As above

Yours faithfully,

(N. S. Mondal)

Member Secretary

Note No. #1

Attachment:45th-ERPC-Minutes.pdf



Minutes
of
45th Meeting
of
EASTERN REGIONAL POWER COMMITTEE

Date: 26th March, 2022

Time: 11:00 Hrs

The Indo Hokke Hotel, Rajgir

Note No. #1

Attachment:45th-ERPC-Minutes.pdf

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Note No. #1

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respective transmission utility) and requested all the concerned utilities to nominate their representative by 7th April 2022.

B1.3. Replacement of ICT- POWERGRID Odisha.**A. Urgent requirement for replacement of 315MVA, 400/220/33kV ICT#2 at Rengali S/S:**

- I. The BHEL make 315MVA, 400/220/33kV ICT#2 of Rengali Substation was commissioned in 1990 under JTSS Project and the said ICT is of 32 years old (Year of Manufacturing: 1987). The said ICT has completed its useful life of 25 years.
- II. Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings & windings, oil parameters, Furan analysis, FDS, IR of core insulation etc are being carried out by POWERGRID to know the healthiness. During condition monitoring of the said ICT, violation has been observed in the test parameters and condition of the ICT found not good. M/s CPRI (Third party) was approached by POWERGRID to analyse the test results of said equipment and to know the condition of the equipment. The test results were analysed by CPRI and based on the test results, CPRI has recommended to replace the said unit. The letter of CPRI is enclosed herewith.

B. Urgent Requirement for replacement of 3x105 MVA, 400/220/33KV ICT-1 at Jeypore S/s.

- I. The BHEL make 3x105MVA, 400/220/33kV ICT#1 of Jeypore Substation was commissioned in 1990 under JTSS Project and the said ICT is of 32 years old (Year of Manufacturing: 1987). The said ICT has already successfully completed its useful life of 25 years.
- II. Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings & windings, oil parameters, Furan analysis, FDS, IR of core insulation etc are being carried out by POWERGRID to know the healthiness. During condition monitoring of the ICT-I Yph, violation has been observed in the test parameters and condition of the ICT found not good. M/s CPRI (Third party) was approached by POWERGRID to analyse the test results of said unit and to know the condition of the equipment. The test results were analysed by CPRI and based on the test results, CPRI has recommended to replace the said unit. The letter of CPRI is enclosed herewith.

In 187th OCC meeting, SLDC Odisha and GRIDCO gave their consent for the proposal.

OCC opined that the above proposals would be shared with CTU & further approval.

Further, CTU vide mail dated 18.02.2022 updated the following:

- Presently, there are 400/220kV, 2x315MVA ICTs at Rengali (POWERGRID) and 400/220kV, 2x630MVA (two blocks, each of 2x315MVA in parallel) ICTs at Jeypore (POWERGRID)

Note No. #1

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substations. ICT loading detail of last one year has been obtained from ERLDC, and it has been observed that the existing transformation capacity at both substations is adequate.

- In view of the above, it may be noted that technically existing transformation capacity is required at both the substations. Thus, existing ICTs as per requirement may be taken up for replacement. However, considering the future requirement, the new ICTs could be of 500MVA.

TCC may please approve.

Deliberation in the 45th TCC meeting:

TCC approved the scheme and referred it to ERPC for further approval.

Deliberation in the 45th ERPC meeting:

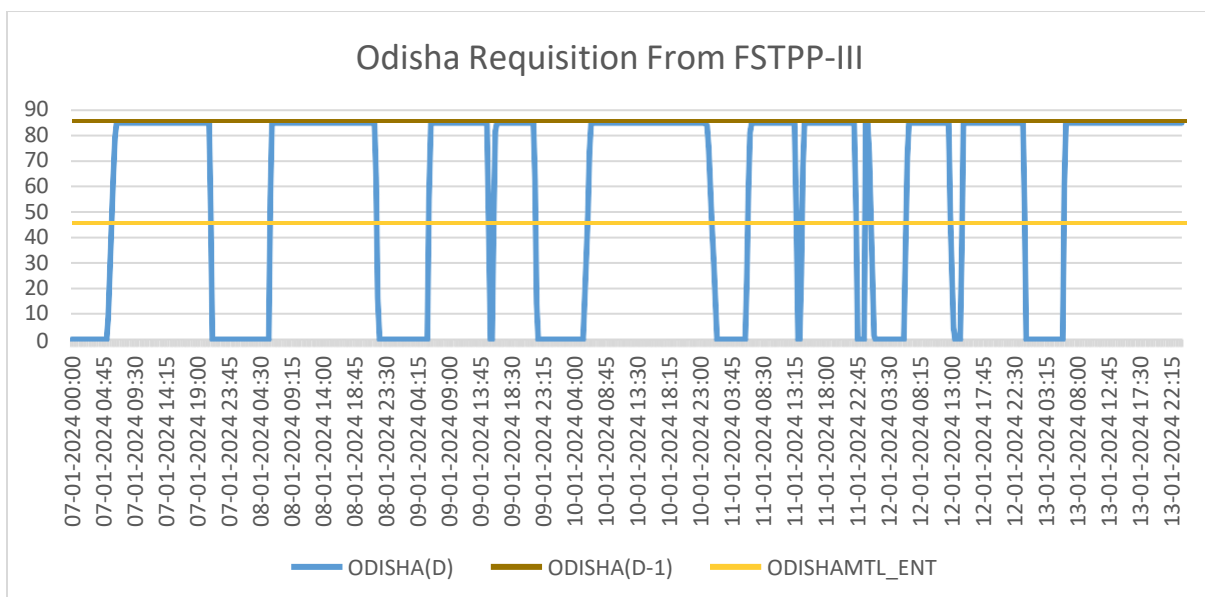
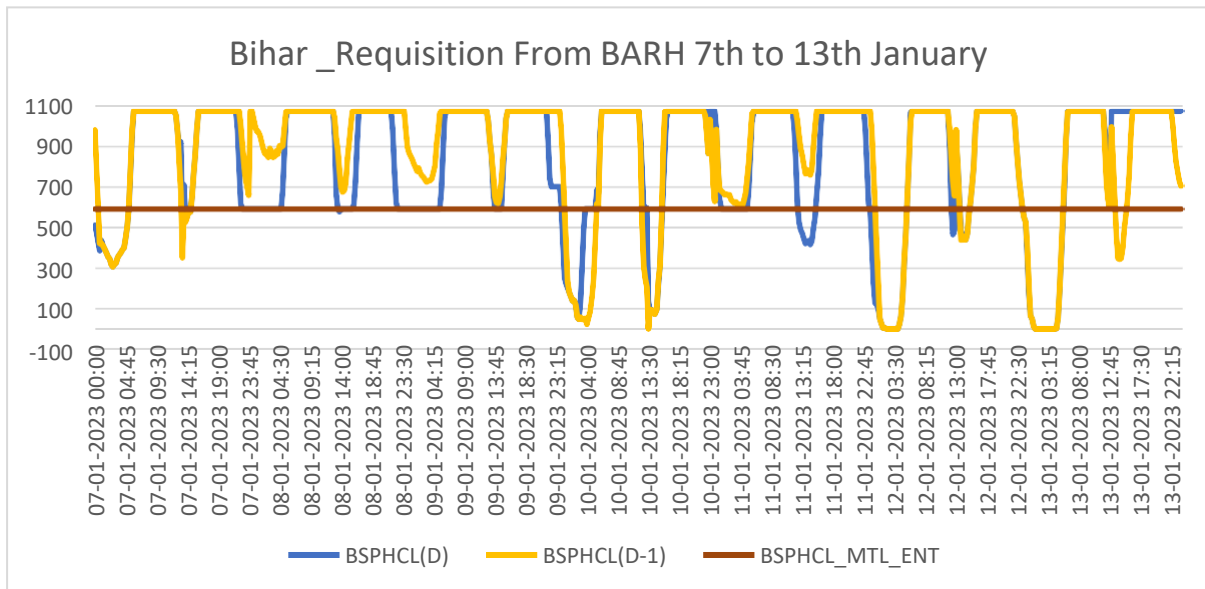
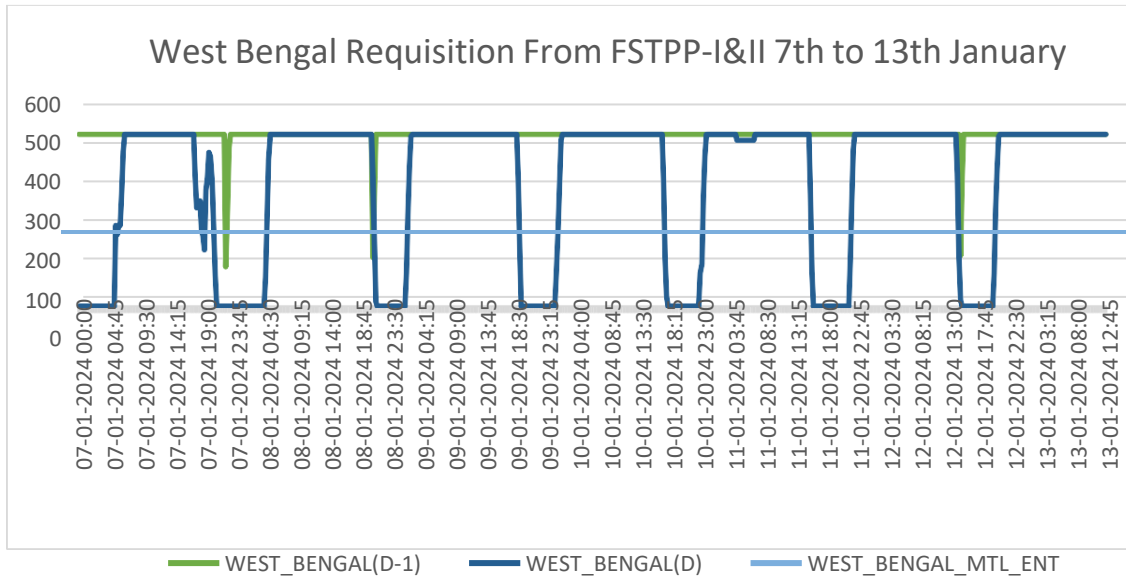
ERPC approved the scheme.

B1.4. Demolition and reconstruction of residential Quarters at Rourkela S/S under O&M ADD-CAP 2019-24 block under Kahalgaon Transmission System (KHTL)

- Under the Kahalgaon Transmission System (KHTL), Rourkela S/S in Odisha was constructed and is in operation since 1993. The station has already completed more than 28 years of service.
- As part of this project, in addition to S/s equipment, Residential Buildings were also constructed at Rourkela S/S for the accommodation of employees to look after O&M of substation and were allotted to employees in these years. These residential buildings have already completed more than 28 years of life.
- In spite of regular maintenance, due to ageing these residential buildings are in dilapidated condition i.e. cracks in roof, walls, and floors, seepage in roofs and walls, wear and tear of window/doors, cisterns etc. have developed. The structural condition assessment of the building has been carried out through NIT, Rourkela. As per the assessment report, these buildings have exceeded the desired strength and serviceability limit states under gravity loading. It does not have sufficient strength and stiffness against minimum lateral loading and it appears insufficient to consider the repair and rehabilitation of these buildings.
Tentative estimated cost for the said work comes to ₹ 8 crores.
- Petition for the above work was already filed with CERC for approval under O&M ADD-CAP 2019-24 under KHTL project. During the hearing, CERC has advised POWERGRID to obtain approval of RPC and consent of beneficiaries for additional capital expenditure against these buildings and submit the same at the time of truing up for consideration of the instant case.

In 45th CCM, POWERGRID representative gave a brief presentation highlighting the present conditions of the residential quarters at their Rourkela Sub-station. Committee members agreed that

Annexure B.13.B





ग्रिड-इंडिया
GRID-INDIA

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)



[formerly Power System Operation Corporation Limited (POSOCO)]

पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre

कार्यालय : 14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता - 700033

Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033

CIN : U40105DL2009GOI188682, Website : www.erldc.in, Tel.: 033 23890060/0061

संदर्भ : पू.क्षे.भा.प्रे.केंद्र / सिस्टम ऑपरेशन / 2023-24 / 1247

दिनांक : 16.01.2024

सेवा में / To :

Chief Load Despatcher (SLDC), Odisha,
Bhubaneswar - 751017

Subject: Compliance of CERC Order in Suo-moto Petition No. 18/SM/2023

Ref.: ERLDC Letter No. पू.क्षे.भा.प्रे.केंद्र / एमओ / 202324/1210 dated 09.01.2024

महोदया/ महोदय,

As you may be aware that Hon'ble CERC has issued an order in suo-moto petition no. 18/SM/2023 in the matter of removal of difficulties (Second Order) in giving effect to certain provisions of CERC (Indian Electricity Grid Code) Regulations, 2023. In the said order, the hon'ble commission has issued directions to address the issue of Minimum Turndown Schedule (MTL). The relevant excerpt is as below:

"...while the beneficiaries/buyers shall have full flexibility to decide on their requisition from a generating station up to 1430 hrs on 'D-1' day, their right to revision of schedules in the said generating station for 'D' Day shall be subject to the condition that such revision of schedule for 'D' Day shall not be below their respective share of minimum turndown level in the respective generating station..."

ERLDC has already issued a letter in this regard on 09.01.2024. However, it has been observed that Odisha is still requisitioning power above their MTL share in a generating station before 14:30 hrs on 'D-1' day and subsequently on 'D' day, Odisha is surrendering the power below their MTL share from that particular generating station. Detailed information is provided in Annexure-1.

Considering the above, we solicit your cooperation to ensure strict adherence to the CERC Order in Suo-moto Petition No. 18/SM/2023. Revision of requisition from ISGS share may be done in such a way that it doesn't fall below MTL after 14:30 Hrs on D-1 day after giving above MTL requisition before 14:30 Hrs.

Looking forward for your kind co-operation.

धन्यवाद सहित

भवदीय/Yours Faithfully

एस कोनार
16/01/24

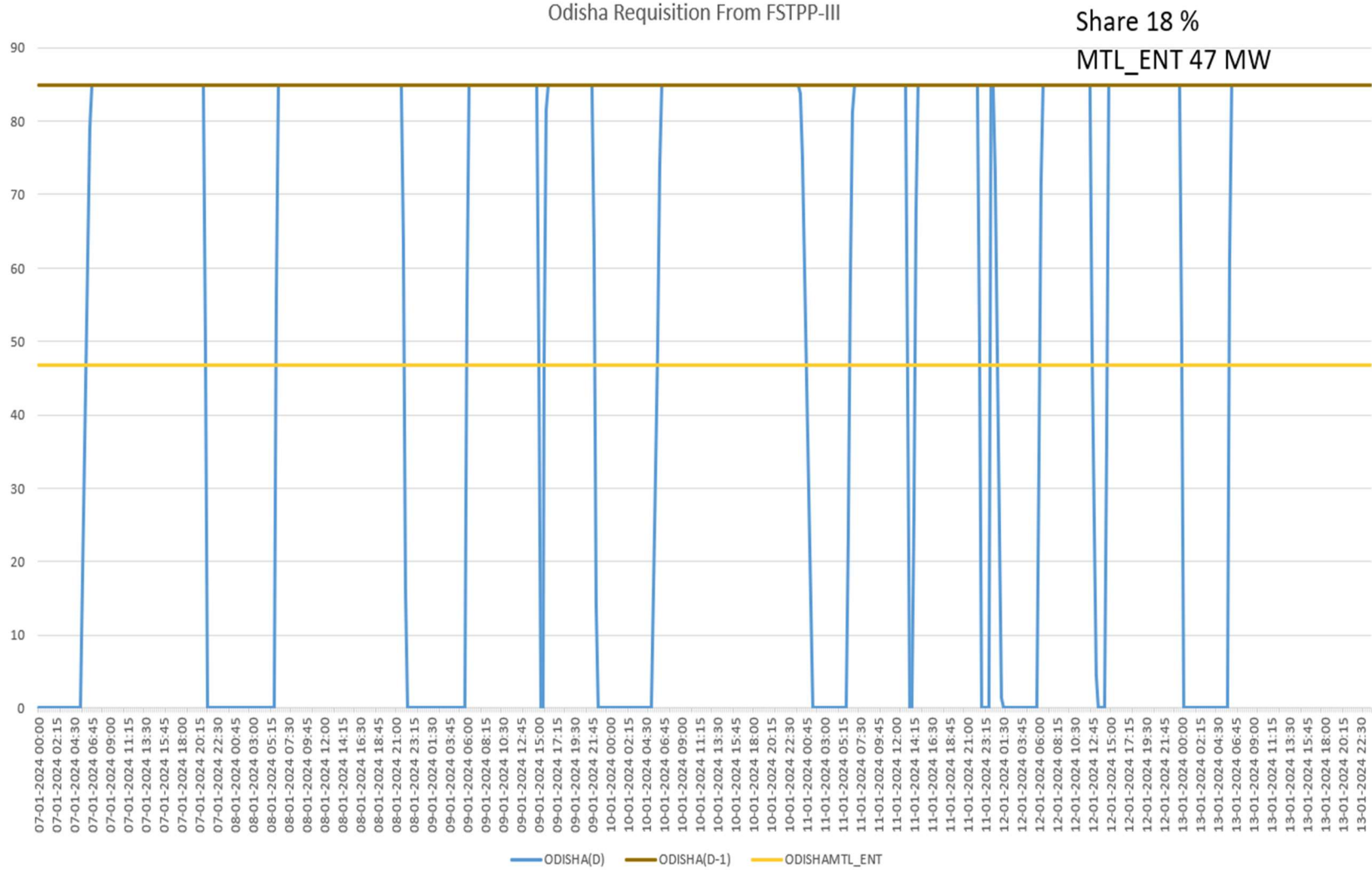
एस कोनार

वरिष्ठ महाप्रबंधक (सिस्टम ऑपरेशन)

पंजीकृत कार्यालय : बी-9, प्रथम तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016

Registered Office : B-9, 1st Floor, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016

Website : www.grid-india.in





ग्रिड-इंडिया
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Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033

CIN : U40105DL2009GOI188682, Website : www.erldc.in, Tel.: 033 23890060/0061

संदर्भ : पू.क्षे.भा.प्रे.केंद्र / सिस्टम ऑपरेशन / 2023-24/ 1246

दिनांक: 16.01.2024

सेवा में / To :

Chief Engineer, CLD,

West Bengal, P.O. Danesh Seikh Lane,

Andul Road Howrah - 711109

Subject: Compliance of CERC Order in Suo-moto Petition No. 18/SM/2023

Ref.: ERLDC Letter No. पू.क्षे.भा.प्रे.केंद्र / एमओ / 202324/1210 dated 09.01.2024

महोदया/ महोदय,

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ERLDC has already issued a letter in this regard on 09.01.2024. However, it has been observed that West Bengal is still requisitioning power above their MTL share in a generating station before 14:30 hrs on 'D-1' day and subsequently on 'D' day, West Bengal is surrendering the power below their MTL share from that particular generating station. Detailed information is provided in Annexure-1.

Considering the above, we solicit your cooperation to ensure strict adherence to the CERC Order in Suo-moto Petition No. 18/SM/2023. Revision of requisition from ISGS share may be done in such a way that it doesn't fall below MTL after 14:30 Hrs on D-1 day after giving above MTL requisition before 14:30 Hrs.

Looking forward for your kind co-operation.

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भवदीय/Yours Faithfully

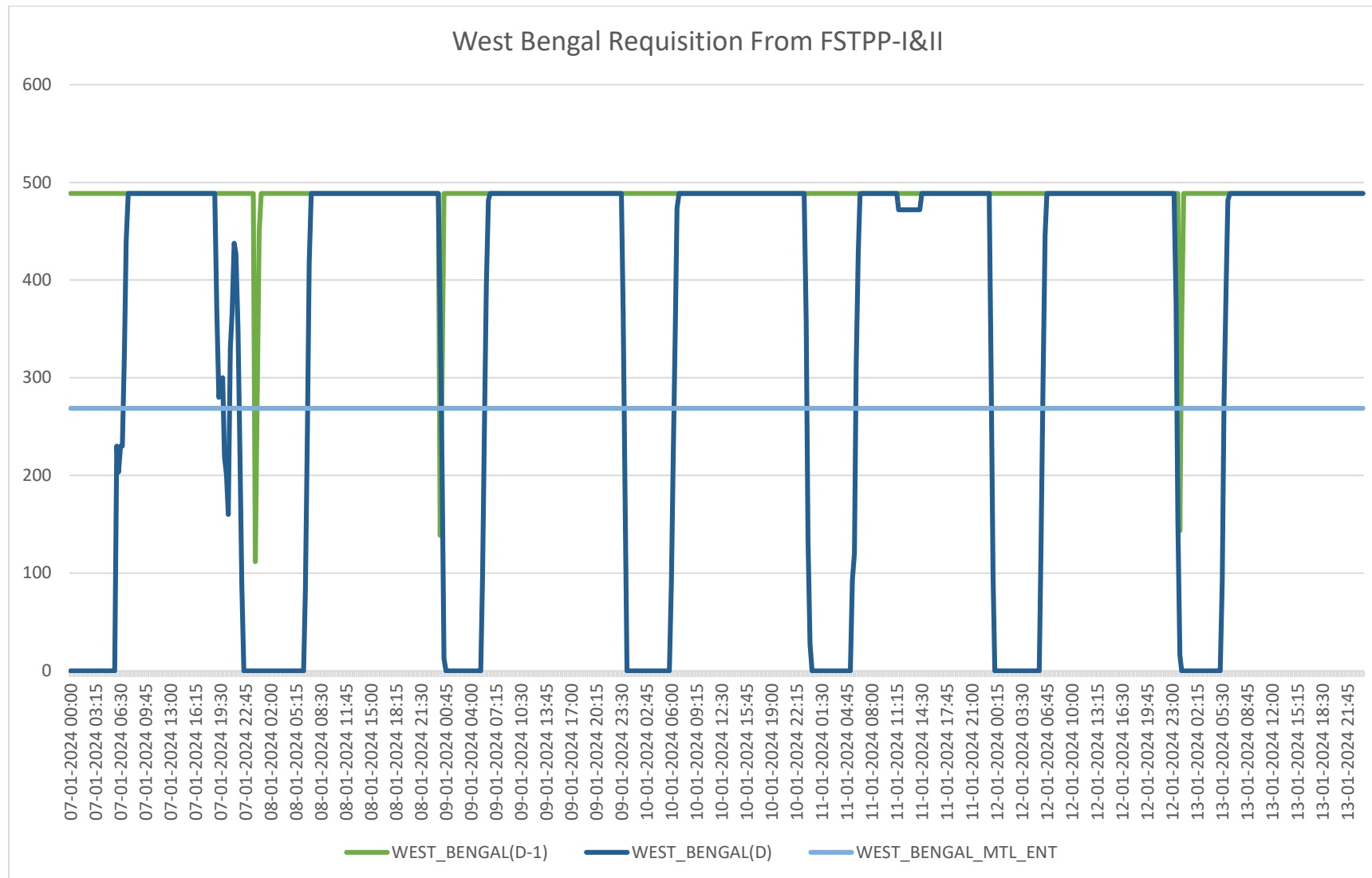
एस कोनार
16/01/24

वरिष्ठ महाप्रबंधक (सिस्टम ऑपरेशन)

पंजीकृत कार्यालय : बी-9, प्रथम तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016

Registered Office : B-9, 1st Floor, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016

Website : www.grid-india.in



Annexure B.14

ERLDC SO

From: ERLDC SO
Sent: 15 January 2024 12:23
To: 'rahulanand@ntpc.co.in'; 'ardash@ntpc.co.in'; 'satyapalverma@ntpc.co.in'; 'sumeetnarang@ntpc.co.in'; 'reder1@ntpc.co.in'
Cc: Shyamal Konar (श्यामल कोनार); Saugato Mondal (सौगाता मंडल); Bilash Achari (बिलाश आचारी); Pinki Debnath (पिंकी देबनाथ); Srimalya Ghosal; Premkant Kumar Singh (प्रेमकांत कुमार सिंह); Sourav Mandal (सौरव मंडल); Saurav Kr Sahay (सौरव कुमार सहाय); 'Chandan Mallick (चंदन मलिक)'; ERPC Operation mail
Subject: RE: Submission of digital proof for DC revision under partial outage (NTPC ER-I) - 1st January to 7th January 2024

Sir,

Gentle reminder for submission of digital proof.

From: ERLDC SO
Sent: Tuesday, January 9, 2024 11:20 AM
To: 'rahulanand@ntpc.co.in' <rahulanand@ntpc.co.in>; 'ardash@ntpc.co.in' <ardash@ntpc.co.in>; 'satyapalverma@ntpc.co.in' <satyapalverma@ntpc.co.in>; 'sumeetnarang@ntpc.co.in' <sumeetnarang@ntpc.co.in>; 'reder1@ntpc.co.in' <reder1@ntpc.co.in>
Cc: Shyamal Konar (श्यामल कोनार) <konar_s@grid-india.in>; Saugato Mondal (सौगाता मंडल) <saugato@grid-india.in>; Bilash Achari (बिलाश आचारी) <bilash.achari@grid-india.in>; Pinki Debnath (पिंकी देबनाथ) <pinkidebnath@grid-india.in>; Srimalya Ghosal <sgghosal@grid-india.in>; Premkant Kumar Singh (प्रेमकांत कुमार सिंह) <premkant@grid-india.in>; Sourav Mandal (सौरव मंडल) <souravmandal@grid-india.in>; Saurav Kr Sahay (सौरव कुमार सहाय) <saurav.sahay@grid-india.in>; 'Chandan Mallick (चंदन मलिक)' <chandan.mallick@grid-india.in>; ERPC Operation mail <eeop.erpc@gov.in>
Subject: Submission of digital proof for DC revision under partial outage (NTPC ER-I) - 1st January to 7th January 2024
Importance: High

Sir,

As per the decision in the 209th OCC meeting, digital proof for DC revision under partial outage is required to be submitted by Wednesday for the last week. It is requested to submit digital proof for generating stations under your jurisdiction for 1st January to 7th January 2024. The list of DC revisions under partial outage is as follows:

Generator	01-01-2024	02-01-2024	03-01-2024	04-01-2024	05-01-2024	06-01-2024	07-01-2024	Total
KHSTPP-I	0	3	3	2	2	1	1	12
FSTPP I & II	0	0	0	2	0	0	0	2
FSTPP-III	0	0	2	1	0	0	0	3
BARH-I	0	1	3	0	0	0	0	4
BRBCL	0	0	0	0	0	0	0	0
BARH	0	1	0	0	0	0	0	1
NPGC	0	0	0	0	0	0	0	0
North Karanpura STPS	0	0	0	0	0	0	0	0

MTPS-II	0	0	0	0	0	0	0	0
KHSTPP-II	0	0	0	0	1	2	0	3

Reason wise DC revision list is as follows:

Generator Name	Date	Rev type & No	Reason
KHSTPP-I	02-01-2024	Downward 1	KhSTPS Stg1 DC --- Reason was not furnished
KHSTPP-I	02-01-2024	Upward 2	KhSTPS Stg1 DC --- Reason was not furnished
BARH-I	02-01-2024	Downward 1	BARH STAGE-1 DC REVISION 1 FOR 02.01.2024 ,AS ID FAN 2A B PITCH DELINK ,NEED TO STOP FOR MAINTAINANCE .
BARH	02-01-2024	Downward 1	BARH STAGE-2 DC Revision FOR 02.01.2024. Unit-5 shut down d low infeasible schedule(SG less than MTL) in 21 blocks.
BARH-I	03-01-2024	Upward 1	REVISED DC AFTER WORK OF IDFAN-2A
BARH-I	03-01-2024	Downward 2	PROBLEM IN ID FAN A BLADE PITCH AGAIN
FSTPP-III	03-01-2024	Downward 1	DC REVISED : BOTTOM ASH DEASHING PROBLEM
FSTPP-III	03-01-2024	Downward 2	DC REVISED : LAST BLOCK RAMP UP CHANGED
FSTPP I & II	04-01-2024	Downward 1	DC FOR FSTPS I&II DATED 04.01.2024 ---- Reason was not furnished
FSTPP I & II	04-01-2024	Upward 1	DC FOR FSTPS I&II DATED 04.01.2024 --- Reason was not furnished
KHSTPP-II	05-01-2024	Downward 1	ID FAN 6B TRIPPED
KHSTPP-I	05-01-2024	Downward 2	Kahalgaon stg 1 DC DOWNWARD REVISION DUE TO OUTAGE OF
KHSTPP-II	06-01-2024	Downward 2	KAHALGAON STAGE 2 DOWNWARD DC REVISION DUE TO ID FA TRIPPING

Please revert with digital proof and mention the keyword “Digital proof for the partial outage for the period of 1st January to 7th January 2024 – {Plant name}”.

It is also requested to furnish the reason for DC revision during revision properly.

ERLDC is yet to receive the digital proof for the period of 25th December to 31st December 2023.

भवदीय / Regards,

चन्दन मल्लिक/Chandan Mallick

Manger (System Operation), ERLDC



ग्रिड-इंडिया
GRID-INDIA

9007059660 chandan.mallick@grid-india.in

Table:

Generator Name	Date	Rev type & No	Reason
BARH	26-12-2023	Downward 1	REV BARH STAGE-2 DC FOR 26.12.2023 DUE TO POOR COAL QUALITY
FSTPP I & II	28-12-2023	Downward 1	UNIT 5 MILLING SYSTEM PROBLEM
BARH-I	28-12-2023	Downward 1	BARH STAGE-1 DC FOR 28.12.2023. Turbine testing.
BARH-I	28-12-2023	Downward 2	BARH STAGE-1 DC FOR 28.12.2023. BTL.
FSTPP-III	29-12-2023	Downward 1	DUE TO BOTTOM ASH HOPPER CHOKING
KHSTPP-I	30-12-2023	Downward 1	No Reason
FSTPP-III	30-12-2023	Downward 2	DC FOR FSTPS III DATED 30.12.2023 DC REVISION DUE TO BOTTOM ASH HOPPER PROBLEM
KHSTPP-I	02-01-2024	Downward 1	KhSTPS Stg1 DC --- Reason was not furnished
KHSTPP-I	02-01-2024	Upward 2	KhSTPS Stg1 DC --- Reason was not furnished
BARH-I	02-01-2024	Downward 1	BARH STAGE-1 DC REVISION 1 FOR 02.01.2024 ,AS ID FAN 2A BLADE PITCH DELINK ,NEED TO STOP FOR MAINTAINANCE .
BARH	02-01-2024	Downward 1	BARH STAGE-2 DC Revision FOR 02.01.2024. Unit-5 shut down due to low infeasible schedule(SG less than MTL) in 21 blocks.
BARH-I	03-01-2024	Upward 1	REVISED DC AFTER WORK OF IDFAN-2A
BARH-I	03-01-2024	Downward 2	PROBLEM IN ID FAN A BLADE PITCH AGAIN
FSTPP-III	03-01-2024	Downward 1	DC REVISED : BOTTOM ASH DEASHING PROBLEM
FSTPP-III	03-01-2024	Downward 2	DC REVISED : LAST BLOCK RAMP UP CHANGED
FSTPP I & II	04-01-2024	Downward 1	DC FOR FSTPS I&II DATED 04.01.2024 -----Reason was not furnished
FSTPP I & II	04-01-2024	Upward 1	DC FOR FSTPS I&II DATED 04.01.2024 ----- Reason was not furnished
KHSTPP-II	05-01-2024	Downward 1	ID FAN 6B TRIPPED
KHSTPP-I	05-01-2024	Downward 2	Kahalgaon stg 1 DC DOWNWARD REVISION DUE TO OUTAGE OF MILL
KHSTPP-II	06-01-2024	Downward 2	KAHALGAON STAGE 2 DOWNWARD DC REVISION DUE TO ID FAN 6B TRIPPING
KHSTPP-I	08-01-2024	Downward 1	STG-1 DC

BARH-I	08-01-2024	Upward 1	Unit-2 being synchronized
KHSTPP-I	10-01-2024	Upward 1	Unit 4 problem in milling system.
KHSTPP-II	10-01-2024	Upward 1	Stage 2 DC Upward Revision after Revival of ID Fan - 6B
KHSTPP-II	10-01-2024	Downward 1	Stage 2 DC Downward Revision after ID Fan Ch2 current hunting issue.
FSTPP I & II	11-01-2024	Downward 1	DC REVISSION DUE TO UNIT-5 MILLING SYSTEM PROBLEM.
KHSTPP-II	11-01-2024	Upward 2	STAGE 2 DC upward Revision after outage restoration of ID Fan - 6B
FSTPP I & II	11-01-2024	Upward 1	DC REVISSION DUE TO UNIT-5 MILLING SYSTEM PROBLEM SOLVED
Darlipali_N TPC	11-01-2024	Downward 1	DC revised due to Poor Coal Quality.
Darlipali_N TPC	11-01-2024	Upward 1	DC revised due to Coal Quality improvement.
Darlipali_N TPC	13-01-2024	Upward 2	Coal Quality improvement
FSTPP-III	14-01-2024	Downward 1	FSTPS Stage- III DC revision for overhauling

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for February 2024

1	BIHAR	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	5940	2747
	NET POWER AVAILABILITY- Own Sources	613	367
	Central Sector+Bi-Lateral	6488	3503
	SURPLUS(+)/DEFICIT(-)	1162	1123
2	JHARKHAND		
	NET MAXIMUM DEMAND	1940	1117
	NET POWER AVAILABILITY- Own Source	430	158
	Central Sector+Bi-Lateral+IPP	900	568
	SURPLUS(+)/DEFICIT(-)	-610	-391
3	DVC		
	NET MAXIMUM DEMAND	3405	1975
	NET POWER AVAILABILITY- Own Source	5693	3163
	Central Sector+MPL	291	128
	Bi- lateral export by DVC	1969	1213
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	610	103
4	ODISHA		
	NET MAXIMUM DEMAND (OWN)	5250	2964
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	5775	2999
	NET POWER AVAILABILITY- Own Source	3121	1870
	Central Sector	1915	1173
	SURPLUS(+)/DEFICIT(-) (OWN)	-214	79
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-739	44
5	WEST BENGAL		
	WBSEDCL		
5.1	NET MAXIMUM DEMAND	6235	3482
	NET MAXIMUM DEMAND (Incl. Sikkim)	6240	3485
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5603	2565
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2665	1200
	EXPORT (To SIKKIM)	5	3
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	2028	280
5.2	CESC		
	NET MAXIMUM DEMAND	1570	680
	NET POWER AVAILABILITY- Own Source	700	360
	IMPORT FROM HEL	540	286
	TOTAL AVAILABILITY OF CESC	1240	646
	DEFICIT(-) for Import	-330	-34
	WEST BENGAL (WBSEDCL+CESC+IPCL) (excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	7805	4162
	NET POWER AVAILABILITY- Own Source	6303	2925
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	3205	1486
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	1703	249
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	1698	246
6	SIKKIM		
	NET MAXIMUM DEMAND	129	70
	NET POWER AVAILABILITY- Own Source	2	1
	Central Sector	56	12
	SURPLUS(+)/DEFICIT(-)	-71	-57
	EASTERN REGION		
	NET MAXIMUM DEMAND	23989	13035
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	24503	13070
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	1969	1213
	EXPORT BY WBSEDCL TO SIKKIM	5	3
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	431
	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)	27048	14139
	SURPLUS(+)/DEFICIT(-)	3054	1101
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	2540	1066