



सत्यमेव जयते

भारत सरकार

Government Of India

विद्युत मंत्रालय

Ministry Of Power

पूर्वी क्षेत्रीय विद्युत समिति

**Eastern Regional Power Committee**

14 Golf Club Road, Tollygunje-70033 Website: [www.erpc.gov.in](http://www.erpc.gov.in)

सं /NO. ERPC/EE/OPERATION/2024/195

दिनांक/DATE: 01.05.2024

सेवा में /To  
संलग्न सूची के अनुसार /As per list enclosed.

**विषय : 23.04.2024(मंगलवार) को ईआरपीसी सचिवालय, कोलकाता में भौतिक रूप से आयोजित 214वीं ओसीसी बैठक का कार्यवृत्त - संबंध में।**

**Sub: Minutes of 214th OCC Meeting held on 23.04.2024(Tuesday) physically at ERPC Secretariat, Kolkata - reg.**

महोदय/महोदया,  
Sir(s)/Madam,

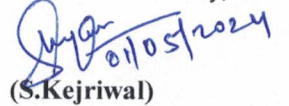
कृपया अपनी जानकारी और आवश्यक कार्रवाई के लिए 23.04.2024(मंगलवार) को ईआरपीसी सचिवालय, कोलकाता में भौतिक रूप से 10:30 बजे आयोजित 214वीं ओसीसी बैठक के संलग्न कार्यवृत्त देखें। यह ईआरपीसी वेबसाइट ([www.erpc.gov.in](http://www.erpc.gov.in)) पर भी उपलब्ध है।

Please find enclosed **Minutes of 214th OCC Meeting** held on 23.04.2024(Tuesday) physically at ERPC Secretariat, Kolkata at 10:30 hrs for your kind information and necessary action. The same is also available at ERPC website ([www.erpc.gov.in](http://www.erpc.gov.in)).

टिप्पणियाँ, यदि कोई हों, कृपया यथाशीघ्र इस कार्यालय को अग्रेषित करें।  
Observations, if any, may please be forwarded to this office at the earliest.

इसे सदस्य सचिव के अनुमोदन से जारी किया जाता है।  
This issues with the approval of Member Secretary.

भवदीय /Yours faithfully,

  
(S.Kejriwal)

SE(Operation)

एसई (ऑपरेशन)

## **LIST OF ADDRESSES:**

1. CHIEF ENGINEER (TRANS., O&M), BSPTCL, PATNA, (FAX NO. 0612-2504557/2504937)
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CC:

Chief Engineer, OPM, CEA	Chief Engineer, NPC, CEA	ASSISTANT SECRETARY,ERPC
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**ERPC:: Kolkata**

## पतों की सूची:

1. मुख्य अभियंता (ट्रांस., ओ एंड एम), बीएसपीटीसीएल, पटना, (फैक्स नं. 0612- 2504557/2504937)।
2. मुख्य अभियंता (सिस्टम ऑपरेशन), बीएसपीटीसीएल, पटना, (फैक्स नं. 0612- 2504557/2504937)।
3. मुख्य अभियंता, ट्रांसमिशन (ओ एंड एम), जेयूएसएनएल, रांची (फैक्स नं.-0651- 2490486/2490863)।
4. मुख्य अभियंता, टीवीएनएल, डोरंडा, रांची - 834102 (फैक्स नंबर 06544-225414)
5. मुख्य लोड डिस्पैचर, एसएलडीसी, ओपीटीसीएल, भुवनेश्वर (फैक्स नंबर 0674-2748509)
6. मुख्य महाप्रबंधक (ओ एंड एम), ओपीटीसीएल, भुवनेश्वर
7. एसआर. महाप्रबंधक (पीपी), ग्रिडको, जनपथ, भुवनेश्वर (0674-2547180)
8. निदेशक (संचालन), आईबी टीपीएस, एटी/पीओ बनहरपाली, झारसुगुड़ा, (फैक्स नंबर 06645-222225/222230)
9. महाप्रबंधक, टीटीपीएस, तालचेर, (फैक्स नंबर 06760-243212)
10. एसआर. महाप्रबंधक (विद्युत), ओएचपीसी लिमिटेड, भुवनेश्वर, (फैक्स नंबर 0674-2542102)
11. मुख्य अभियंता, सीएलडी, डब्ल्यूबीएसईटीसीएल, हावड़ा, (फैक्स नंबर 033-26886232)।
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16. डीजीएम (ऑपरेशंस), डीपीएल, दुर्गापुर, (फैक्स नंबर 0343-2555052)
17. जीएम (एसवाईएस ऑपरेशन), सीईएससी, चौरंगी स्क्रायर, कोलकाता (फैक्स नंबर 033- 22253756/22129871)।
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20. कार्यकारी निदेशक, ईआरएलडीसी, पोसोको, कोलकाता, (फैक्स नंबर 033-2423-5809)
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23. महाप्रबंधक, टीएसटीपीपी, एनटीपीसी, तालचेर, (फैक्स नंबर 06760-249053)
24. महाप्रबंधक (ओएस), पावरग्रिड, ईआर-II, कोलकाता (फैक्स नंबर: 033-23572827)
25. महाप्रबंधक, पावरग्रिड, ईआर-I, पटना, (फैक्स नं.0612-2531192)
26. महाप्रबंधक (ओ एंड एम), पावरग्रिड, ओडिशा प्रोजेक्ट्स, साहिद नगर, भुवनेश्वर - 751 007
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37. मुख्य विद्युत अभियंता, पूर्वी रेलवे, कोलकाता-700 001 (फैक्स नं.: 033-22300446)
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**ईआरपीसी:: कोलकाता**



**MINUTES**  
**OF**  
**214<sup>TH</sup> OCC MEETING**

**Date: 23.04.2024**

**Eastern Regional Power Committee**

**14, Golf Club Road, Tollygunge**

**Kolkata: 700033**

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## EASTERN REGIONAL POWER COMMITTEE

### MINUTES OF 214<sup>TH</sup> OCC MEETING TO BE HELD ON 23.04.2024 (TUESDAY) AT 10:30 HRS

Member Secretary, ERPC chaired the 214<sup>th</sup> OCC meeting. On welcoming all the participants, he outlined the performance of ER grid during March 2024 and highlighted the following points:

- In March-2024, energy consumption of ER was **15310.7 MU** which is **4 % more** than March-2023
- In March-2024, Peak demand met of ER was **27079 MW** which is **14% more** than March-2023.
- During March-2024, **77.5%** of time, the grid frequency was in IEGC Band (49.90Hz-50.05Hz).
- Thermal PLF of ER during March-2024 was **79 %**.
- Bakreswar TPS achieved PLF of 101% . Besides, two TPS of WBPDC (Bandel TPS and Santaldih TPS), six TPS of NTPC (Darlipalli STPS, Kahalgaon TPS, Farakka STPS, Muzaffarpur TPS, Nabinagar STPP, Nabinagar TPP), Chandrapura TPS of DVC and two IPPs (MPL & Kamalanga TPS (GMR)) achieved PLF of **more than 90%** during March-2024.
- All these Thermal generating units were appreciated for maintaining PLF more than 90% stressing that such performance of Thermal GENCOs shall prove pivotal in meeting high demand during impending crunch period( especially non-solar hours)
- **Coal stock position:**

Coal stock position (As on 20.04.2024) is detailed as follows:

SL.	Name of States/Power Stns.	% of Actual Stock vis-à-vis Normative Stock
1.	Jharkhand (TVNL)	48%
2.	Odisha/IBTPS	84%
3.	WBPDC	49% (Min. Kolaghat TPS-20%, Max. Bakreswar TPS-58 %)
4.	DVC	98% (Min. Mejia TPS-50%; Max Bokaro TPS `A` - 195%)
5.	NTPC	90% (Min Darlipali STPS –54%;Nabinagar TPP(BRBCL)-44%;Max. Farakka STPS -169%)

- *He emphasized that all generating units having availed planned shutdown with consent of OCC in any of the previous OCC meetings must be restored to service as per the schedule approved by OCC forum. In addition to this, generating units must strive to scale down the instances of frequent forced outage and even if forced outage is encountered the respective units must be revived to service in shortest possible timeframe with adoption of best O&M practices.*
- *Contribution of pan-India Thermal capacity ( i.e around 170 GW) in meeting All India Peak Demand of 208 GW last month was also underlined.*
- *New transmission elements commissioned by WBSETCL were highlighted:*
  1. *400/220/33 kV, 315 MVA ICT#4 with its 400 kV & 220 kV Bay first time charged at no load at JEERAT 400 kV substation at 17:23hrs on 14.03.24 and loaded at 14:30 hrs on 15.03.24.*
  2. *400/220/33kV, 315 MVA ICT#4 with its 400 kV & 220 kV Bay first time charged at no load at NEW CHANDITALA 400 kV substation at 13:51 hrs on 23.03.24 and loaded at 13:22 hrs on 29.03.24.*
- *It was also apprised that CESC has undertaken augmentation of transformation capacity in its command area amid ongoing high demand Summer period.*
- *WBSETCL has completed few restringing works with HTLS conductors for which works at several Rail crossings were pending since long.*

*ED, ERLDC at the outset emphasized following major issues :*

- *Meticulous planning and coordination among WB SLDC , WBSETCL and CESC , which has made reliable operation of WB network possible despite several constraints, was hailed.*
- *CESC has already met all time high peak demand of this Summer(2024).*
- *Maximum power transfer capability of  $\pm 500$  kV Talcher-Kolar bipolar HVDC link being limited to 1500 MW owing to issues related with converter transformer was highlighted.*
- *Concerns raised on persistent overloading of Talcher-Meramandali line and action plan has also been drafted in this regard in consultation with SLDC Odisha.*
- *New WBES portal has been completed and shall be launched shortly( by June 2024).A comprehensive training shall be organised for all ER constituents tentatively in 1<sup>st</sup> week of May 2024 to promote awareness on handling new WBES for scheduling purpose.*

## 1. PART-A: CONFIRMATION OF MINUTES

### 1.1. Confirmation of Minutes of 213<sup>th</sup> OCC Meeting held on 14<sup>th</sup> March 2024 physically at ERPC Secretariat, Kolkata

The minutes of 213<sup>th</sup> Operation Coordination Sub-Committee meeting held on 14.03.2024 was circulated vide letter dated 26.03.2024.

Members may confirm the minutes of 213<sup>th</sup> OCC meeting.

#### **Deliberation in the meeting**

*Members confirmed the minutes of 213<sup>th</sup> Operation Coordination Sub-Committee meeting.*

## 2. PART-B: ITEMS FOR DISCUSSION

### 2.1 Flexible Operation of Coal based Thermal Power Plants: CEA

As per gazette notification dated 30.01.2023 issued by CEA regarding flexible operation of coal fired thermal generating units, ramp rate of 2% between 55-70% along with a ramp rate of 3% above 70% was mandated within one year of notification of the regulations, i.e. by Jan 2024.

The SOP for operating at 55% load with recommendation for necessary training of the plant operators, was also circulated. (enclosed at **Annexure B.2.1.1**)

Relevant communication in this regard was also passed on to State Electricity regulatory Commissions as well as principal secretaries of concerned states outlining measures for execution of CEA regulations.

As per above mentioned regulations, coal based thermal generating units, whose implementation shall be as per phasing plan specified by CEA. Implementation plan for unit operation at 40% minimum load in phased manner (pilot+4 phases) (attached at **Annexure B.2.1.2**)

A comprehensive report published by CEA on flexible operation coal based thermal power plants highlighting various challenges as well as mitigation plan for achieving 40% minimum technical load (enclosed at **Annexure B.2.1.3**)

#### 2.1.1 Regarding 55% Minimum Technical Load (MTL)

Thermal GENCOs may share details w.r.t the following:

- a) Whether the target of achieving 55% Technical Minimum Load (MTL) has been met & if not, the reasons for the same & tentative date for achieving the same.
- b) Whether the specified ramp rates outlined in the regulations i.e., 3% for 100-70% load & 2% for 70-55% load have been adhered to, if not, the reasons & tentative date for achieving the same.

c) How many operators have been trained in your organisation? (May treat this matter as Most Urgent)

Further, it is requested that attendees bring duly filled progress report (**Annexure- B.2.1.4**) as per enclosed format on the date of meeting.

**2.1.2 Regarding 40% Minimum Technical Load (MTL) & status of units under pilot phase (May,2023-March,2024).**

Phase	Sector	Organization	Name of Project	Unit No.	Capacity (MW)	Region
Pilot	Central	DVC	MEIJA TPS	8	500	ER
Pilot	State	WBPDCCL	SAGARDIGHI TPS	3	500	ER

Thermal GENCOs may share details w.r.t the following:

- a) Whether the target of achieving 40% Technical Minimum Load (TML) has been met and if not, the reasons for the same and tentative date for achieving.
- b) Whether the specified ramp rates outlined in the regulations, i.e., 3% for 100-70% load, 2% for 70%-55% load, 1% for 40%-55% have been adhered to. If not, the reasons for behind and tentative date for achieving the target.

Furthermore, it is requested that attendees bring duly filled Progress report (**Annexure-B.2.1.5**) as per enclosed format on the date of the meeting.

Thermal GENCOs may update. Members may discuss.

**Deliberation in the meeting**

*WBPDCCL representative submitted:*

- *Ongoing pilot project for 40% MTL operation at Sagardighi TPS U#3 to be completed by August 2024.*
- *Except Bandel U#2 all other generating units are technically capable of operating at 55% MTL.*
- *Ramp rate of the generating units is not yet complied with CEA guidelines but the specified ramp rate was assured to achieved through proper tuning latest by October 2024.*
- *As on date,MTL is specified at 70% loading by WBERC.Thus WBPDCCL may commence operating their units at new MTL specified by CEA once necessary directives in this regard are received from State Regulatory Commission(WBERC).*

*NTPC representative apprised:*

*Operating at 55% MTL is practically achievable but achieving 2% ramp rate is challenging owing to frequent tube leakage.*

*West Bengal SLDC representative submitted::*

- *As per latest status, following are technical minimum limits in WBPDCCL and DPL plants:*
  - *Kolaghat TPP -> 70%*
  - *Bakreshwar TPP -> 73%*
  - *Sagardighi stage-I ->63.5%*
  - *Sagardighi Stage-II ->67%*
  - *DPL U#1 ->66.7%*
  - *DPL U#2 ->72%*
- *MTL(Minimum Technical Load) gets included in SLDC scheduling software only after approval from West Bengal Electricity Regulatory commission. So WBPDCCL needs to submit readiness of operation at 55% or 40% MTL for modifications in scheduling software at SLDC end.*

*WBSEDCL representative affirmed the implementation of new MTL in WB SLDC shall aid in management of sudden variations in demand portfolio but WBPDCCL has to submit their operational readiness with new MTL for issuance of modified directives by WBERC regarding implementation of new MTL in state thermal generators.*

*DVC representative informed:*

- *8 no. of units are capable of operating at 40% MTL.*
- *All 500 MW units are capable of operating at 55% MTL with 2% ramp rate.*
- *Cybersecurity issues related to remote tuning are encountered at Mejia TPS U#8. On resolving these issues pilot project for 40% MTL operation shall be completed at Mejia TPS U#8.*

*APRNL representative submitted:*

- *No practical hindrance in achieving 55% Technical minimum but there exists constraint in achieving desired ramp rate as specified by CEA.*
- *The generator is only capable of ramp up and ramp down at maximum 1.05% per min in load range 100% to 55% in CMC(Coordinated Master Control).*
- *Manual ramp up @2% from 55% to 70% load and further @3% from 70% to 100% load has led to frequent boiler tube leakage.*
- *So it can't be ascertained whether the unit is designed to achieve ramp rate more than 1.5% at greater than 55% loading.*
- *Consultation in this regard with concerned OEM is under progress whose outcome shall be shared in subsequent OCC meetings.*

*SLDC Odisha representative confirmed that schedule upto 55-60% of load is given to IB TPS Stage -II while carrying out regular system operation.*

**OCC decision:**

- OCC advised all thermal GENCOs to share updated status of their respective units i.r.o achieving 55% MTL and 40% MTL as per **Annexure - B.2.1.4** and **Annexure- B.2.1.5** respectively.
- In absence of OPGC representative OCC, requested SLDC Odisha to confirm present operating capability of IB TPS (OPGC) upto 55% or 40% MTL.

**2.2 Proposal for installation of 5th 400/220 kV 315 MVA ICT in place of existing age old 50 MVAR (3x16.6 MVAR single phase units) ISTS Reactor at Jeerat 400 kV SS of WBSETCL to maintain N-1 condition. : WBSETCL**

- At present the total installed capacity of 400/220 kV ICTs at Jeerat 400 kV SS of WBSETCL is 4X315 MVA. The defective 4th 315 MVA ICT which was out of system for over 2 years has been replaced with a Regional pool spare 315 MVA ICT & put into service on 14th March-2024.
- Peak demand of Jeerat 400 kV SS in 2023-24 was 971 MVA (Jun-2023) i.e. more than full load capacity of the ICTs in service at that time i.e. 3X315 MVA.
- After recommissioning of the 4th ICT, it is evident from the load flow studies that the load shared by Jeerat S/S with 4 nos of ICTs will increase considerably as compared to earlier load sharing with 3 nos of ICTs. The anticipated load during 2024-25 will increase further & may approach the full load capacity of all the four ICTs thus violating (N-1) criterion.
- So to cater the load growth at Jeerat 400 kV SS at 400/220 kV level maintaining (N-1) condition, augmentation of 400/220 kV ICT capacity from 4X315 MVA to 5X315 MVA is necessary at an early date.
- Clear space for construction of 220 kV bay for 5th ICT is available at Jeerat S/S but there is no space for construction of new 400 kV bay & installation of 5th ICT.
- Due to space constraint, it is hereby proposed to use the 400 kV bay & equipment space of existing 50 MVAR (3X16.6 MVAR single phase units) Bus reactor which is at present operating with another 3-Ph 50 MVAR reactor in group control, both of which were installed under ISTS scheme a long time ago.
- Feasibility for keeping the 3-Ph 50 MVAR reactor in service by alternative arrangement is being explored by WBSETCL. WBSETCL is also considering the possibility for installation of a 3-Ph 125 MVAR Bus Reactor in place of the age old 50 MVAR 3-Ph Reactor depending on VAR compensation requirement as per system study.
- Considering the above facts proposal for installation of 5th ICT at Jeerat 400 kV SS was placed in the 29th CMETS-ER on 27.03.2024 Region for consideration and approval. It was decided that since the existing ISTS bus reactors (50MVA (3x16.67MVA single phase units) & 50MVA 3-Ph) are to be disconnected and the vacated ISTS bay and space is to be used for installation of 5th ICT, the matter needs stakeholder's consultation & needs to be placed before ERPC forum for further discussion.
- Considering the urgent requirement of installation of the 5th ICT at Jeerat 400 kV SS & in line with the decision of the 29th CMETS-ER, the matter is placed before OCC Forum of ERPC for consideration and necessary approval.



Single line diagram (SLD) of 400 kV Jeerat S/S (WBSETCL) and power map of West Bengal attached at **Annexure B.2.2**

WBSETCL may update. Members may discuss.

**Deliberation in the meeting**

WBSETCL representative submitted :

- After exploring all feasible avenues, disconnecting the existing ISTS bus reactors (50MVAR (3x16.67MVAR single phase units) & 50MVAR 3-Ph) and vacating 400 kV ISTS bay stands out as sole possibility for 5th ICT installation at Jeerat(WB) S/S.
- Installation of 125 MVAR reactor in place of old 3-ph 50 MVAR reactor is also planned based on VAR compensation requirement as per system study.
- Formal approval for replacing the existing ISTS bus reactors with 5th ICT (315 MVA) was sought from the forum.

West Bengal SLDC representative apprised:

- At present, Existing 4 ICTs at 400 kV Jeerat S/S are not maintaining N-1 condition owing to recent load growth at Jeerat S/S.
- Present loading is around 305 MW per ICT at 400 kV Jeerat S/S.
- Thus , anticipating further surge in load at Jeerat S/S(WB), augmentation of transformation capacity with installation of 5<sup>th</sup> 315 MVA ICT is the need of the hour.

**OCC decision:**

- OCC opined in favour of technical requirement of the 5th ICT at 400 kV Jeerat S/S and thereby suggested WBSETCL to commence procurement of the ICT.
- OCC also opined that the existing bus reactors(3\*16.67 MVAR and 3-ph 50 MVAR) being ISTS assets , proper consent from Powergrid is essential prior to granting approval to the proposal of WBSETCL. So in absence of Powergrid representative , the proposed scheme couldn't be acceded to by the forum for execution.
- OCC decided to convene a special meeting comprising Powergrid ER-II, WBSETCL, WB SLDC, ERLDC and ERPC to forge consensus on execution plan for accommodating the 5<sup>th</sup> ICT(315 MVA) at Jeerat(WB) S/S as well as future applicability of ISTS bus reactors.

**2.3 Shutdown proposal of generating units for the month of May'2024-ERPC**

Maintenance Schedule of Thermal Generating Units of ER during 2024-25 in the month of May '2024							
System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2024-25)		No. of Days	Reason
				From	To		
WBPDC	Sagardighi TPS	4	500	20-05-2024	26-05-2024	7	PG Test/Boiler

							License Renewal
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Members may discuss.

**Deliberation in the meeting**

*WBPDCL representative apprised of completion of Boiler License renewal for Sagardighi TPS U#4, thus there is no need of availing any planned shutdown for the same unit as on date.*

*OCC reiterated to all concerned generating units of ER that no planned shutdown should be availed in ongoing high demand period i.e upto June 2024 in line with MOP guidelines.*

**2.4 Status of ongoing Generation Projects: ERPC**

Enhancing thermal capacity is imperative due to escalating load demands. As we approach the summer season, ensuring preparedness is of utmost importance. Possessing adequate capacity during peak load periods is crucial for effective grid management. There are several forthcoming thermal projects within the region, with a few Thermal Power Plants (TPPs) awaiting their CODs such as North Karanpura, Barh, Patratu, IBEUL (Unit #02) and SJVN.

It is necessary for these thermal power plants to strategize for their timely completion and integration into the grid, ensuring the region's readiness for the upcoming demand surge.

As per latest update in 212<sup>th</sup> OCC meeting, NTPC representative apprised:

- Trial operation is set to commence at North Karanpura TPS on 26.02.2024. Trial operation got delayed inadvertently due to technical problems related to boiler.
- COD of the 2nd unit at North Karanpura is expected within current fiscal year, i.e by 31.03.2024.
- New 660 MW unit at Barh TPS is expected to be declared for commercial operation by March 2025.
- Patratu COD date expected in Q4 of FY 2024-25.

COD of Unit #02(660 MW) of North Karanpura TPP was completed on 20.03.2024. Status of Unit#03(660 MW) may please be confirmed by NTPC.

All concerned Thermal GENCOs may update. Members may discuss.

**Deliberation in the meeting**

*WBPDCL representative apprised the following:*

- *Sagardighi U#5 is expected to be commissioned by next Summer (2025).*



- 2\*800 MW units planned at Santaldih and one 660 MW unit planned at Bakreshwar Thermal power project, whose DPR preparation is currently under progress.

NTPC ER-I representative was not present in the meeting.

NTPC ER-II representative informed:

- North Karanpura TPP U#3(660 MW) to be commissioned by December 2024.
- Barh U#4 (660 MW) to be commissioned by March 2025.

IBEUL representative intimated:

- IBEUL U#2(350 MW) to be commissioned by end of June 2024. Presently w.r.t the project, Boiler inspector clearance and clearance from MOEFCC is pending.
- Dedicated Transmission line (DTL) of the project to be tentatively completed by 1<sup>st</sup> week of September 2024.
- As per progress report submitted by IBEUL dated 13.04.2024, status of 400 kV IBEUL-Sundergarh DTL is as follows:
  - Foundation works: 91.5% completed
  - Erection works: 87% completed
  - Stringing works: 55% completed

SJVN representative was not present in the meeting but vide mail dated 22.04.2024 shared the project status as follows:

- Synchronization of Unit#1 is targeted in September, 2024 and Unit#2 in December, 2024. Detailed project status included at **Annexure B.2.4**

**OCC decision:**

- OCC advised IBEUL to share the specific issue pertaining to MOEFCC clearance that is delaying commissioning of the IBEUL U#2 so that the same may be pursued with MOEFCC for early resolution.
- OCC further advised IBEUL to submit regular progress report of DTL highlighting significant progress in activities and also strictly adhere to the committed timeline for DTL commissioning.
- OCC advised all Thermal GENCOs to expedite progress of their new generation projects to ensure timely commissioning of the respective units, thereby keeping pace with unprecedented escalation in load demand.

**2.5 Fuel adequacy for thermal generating units: ERPC**

As per Revised coal stocking norms for coal based thermal power plants dated 06.12.2021 by CEA, following are prescribed:

Daily coal requirement for both Pithead and Non-Pithead plants would be estimated @85% PLF and number of days for which stock needs to be maintained would vary from 12 to 17 days for

Pithead plants and 20 to 26 days for Non-Pithead plants with month-wise variation based on coal despatch/coal consumption pattern during the year.

Accordingly, the new coal stocking norms would be as under:

- a. **For Pithead Plants:** Coal required at 85% PLF for 'N1' number of days (in thousand tonnes)
- b. **For Non-Pithead Plants:** Coal required at 85% PLF for 'N2' number of days (in thousand tonnes)

Where N1 and N2 are No. of days as given below:

Month	Coal Stock to be maintained by the power plant during the month (in no. of days)	
	PITHEAD (N1)	NON-PITHEAD (N2)
April	17	26
May	17	26
June	17	26
July	14	22
August	13	21
September	12	20
October	13	21
November	14	22
December	15	23
January	16	24
March	17	26
March	17	26

The coal stock has been kept minimum during rainy season (Q2) and based on increase in dispatch pattern during Q3 & Q4; the plants have been mandated to keep adequate stock especially during Q4 when supply is maximum. The stock maintained at the end of Q4 may be utilised during rainy season.

Details of Coal stock position of all Thermal generating stations of ER as on 20.04.2024 attached at **Annexure B.2.5** (Source: Daily Coal Reports by CEA (Fuel Management Division))

**Penalty for non-maintenance of coal stock:**

(i) In the event that availability by any power plant is less than the Normative availability (as per prevailing regulatory norms of CERC/SERC - as applicable) due to less coal stock maintained by the plant, the penalty shall be determined as detailed below:

**a) Power plant designed on domestic coal:**

In the event the availability is less by 5% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction below the Normative Availability shall be multiplied by a factor of 0.2 (i.e levy of additional 20% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

**b) Power plant designed on imported coal:**

In the event the availability is less by 5% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction below the Normative Availability shall be multiplied by a factor of 0.5 (i.e levy of additional 50% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

Further, in case the availability is less by 25% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction beyond 25% below the Normative Availability shall be multiplied by a factor of 1 (one) (i.e levy of additional 100% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

Thermal GENCOs may update. Members may discuss.

**Deliberation in the meeting**

***OCC observation/suggestions:***

- *There is marked improvement in coal stock position in Odisha (IB TPS), DVC and all NTPC generating units though it is still in sub-optimal range in some generating units along with Nabinagar TPP (BRBCL) - (NTPC) (with 44% stock), Meja TPS (50% stock) and Darlipali STPS-NTPC (with 54% stock) need to diligently focus on building their actual coal stock as per their normative requirement.*
- *WBPDCCL was advised to stress on coal stock building through possibility of import for avoiding coal crisis during ongoing High demand season. Most plants including Bakreswar TPS, Bandel TPS, Kolaghat TPS, Sagardighi TPS, Santaldih TPS are having less than 60% coal stock as on 20.04.2024, especially Kolaghat TPS having only 20% stock.*
- *DVC was advised to sort out coal shortage issue at Meja TPS (50% stock) although it is maintaining its coal stock at more than 80% of normative requirement.*
- *Jharkhand (TVNL) was urged to enhance coal stock in face of impending demand surge and also advised to intimate constraints in building optimal coal stock despite having natural proximity to coalfields.*

- In this regard OCC highlighted that this is the most suited time to build coal stock keeping in view of ongoing high demand season (Summer 2024) and thus advised all concerned GENCOs to strive for building optimum coal stock on sorting out various operational, commercial and administrative issues pertinent to coal linkage of respective generating units.
- OCC also sensitized Thermal GENCOs regarding provision of penalty for non-maintenance of adequate coal stock in plants designed for domestic or imported coal and thereby advised all GENCOs to maintain coal stock as per normative requirement for definite duration specified in CEA coal stocking norms(2021) for pithead as well as non-pithead plants.

Details of Coal stock position of all Thermal generating stations of ER as on 20.04.2024 attached at **Annexure B.2.5** (Source: Daily Coal Reports by CEA (Fuel Management Division))

## 2.6 Crunch period preparedness: ERLDC

### 2.6.1 ADMS Healthiness:

All feeders under the ADMS scheme need to be operational to get proper support in case of any contingency. Healthiness of the entire ADMS system is required to be ensured in this coming crunch period. Current status & settings of ADMS are as follows:

SI No	State/Utility	Logic for ADMS operation	Implementation status/target
1	Bihar	F <49.7 AND deviation > 12 % or 150 MW	Last phase of testing completed.
2	Jharkhand	System Frequency < 49.9 Hz AND deviation > 12 % or 25/50/75 MW. Block I, II & III feeders will be selected for load shedding depending on the Over drawl. <b>Total 90 MW load under ADMS.</b>	Implemented and in service.
3	DVC	F <49.9 Hz AND deviation > 12 % or 150 MW for 3 minutes. Loads in 7 Blocks. <b>Total 281 MW load under ADMS.</b>	Implemented and in service.
4	Odisha	System Frequency < 49.9 Hz, Odisha over-drawl > 150 MW, & Discom <b>&gt;40 MW</b>	Implemented and in service.
5	West Bengal	F <49.7 AND deviation > 12 % or 150 MW for 1 Minute. Operation of Block Load tripping one by one if condition satisfies. Loads in 4 Blocks. <b>Total 225 MW load under ADMS.</b>	Implemented and in service.

There were multiple occasions on 15th April 2024 where frequency & state deviation satisfied the ADMS operation condition for Odisha, Jharkhand & DVC and follow up mail was initiated to intimate actual load relief in those instances. So far, response received from Jharkhand only. Odisha & DVC may submit the actual load relief quantum. ADMS instances are attached as **Annexure B.2.6.1.1**

ADMS operation information may be furnished and analysis needs to be done on a priority basis. In case of any issue in reduced load relief or technical issue in ADMS, that required to be resolved at earliest.

ERLDC may update Members may discuss.

### **Deliberation in the meeting**

*ERLDC representative submitted :*

- *ADMS, being the first line of defence against decline in frequency for overdrawl, its healthiness is crucial for grid stability.*
- *ADMS operated load should not be restored in the system without consultation of SLDC and ERLDC as it further worsens the existing scenario.*
- *If there is overdrawl for entire state but no overdrawl for individual state DISCOMs , the load should be equally trimmed for all DISCOMs. This was suggested to SLDC Odisha for involvement of DISCOMs in ADMS logic.*

*DVC representative submitted :*

- *With recent implementation of Chandrapura islanding scheme, the ADMS scheme has got changed and the revised logic is implemented in consent from ERLDC.*
- *SCADA integration is pending for some of the ADMS feeders that shall be completed at the earliest.*

*Bihar representative informed:*

- *Total 80 MW load has already been implemented under ADMS while additional 400 MW load is yet to be implemented.*
- *Detailed feeder list for 80 MW load under ADMS shall be shared with ERLDC at the earliest.*

### **OCC decision:**

*OCC advised all SLDCs to ensure adequate load relief possibility in ADMS scheme and regularly monitor its healthiness to provide necessary operational support in event of any contingency.*

### **2.6.2 Data integration of UFR feeders in SCADA system**

Surge in demand and shortage of resources especially in the ongoing crunch period, particularly during non-solar hours, the likelihood of operating the UFR is significantly raised.

IEGC clause 29 sub-clause 13(d) mandates SLDC to integrate UFR feeders with the telemetry system for proper monitoring.

Quote:

*SLDC shall ensure that telemetered data of feeders (MW power flow in real time and circuit breaker status) on which UFR and df/dt relays are installed is available at its control centre. SLDC shall monitor the combined load in MW of these feeders at all times. SLDC shall share the above data with the respective RLDC in real time and submit a monthly exception report to the respective RPC. RLDC shall inform SLDCs as well as the concerned RPC on a quarterly basis, durations during the quarter when the combined load in MW of these feeders was below the level considered while designing the UFR scheme by the RPC. SLDC shall take corrective measures within a reasonable period and inform the respective RLDC and RPC, failing which suitable action may be initiated by the respective RPC.*

Unquote

This matter was discussed in the 207th OCC meeting under agenda point B.10. All the constituents were advised to ensure real-time availability of UFR telemetry data to SLDC as well as RLDC. ERLDC was advised to carry out a further detailed study highlighting the feeder-wise non-receipt of UFR data under the jurisdiction of each SLDC. ERLDC followed up with all the SLDCs regarding this matter and conducted meetings with SLDCs. The percentage of feeders that are reporting to ERLDC is mentioned below:



It is observed that 100% of UFR stage-1 feeders are not integrated (as on date) with the telemetry system of the few states. UFR feeder data integration may be prioritized for proper load visibility to get prepare for any greater contingency. State wise SCADA availability of UFR data enclosed at **Annexure B.2.6.2.1**

States may share the firm timeline for data integration with the telemetry system of SLDCs.

ERLDC may update Members may discuss.

**Deliberation in the meeting**

*ERLDC representative submitted :*

- *Non-reporting of UFR data by the constituents is posing serious concern in preparedness for upcoming crunch demand period.*
- *51% of UFR data across all four stages from all ER constituents is reporting to ERLDC as on date of which West Bengal(incl CESC) has the least percentage of reporting.*
- *Load relief quantum in each stage of UFLS for respective states is not as per latest NPC guidelines.*



- All SLDCs were urged to keep display of UFR feeder data available at their end to ensure smooth monitoring and reliable telemetry as mandated in IEGC 2023.

*Bihar SLDC cited AMC issues with existing RTUs as cause for poor availability of UFR data while Jharkhand representative pointed out OPGW connectivity issue behind non-availability of UFR data.*

*WB SLDC affirmed that updated load quantum in each of 4 stages of AUFLS has been shared with ERLDC*

**OCC decision:**

- All SLDCs were advised to sort out communication related issues at earliest to ensure consolidated and uninterrupted availability of UFR data.
- All SLDCs were advised to strictly maintain load relief quantum in each of the 4 stages of UFLS as per extant NPC guidelines(25 % of respective peak demand). Concerned DISCOMs may also be consulted in this regard.
- OCC opined to convene a special meeting in June 2024 comprising all SLDCs along with state DISCOMs in presence of ERPC and ERLDC to resolve issues pertaining to UFR load relief as well as reporting of UFR data.

**2.6.3 Automatic tripping of Pumped Storage Plant or ESS in pumping/charging mode during low frequency: :ERLDC**

As per IEGC 29.12(f), “Pumped storage hydro plants operating in pumping mode or ESS operating in charging mode shall be automatically disconnected before the first stage of UFR.”

As per the report of Task Force on Automatic Under Frequency Load Shedding (AUFLS) and df/dt scheme,

“

**All Energy Storage Systems would change from charging mode to discharging mode at 49.50 Hz. If it is not possible then they would be tripped at 49.50 Hz. If ESS is injecting active power at 49.50 Hz not to be tripped.**

**Pumping load will be tripped before AUFLS first stage. Irrigation Pumps would be tripped at 49.50 Hz.**

**All the relays procured in future to have a sampling period ranging from three (03) cycles to five (05) Cycles. No additional time delay to be incorporated in the relay other than the inherent measuring time.**

”

In the eastern region, only West Bengal has such an energy storage system, i.e. Purulia Pump Storage Plant. In this regard, SLDC WB is required to take immediate action to implement



automatic tripping mechanisms for the Purulia Pumped Storage Plant when it operates in pumping mode at 49.5 Hz.

ERLDC may update Members may discuss.

#### **Deliberation in the meeting**

*ERLDC representative underscored the necessity of disconnecting pumped storage plants operating in pumping mode from the grid just before Stage-I of AUFLS i.e at 49.5 Hz , as mandated in IEGC 2023 as well as recommended in report of Task force on AUFLS. In this regard, action plan was sought from West Bengal SLDC as Purulia Pumped Storage Plant (900 MW) is the only pumped storage hydro plant of ER operated by WBSEDCL.*

*WB SLDC urged for implementation of the automatic tripping mechanism after end of General Election 2024 as was submitted by WBSEDCL in State Level Summer Preparedness meeting.*

*WBSEDCL representative underlined need of consultation with concerned OEM prior to Purulia Pumped storage plant being equipped with provision of auto-tripping at 49.5 Hz.*

#### **OCC decision:**

- *OCC acknowledged the submission by West Bengal SLDC and WBSEDCL.*
- *OCC further advised West Bengal SLDC to share the action plan of implementing this automatic tripping mechanism at Purulia Pumped storage plant as soon as consultation with concerned OEM is completed by WBSEDCL.*

#### **2.7 Provision of construction power supply for FGD and New Nabinagar 3 X 800 MW project from existing commercialized units of Nabinagar ( 3 X 660 MW): NTPC ER-I**

The construction power will be required for upcoming Stage-II (3X800MW). As all the units of NSTPS are commercialised and operational, the provision for construction power shall be made from existing units of NSTPS by incorporating power drawn for construction activities in to Metering system.

Considering above, kindly approve drawl of construction power from existing units by providing appropriate meters by SBPDCL and ERLDC.

Accordingly metering logic may be incorporated for the same.

NTPC ER-I may update. Members may discuss.

#### **Deliberation in the meeting**

*NTPC ER-I representative was not present in the meeting.*

#### **OCC decision:**

*In absence of NTPC ER-I representative OCC opined this agenda may be resubmitted in the next or subsequent OCC meetings for deliberation.*

## 2.8 Incurring DSM loss due to scheduled generation exceeding normative DC: NTPC Darlipali

NTPC Darlipali station received SG more than normative DC on 3rd & 8th Apr -24. SG for 3rd April has been corrected. SG correction still pending for 8th Apr. On 8th Apr-24, rev no. 34 there is no URS power. In rev no. 35 SG has been revised to be more than normative DC. As a result the generating station has incurred DSM loss of around 46 lacs.

NTPC Darlipali and ERLDC may update. Members may discuss.

### **Deliberation in the meeting**

*NTPC Darlipali representative apprised of the issue being resolved by bilateral discussion with ERLDC.*

*ERLDC representative affirmed that such issues related to scheduling of generators shall not recur in future with the launch of new WBES portal.*

*OCC acknowledged the same.*

## 2.9 Difference in ABT(SCADA) vs SEM meters-NTPC Darlipalli

In 213th OCC meeting, "OCC suggested NTPC Darlipalli to replace the existing meters (SEM and SCADA meters) with different serial numbers of the same OEM in coordination with the concerned OEM and Powergrid"

Power Grid has agreed to supply the meters and existing meters shall be replaced on receipt of new meters.

NTPC Darlipali may update. Members may discuss.

### **Deliberation in the meeting**

*NTPC Darlipalli representative informed the forum that existing meters recording mismatch shall be replaced with different serial number meters by Powergrid which are currently available at Angul(PG) station.*

*OCC acknowledged the same.*

## 2.10 Finalization of dates for mock black start in capable units of Eastern region: ERLDC

As per IEGC 2023, Clause 3 of regulation 34, each user is required to carry out a mock trial run of the restoration procedure for different sub-systems including black-start of generating units along with grid forming capability of inverter-based generating station and VSC-based HVDC black-start support at least once a year under intimation to the concerned SLDC and RLDC. **A tentative schedule for conducting mock Blackstart tests of capable hydro units in the Eastern Region for the year 2024 has been prepared. The dates are aligned with previous years' testing schedules.**

SI No	Name of Hydro Station	Actual Date of Test	Actual Date of Test	Tentative Schedule of Mock Black Start	Actual Date of Test
		2022	2023	2024	
1	U. Kolab	23 <sup>rd</sup> , June 2022		Jun-24	
2	Balimela	8 <sup>th</sup> Sep- 2022		Jul-24	
3	Rengali	8th Dec 2022	12 <sup>th</sup> July 2023	Jun-24	
4	Burla	23rd June- 2022		Jul-24	
5	U. Indravati	25th May-2022		May-24	
6	Maithon		14 <sup>th</sup> August 2023	Dec-24	
7	TLDP-III			Oct-24	
8	TLDP-IV			Oct-24	
9	Subarnarekha	13 <sup>th</sup> December 2022		Sep-24	
10	Teesta-V			N/A	
11	Chuzachen			Oct-24	
12	Teesta-III	08th April- 2022		N/A	
13	Jorethang		19 <sup>th</sup> and 20 <sup>th</sup> December 2023	Oct-24	
14	Tasheding		12 <sup>th</sup> December 2023	Oct-24	
15	Dikchu			N/A	
16	Rongnichu			Mar-24	18 <sup>th</sup> March and 20 <sup>th</sup> March 2024

The users, in this case, include the generating company and they are requested to kindly respond and review the tentative dates specific to their plant units and update the **list within a week**. For intra-state blackstart capable hydro units, SLDCs are requested to respond on their behalf.

A relevant email on this behalf has already been sent on 10th April 2024.

ERLDC may update. Members may discuss.

### **Deliberation in the meeting**

*ERLDC representative submitted that a tentative schedule of carrying out mock black starts by respective hydro generating units has been prepared in line with previous year's schedule for necessary updation.*

*Jharkhand representative confirmed carrying out mock black start of Subarnarekha HEP by last week of September 2024.*

#### **OCC decision:**

*OCC advised all hydro stations of ER to update the schedule of mock black start as prepared by ERLDC and may strive to carry out mock black start at the earliest possibility.*

### **2.11 Regarding Non-Submission of FRC data: ERLDC**

Adhering to IEGC clauses 30.8 and 30.10.(a) to 30.10.(q), generating stations within the eastern region are required to submit essential data to ERLDC within two days of receiving a notification regarding a reportable frequency event. Additionally, according to clause 30.10.(n), all control areas within the eastern region must assess their frequency response characteristics and share the evaluation, along with high-resolution data, with the ERLDC.

After each reportable frequency event, ERLDC sends out a format to entities to facilitate the collection of necessary data for performance assessment. If any data is not received or is incomplete, ERLDC resorts to using Scada data (low resolution) to calculate the performance of the respective control area. Further based on this assessment, re-testing of primary frequency response may be recommended. Therefore, timely submission of primary response data is crucial for compliance with the IEGC.

As per IEGC Annexure 2 Clause 10.a of IEGC, each control area shall be graded based on median Frequency Response Performance annually (at least 10 events) as per the following criteria:

**TABLE : FREQUENCY RESPONSE CRITERIA**

<b>S. N</b>	<b>Performance*</b>	<b>Grading</b>
<b>i.</b>	<b><math>FRP \geq 1</math></b>	<b>Excellent</b>
<b>ii.</b>	<b><math>0.85 \leq FRP &lt; 1</math></b>	<b>Good</b>
<b>iii.</b>	<b><math>0.75 \leq FRP &lt; 0.85</math></b>	<b>Average</b>
<b>iv.</b>	<b><math>0.5 \leq FRP &lt; 0.75</math></b>	<b>Below Average</b>
<b>v.</b>	<b><math>FRP &lt; 0.5</math></b>	<b>Poor</b>

The plant wise data submission statistics for frequency event flagged by ERLDC up to 08.04.2024 is given below:

STATIONS		17.12.2023	05.01.2024	15.01.2024	15.01.2024	03.03.2024	31.03.2024
		13:01	05:16	13:59	14:06	14:01	14:41
ADHUNIK		Received	Received	Received	Received	Received	Pending
BARH STG1&2	ISGS	Pending	Received	Received	Received	Received	Pending
BRBCL	ISGS	Pending	Pending	Pending	Pending	Pending	Pending
DARLIPALLI	ISGS	Received ONLY ONE UNIT DATA	Received	Received ONLY ONE UNIT DATA	Received ONLY ONE UNIT DATA	Received	Received
DIKCHU		PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	Pending
TASHIDING		Pending	Pending	Pending	Pending	Pending	Pending
FARAKKA STG1&2	ISGS	Pending	Pending	Pending	Pending	Pending	Pending
FARAKKA STG3		Pending	Pending	Pending	Pending	Pending	Pending
GMR		Received	Received	Received	Received	Received	Received
JITPL		Received	Received	Received	Received	Received	Received
KAHALGAON STG1	ISGS	Received	Pending	Pending	Pending	Pending	Pending
KAHALGAON STG2		Received	Received INCOMPLETE DATA	Received	Received	Received	Pending
MPL		Received	Received	Received	Received	Received	Received
NPGC	ISGS	Received	Received	Received	Received	Pending	Pending
TALCHER STG1	STG-1&2 ISGS	Received	Received INCOMPLETE DATA	Received	Received	Pending	Pending
TALCHER STG2		Received		Received INCOMPLETE DATA	Received INCOMPLETE DATA	Received	Received
TEESTA III	ISGS	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT
TEESTA V	ISGS	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT	PLANT OUT
North Karanpura	ISGS	Received	Received	Received	Received	Received	Pending
Updated as on		08.04.2024					

In view of the same all utilities are once again requested to take necessary action to ensure consistent data submission for every frequency event flagged by ERLDC.

 = Data received  


ERLDC may update Members may discuss.

### **Deliberation in the meeting**

*ERLDC representative submitted :*

- *Based on high resolution data submitted by each generator against reportable frequency events, ERLDC shall recommend for re-testing of primary frequency response by respective generators as per IEGC 2023.*
- *In case non-submission of data by generators, FRC for respective generators to be considered on basis of SCADA data.*
- *Consideration of SCADA data( with low resolution) for FRC has inherent error that may lead to erroneous assessment of FRP for individual control areas.*

- ERLDC is monitoring each individual state as a whole while bifurcation i.r.o state generators needs to be done by concerned SLDCs.

**OCC decision:**

- All generators whose data submission against frequency events flagged by ERLDC is pending ( detailed above in agenda)were advised to submit the necessary FRC data to ERLDC positively within next 7 days .
- All generators were also advised to regularly share high resolution data against each reportable frequency event with ERLDC on time to facilitate accurate assessment of FRP for respective control areas.

**2.12 Regarding Non-Submission of Forecasting Data from States: ERLDC**

All SLDCs need to submit the demand estimate data as per the following timeline to the respective RLDC and RPC, as mandated in IEGC 2023, Clause 2 of Regulation 31:

Activity	By SLDCs
Daily Demand estimation	10:00 hrs of previous day
Weekly demand estimation	First working day of the previous week
Monthly demand estimation	Fifth day of the previous month
Yearly demand estimation	30th September of the previous year

Demand estimation data by SLDCs is critical for resource adequacy planning and regional load forecasts conducted by the RLDC. While Jharkhand SLDC consistently provides day-ahead and weekly forecasts data, West Bengal SLDC submits day-ahead forecasts data. However, other states are yet to comply.

Following discussions in the 208th OCC meeting held on 17.10.2023, all constituents were advised to strictly adhere to demand estimation timelines as mandated in IEGC 2023. **Therefore, we urge all concerned parties to submit demand estimation data to ERLDC at the earliest.** This collaboration is vital for effective planning and preparedness to meet the region's demands efficiently and reliably.

ERLDC may update Members may discuss.

**Deliberation in the meeting**

*ERLDC representative highlighted the importance of timely demand estimation for resource adequacy planning , thereby meeting regional demand with reliability.*

*WB SLDC representative submitted :*

- *EMS portal is inactive and the same shall be activated soon in coordination of SLDC communication team.*
- *Submission of Demand estimation is not merely regulatory compliance rather the demand forecast needs to be as realistic as possible. So if demand estimation is solely based on historical data, vagaries of climate change may not get considered resulting in significant forecasting error.*

*DVC SLDC submitted that updation of forecasting error is under progress and the same shall be completed within next 20 days.*

*WBSEDCL representative pitched for exploring EMS portal in-built in ULDC project for fetching demand estimation data for DISCOMs as the same was provisioned to serve this purpose.*

**OCC decision:**

- *OCC advised all SLDCs to strictly adhere to the timelines of submission of demand estimation data as mandated in IEGC 2023 .State DISCOMs were also requested to extend necessary cooperation in this regard to SLDCs.*
- *OCC also opined that the issue of timely demand forecasting from the states must get resolved before the next OCC meeting.*

### **2.13 Availability of ERS in the Eastern Region and update on the status by various utilities including inter-state and intra-state transmission licensees: ERPC**

In line with CEA guidelines for the availability of spares and inventories for power transmission system (transmission lines & substation/switchyard) assets 2020 and the CEA disaster management plan for power sector 2021, adequate ERS is required to be maintained in ER grid for early restoration of transmission line due to any tower collapse. The Eastern region is prone to cyclones, Norwester/Kalbaisakhi localized storms, hilly terrain with landslides, floods, changes in river course, substation flooding, etc. due to which each year tower collapse occurs causing forced outages of transmission lines. This necessitates adequate ERS maintenance by various utilities in the eastern region for early restoration.

Present status available at ERLDC on ERS as collected during cyclone Yaas in 2021 is provided in the attached table. All transmission utilities are requested to kindly update the ERS availability and any ERS which are already engaged.

Status Update by: PGCIL ERTS 1, PGCIL ERST 2, PGCIL Odisha, WBSETCL and OPTCL (if any ERS is already engaged then same may be put as remarks)

Utility to provide details of available ERS in the attached format:

- State-level: BSPTCL, BGCL, DVC, JUSNL, Sikkim power department (SPD)
- ISTS: Indigrd (OGPTL, PKTCL, ENICL), PGCIL Subsidiaries (CBPTCL, PMTL, PMJTL), Powerlink Transmission limited (PTL), DMTCL, Adani transmission (ATL, NKTL), TPTL

In the 192nd OCC meeting, TPTL representative submitted that they would provide the details by the end of June 2022.

DVC representative submitted that procurement of 7 nos. (Combination of suspension and tension) of ERS is under progress. Further, pile and structures (2 nos.) at Putki and Maithon are available as immediate remedial measures up to 220 kV level.

West Bengal representative submitted that 10 nos. of ERS towers which can be used at all levels are available out of which 6 nos. have been used. Of the remaining, 3 nos. are tension towers and 1 is suspension tower.

JUSNL representative submitted that 8 nos. of ERS are available which could be used for up to 220 kV levels.

Bihar representative submitted that 36 nos. of ERS (for 220 kV and 132 kV level) are available and all are engaged at present.

The details have been received from OPTCL, PGCIL ERTS-1, ATL, PGCIL Odisha, PGCIL ERTS-2, PTL, ENICL, OGPTL, PKTCL. The details are awaited from WBSETCL, TPTL, BSPTCL, JUSNL and Sikkim Power Department. The utilities are requested to share the details at the earliest.

Present status available at ERLDC on ERS as collected during July 2022 is provided in the attached table.



SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
1	OPTCL	400 kV	14	MancheswarGrid - 4 nos. (Hitech)	Can be used for both suspension and Tension
				Mancheswar store - 8 nos. (Hitech)	
				Mancheswar store - 2 nos. (Lindsey)	
			18 (Newly procured)	Mancheswar store - 18 nos. (Hitech)	
		220 kV	42	Budhipadar - 14 nos. (Lindsey)	
				Mancheswar grid - 14Nos. (Lindsey)	
Chatrapur - 14 nos. (Lindsey)					
2	PGCIL	765 kV -24 sets	24 Sets	GAYA	15 Suspension & 9 Tension tower
	ERTS 1	400 kV -30 sets	30 Sets	Jamshedpur, Purnea, Lakhisarai	Total 20 nos. Suspension & 10 nos. Tension ERS towers
3	Adani transmission limited (ATL)	400 kV	1 set (12 Column). Nos of ERS towers shall depend on line configuration, type of tower and extension of towers. Approximate 6	Central India (Koradi, Maharashtra)- <b>48 Hours</b>	Modular aluminum guyed towers- Suspension tower

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
			suspension towers/ set for 400kV D/C twin conductor.		
4	PGCIL (Odisha)	400 kV ERS - 3	3	Rourkela	Suspension - 2 & Tension-1
		765 kV ERS - 24	24	Rengali	Suspension - 15 & Tension-9
5	PGCIL ERTS 2	400 kV	1 Set (consisting of 10 towers) -400 kV Voltage level	Durgapur	7 Set-Suspension 03 Set-Tension
6	WBSETCL	400, 220, 132 kV	05+05set (can be used with 400/220/132 kV level)  6 used for Durgapur - asansol line diversion.  4 available	at Arambagh &Gokarno	Can be used for both suspension and Tension
7	TPTL		MoU with PGCIL  Tie up with Supreme Industry in progress	-	-

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
8	CBPTCL		No ERS	PTC does not own any ERS, however, in case of any such requirement for deployment of ERS, CPTC has an existing agreement with POWERGRID for deployment of ERS.	-
9	PMTL	-	No ERS	-	-
10	PMJTL	765 kV	NO ERS	-	-
11	PTL	400 kV	07 towers set ERS structures suitable for Twin Moose Configuration 400 or 220 kV.	Siliguri (W.B.)	Lindsey Manufacturing Company Ltd USA Model 600
			07 towers set ERS structures suitable for Twin Moose Configuration 400 or 220 kV.	Muzaffarpur (Bihar)ER1	
12	Indigrd (ENICL, OGPTL & PKTCL)	400 kV & 765 kV Line	765 kV- 6 Sets / 400 kV- 8 Sets	Siliguri, WB.	For 765 kV- 4 Suspension & 2 Tension. For 400 kV- 6 Suspension & 2 Tension.
13	DMTCL	400 kV Lines	Arrangement of ERS with M/s Supreme Engineering at Kolkata.	Can be Dispatched in 2-3-weeks periods	-

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
14	BSPTCL	220 kV & 132 kV	38 ERS which can be used for 220 and 132 kV	18 Towers in use for 132 kV Kishanganj-Barsoi ckt 4 towers for 220 kV BTPS-Hazipur ckt 4 towers for 220 kV Bodhgaya- Chandauti  Purnea : 1 Dehri on sone: 2 Sultanganj: 2 Fatuah: 2 Muzaffarpur : 4	Can be used for both suspension and Tension
15	BGCL	-	No ERS	No ERS	-
16	JUSNL	220 kV	Total 8 ERS	Hatia: 3 Jamshedpur: 2 Dumka: 3	Details awaited
17	DVC	400 kV and 220 kV	400 kV: 7 (under procurement) 220 kV: 2 set Pilon structure	400 kV: <b>Under procurement</b> 220 kV: 1 at putki and 1 at Maithon	-
18	Sikkim Power Department		Details awaited	Details awaited	Details awaited

In the 193rd OCC meeting, TPTL representative submitted that they do not have any ERS towers of their own. In this regard, a MoU with PGCIL is there.

WBSETCL representative submitted that 10 nos. of ERS towers are available which could be used at all the voltage levels. Out of 10 nos., 6 nos. are used for Durgapur-Asansol line and 4 nos. are available. Procurement of additional 6 nos. of ERS towers (which could be used both under suspension and tension) is under planning stage.

Bihar representative submitted the status of ERS towers which is mentioned below.

Location	Status	Usage	Type	Quantity
Kishanganj-Barsoi Line	engaged	220/132 kV	Suspension/Tension	18
BTPS-Hajipur Line	engaged	220/132 kV	Suspension/Tension	4
Bodh Gaya-Chandauti	to be engaged	220/132 kV	Suspension/Tension	4
Purnea	Spare	220/132 kV	Suspension/Tension	1
Dehri	Spare	220/132 kV	Suspension/Tension	2
Fatuha	Spare	220/132 kV	Suspension/Tension	3
Mujaffarpur	Spare	220/132 kV	Suspension/Tension	4
Sultanganj	Spare	220/132 kV	Suspension/Tension	2
Total				38

OCC was of the view that many lines of BGCL and other new sub-stations like Mokama, Hajipur, etc. in Bihar fall under the coverage of river corridor and advised Bihar to keep provisions of ERS towers for those lines.

All concerned Transmission Utilities may please update.

#### **Deliberation in the meeting**

*OPTCL representative confirmed charging of the new ERS line on 30th May 2024.*

*Bihar representative confirmed charging of Kishanganj ERS line by 20<sup>th</sup> May 2024.*

#### ***OCC decision:***

*OCC advised all transmission licensees to ensure availability of ERS and faster restoration in event forced outage of transmission lines due to any unanticipated natural disaster.*

## ADDITIONAL AGENDA

### **2.14 ROW issues related to 132 kV Manikchowk(WB)-Malda(PG) D/C line:West Bengal SLDC**

132 kV Manikchowk sub-station of WBSETCL was planned with 132 kV double circuit radial connectivity with Malda (PG) sub-station. The work of line construction and stringing work is executed by project department, WBSETCL and the work is thwarted in different tower locations for severe ROW problems.

Multiple approaches to local and district administration have failed to solve the issues as yet. Document with details of locations where for severe ROW problems work is stuck as on today, is attached at Annexure 1.1. This situation may lead to spillover of the target date of completion of the project for the mentioned uncontrollable factors.

This is for information to the OCC Forum and to Power Grid ER II.

West Bengal SLDC (WBSETCL) may update. Members may discuss.

#### **Deliberation in the meeting**

*WB SLDC representative submitted:*

- *The 132 kV Manikchowk(WB)-Malda(PG) line construction project was undertaken to reduce loading at Malda(WB) even after load bifurcation to Gazole(WB) S/S. This was an initiative to ensure network reliability without violating N-1 criterion.*
- *Severe ROW issues have been encountered in different scattered locations rather than in a particular zone, impeding the stringing work along with allied activities. These issues could not be resolved yet despite seeking necessary assistance and intervention from concerned district administration. Thus it may lead to inevitable delay in completion of the tie line.*

*Further the following details pertaining to ongoing Manikchowk line construction project were informed as per the inputs collected from Project Department, WBSETCL:*

- 1. As on date 16.3 km line stringing is completed out of total 23.9 km.*
- 2. Foundation: 79 completed out of 89 tower locations.*
- 3. Tower erection completed:75 out of total 89.*

*Details of locations encountering severe ROW issues enclosed at **Annexure B.2.14.***

#### **OCC decision:**

*OCC acknowledged the persistent ROW issues hindering work progress and thereby opined that the inadvertent delay in completion of the said line construction project is justified.*

### **2.15 Update on installation of 7th (Interim) 500 MVA ICT at 400 kV Subhasgram (PG)-ERPC**

In the last i.e 213th OCC meeting, Powergrid ER-II representative had submitted:

- All efforts have been put in by Powergrid by taking up strengthening works at Charial bridge on immediate basis as well as approaching respective State Departments (Govt. of West Bengal) to carry out the transportation of 500 MVA ICT to Subhasgram(PG) via the

original route. However, pursuance with Govt of West Bengal yielding no positive outcome, the 500 MVA ICT transportation to Subhasgram(PG) S/S has got stalled in the midway.

- In continuation with deliberation at 5th special weekly monitoring on 04.03.2024, it was reiterated that availing alternate route of transportation shall result in inevitable time delay of minimum 3 to 4 months as jetty construction needs to be done for roll-on and roll-off of the ICT.

- Serious concern was raised on keeping the said 500 MVA ICT in dry condition for an indefinitely long duration that may adversely affect the healthiness of such a valuable asset, especially amid upcoming Norwester and monsoon season and unprotected Jetty Area at Budge Budge. So, if in any case no resolution fails to be undertaken, the said ICT may be required to be taken back to Regional Spare Pool.

OCC had expressed grave concern on the present deadlock situation regarding 7th(interim) 500 MVA ICT transportation to Subhasgram(PG)and requested Powergrid ER-II to strive for resolving the intervening administrative issues hindering the ICT transportation via original selected route from Budge Budge.

Powergrid ER-II may update. Members may discuss.

### **Deliberation in the meeting**

*Powergrid ER-II representative was not present in the meeting.*

*Member Secretary ERPC apprised the forum of the following:*

- *The 500 MVA ICT is still stranded near Achipur Ghat (Budge Budge).*
- *An alternate route has been explored for further movement of the ICT from Budge Budge and a separate bridge construction has commenced to materialize the same.*
- *As per present progress, the 500 MVA ICT is likely to be commissioned at Subhasgram(PG) by third week of May 2024.*

### **OCC decision:**

*OCC forum noted the shared update in optimism to put the 7<sup>th</sup> (interim) 500 MVA ICT in service at 400 kV Subhasgram(PG) amid the ongoing crunch demand period.*

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

#### 3.1. ER Grid performance during March 2024.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month March -2024 were as follows:

AVERAGE CONSUMPTION (MU)	MAXIMUM CONSUMPTION(MU)/ DATE	MAXIMUM DEMAND (MW)	MINIMUM DEMAND (MW)	SCHEDULE EXPORT (MU)	ACTUAL EXPORT (MU)
		DATE/TIME	DATE/TIME	(MU)	(MU)
493.1 MU	582 MU 30.03.2024	27079 MW, 30.03.2024 at 19:21 Hrs.	14940 MW, 04.03.2024 at 03:27 Hrs.	4501	4488

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

#### **Deliberation in the meeting**

*The grid performance of ER for the month of March-2024 was highlighted.*



## 4. PART-D: OPERATIONAL PLANNING

### 4.1. Anticipated power supply position during May-2024

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of May 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.

#### **Deliberation in the meeting**

*The updated anticipated power supply position for May 2024 is provided at **Annexure D.1***

### 4.2. Major Thermal Generating Units/Transmission Element outages/shutdown in ER Grid (as on 16-04-2024)

#### 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 <b>UNDER DECOMMISSIONING</b>	19-Jul-2023
2	BARAUNI TPS	BIHAR	NTPC	6	110	Low vacuum <b>UNDER DECOMMISSIONING</b>	22-Jul-2023
3	RTPS	DVC	DVC	2	600	Initially Unit was taken out due to very low lube oil pressure, later unit was taken under annual overhauling w.e.f 00.00 hrs of 27/02/2024, now under forced outage wef 23/03/2024 due to damage in turbine bearing.	26-Feb-2024
6	DSTPS	DVC	DVC	1	500	Problem in Air Pre Heater	16-Apr-2024

8	JITPL	ODISHA	JITPL	1	600	Turbine shaft vibration high	26-Mar-2024
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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:**

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
NIL							

c) **Hydro Unit Outage Report:**

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	TEESTA STG III Hep	SIKKIM	TUL	1	200	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
2	TEESTA STG III Hep	SIKKIM	TUL	2	200		
3	TEESTA STG III Hep	SIKKIM	TUL	3	200		
4	TEESTA STG III Hep	SIKKIM	TUL	4	200		
5	TEESTA STG III Hep	SIKKIM	TUL	5	200		
6	TEESTA STG III Hep	SIKKIM	TUL	6	200		
7	DIKCHU Hep	SIKKIM	SKPPL	1	48	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
8	DIKCHU Hep	SIKKIM	SKPPL	2	48		

9	TEESTA HPS	SIKKIM	NHPC	1	170	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
10	TEESTA HPS	SIKKIM	NHPC	2	170		
11	TEESTA HPS	SIKKIM	NHPC	3	170		
12	INDRAVATI	ODISHA	OHPC	2	150	Capital Maintenance	23-Nov-2023
13	CHIMPLIMA HPS / HIRAKUD II	ODISHA	OHPC	1	24	Capital Overhauling	15-Dec-2023
14	BURLA HPS/HIRAKUD I	ODISHA	OHPC	7	37.5	Annual maintenance	13-Feb-2024
15	RANGIT HPS	SIKKIM	NHPC	2	20	Annual Maintenance	12-Mar-2024
16	BALIMELA HPS	ODISHA	OHPC	2	60	High Turbine Vibration	14-Mar-2024
17	RENGALI HPS	ODISHA	OHPC	1	50	Stator Earth Fault	22-Mar-2024

d) **Long outage report of transmission lines (As on 15.04.2024):**

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.

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-WARIA-BIDHANNAGAR-1 & 2	08.06.2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
220kV-MUZAFFARPUR(PG)-GORAUL(BH)-1	11.06.2022	Main Bay is under breakdown due to flashing in GIS module
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 Destrining of conductor of both circuits and Earth wire 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-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/220kV 315 MVA ICT 1 AT FARAKKA	21.02.2024	Replacement of 220kV circuit breaker of 315 MVA ICT-1 bay under ADDCAP.
400kV-KHSTPP-BANKA (PG)-1	24.02.2024	Switchyard bay updation work

132kV-RIHAND-NAGARUNTARI-1	08.03.2024	Height raising of 132 kV Rihand-Nagaruntari & 132 kV Rihand-Garhwa Rd. T/L
220kV-KATAPALLI-BOLANGIR(PG)-1	24.03.2024	To control the Loading of 220kV-ROURKELA-TARKERA-1&2; Anti-Theft charged from Katapalli end w.e.f 22:19 Hrs of 08-04-2024
400kV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-1	27.03.2024	To carry out installation of Jumper-wire, Earth wire & OPGW
220kV-DALTONGUNJ-GARWAH (NEW)-2	30.03.2024	Tripped on Tower damage
220kV-KHAGARIA-NEW PURNEA-1&2	31.03.2024	Rectification of deformed tower no. 372 of 220kV Purnea PG-Khagaria (NEW) D/C
220kV-DALTONGUNJ-GARWAH (NEW)-1	31.03.2024	Tripped on Tower damage
400kV-JHARSUGUDA-ROURKELA-3	01.04.2024	Reconductoring work
220kV-ALIPURDUAR (PG)-SALAKATI-2	02.04.2024	CT, CVT, LA and Wave trap replacement in 204 bay and replacement of interconnecting jumper under NERSS-XII.
400kV-BIHARSARIFF(PG)-VARANASI-1	02.04.2024	LILO of existing 400 kV Varanasi-Biharsharif CKT-I (PGCIL)line at tower No. 702 at Sahupuri ,Chandauli (UPPTCL)
220kV-SAHARSA(PMTL)-BEGUSARAI-1	04.04.2024	To control loading on Begusarai-BTPS line
132kV-MADHEPURA (BH)-SAHARSA(PMTL)-1	04.04.2024	To control loading on 132kV Madhepura-Saharsa line
220kV-BUDHIPADAR-KORBA-2&3	05.04.2024	Tripped from Korba end only

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5<sup>th</sup> 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)

#### **Deliberation in the meeting**

*Members noted.*

#### **4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of March -2024.**

The details of new units/transmission elements commissioned in the month of March-2024 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING MARCH, 2024							
GENERATING UNITS							
SL. NO.	Location	Owner/ Unit name	Unit No / Source	Capacity added (MW)	Total/Installed Capacity (MW)	DATE	Remarks
NIL							
ICTs/ GTs / STs							
SL. NO.	Agency/ Owner	SUB-STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks
1	WBSETCL	NEW CHANDITALA	4	400kV/220kV	315	23-03-2024	
2	WBSETCL	JEERAT	4	400kV/220kV	315	15-03-2024	
TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name	Length (KM)	Conductor Type	DATE	Remarks	
NIL							
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name/LILO at	Length (KM)	Conductor Type	DATE	Remarks	
1	PGCIL	400kV-BINAGURI-BONGAIGAON-1	216	GAP TYPE HTLS	30-03-2024	RECONDUCTORING DONE FROM BAY TO BAY WITH UPATED CAPACITY OF 2800 AMPERES	
2	PGCIL	400kV-BINAGURI-BONGAIGAON-2	216	GAP TYPE HTLS	28-03-2024		
3	BSPTCL	220kV Darbhanga (BSPTCL)- Darbhanga (DMTCL) ckt-2.	2.98	HTLS TYPE	22-03-2024	RECONDUCTORING DONE FROM BAY TO BAY WITH UPATED CAPACITY OF 1593 AMPERES	
BUS/LINE REACTORS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
1	PGCIL	125MVAR 400kV B/R-5 AT BIHARSARIEFF(PG)	BIHARSARIEFF(PG)	400	23-03-2024		
BUS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
NIL							
BAYS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage	DATE	Remarks	

	Owner			Level (kV)		
1	WBSETCL	400kV MAIN BAY (Bay No-410) OF 315 MVA ICT 4 AT NEW CHANDITALA	NEW CHANDITALA	400	23-03-2024	
2	PGCIL	132kV MAIN BAY OF MANIKCHAK-2 AT MALDA (PG)	MALDA (PG)	132	27-03-2024	
3	PGCIL	132kV MAIN BAY OF MANIKCHAK-1 AT MALDA (PG)	MALDA (PG)	132	27-03-2024	
4	PGCIL	400kV MAIN BAY OF 125MVAR B/R-5 AT BIHARSARIEFF(PG)	BIHARSARIEFF(PG)	400	23-03-2024	

Members may note.

**Deliberation in the meeting**

*Members noted.*

**4.4. UFR operation during the month of March 2024.**

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
	(DATE/TIME)	(DATE/TIME)			
Mar, 2024	50.43 Hz on 17-03-2024 at 06:03 hrs	49.59 Hz on 28-03-2024 at 22:23 hrs	6.0	77.5	16.5

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

Members may note.

**Deliberation in the meeting**

*Members noted.*

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Progress Report regarding achievement of 55% MTL

S. No	Details	Unit 1	Unit2	Unit3	-----
1	Name of Utility				
2	Plant Name and Address				
3	Capacity, MW				
4	Date of Commissioning				
5	Type of Unit: Supercritical/Subcritical/....				
6	Net Heat rate: Design/Actual				
7	Coal Quality (i) GCV (ii) Volatile matter (iii) Ash Content				
8	Maximum Generation (last 2 years) MW				
9	Minimum Generation (last 2 years) MW				
10	Maximum Ramp Rate Up (last 2 years)				
11	Maximum Ramp Rate Down (last 2 years)				
12	Whether 55% Minimum load Achieved (YES/NO)  (i) If YES, specify the duration and time (ii) If NO, specify the reason for the same				
14	Any other details				

## Annexure- B.2.1.5

## ANNEXURE-II

### Progress Report regarding achievement of 40% MTL

S. No	Details	Unit 1	Unit2	Unit3	-----
1	Name of Utility				
2	Plant Name and Address				
3	Capacity, MW				
4	Date of Commissioning				
5	Type of Unit: Supercritical/Subcritical/....				
6	Net Heat rate: Design/Actual				
7	Coal Quality (i) GCV (ii) Volatile matter (iii) Ash Content				
8	Maximum Generation (last 2 years) MW				
9	Minimum Generation (last 2 years) MW				
10	Maximum Ramp Rate Up (last 2 years)				
11	Maximum Ramp Rate Down (last 2 years)				
12	Whether 40% Minimum load Achieved (YES/NO)  (i) If YES, specify the duration and time (ii) If NO, specify the reason for the same (iii) Whether low load test conducted at 40% (YES/NO)  (a) If YES, measures identified/implemented for achieving the same.  (b) If No, any action taken in this regard				
14	Any other details				



## Annexure B.2.4

STATUS OF BTPP, AS ON 22.04.2024

<b>SJVN Thermal (P) Ltd.</b>		
Name of the Project: <b>Buxar Thermal Power Project</b>		
Location: <b>Village-Chausa, Dist-Buxar, Bihar</b>		
Capacity: <b>2×660 MW, 1320 MW</b>		
Progress: <b>1<sup>st</sup> Jan 2024 to 31<sup>st</sup> March, 2024</b>		
Sl. No.	Activity	Status as on 22.04.2024
1	Project Cost	Rs. 10439.09 Crore at January 2018 Price Level.
2	Coal Arrangement	Long term coal linkage tied up through Central Coalfields Ltd. (CCL) vide Letter of Assurance (LoA) dated 10.12.2018. Fuel Supply Agreement (FSA) was signed with CCL on 27.07.2021 for linkage (long term) of coal to Buxar TPP.
3	Arrangement of construction	33/11 kV sub-station along with 33 kV transmission line completed. Construction power is available at site.
4	Land	<ul style="list-style-type: none"> <li>• <b>Main Plant:</b> 1058.335 acre land for the main plant acquired and in possession. Work is in progress</li> <li>• <b>Water pipe line corridor, Main Gate etc.:</b> - Physical Possession certificate for 71.66 acres private land issued by District Administration, Buxar on 08.04.22. However, there is resistance from land owners demanding higher land compensation. They are not allowing the work on this area.</li> <li>• <b>Land for Rail infrastructure:</b> - Physical Possession certificate for 137 acres private land issued by District Administration, Buxar on 23.05.22. However, there is resistance from land owners for demanding higher land compensation. Matter is being continuously pursued with Distt. Administration to facilitate construction and peaceful possession of land.</li> </ul> <p>Matter of disbursement of land compensation has been transferred to LARRA court Patna by Distt. Administration. Till date, total 32 Hearings has been completed and 111 land owners received the compensation. 1200 no. of duly verified documents of Raiyats submitted by DLAO Buxar to LARRA for disbursement of compensation. Enhanced compensation, if any, shall be paid as per outcome of LARRA. STPL is continuously pursuing and facilitating farmers for their smooth disbursement. Further, Letters to each individual land owners have also been sent by STPL with request to support for resumption of construction works outside and accept land compensation even with protest too.</p> <p>For the water pipeline laying work, as per direction of Administration, efforts were made on 19.01.2024 and 20.01.2024 to commence the work which was</p>



		<p>objected and hindered by the villagers again. Further, Pursuant to coordination meeting dated 15.02.24, detailed meeting was held with Distt. Administration and site were selected to commence the work on 20.02.2024. Work was started on 20.02.24 on Govt. land in presence of Distt. Admin., which continued for only Two (2) hrs., thereafter work was stopped due to agitation/protest by the locals. The locals started protest at main plant gate from 20.02.2024 (A.N.) and continued Dharna/ protest at main gate until Distt. Administration, removed Dharna on 20.03.24 (AN). Movement of manpower, labor and machinery mobilization started from 21.03.24. Now the work is in full swing.</p>
5	Project Management Consultancies	<p>i. M/s. NTPC engaged as Project Management Consultant (PMC) for main plant works (excluding railways infrastructure) on 30.05.2019.  ii. M/s RITES engaged as Project Management Consultant for Rail Infrastructure works on 13.06.2019.</p>
6	Rail Infrastructure works	<ul style="list-style-type: none"> <li>➤ DPR approved by Railways on 05.09.2019.</li> <li>➤ OHE layout approved on 21.08.2020. SIP under examination by Zonal office, Hazipur of Indian Railways.</li> <li>➤ Entire rail infrastructure work divided in 7 nos. packages.</li> <li>➤ Supply of rails (package-1) and Supply of sleepers (package-2) completed.</li> <li>➤ Pkg-3 (Civil works In-plant yard and railway portion) awarded by RITES on 15.04.2021. Supply of ballast, blanketing and earthwork in progress.</li> <li>➤ Pkg-4 (Civil works outside of plant) awarded by RITES on 29.11.2021. Survey work and Toe marking at Rail alignment were in progress, but stopped since 10.01.2023.</li> <li>➤ Pkg-7 (Signaling work), LoA placed by M/s RITES on 28.06.2023.</li> <li>➤ Pkg- 5 &amp; 6 (Electrical work), Tendering work is under process by M/s RITES.</li> </ul>
7	Main Plant works	<ul style="list-style-type: none"> <li>➤ Main Plant works (Single EPC) awarded to M/s L&amp;T on 22.06.2019.</li> <li>➤ <b><u>Main Works:</u></b> <ul style="list-style-type: none"> <li>- Pile foundations completed.</li> <li>- Site Levelling: 44.85 lakh cum. excavation and 45.67 lakh cum. filling completed. work in progress.</li> <li>- Boiler-1: Drainable Hydro Test completed on 16.06.2023. Re-heater hydro test completed on 14.09.2023. Structural work and equipment erection in progress.</li> <li>- Boiler-2: Ceiling Girder lifting completed. Erection of Superheater, Economizer coils and Fans erection under progress.</li> <li>- ESP-I: Casing, Hopper Erection, Collecting &amp; Discharge Electrode assembly, Transformer erection and Insulation work in progress. Three passes ready for Boiler Light Up (BLU).</li> <li>- ESP-II: Casing and Structure Erection in progress.</li> <li>- STG-1: TG Box-up completed. Lube oil flushing and Ducting work in progress.</li> </ul> </li> </ul>



- Chimney: Out of 06 segments of Flue Can, 03 segments erection completed on 04.03.2024. 4<sup>th</sup> segment lifting work started on 02.04.24.
- MPHB-I/CCR: Structure erection completed. No Load trial of emergency Oil Pump (EOP) and Auxiliary oil pump (AOP) motor completed. CCR AC ducting & FDPS work under progress.
- MPHB-II: TG Deck Casting Completed. Structure erection work in progress.
- Coal Handling Plant: Foundation work and structure erection for Trestle, Crusher House, JT- 2, 3, 4, 5 & 6 and Conveyor Gallery under progress.
- IDCT-I: Fan Stack concreting, Motor/ Fan erection and Superstructure work in progress. 22 nos. IDCT cells are ready.
- IDCT-II: RCC work for Superstructure, Basin slab wall and beam work in progress.
- CW System: Pump floor Slab concreting for CW Pump House and Cooling water channel concreting completed. CW pipe laying and wall concreting in progress. 03 nos. ACW Pumps erection work completed.
- Fire Station building: Civil work for Building completed.
- Switchyard and Control room: 400 kV GIS testing is under progress. Switchyard charging is targeted by 05.04.2024. Unit Auxiliary Transformer 1A and 1B for Unit -1 placed on foundation and testing under progress.
- Raw Water Reservoir: Reservoir completed. Pump installation under progress.
- Wagon Tippler: Apron Feeder floor slab concreting completed. Rebar work/ shuttering and Raft/ Slab concreting for Hoppers in progress. Equipment placement taken up parallelly with RCC works.
- FGD: Reinforcement and concreting work for Gypsum Dewatering Building, Grinding Mill and other works in progress. Absorbers Plate, Tanks and Booster fan erection in progress.
- Water Treatment Plant: RCC and Equipment erection work for Clarifier, Neutralization pit, Sludge Thickener and Aerator in progress. Chemical Building superstructure RCC completed, finishing work in progress.
- Fuel Oil Pump House Area: Pumps/ other equipment placement completed. Tanks erection completed and dome erection under progress. Pipe/ Cable rack RCC foundation work in progress. MCC room internal and external plaster work under progress.
- Ash Handling Plant System: RCC work for Ash Slurry Sump, Ash Water Pump House, Ash water clarifier, MCC building and Fly Ash Transport Air Compressor Building in progress.
- Intake works: RCC work for Intake Pump House is in progress. Out of 9 lifts 06 lifts completed in Pump House. River water Intake MCC column up-to 4.8 mtr above plinth beam completed.

8	Infrastructure works	<p>➤ <b>Township:</b> Construction works on 17 nos. blocks is under progress at various stages like pile foundation, plinth level and column concreting works. RCC structure completed. Brick masonry &amp; AAC (Autoclaved Aerated Concrete) block work, electrical conduiting is in progress in CISF Barrack.</p>
9	Power Evacuation	<p>➤ The Stringing work for all the transmission line completed. All the lines antitheft charging done.</p> <p>➤ Grant of Connectivity for Power Transmission from Buxar TPP accorded by Bihar State Power Transmission Company Ltd. (BSPTCL) on 11.03.2022. Connection Agreement signed with BSPTCL on 03.02.2023.</p>

*At*

**Annexure B.2.5**  
**(As on 20.04.2024)**

GENCO	Mode of Transport	Name of Thermal Power Station/ Performance of	Capacity (MW)	Actual Stock as % of Normative Stock	Normative Stock Reqd.	Daily Requirement	Normative Stock Required	Actual Stock		
								Indigenou s	Import	Total
TVNL	RAIL	TENUGHAT TPS	420	48%	26	6.2	161.6	77.9	0.0	77.9
		<b>TVNL - Total</b>	420	48%	26	6.2	161.6	77.9	0.0	77.9
OPGC	PITHEAD	IB VALLEY TPS	1740	84%	17.0	26.2	445.2	372.4	0.0	372.4
		<b>OPGCL- Total</b>	1740	84%	17.0	26.2	445.2	372.4	0.0	372.4
WBPDC	RAIL	BAKRESWAR TPS	1050	58%	26	13.6	353.4	205.8	0.0	205.8
	RAIL	BANDEL TPS	270	51%	26	4.0	103.8	52.5	0.0	52.5
	RAIL	KOLAGHAT TPS	840	20%	26	7.5	195.4	153.6	0.0	153.6
	RAIL	SAGARDIGHI TPS	1600	55%	26	13.8	357.7	71.0	0.0	71.0
	RAIL	SANTALDIH TPS	500	55%	26	21.9	568.5	310.6	0.0	310.6
		<b>WBPDC- Total</b>	4260	49%	26	6.9	179.8	98.7	0.0	98.7
NTPC	RAIL	BARAUNI TPS	710	61%	26	10.4	271.3	165.6	0.0	165.6
	RAIL	BARH STPS	2640	80%	26	37.2	968.0	756.2	22.9	779.1
	PITHEAD	KAHALGAON TPS	2340	101%	17	36.8	625.2	585.1	45.9	631.0
	PITHEAD	NORTH KARANPURA TPP	1320	60%	17	18.9	321.2	192.1	0.0	192.1
	PITHEAD	DARLIPALI STPS	1600	54%	17	24.7	419.3	228.5	0.0	228.5
	PITHEAD	TALCHER STPS	3000	73%	17	44.8	760.8	553.3	0.0	553.3
	PITHEAD	FARAKKA STPS	2100	169%	17	26.9	457.8	751.3	22.3	773.6
		<b>Total-NTPC</b>	13710	90%	21	713.5	14848.8	12595.2	665.4	13260.6
	RAIL	MUZAFFARPUR TPS	390	76%	26	5.5	142.8	108.9	0.0	108.9
	RAIL	NABINAGAR STPP	1980	125%	26	24.8	643.8	780.0	22.2	802.2
RAIL	NABINAGAR STPP	1000	44%	26	14.9	387.8	170.2	0.0	170.2	
	<b>Total-NTPC JV</b>	3370	95%	26	121.8	3167.9	3175.4	55.8	3231.2	
DVC	RAIL	BOKARO TPS 'A' EXP	500	195%	26	6.2	160.8	314.1	0.0	314.1
	RAIL	CHANDRAPURA(DV C) TPS	500	150%	26	6.9	178.5	267.1	0.0	267.1
	RAIL	KODARMA TPP	1000	118%	26	12.7	330.5	387.3	1.6	388.9
	RAIL	DURGAPUR STEEL TPS	1000	109%	26	12.5	325.8	356.3	0.0	356.3
	RAIL	MEJIA TPS	2340	50%	26	32.4	843.5	399.6	22.3	421.9
	RAIL	RAGHUNATHPUR TPP	1200	114%	26	15.6	405.1	460.6	0.7	461.2
		<b>Total-DVC</b>	6540	98%	26	86.3	2244.2	2184.9	24.6	2209.4
CESC	RAIL	BUDGE BUDGE TPS	750	111%	26	9.4	245.4	271.2	0.0	271.2
	RAIL	SOUTHERN REPL. TPS	135	125%	26	1.9	50.7	63.5	0.0	63.5
	RAIL	HALDIA TPP	600	83%	26	8.4	217.1	180.2	0.0	180.2
IPP	RAIL	JOJOBBERA TPS	240	47%	26	3.3	87.1	50.6	0.0	50.6
	RAIL	MAITHON RB TPP(MPL)	1050	106%	26	12.6	327.6	348.5	0.0	348.5
	ROAD	DERANG TPP-JITPL	1200	282%	26	15.6	406.3	170.6	0.0	170.6
	RAIL	KAMALANGA TPS-GMR	1050	42%	26	9.5	247.6	57.5	0.0	57.5
	RAIL	VEDANTA TPP	600	23%	26	9.5	247.6	53.0	0.0	53.0
DPL	RAIL	D.P.L. TPS	550	79%	26	7.5	195.4	153.6	0.0	153.6



## Annexure B.2.14

### Details of Locations under Severe ROW in English Bazar Block

Sl. No.	Location No.	Tower Type	Land Owner Details	Remarks
1	2/0 (4 Leg)	DD+6	Nikhil Sarkar (9734008573) & Mukul Sarkar (9832449297) Lakhipur Colony P.O - Maliha Mouja - Lakhipur P.S - English Bazar Malda	Strong objection - opposite PGCIL S/S Demand for line diversion
2	16/0 (4Leg)	DC+6	Nandan Kumar, C/O- Subrata Kumar, Vill.- Bangitola, P.O- Mothabari, G.P- Binodput,P.S- English Bazar, Malda, Mob.- 7001244664	Strong objection during ROW meeting. Demand for Line diversion/ 1 Cr. Compensation
3	21/0 (4 Leg)	DC+6	Hena Sekh Vill - Nashir Chak P.O - Khaskol PS - English Bazar Mob:- 7557822252	Earlier not agreed for Tower Construction. Now demanding 8 L
4	22/0 (4 Leg)	DD+6	Sk. Bacchu Vill+P.O - Milki Mouja - Bhabanipur P.S - English Bazar Malda Mob:- 9593850793	Not agreed to construct Tower, Demanding Land Diversion
5	22/1(4Leg)	DA+6	Md. Helua (Banna) Vill. - Nashir Chak P.O - Khaskol P.S - English Bazar Mob :- 8116629093	Strong objection during ROW meeting. Demand High.
6	23/0 (4 Leg)	DD+9	Mirja Humayun Kabir Mirja Motiur Rahaman S/o - Mirja Atabul Hossain Vill +P.O - Bhabanipur G.P - Sovanagar Mouja - Bhabanipur P.S - English Bazar Mob :- 9735939459	Strong objection during ROW meeting. Demand for Line diversion.Now demanding 10 L in meeting held @ FZO, Malda
7	24/1 (4 Leg)	DC+6	Salek Khan S/o - Ranjit Khan Vill + P.O - Bhabanipur G.P - Sovanagar Mouza - Bhabanipur P.S - English Bazar Mob:- 7318618179	Strong objection during ROW meeting. Demand for Line diversion
8	25/0 (2 Leg)	DD+15	Sofikul Islam S/o - Abdul Hannan Vill - Gopalpur (Uttar Hukmat tola) P.O- Sahabat Tala Mouja - Bhabanipur G.P - Sovanagar P.S - English Bazar Mob:- 7076027094	Khatian No. 3151, Dag No. 711 Strong objection during ROW meeting. Demand for Line diversion. Land owner started construction of House
	25/0 (2 Leg)		Mirja Sofiyul S/o - Mirja Kamal Vill - Bhabanipur Mob :- 9732083466	Strong objection during ROW meeting. Demand for Line diversion. Land owner started construction of House

**Details of Locations under Severe ROW in Manikchak Block**

SI No.	Location no.	Tower Type	Name & Address	Remarks
1	30/0 (2 Leg)	DD+9	Ranu momin, W/o- Lt. Dabiruddin momin, Vill- Dhorampur, P.O- Dharampur, P.S- Manikchak, Malda, Mobile No.- 9749499474	Initially NOC given, but due to plot being developed for house between 30/0 - 30/1, local influential person not allowed to work.
	30/0 (2 Leg)		Nazim Ansari, C/o- Lt. Reyajul Haque, Vill- Dhorampur, P.O- Dharampur, P.S- Manikchak, Malda, Mobile No.- 7001469288	
2	32/2 (4 Leg)	DD+15	Bhavesh Podder & Nobin Poddar, Vill- Enayatpur, P.O- Enayatpur, P.S- Manikchak, Malda, Mobile No.- 9733275305	ASI of Gazole PS, demand 55 L

## Annexure D.1

### Updated Anticipated Peak Demand (in MW) of ER & its constituents for May 2024

1	<b>BIHAR</b>	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	7139	4046
	NET POWER AVAILABILITY- Own Sources	429	320
	Central Sector+Bi-Lateral	6828	4376
	SURPLUS(+)/DEFICIT(-)	118	650
<b>2</b>	<b>JHARKHAND</b>		
	NET MAXIMUM DEMAND	2263	1247
	NET POWER AVAILABILITY- Own Source	355	201
	Central Sector+Bi-Lateral+HPP	1281	749
	SURPLUS(+)/DEFICIT(-)	-627	-297
<b>3</b>	<b>DVC</b>		
	NET MAXIMUM DEMAND	3500	2408
	NET POWER AVAILABILITY- Own Source	6161	3782
	Central Sector+MPL	308	175
	Bi- lateral export by DVC	2272	1691
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	697	-142
<b>4</b>	<b>ODISHA</b>		
	NET MAXIMUM DEMAND (OWN)	5600	3571
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 950 MW(peak) and average drawl of 700 MW)	6550	4392
	NET POWER AVAILABILITY- Own Source	3270	3327
	Central Sector	1930	1346
	SURPLUS(+)/DEFICIT(-) (OWN)	-400	1102
	SURPLUS(+)/DEFICIT(-) (I(In Case of CPP Drawal of 950 MW(peak) and average drawlm of 700 MW)	-1350	281
<b>5</b>	<b>WEST BENGAL</b>		
	WBSEDCL		
<b>5.1</b>	<b>NET MAXIMUM DEMAND</b>		
	NET MAXIMUM DEMAND (Incl. Sikkim)	9475	5678
	NET MAXIMUM DEMAND (Incl. Sikkim)	9480	5682
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5339	3178
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2511	1335
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-1629	-1169
<b>5.2</b>	<b>CESC</b>		
	NET MAXIMUM DEMAND	2600	1226
	NET POWER AVAILABILITY- Own Source	830	568
	IMPORT FROM HEL	1230	393
	TOTAL AVAILABILITY OF CESC	1371	961
	DEFICIT(-) for Import	-540	-265
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	11790	6904
	NET POWER AVAILABILITY- Own Source	6169	3746
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	3052	1728
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-2853	-1430
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-2858	-1434
<b>6</b>	<b>SIKKIM</b>		
	NET MAXIMUM DEMAND	118	50
	NET POWER AVAILABILITY- Own Source	50	115
	Central Sector	128	82
	SURPLUS(+)/DEFICIT(-)	60	147
	<b>EASTERN REGION</b>		
	NET MAXIMUM DEMAND	30695	18226
	NET MAXIMUM DEMAND ((In Case of CPP Drawal of 800 MW(peak) and average drawl of 700 MW)	31495	19047
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2272	1680
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	462
	NET TOTAL POWER AVAILABILITY OF ER	28204	17005
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	-5410	-3368
	SURPLUS(+)/DEFICIT(-) (In Case of CPP Drawal for Odisha)	-6210	-4189