

AGENDA
FOR
51st CCM MEETING

Date: 13.08.2024, Time: 10:30 Hrs
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 51st CCM MEETING TO BE HELD ON 13.08.2024 AT 10:30 HRS THROUGH MS TEAMS

ITEM NO. A1: Confirmation of the minutes of the 50th Commercial Sub-Committee meeting held on 08.01.2024 through online platform.

The minutes of the 50th Commercial Sub-Committee meeting was issued vide no. ERPC/Commercial/CCM/ 2023/1426, dated 09.01.2024 and uploaded on ERPC website.

No observation on the same received so far.

Members may confirm the minutes of the 50th Commercial Sub-Committee Meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B1: Agenda by CTU/Powergrid.

A. Replacement of old OPGW on Communication links in Eastern Region: CTU.

In the 14th TeST meeting CTU deliberated the following:

- POWERGRID has submitted requirement of replacement of old OPGW on ten nos. of communication links as mentioned above. However, as per 5th CPM deliberation, requirement for three no's of OPGW links has been deleted (400 KV Jeypore-Indravati, 400 KV Durgapur-Farakka, 400 KV Farakka-Kahalgaon).
- Also, one link i.e., 400kV Durgapur-Farakka as already incorporated in a separated project by Powergrid has not been considered.
- OPGW on above mentioned lines have been installed & commissioned by POWERGRID telecom dept (PDT).
- These links are also catering to ULDC operation. However, the OPGW on these lines shall be laid as new OPGW as earlier OPGW was not laid under ISTS/ULDC project.

POWERGRID stated that the length of three nos. of lines (sl. No. 2, 5 & 6) needs to be modified as follows.

S. No.	Description	Actual Link Length (km)	Old Link Length (km)	Design Attenuation (dB)	Actual Attenuation (dB)	YoC
1	400kV Prayagraj – Sasaram	214.42	214.42	53.61	71.82 ↑ (+18.21)	2004
2	400kV Farakka – Sagardighi-II & 400KV	304 (84.71+219.45)	236.85	59.21	73.43 ↑	2004

	Sagardighi-Jeerat-I				(+14.62)	
3	400kV Indravati-Rengali-Talcher	377.31	377.31	94.33	122.22 ↑ (+27.89)	2005
4	400kV Farakka-Malda	42.14	42.14	10.54	20.40 ↑ (+18.79)	2004
5	400kV Malda-Purnea & 400kV Purnea-Binaguri	367.34 (176.89+190.47)	217.69	52.73	75.10 ↑ (+22.37)	2004
6	400kV Binaguri-Bongaigaon	239.81	103.75	25.94	78.94 ↑ (+53)	2004
	Total=	1545.01 Km	1185.35 km			

TeST decision:

- POWERGRID was advised to provide date of commissioning of LILO portion, OTDR reports along with FOTE details.
- The issue was referred to CCM for further deliberation.

The total cost for the OPGW installation of 1545.01Km OPGW along-with 5 SDH equipment is Rs 95.6 Cr (tentative). This cost includes IDC, IEDC, Taxes and contingency.

CTU/Powergrid may update. Members may discuss.

B. Scheme for Connectivity for redundant path for Teesta III plant: CTU.

S. No.	Items	Details
1.	Scope of the scheme	Laying of OPGW with required terminal equipments from Teesta III to LILO point(15.87km) to establish 400kV Teesta III-Rangpo#1link.Presently Teesta III-Rangpo#1line is LILOed at Dikchu HEP.
2.	Objective / Justification	In the 51 st ERPC meeting held on 12.01.2024, ERPC gave the decision as follows: i. The scheme for the revised connectivity of the redundant path of Teesta-III is accorded for in principle approval. ii. CTU was directed to provide a cost estimate for the revised scheme in the next CCM Meeting of ERPC. Accordingly, cost estimate is proposed in ERPC CCM meeting.
3.	Estimated Cost	Rs. 1,12,36,000/- (approx.) (One crore Twelve Lakhs Thirty-Six Thousand

		only)
4.	Implementation time frame	18 months from date of allocation.
5.	Implementation mode and agency	Line Ownership of the proposed section for OPGW laying in the instant scheme is with TPTL. To be implemented by POWERGRID in RTM mode.
6.	Deliberations	The scheme was revised and OPGW laying is proposed on Teesta III to LILO point for Dikchu HEP (15.87 km) on Teesta III-Rangpo ckt 1. The revised scheme was deliberated in 51 st ERPC meeting held on 12.01.2024. In the 51st ERPC meeting held on 12.01.2024, ERPC gave the decision as follows: i. The scheme for the revised connectivity of the redundant path of Teesta-III is accorded for in principle approval. ii. CTU was directed to provide a cost estimate for the revised scheme in the next CCM Meeting of ERPC. As directed in 51st ERPC meeting, the revised scheme with cost estimate is being put up for CCM committee of ERPC for review. This scheme after CCM committee review shall be put up to NCT for approval.

CTU may update/explain. Members may discuss.

C. Scheme for deployment of SDH equipment and Amplifier at Alipurduar S/s of ER : CTU.

Scope of the scheme (Estimated cost: Rs. 65,00000/- (Sixty-Five lacs) only)

- Deployment of FOTE (SDH Equipment) and amplifier solutions at Alipurduar S/s end for OPGW based communication and Teleprotection for 400kV lines from PHEP-II, PHEP-I and Jigmeling of Bhutan to Alipurduar, India:
- a)1 set of STM-4 SDH equipment along with panel supporting minimum five directions with MSP (Multiplex Section Protection 1+1) & equipped with E1 and Ethernet interfaces.
- b)6 sets of 175 km Amplifiers solutions: 2 directed towards Punatsangchhu-II(PHEP-II), 2 directed towards Punatsangchhu-I(PHEP-I) and 2 directed towards Jigmeling.
- POWERGRID to coordinate with Bhutan ends while procuring the equipment to avoid any non-compatibility issues.
- The 225 km solution proposed under the scheme shall work with STM-4 equipment freed on upgradation to STM-16.
- The STM-4 equipment freed on upgradation to STM-16 will be compatible with Bhutan end as suggested by CEA.”

As per Deliberation in the **216th OCC** meeting

PowerGrid representative apprised the forum:

- ❖ At present SDH technology-based Fiber Optic Terminal Equipment (FOTE) is deployed in Indian Grid including Alipurduar substation & Bhutan is implementing MPLS-TP in their whole system including at Punatsangchhu-II for data and tele protection.
- ❖ MPLS-TP is a recent updated technology because of their technological incompatibility it's not feasible to integrate two communication technology for enhanced data protection & tele protection.
- ❖ However, considering the necessary capabilities to ensure the accurate coordination of devices between India and Bhutan as well as to cater to cybersecurity issue of the Indian Grid, the proposed scheme for Alipurduar S/s end needs to be implemented.

POWERGRID (GA&C) vide mail dated 12.06.2024 & 13.06.2024 has confirmed the following:

“Deployment of STM-4 equipment freed on upgradation to STM-16 is feasible, however, the timeline shall be worked out in line with the approval of Upgradation scheme in NCT. Further, life of the equipment shall be taken from the actual date of commissioning of the equipment to be used at Alipurduar. In this case transportation cost as communicated earlier will be applicable.

Please note that all STM-4 equipment proposed for upgradation to STM-16 in ERPC have been commissioned in year 2015.

- The 225 km solution proposed under the scheme shall work with STM-4 equipment freed on upgradation to STM-16.
- The STM-4 equipment freed on upgradation to STM-16 will be compatible with Bhutan end as suggested by CEA.”

➤

PowerGrid ER-II representative further highlighted that no spare STM-4 is available which is required to update the existing SDH technology at 400KV Allipurduar S/S & it's procurement will take more than one year as it's a time-consuming process.

The Representative of DGPC on behalf of PHEP briefed the forum about the urgency of establishing a communication link as PHEP-II will be going for testing & commissioning of its first two units by mid-August & before the units get synchronized with the grid all the system related to communication & protection shall be made ready both at Punatsangchhu-II (Bhutan End) & Allipurduar (PG End).

OCC Decision

OCC advised PowerGrid to explore the following options:

- Utilization of the the STM-4 equipment freed on upgradation to STM-16 under the “Scheme on requirement of Additional FOTE at ISTS nodes in ER” for reliable communication with Bhutan from Alipurduar S/S.
- The existing SDH equipment (STM-4) (as per specifications of the scheme) may be upgraded at Alipurduar S/S to improve necessary redundancy in addition to the existing PLCC line as an interim measure in view of the synchronization of PHEP-II by Mid-August. In this regard cybersecurity issues must be duly addressed by deployment of additional firewall or other suitable measures.

- ❖ OCC advised Powergrid to update the status along with **revised cost estimate in next CCM meeting (Annexure B1-C)**.

CTU and POWERGRID may update and explain. Members may discuss.

D. Scheme Spare Reactor procurement under ER-Pool as per CEA norms: POWERGRID ER-II.

In different forums, stakeholders agreed that some candidate reactors can be kept identified for use as spare or for replacement of failed reactor. As and when need arises, based on merit of the case and considering all techno- economic issues, use of reactors as spare or for replacement can be decided.

- ♦ In view of above, it is requested from POWERGRID end to finalize the spare reactor quantity, such that necessary procurement could be finalized.

Original list of spare Reactors proposed are as follows: -

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	BIHARSARIEFF SS
		80 MVAR	PATNA SS
		63 MVAR	MUZAFFARPUR SS
JHARKHAND	400 KV	125 MVAR	NEW RANCHI SS
		80 MVAR	RANCHI SS
ODHISSA	400 KV	63 MVAR	ROURKELLA SS

As per deliberation in **217th OCC** meeting:

- ♦ Powergrid ER-II referred to the studies by ERLDC and CTU as presented in 29th CMETS-ER on optimal utilization of existing reactors as spares and thereafter the above list of spares is proposed in compliance to CEA norms on spares.

OCC decision:

- After detailed deliberation, OCC consented to the proposal of reactor spares as follows:

STATE	VOLTAGE	SIZE	STORAGE PLACE
WEST BENGAL	400 KV	125 MVAR	DURGAPUR SS
		80 MVAR	BINAGURI SS
SIKKIM	220 KV	31.5 MVAR	NEW MELLI SS
JHARKHAND	400 KV	125 MVAR	NEW RANCHI SS
ODHISSA	400 KV	63 MVAR	ROURKELLA SS

- OCC advised Powergrid ER-II to submit revised cost estimate as per above spares requirement in the upcoming CCM.

POWERGRID ER-II may update and explain. Members may discuss.

ITEM NO. B2: Proposed methodology for IBEUL-JSW DSM treatment for the period from 11.01.2024 to 20.02.2024: ERLDC.

Ind-Barath Energy (Utkal) limited (IBEUL), an IPP having capacity of 700 MW (2x350 MW) at Jharsuguda, Odisha, has now been taken over by JSW Energy Limited through NCLT route. CTUIL has granted interim connectivity to IBEUL-JSWL through LILO of 400KV OPGC-Jharsuguda line-2 at IBEUL. After necessary FTC clearance, IBEUL started taking power from the Grid and synchronized & started injecting firm power thereafter wef 11.01.2024. Initially, IBEUL-JSW buying & selling power through power exchange and the treatment of injection of power considered as infirm. After 19.02.2024, a meeting organized by ERPC and it was clarified that the injection of power from 11.01.2024 to be taken as firm power. It was decided that ERLDC would formulate a methodology for the treatment from 11.01.2024 to 20.02.2024. Accordingly, the following methodology is proposed-

- During drawal-** the quantum of power drawn from the grid by the generator shall be treated as auxiliary consumption of generator and the treatment for DSM as per existing CERC DSM regulation.
- During injection-** the quantum of power injected into the grid by the generator shall be treated as general seller and the treatment for DSM as per existing CERC DSM regulation.
- During buy/sell-** in some instances IBEUL-JSW had scheduled power buy and sell in same time block. In such a scenario RLDC shall provide a net schedule and treatment of the generator shall be taken based on the net schedule of the generator in that time block. The treatment of the same shall be taken as per the methodology described in para 1 and 2.

ERLDC may explain. Members may discuss.

ITEM NO. B3: Regarding Revision of DSM Charges in respect of NEA-Bihar for the period 08.07.2024 – 14.07.2024 – NVVN.

Nepal Electricity Authority (NEA) via email dated 24.07.2024 informed that there has been no power scheduled/exchange through the Bihar line since 16.06.2024. Further, the circuit breaker has been opened from the Nepal side, and anti-theft charging has been applied from the Indian side. Despite these arrangements of no power drawl, DSM bill has been raised by ERPC for the period 08.07.2024 to 14.07.2024 of an amount Rs. 11,06,747/- NEA-Bihar entity.

The matter has been already communicated with SLDC Bihar and ERLDC through emails dated 24.07.2024 and 31.07.2024 by NVVN requesting necessary action. It is requested to take necessary actions to resolve this issue and arrange for revision of DSM charges in respect of NEA-Bihar.

NVVN may explain. Members may discuss.

ITEM NO. B4: 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

Details of requirement:

- The construction power will be required for upcoming Stage-II (3X800MW) and ongoing FGD project. 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.
- As per deliberation in the 215th OCC meeting:

NTPC ER-I submitted:

- Around 3 MW power for installation of FGD and construction of propose New Nabinagar (3 X 800 MW) project was proposed to be drawn from the existing 11 kV switchgear feeding the station load.
- Lack of reliable power supply from Bihar DISCOM (SBPDCL) for construction of proposed New Nabinagar (3 X 800 MW) project was highlighted.
- Installation of a SEM meter at the site location was proposed to account for internal power consumption by NTPC in construction of the new project. Payment for this power drawn may be made to Bihar DISCOM based on the reading of meter installed by DISCOM.
- Placing underground 11 kV cables in place of overhead lines from Bihar DISCOM to improve safety aspect in power plant premises was pointed out.
- The project shall take minimum 4 years for completion.
- SBPDCL confirmed that reliable power supply can be catered to NTPC Nabinagar plant from DISCOM end.

OCC decision:

- OCC affirmed of ensuring reliable power supply to NTPC Nabinagar and necessary coordination in this regard needs to be done mutually between SBPDCL and NTPC.
- OCC opined that laying of underground 11 kV cables may be explored in place of overhead lines within plant premises to mitigate safety concern.
- OCC observed that the proposal of drawal of construction power for the purpose of FGD installation and subsequent commissioning of 3*800 MW units from the existing station load may be in contravention with certain regulatory provisions.
- OCC opined that since SBPDCL has ensured to provide reliable power supply, NTPC may take up with

SBPDCL. SBPDCL was requested to extend all possible co-operation to NTPC for reliable supply of construction power for installation of FGD and subsequent construction of proposed 3*800MW units at NPGC.

It was also highlighted that if similar type of arrangement is done at other RPC same may be presented for further deliberation and decision regarding the matter.

As per attached MOM (**Annexure B4**) of 48th Commercial sub-committee meeting of NRPC (Item no 25) in January 2024. NTPC Singrauli's similar requirement was granted.

NTPC ER-I may explain. Members may discuss.

ITEM NO. B5: Discrepancy in scheduling of power from IBEUL (Unit #1): IBEUL.

As per PPA dated 04.01.2011 and MoU dated 24.11.2023, GRIDCO has right to purchase 12% of power sent out from the JSWEUL power project (Unit#1 339.6 MW). Despite of our repeated request vide letters and emails State Load Despatch Centre (SLDC), Odisha is continuing to punch schedule considering 12% of the Unit#1 capacity i.e. 38.205 MW instead of 12% of the power sent out from the Unit#1 which is being also accepted by ERLDC.

JSWUEL have been intimating ERLDC, SLDC & GRIDCO about the same through various emails and letters.

IBEUL may update/explain. Members may discuss.

ITEM NO. B6: Miscellaneous Agenda by NTPC.

A. Incurring DSM loss due to scheduled generation exceeding normative DC: NTPC Darlipalli.

- NTPC Darlipalli 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.
- Due to introduction of TGNA and changes in WBES site, URS power was visible in WBES site and same was sold in DAM.
- As one time measure it is requested to waive off DSM by considering ECR as DSM rate.
- As per deliberation in the 215th OCC meeting:

NTPC Darlipalli pleaded to the forum for waiving off the imposed DSM penalty by considering ECR as DSM rate so that the huge amount of DSM loss incurred can be curtailed to some extent.

OCC decision: OCC referred the issue to CCM for further deliberation.

NTPC Darlipalli and ERLDC may update. Members may discuss.

B. DSM revision of Barh Stage#1, North Karanpura and Kanti: NTPC ER-I.

In case of forced outage, the DSM rate should be @ ECR only. Revised DSM accounts to be issued for the said week:

(i) DSM revision of Barh Stage-1:

- On 28.05.2024 in Barh Stage-1 Unit-1 tripped at 13:24 (block no. - 54).
- DC for Barh Stage-1 was revised to zero w.e.f. Block no.-61.
- Uni-2 was already off bar.
- Unit-1 synchronized on same day and DC was punched from block no. 87.
- Applicable DSM - **Block No. 61 to 86 - @ ECR**
- However, DSM account 27.05.2024 to 02.06.2024 - DSM charged for Block No. 61 to 86 Rate @ linked to frequency.
- This has happened due to **AGC value getting stuck at -0.1248 MW.**

(ii) North Karanpura: DSM loss of Rs 44.5 lakhs, Blocks no. 26-28 on 18.04.2024.

Events details on 18.04.2024:

- 4.24 hr. (Block-18): Unit tripped in Electrical fault.
- Immediately informed to ERLDC over phone
- 04.53 hr. (Block-20): Email sent to ERLDC mentioning tripping time, revised DC (618.75 MW) and estimated restoration time.
- 05.04 hr. (Block-21): Site checked the system and found DC has not updated by ERLDC. Thus, requested ERLDC over phone not to revise the DC to 618.75 MW and Revised DC is being informed shortly after considering exact APC for both units.
- 05.18 hr. (Block -22): E-mail sent to revise DC 590 MW.
- 5.50 hr. (Block-24): ERLDC updated DC effective from 29th block. i.e. 7 blocks after last communication.

NTPC submission:

Trip event communicated to ERLDC over phone immediately after Trip. Tripping was due to electrical fault. It took some time for estimation of restoration time and within 30 min, email communication was sent. However, due to some communication misunderstanding, DC was not revised by ERLDC for Blocks - 26, 27, 28 i.e. DC was revised w.e.f. Block-29.

Due to this NTPC incurred huge DSM loss of Rs 44.5 lakh.

In view of above it is requested to consider either of following.

1. Revise DC and SG w.e.f. Block-26
2. Consider DSM rate as ECR for Block-26,27,28.

(iii) Kanti: DSM accounts issued by ERPC for 29.04.2024 to 05.05.2024

- Date 02.05.2024 for the blocks 21 to 91.
- MTPS (2 x 195 MW) were in Shutdown condition.

- Applicable DSM @ ECR (Reference charge rate).
- Charged at normal charge rates.
- Total Impact: Rs 11.17 Lakhs

NTPC ER-I may update. Members may discuss.

C. BARH.

Station	Date	Reason for DSM revision	Net DSM (₹-Lakh)
Barh Stage-2	01.04.2024	DSM calculation to be done @ ECR	735.47
	15.06.2024	SG> DC due to TGNA schedule by Jharkhand	0.93
	25.07.2023	Block 73,74,75 not matching/error in calculation at ERPC	0.12
Barh Stage-1	07.07.2024	SG< MTL. Unit-2 was synced on 07.07.2024 but SG was 342 MW resulting in HIGH DSM loss.	21.16
	16.02.2023	Barh 1 tripping in block 42 / Penalty at ECR	0.79
	25.02.2023	Barh 1 tripping in block 24/Penalty at ECR	3.11
	09.06.2023	Barh 1 block 31/32/33/34 trip /Penalty at ECR	4.09
	17.06.2023	Barh 1 tripping in 75th block/taken in 74 th block in ERPC account	0.23

NTPC ER-I may update. Members may discuss.

D. SCUC Support to which are covered under SCUC in D-1 day.

NLDC publishes the list at 15:00 hrs. of D-1 encompassing the generator which need to be supported to remain available during peak demand in D. In certain cases, when the beneficiaries reduce their schedule up to their technical minimum in D-Day, results in reduction of total SG less than Technical Minimum. In this case station does not get the SCUC support.

In this case, the Technical Minimum schedule of the station to be ensured.

NTPC may explain. Members may discuss.

E. Darlipalli

AGC performance mismatch:

- It is observed that AGC performance assessment by station is not matching with ERPC records.
 - Difference is around 5 % (Station Vs NLDC) and sometimes there is slab change resulting in less incentive. The issue has been taken up with NLDC and correspondence mail is attached. Clarification is awaited.
- AGC mismatch for the period 3rd June to 9th June: Communication given to NLDC, and response is awaited.
 - DSM statements:
 - a) Being revised after more than six months.
 - b) DSM for the Oct-2023 period have been revised without any reason.

NTPC Darlipalli may explain. Members may discuss.

F. Sale of URS power in RTM / DAM in case beneficiary wants the power in exigency T-GNA.

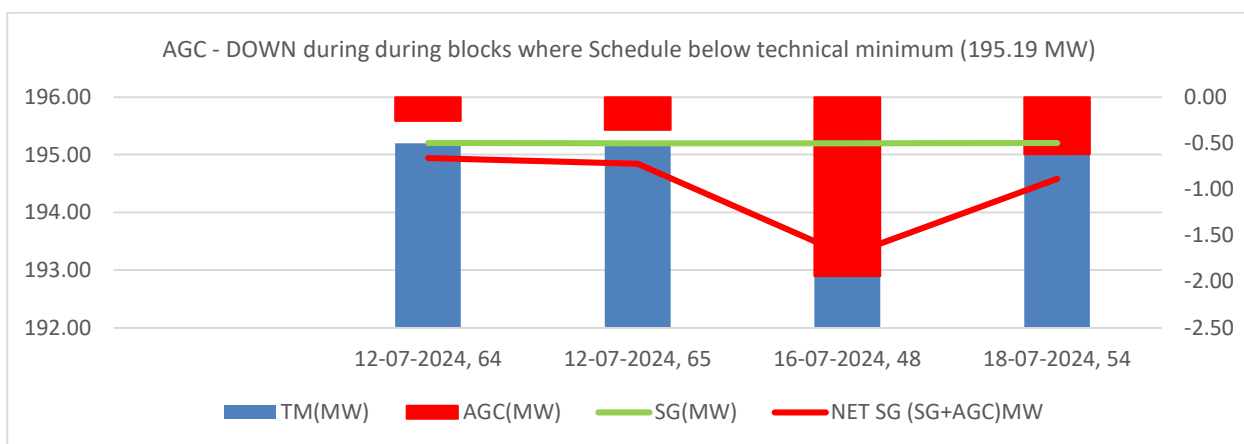
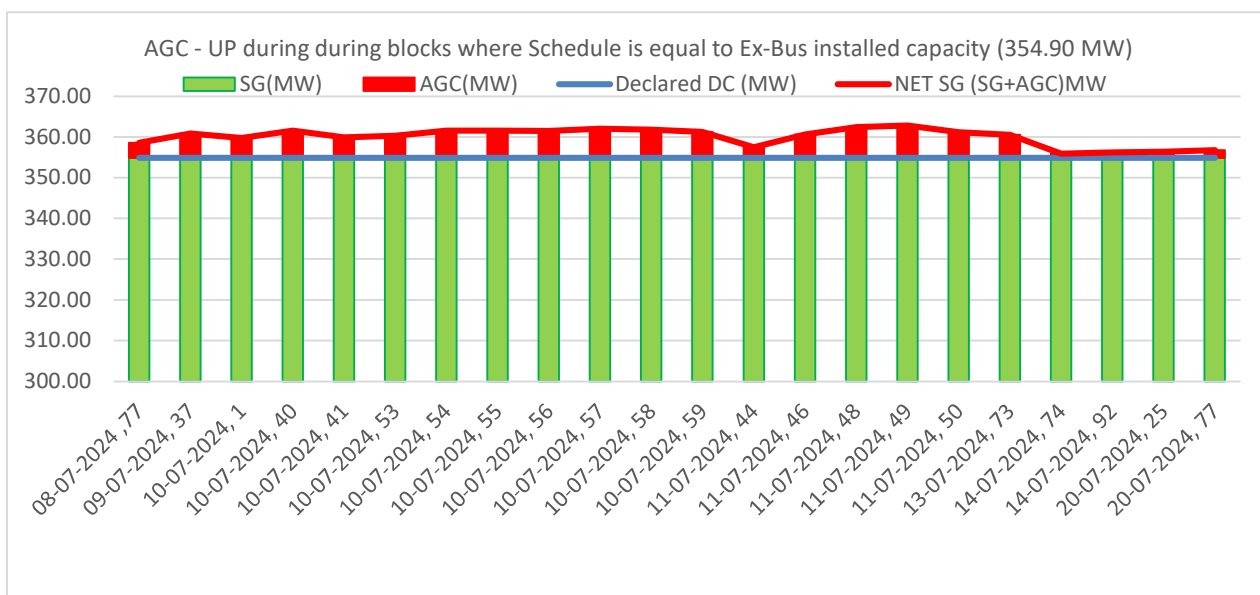
The beneficiary requests that the quantum of power requisitioned in the exigency T-GNA not be sold from the station. However, according to the LPSC rules, bidding of URS power must be conducted in the power market. More clarity is needed whether the generating company cannot requisition the T-GNA quantum in power market.

NTPC may explain. Members may discuss.

G. Kanti Brief description of Problem & Background:

Additional DSM liabilities due to AGC signal

- When Schedule is equal to Ex-Bus installed capacity (354.90 MW)
- When schedule is equal to Technical Minimum (195.19 MW).



Net implemented Schedule may be corrected for the mentioned blocks as per the limits of TM & Unit Capacities.

NTPC may explain. Members may discuss.

H. Publication of merit order by DISCOMs on their Website.

To bring more efficiency and transparency in the system, the merit order, which is used for scheduling process, may be made available to all concerned by publishing it on website on respective SLDCs. Additionally, viewing right to access the final schedule by the DISCOMs/SLDCs (with respect to state generating stations) to be extended to ISGS generator also.

NTPC may explain. Members may discuss.

ITEM NO. B7: Agenda by GRIDCO/SLDC Odisha.

A. Non-Consideration of Renewable Power scheduled in G-DAM for computation of waiver of Transmission charges.

As per the provisions of the CERC Sharing Regulations, 2023, waiver has been allowed on the CTU Transmission charges for scheduling power under GNA, GNA-RE, T-GNA and T-GNA-RE from Renewable Energy sources ((i)REGS or RHGS based on wind or solar sources or (ii) ESS charged with energy sourced from REGS or RHGS or (iii) generation based on hydro power sources). The detailed methodology for calculating waiver is specified in the Sharing regulations, 2023. On verification, it was found that the implementing Agency (NLDC) has been computing the waiver percentage of Odisha without considering the Renewable Power scheduled to State under G-DAM. Renewable energy scheduled under long term contract is only being considered towards computation of waiver percentage. It is to mention that nothing has been explicitly or implicitly mentioned in the Sharing Regulation towards non-consideration of RE power through G-DAM while calculating transmission waiver percentage.

CTUIL/ GCIL may please explain. Members may discuss.

B. Commercial Impact due to VAR injection at High Voltage.

- Additional VAR Compensation at Jeypore PGCIL Sub – Stations – Commercial impact to GRIDCO due to VAR injection at High Voltage.
- Installation of interface meters at both ends of inter- state transmission lines.

SLDC Odisha may update and explain. Members may discuss.

ITEM NO. B8: Agenda by ERLDC.

A. Default Details of Constituents pertaining to Deviation, Reactive and Fees and Charges:

The details of major defaulters as on 31.07.2024 considering the ERPC bills dated 23/07/24 (Wk- 08/07/24 to 14/07/24) for DSM charges, Reactive charges and RLDC Fee and charges are tabulated below-

Jharkhand:

	JBVNL
DSM (in Cr)	₹ 110.76 Cr /-
Reactive	Nil
Fee & Charges	Nil
LC for DSM	No Valid LC available
Due date of expiry of LC	NA
Reconciliation of Statements of	DSM: Pending from Q2 of FY 2020-21
	Reactive: Pending from Q1 of FY 2019-20
	FnC: Pending from Q1 of FY 2021-22

Bihar:

	Bihar
DSM (in Cr)	₹ 123.94 Cr /-
Reactive	Nil
Fee & Charges	Nil
LC for DSM	No Valid LC available
Due date of expiry of LC	NA
Reconciliation of Statements of	DSM: Pending from Q1 of FY 2023-24
	Reactive: Pending from Q1 of FY 2023-24
	FnC: Pending from Q1 of FY 2023-24

Sikkim:

	Sikkim
DSM (in Cr)	₹ 28.84 Cr /-
Reactive	Nil
Fee & Charges	5.99 Lakhs/-
LC for DSM	No Valid LC available
Due date of expiry of LC	NA
Reconciliation of Statements of	DSM: Pending from Q2 of FY 2019-20
	Reactive: Pending from Q1 of FY 2019-20
	FnC: Pending from Q1 of FY 2021-22

Information about the increase in outstanding amounts pertaining to DSM, following the 50th CCM, which was held on 08.01.24, is tabulated below:

Entity	Outstanding as on 04.01.24 (as per 50 th CCM)	Amount Receivable by Pool after 04.01.24 till 31.07.24	Amount Received by pool after 04.01.24 till 31.07.24	Present outstanding as on 31.07.24
Bihar	29.42	158.52	64	123.94
Jharkhand	54.54	113.95	57.73	110.76
Sikkim	22.95	7.39	1.5	28.84

Further, the details of other pool members are enclosed as **Annexure-B8-A**.

Bihar, JBVNL & SIKKIM may confirm the schedule for payment of outstanding dues.

B. Opening of LC by ER constituents for DSM payments

The details of LC amount required to be opened, as per ERLDC letter dated 29/04/2024 (and reminder dated 26/06/2024), for default in FY 2023-24 by ER constituents is given in table below:

Sl. No	ER Constituents	LC Amount (110% of Average weekly Deviation Charge liability) in ₹	Due date of expiry	Remarks
1	BSPTCL	₹ 3,70,50,927		No Valid LC
2	JUVNL	₹ 2,65,67,573		No Valid LC
3	DVC	₹ 2,03,05,615		No Valid LC
4	Sikkim	₹ 55,16,800		No Valid LC
5	NTPC	₹ 8,14,71,412		No Valid LC
6	CHUZACHEN	₹ 3,91,733		No Valid LC
7	GMR	₹ 5,27,184		No Valid LC
8	NVVN-Nepal	₹ 1,96,45,399		No Valid LC
9	BRBCL	₹ 17,88,965		No Valid LC
10	PGCIL-Alipurduar	₹ 96,036	31-12-2024	LC opened for ₹ 48,940/-
11	ECR	₹ 7,40,236		No Valid LC
12	IBEUL	₹ 27,67,148		No Valid LC
13	Tashiding	₹ 42,887		No Valid LC

Further, the details of other pool members are enclosed as **Annexure-B8-B**.

C. Status of PSDF:

No amount from the Deviation and Reactive Pool account was transferred to PSDF after 5th December 2023. The total amount of around ₹ 2187.32 Cr has been transferred to PSDF so far. The breakup details of fund transferred to PSDF (till 31.07.24) is enclosed in **Annexure-B8-C**.

This is for information to the members.

D. Reconciliation of Pool accounts:

The reconciliation statements of DSM, Reactive, TRAS and SRAS charges are being issued by ERLDC on quarterly basis and statements are being sent to the respective constituents and also being uploaded at ERLDC website at <https://erlhc.in/market-operation/>. The status of reconciliation as on 31.07.2024 is enclosed in **Annexure-B8-D**.

Constituents are requested to take necessary action for the signing of pending reconciliation statements.

E. Temporary General Network Access (T- GNA)

1. For TGNA payments made to CTU:

The reconciliation statements of TGNA payments of Q-1 for FY 24-25 has been sent to CTU on 30.07.2024 and also uploaded the same at ERLDC website at <https://erlhc.in/open-access/reconciliation-sldc-stu/>. The constituent was requested to verify /check the same & comment (if any) to ERLDC at the earliest. The status of reconciliation is enclosed in **Annexure-B8-E**.

Constituents are requested to update the status of reconciliation.

2. For Payments made to TGNA Applicants:

The reconciliation statements of TGNA payments for the period of Q-1 for FY 24-25 have been sent to the GRIDCO, JBVNL, WBSIEDCL, APPCPL, DALMIA CEMENT (BHARAT) LIMITED (RCW) , HPX, IEXL, IPCL, NALCO(OD), KEIPL, PXIL, ITC Limited Corporate Office Kolkata, BSPHCL, AEL, NVVN, PTC, PCW, MKPL, TSFAP Joda, ULTSLDCD47, UCL Cuttack and TPTCL on dated 30.07.2024 and also uploaded the same at ERLDC website at <https://erlhc.in/open-access/reconciliation-applicant/>. The constituents were requested to verify /check the same & comment (if any) to ERLDC at the earliest.

The status of reconciliation is enclosed in **Annexure-B8-E**.

Constituents are requested to update the status of reconciliation.

F. Fees and Charges of ERLDC

The reconciliation statements of FnC payments by registered users of ERLDC have been sent up to the period of Q1 of FY 2024-25. The same is also available at FnC portal <https://fc.posoco.in/FnCWeb/#!/landing>. Many of the users are yet to sign the reconciliation statement. The constituents were requested to verify /check the same & comment (if any) to ERLDC at the earliest.

The status of reconciliation is enclosed in **Annexure- B8-F**.

Constituents are requested to update the status of reconciliation.

G. Monthly Incentive for Section 62 generators on Average Monthly Frequency Response Performance, Beta 'β':

The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, as notified on 15th March 2024, came into force on 01st April 2024. As per clause 62.5 and 65.4 of CERC Tariff Regulation 2024, Hon'ble commission allowed incentive to the thermal generating station and hydro generating station based on their Average Monthly Frequency Response Performance, Beta 'β'. The relevant clauses from the above regulation are quoted below:

62.5) In addition to the AFC entitlement as computed above, the thermal generating station shall be allowed an incentive of up to 1.00% of AFC approved for a given year, which shall be billed monthly as per the following.

$$\text{Incentive} = (1.00\% \times \beta \times \text{CCy})/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission, and β shall range between 0 to 1.

Provided that the incentive shall be payable only if the Beta value is higher than 0.30.

CCy= Capacity Charges for the Year.

65.4) In addition to the AFC entitlement as computed above, the hydro generating station shall be allowed an incentive of up to 3% of the Capacity Charge approved for a given year which shall be billed monthly as per the following.

$$\text{Incentive} = (3\% \times \beta \times \text{CCy})/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission and beta shall range between 0 to 1.

Provided that incentive shall be payable only if Beta value is higher than 0.30.

CCy= Capacity Charges for the Year.

Unquote

In compliance to the above regulation NLDC has drafted the methodology for Computation of Average Monthly Frequency Response Performance, Beta 'β' for Generating Stations. The procedure has been prepared after due stakeholder consultation and is ready for onward submission to CERC. The procedure is attached in **Annexure B8-G**.

For information to all the members.

H. Revision of Aux. Power Consumption of Darlipalli STPS w.e.f. 25/07/2024 in view of Commissioning of ECS (FGD) for Unit#2 Darlipalli STPS.

NTPC vide letter no. ER-II/ Comml/ Payment/2024-25/DSTPP dated 19th July, informed that in view of

commissioning of ECS(FGD) in Unit 2 of Darlipalli STPS additional auxiliary consumption of 1% shall be applicable as per regulation 70 E(f) of CERC(TCT) Regulation 2024 -2029. In coordination with NTPC the revised APC and respective Normative DC to be considered for scheduling have been implemented w.e.f. 00:00 hrs of 25.07.2024. However, as the ECS(FGD) has been commissioned in only Unit no.2 of the plant, there may be following values of APC and Normative DC based on the units on bar:

Unit on Bar	Details	Unit	Normative Value
When Unit 1 is on Bar	Normative Aux. consumption	%	5.75
	Normative DC	MW	754
	Technical Minimum	MW	414.7
	Ramp Rate per block	MW	113.1
When Unit 2 is on Bar	Normative Aux. consumption (considering FGD)	%	6.75
	Normative DC	MW	746
	Technical Minimum	MW	410.3
	Ramp Rate per block	MW	111.9
When Both Unit 1 and Unit 2 are on Bar	Normative Aux. consumption	%	6.25
	Normative DC	MW	1500
	Technical Minimum	MW	825
	Ramp Rate per block	MW	225

While providing day ahead DC or DC revisions (day-ahead/intra-day), NTPC Darlipalli must provide the details of Normative DC and Ramp Rate appropriately based on whether unit 1 is on bar or unit 2 is on bar or both the units are on bar.

I. Launch of New Web-Based Energy Scheduling (WBES) software.

The New Web-Based Energy Scheduling (WBES) software has been fully operationalized w.e.f. 00:00 Hrs. of 5th August 2024. The new software aims to facilitate the seamless implementation of recent regulatory changes. To ensure all stakeholders—including generators, sellers, states, and buyers—are well-acquainted with the new system, a series of training sessions were conducted on 3rd May, 10th June, 11th June and 31st July 2024. Comprehensive testing of the software was carried out to address and resolve any potential issues. The SLDCs, DISCOMs, ISGSs and IPPs have played a key role in testing the New WBES system and this ensured error free implementation of the system.

Further, in line with CERC (Cross Border Trade of Electricity) Regulations, 2019 and signed DSM modalities between India and Bhutan, the SNA (presently NVVN) has been provided login credentials to provide inputs in New WBES system on behalf of Bhutan. Apart from Bhutan, the SNA shall also provide scheduling data in New WBES system on behalf of Nepal and Bangladesh. Separate training sessions were provided to NVVN in presence of Bhutan, Bangladesh, Nepal, TPTCL (for Dagachu) and PTC (for

Nikachhu) by ERLDC in coordination with NLDC on 16th and 17th July 2024. Also, as desired by BPSO, Bhutan, 3 days parallel testing was conducted for Bhutan, NVVN, PTC, TPTCL for familiarization of new WBES including the procedure for scheduling data exchange was conducted from 24th July'24 to 26th July'24.

ITEM NO. B9: Agenda by Powergrid.

A. Non-Opening of requisite amount of LC:

(i) Following constituents are required to enhance/ extend LC towards Payment Security Mechanism, as per Annexure-8 of 8.2 of Para 8.0 of BCD Procedure and CERC Regulations:

Sl. No	Name of DIC's	Required Value of LC (in Cr.)	Present Value of LC (in Cr.)
(i)	India Power Corporation Ltd.	2.74	0.0
(ii)	Sikkim	3.10	0.0
(iii)	North Bihar Power Distribution Company Limited (NBPDCCL)	90.98	9.73
(iv)	South Bihar Power Distribution Company Limited (SBPDCL)	106.52	15.27
(v)	Jharkhand Bidyut Vitran Nigam Ltd (JBVNL)	31.42	11.52

➤ Letter of Credit (LC) to be opened in favour of **CTUIL for POC & POWERGRID** towards **Non-POC** Billing.

B. Payment of Outstanding dues more than 45 days:

Sl. No	Name of DIC's	Total Outstanding Dues (in Cr.)	Outstanding Dues more than 45 days (in Cr.)
(i)	West Bengal State Electricity Distribution Company Ltd. (WBSEDCL)	354.02	236.46
(ii)	Jharkhand Bijli Vitran Nigam Limited (JBVNL)	148.73	101.65
(iii)	West Bengal State Electricity Transmission Company Ltd. (WBSETCL)	28.91	28.91
(iv)	Odisha Power Generation Company Limited (OPGCL)	17.08	17.08
	Total	548.74	384.10

C. Non-payment of RTDA bills:

The following DIC's are not paying RTDA bills:

Sl. No	Name of DIC's	Outstanding dues	Remarks
(i)	West Bengal State Electricity Distribution Company Ltd. (WBSEDCL)	236.46 Cr.	Outstanding dues of INR 1.20 Cr. pending for long period, INR 2.91 Cr. (bill dtd.09.12.22), INR 5.65 Cr. (bill dtd. 10.05.23), 192.48 Cr (bill dtd 13.12.23) & 34.23 Cr (Bill dtd 28.05.24) against RTDA bills are pending despite of several follow up.
(ii)	Jharkhand Vidyut Vitran Nigam Limited (JBVNL).	59.44 Cr.	Outstanding dues of INR 51.23 Cr. (Bill dated 13.12.23) & INR 8.12 Cr. (Bill dated 28.05.24) against RTDA bills are pending despite several follow up.

D. List of Assets during January'24 to July'24 of Eastern Region (ER)

A	Eastern Region Expansion Scheme-XXVIII	DOCO	Remarks	Region
1	420 KV, 1X125 MVAR Bus Reactor along with associated bay at Biharsharif) POWERGRID) S/s in the Bus Section having 1x80 MVAR existing bus reactor	25.03.2024	DOCO Letter Dtd. 27.03.2024	ER-I
B	ERSS-XXII			
1	Replacement of existing single main & Transfer bus scheme with double main bus scheme at 132 KV level at Malda 400/220/132 Kv Ss through GIS	25.03.2024	DOCO Letter Dtd. 05.04.2024	ER-II
C	Strengthening of OPGW Network within the ER Grid and Connectivity with other Region			
1	KPTS-Giridih OPGW Link (OPGW Network – 105 Km)	13.01.2024	DOCO Letter Dtd. 07.06.2024	ER-II
2	765 kv S/C Gaya-Varanasi Ckt-II, (OPGW-310.186 Km, SDH-02 Nos, DCPS &BB-02 Nos & NMS-01 Nos)	23.01.2024	DOCO Letter Dtd. 07.03.2024	ER-I
3	Maithon - Durgapur OPGW Link (OPGW Network -74.125 Km)	25.01.2024	DOCO Letter Dtd. 07.06.2024	ER-II
4	Teesta III-Kishanganj OPGW Link (OPGW Network -242.062 Km)	01.03.2024	DOCO Letter Dtd. 07.06.2024	ER-II
5	Ramkanali - CTPS (OPGW Cable 24F - 72.074 Km)	24.03.2023	DOCO Letter Dtd. 28.02.2024	ER-II
6	CTPS - Gola (OPGW Cable 24F - 67.639 Km)	23.03.2023	DOCO Letter Dtd. 28.02.2024	ER-II
7	Jamuraia - Ramkanali (OPGW Cable 24F -51.995 Km)	06.06.2023	DOCO Letter Dtd. 28.02.2024	ER-II
8	Purulia - Jamshedpur (OPGW Cable 24F-87.080 Km)	13.04.2023	DOCO Letter Dtd. 28.02.2024	ER-II
9	400 KV D/C Patna-Balia Line- I: OPGW- 180.45 Km, SDH-03 Nos., DCPS+BB- 02 no.	18-11-2023	DOCO Letter Dtd. 05.02.2024	ER-I
D	Establishment of state-of-the-art Unified centralized network management system for			

	ISTS and state utility Communication Network in Eastern Region			
1	Establishment of state-of-the-art Unified centralized network management system for ISTS and state utility Communication Network in Eastern Region	25.12.2023	DOCO Letter Dtd. 08.04.2024	ER-II
E	Establishment of reliable communication System under Central Sector for Eastern Region			
	400KV Angul-GMR OPGW Link (24F DWSM, Length- 30 Km) along with associated end/terminal equipments at both Angul & GMR Substations.	16.02.2024	DOCO Letter Dtd. 29.03.2024	ODISHA project
F	Upgradation of SCADA/RTU/SAS in Central Sector Station and Strengthening of OPGW Network within the ER Grid			
1	Durgapur-Jamashedpur OPGW Link (OPGW Network- 183.635 Km)	16.12.2023	DOCO Letter Dtd. 07.06.2024	ER-II
2	Upgradation of SAS at 09 Location (chaibasa 400 KV, Gaya 765 KV, Kishanganj 400 KV, New Ranchi 765KV, Chandwa 400 KV, Daltonganj 400 Kv, Banka 400 KV, Lakhisarai 400 KV,Sasaram 765 KV HVDC	21.12.2023	DOCO Letter Dtd. 25.07.2024	ER-I
3	Implementation of BCU based SAS at 02 Location (Ara 220KV & Purnea 220 KV)			
4	400 kV D/C Nabinagar (BRBCL) Generating Station-Sasaram: OPGW-81.394 Km, SDH- 02 Nos, DCPS+BB-01 No.	31-12-2023	DOCO Letter Dtd. 05.02.2024	ER-I
5	LILO Portion of Biharsharif-Balia at Ara: OPGW-10.192 Km, SDH-01 No., DCPS+BB-01 No.			
6	Biharsharif-Kahalgaon: OPGW-233.234 Km, SDH- 03 Nos, DCPS+BB-02 Nos	26-11-2023		
7	Biharsharif-Sasaram: OPGW-199.75 Km, SDH-01 Nos, DCPS+BB-01 Nos			

ITEM NO. B10: Any other points for discussion with the permission of chair.

Cost Estimate For Equipment at Alipurduar

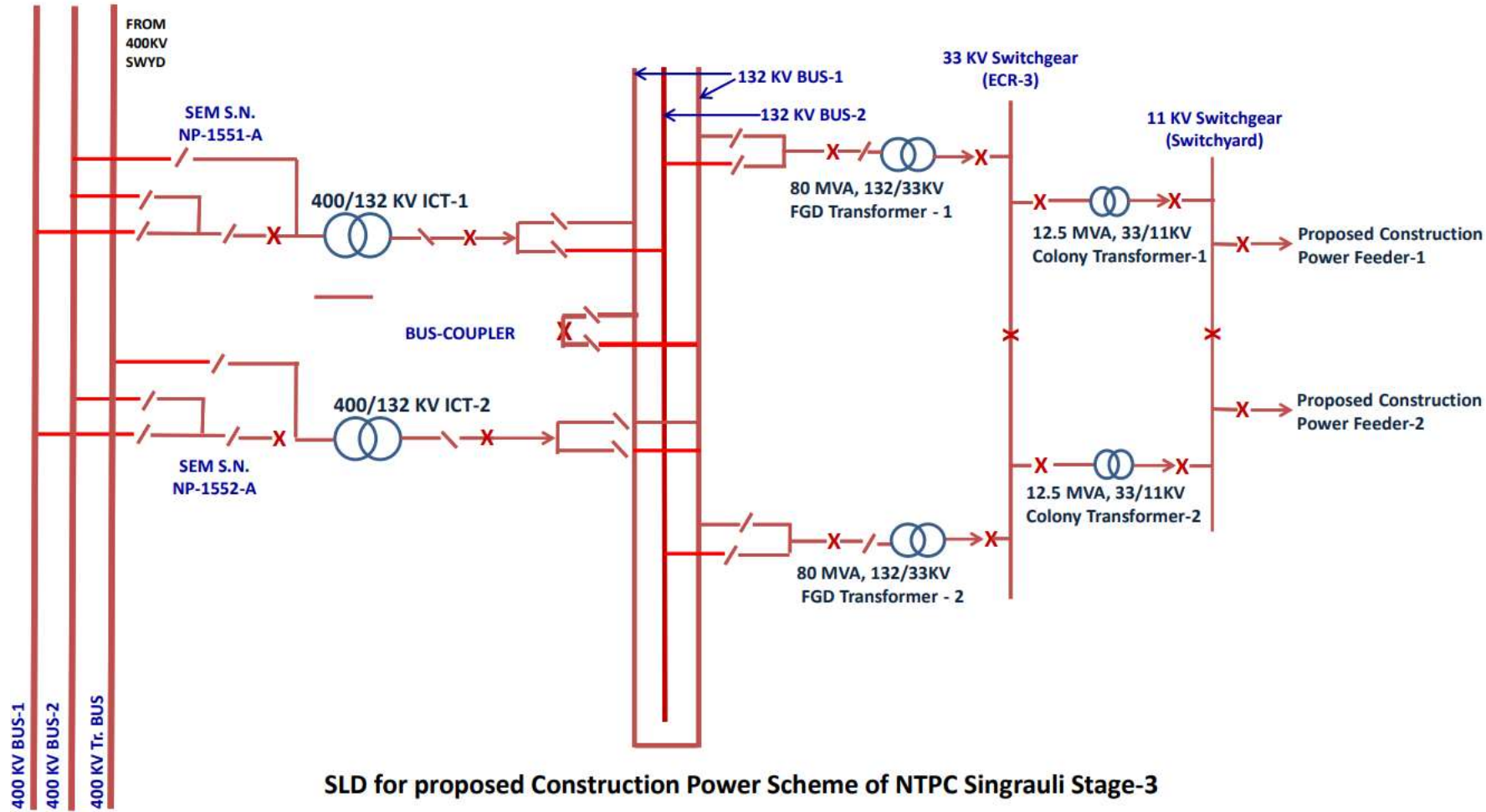
Sl. No.	Description	Amount (in Lakhs (Rs.))
	Equipment Cost	
A	Supply	35.73
	Sub- Total A	
B	Services/Installation incl training, testing and commissioning	4.02
C	Inland Freight and Insurance	3.57
	Subtotal (A to C)	43.32
D	Taxes and Duties	
i	GST on Supply	6.43
ii	GST on Service / Installation incl. Training	0.72
	Subtotal (D)	7.16
	Subtotal (A to D)	50.48
E	Incidental Expenditure during Construction	5.43
F	Contingency	1.51
	Total (A to F)	57.42
G	Interest During Construction (IDC)	2.87
	Grand Total	60.29
H	Annual maintenance charges for 1 year during warranty period and 6 years after warranty period incl. GST*	0.71

S.No	Items	Units	Quantity	Supply (Rs.)	Total	F&I (Rs.)	Services(Rs.)		Total price (Rs.)
1	Estimated cost for Dismantling of STM-16 equipment from existing location and transportation, installation, configuration, integration & commissioning of the same equipment to STM-4 location	LOT	1	0	0	0	400000	0	400000
2	SFP S16.1	EA	4	15120	60480		136	544	61024
3	optical Line interface card- STM4 - 225 KM	EA	6	446784	2680704		120	720	2681424
4	TRIBUTARY INTERFACE- E1 INTERFACE (MINIMUM 16 NOS.)	Set	2	71876	143752		72	144	143896
5	ETHERNET INTERFACE 10/100 BASE T WITH LAYER-2 SWITCHING (MIN 8 INTERFACES PER	EA	2	94740	189480		124	248	189728
6	TRIBUTARY INTERFACE-GIGABIT ETHERNET INTERFACES 10/100 MBPS WITH LAYER-2 SWITCHING (MINIMUM 2 NOS.)	SET	1	35223	35223		72	72	35295
7	Equipment Cabinets For SDH	EA	1	463714	463714		1188	1188	464902
					3573353		401712		3976269

Construction Power Draw Scheme



Annexure-B4



SLD for proposed Construction Power Scheme of NTPC Singrauli Stage-3



Annexure B8-A

SUMMARY OF DEVIATION CHARGE RECEIPT AND PAYMENT STATUS

**BILL PUBLISHED UPTO 24-07-2024 (W-15 of FY 2024-25)
AS on 31-07-24**

Figures in ₹ Lakhs

CONSTITUENTS	Net outstanding upto 2023-24	Receivable by Pool	Received by Pool	Payable From Pool	Paid From Pool	Outstanding for 2024-25	Total Outstanding
BSPTCL	1,792.73329	10,616.29949	0.00000	15.22215	0.00000	10,601.07734	12,393.81063
JUVNL	5,097.63783	6,078.65068	100.00000	0.30147	0.00000	5,978.34921	11,075.98704
DVC	0.00000	1,213.56274	1,213.56274	645.14996	115.03659	-530.11337	-530.11337
GRIDCO	0.00000	2,445.78043	2,445.65744	773.30328	332.18011	-441.00018	-441.00018
WBSETCL	0.00000	299.00809	298.96503	4,398.50034	3,233.71461	-1,164.74267	-1,164.74267
Sikkim	2,521.99052	432.76512	0.00000	102.46560	31.88283	362.18235	2,884.17287
NTPC	0.00000	10,584.66787	10,584.66787	223.46835	219.50170	-3.96665	-3.96665
NHPC	0.00000	20.81482	20.81482	5.95334	3.77657	-2.17677	-2.17677
MPL	0.00000	29.41695	29.41695	331.42537	265.76561	-65.65976	-65.65976
APNRL	0.00000	175.19537	168.76897	0.00000	0.00000	6.42640	6.42640
CHUZACHEN	0.00000	51.06136	51.06136	25.90427	4.00142	-21.90285	-21.90285
NVVN-BD	0.00000	115.96762	115.96762	312.86463	145.93677	-166.92786	-166.92786
GMR	0.00000	52.48266	52.48266	7.10148	2.10930	-4.99218	-4.99218
JITPL	0.00000	235.32053	232.65915	34.39941	23.88630	0.00000	0.00000
TPTCL (Dagachu)	0.00000	0.00000	0.00000	11.64448	11.64448	0.00000	0.00000
JLHEP	0.00000	18.10384	15.27672	38.48276	17.70573	-17.94991	-17.94991
NVVN-NEPAL	0.00000	5,240.79648	5,240.79648	546.60586	0.00000	-546.60586	-546.60586
BRBCL	0.00000	607.42782	607.42782	10.76585	10.76585	0.00000	0.00000
PGCIL SASARAM	0.00000	4.95122	4.95220	11.40295	7.80867	-3.59526	-3.59526
SUL (Teesta-III)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Dikchu	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
PGCIL-Alipurduar	0.00000	18.72212	17.68137	0.00000	0.00000	1.04075	1.04075
Tashiding(THEP)	0.00000	32.83164	5.74212	56.09482	29.37679	0.37149	0.37149
RONGNICHU	0.00000	20.24414	20.17194	106.93570	11.39167	-95.47183	-95.47183
NVVN-Bhutan	0.00000	52.69851	52.69851	1,610.93474	550.64927	-1,060.28547	-1,060.28547
ECR	0.00000	145.80856	145.80856	0.00621	0.00621	0.00000	0.00000
IBEUL	0.00000	2,390.76079	2,476.03959	0.00000	85.27880	0.00000	0.00000
NEA-Bihar	0.00000	648.16856	648.16856	9.17848	0.00000	-9.17848	-9.17848
Total	9,412.36164	41,531.50741	24,548.78848	9,278.11150	5,102.41928	12,814.87844	22,236.41856

Receivable: Receivable by ER Payable: Payable by ER POOL
 Received: Received by ER P Paid: Paid by ER POOL
 '- ve' Payable by ER pool '+ ve' Receivable by ER pool

STATUS OF REACTIVE CHARGES

AS on 31-07-24

Figures in ₹ Lakhs

Name of Parties	Net outstanding upto 2023-24	Receivable Amount by pool	Received Amount by pool	Payable Amount by pool	Paid Amount by pool	Outstanding Amount Receivable(+Ve) / Payable by pool(-Ve)
Bhutan	0	15.95	15.95	24.03	8.64	-15.40
Bangladesh	0	1.70	1.67	0.00	0.00	0.03
Nepal	0	3.19	3.19	0.33	0.23	-0.10
NEA-Bihar	0	0.60	0.60	1.68	1.55	-0.13
BSPHCL	0.24	0.00	0.00	97.74	90.26	-7.48
JUVNL	0	20.17	19.61	0.56	0.00	0.00
DVC	0	1.68	1.68	19.23	16.42	-2.81
GRIDCO	0	0.29	0.00	58.79	58.79	0.29
SIKKIM	0	0.04	0.00	0.74	0.72	0.02
WBSETCL	0	25.23	0.00	13.42	0.00	11.81
JITPL	0	0.00	0.00	0.16	0.16	0.00
Alipurduar	0	0.06	0.02	0.00	0.00	0.03
Sasaram	0	0.03	0.02	0.00	0.00	0.00
MPL	0	0.00	0.00	0.00	0.00	0.00
APNRL	0	0.00	0.00	0.41	0.41	0.00
BRBCL	0	0.00	0.00	1.40	1.40	0.00
JLHEP	0	0.05	0.00	0.00	0.00	0.04
Chuzachen	0	0.03	0.03	0.32	0.26	-0.06
TUL	0	0.00	0.00	0.00	0.00	0.00
RHEP	0	0.08	0.07	0.01	0.01	0.00
THEP	0	0.08	0.08	0.00	0.00	-0.01
Dikchu	0	0.00	0.00	0.00	0.00	0.00
ECR	0	1.45	1.45	0.51	0.43	-0.09
GMR	0	0.36	0.36	0.76	0.76	0.00
IND_Bharat	0	0.99	0.10	3.44	3.43	0.88
NHPC	0	0.00	0.00	3.72	3.16	-0.57
NTPC	0	0.00	0.00	270.62	249.19	-21.43

Receivable:

Received:

'- ve' Payable by ER pool

Receivable by ER POOI Payable:

Received by ER POOL Paid:

'+ ve' Receivable by ER pool

Payable by ER POOL

Paid by ER POOL

Current Status of Letter of Credit (LC) amount against DSM charges for ER constituents*Figures in Lacs of Rupees*

SI No	ER Constituents	No. of weeks in which Deviation Charge payable	No of times payment was delayed during 2023-24	Total Deviation charges payable to pool during 2023-24	Average weekly Deviation Charge liability	LC Amount	Defaulting Weeks	Due date of expiry	Remarks
					(C)/52 weeks	110% of (D)			
		(A)	(B)	(C)	(D)	(E)	(G)	(F)	(G)
1	Bihar State Power Holding Corporation Limited / बिहार	35	35	17514.98	336.83	370.50927	ALL Weeks		
2	Jharkhand State Electricity Board / झारखंड	43	43	12559.22	241.52	265.67573	ALL Weeks		
3	Damodar Valley Corporation / डीवीसी	38	4	9599.02	184.60	203.05615	3, 35, 45 r-1, 53		
4	Power Deptt. Govt. of Sikkim / सिक्किम	37	37	2607.94	50.15	55.16800	ALL Weeks		
5	NTPC / एनटीपीसी	53	3	38513.76	740.65	814.71412	28, 29, 38		
6	Adhunik Power & Natural Resources Limited / अधुनिक शक्ति	31	31	398.10	7.66	8.42125	ALL Weeks	11-12-2024	LC opened for ₹ 25,95,437 /-
7	Gati Infrastructure Private Limited / गुजाघन	26	11	185.18	3.56	3.91733	4, 5, 6, 7, 11, 13, 18, 20, 25, 37, 39		
8	GMR Kamalanga Energy Limited / जीएमआर	32	28	249.21	4.79	5.27184	All weeks except 5, 19, 26, 38		
9	Jindal India Thermal Power Ltd. / जिंदल	23	9	1096.44	21.09	23.19395	21, 25, 26, 29,31, 32, 36, 39, 44	31-03-2025	LC opened for ₹ 23,19,395 /-
10	DANS Energy Private Limited - Operation Retention Account / डेन्स ऊर्जा	9	9	150.46	2.89	3.18275	ALL Weeks	09-01-2025	LC opened for ₹ 25,22,302 /-
11	NTPC Vidyut Vyapar Nigam Ltd-Nepal / एनटीपीसी-नेपाल	43	4	9286.92	178.59	196.45399	3, 6, 21, 24		
12	Bhartiya Rail Bijlee Company Ltd. /बीआर बीसीएल	42	12	845.69	16.26	17.88965	1, 4, 8, 10, 14, 17, 19, 20, 26, 28, 31		
13	Powergrid Corporation Of India Limited-Sasaram / सासाराम	32	4	47.42	0.91	1.00311	1, 18, 21, 24	31-03-2025	LC opened for ₹ 1,00,311 /-
14	Sneha Kinetic Power Projects Pvt. Ltd./ दिकचू	8	2	352.14	6.77	7.44904	1, 4	03-05-2025	LC opened for ₹ 7,44,904 /-
15	PGCIL-Alipurduar / अलीपुरदुआर	30	14	45.40	0.87	0.96036	1, 10, 21, 23, 25, 29, 32, 33, 34, 35, 37, 43, 44, 52	31-12-2024	LC opened for ₹ 48,940/-
16	East Central Railway	33	7	349.92969	6.72942	7.40236	18, 25, 30, 35, 43, 51, 52		
17	Ind bharath energy utkal limited	6	6	1308.10652	25.15589	27.67148	ALL Weeks		
18	Shiga Energy Private / शिगा ऊर्जा	1	1	20.27364	0.38988	0.42887	12 r-1		

DETAILS OF DISBURSEMENT TO POWER SYSTEM DEVELOPMENT FUND

Sl No	Nature of Amount	Amount transferred to PSDF (Rs in Lac)	Date of Disbursement	Remarks
	Opening Balance (upto 31.03.2019)	95896.17		
1	Reactive Energy Charge	105.79202	04.04.19	Reactive Charges 18-19
2	Reactive Energy Charge	287.48448	03.05.19	Reactive Charges 18-19 & 19-20
3	Reactive Energy Charge	129.69559	03.06.19	Reactive Charges 19-20
4	Reactive Energy Charge	207.83840	04.07.19	Reactive Charges 19-20
5	Reactive Energy Charge	94.91703	02.08.19	Reactive Charges 19-20
6	Reactive Energy Charge	188.53681	02.09.19	Reactive Charges 19-20
7	Surplus DSM amount transferred	32210.51998	24.09.19	DSM Charges 19-20
8	Reactive Energy Charge	173.06004	01.10.19	Reactive Charges 19-20
9	Reactive Energy Charge	273.15002	01.11.19	Reactive Charges 19-20
10	Reactive Energy Charge	401.09564	04.12.19	Reactive Charges 19-20
11	Reactive Energy Charge	252.53573	02.01.20	Reactive Charges 19-20
12	Reactive Energy Charge	148.65520	07.02.20	Reactive Charges 19-20
13	Reactive Energy Charge	205.22437	04.03.20	Reactive Charges 19-20
14	Bank interest from Reactive acct	0.21706	03.04.20	Bank interest from Reactive acct
15	Reactive Energy Charge	843.03166	03.06.20	Reactive Charges 19-20 & 20-21
16	Reactive Energy Charge	507.80481	07.07.20	Reactive Charges 17-18,18-19 & 20-21
17	Reactive Energy Charge	309.41068	06.08.20	Reactive Charges 17-18,18-19 & 20-21
18	Reactive Energy Charge	83.23955	02.09.20	Reactive Charges 19-20 & 20-21
19	Bank interest of DSM A/C-TDS portion	251.65235	18.09.20	Bank interest TDS portion transferred from POSOCO,CC
20	Bank interest of DSM A/C-TDS portion	15.64788	22.09.20	Bank interest TDS portion transferred from POSOCO,CC
21	Reactive Energy Charge	118.85979	06.10.20	Reactive Charges 20-21
22	Reactive Energy Charge	101.42971	04.11.20	Reactive Charges 20-21
23	Reactive Energy Charge	82.34791	04.12.20	Reactive Charges 20-21
24	Reactive Energy Charge	500.95333	06.01.21	Reactive Charges of 19-20 & 20-21
25	Reactive Energy Charge	92.51486	03.02.21	Reactive Charges of 19-20 & 20-21
26	Reactive Energy Charge	50.22963	04.03.21	Reactive Charges of 19-20 & 20-21
27	Reactive Energy Charge	32.15331	07.04.21	Reactive Charges of 19-20 & 20-21
28	Reactive Energy Charge	39.59760	05.05.21	Reactive Charges of 19-20 & 20-21
29	Reactive Energy Charge	18.96069	01.06.21	Reactive Charges of 20-21 & 21-22
30	Reactive Energy Charge	392.24613	12.07.21	Reactive Charges of 20-21 & 21-22
31	Reactive Energy Charge	214.22298	22.07.21	Reactive Charges 21-22
32	Addl. Dev	392.94201	25.08.21	DSM Charges of 19-20 received from Jharkhand
33	Addl. Dev	5.99326	03.09.21	DSM Charges of 19-20 received from Jharkhand
34	Reactive Energy Charge	330.73064	09.09.21	Reactive Charges 21-22
35	Addl. Dev	1334.97939	23.09.21	DSM Charges of 20-21 received from Bihar
36	Addl. Dev	500.00000	27.09.21	DSM Charges of 20-21 received from Bihar
37	Addl. Dev	1500.00000	29.09.21	DSM Charges of 20-21 received from Bihar
38	Addl. Dev	500.00000	01.10.21	DSM Charges of 20-21 received from Bihar
39	Addl. Dev	1000.00000	05.10.21	DSM Charges of 20-21 received from Bihar
40	Addl. Dev	402.60050	05.10.21	DSM Charges of 20-21 received from Jharkhand
41	Reactive Energy Charge	131.05971	07.10.21	Reactive Charges 21-22
42	Addl. Dev	1000.00000	22.10.21	DSM Charges of 20-21 received from Bihar
43	Addl. Dev	1000.00000	26.10.21	DSM Charges of 20-21 received from Bihar
44	Addl. Dev	539.21266	28.10.21	DSM Charges of 20-21 received from Bihar
45	Reactive Energy Charge	224.70676	03.11.21	Reactive Charges 21-22
46	Reactive Energy Charge	366.25533	03.12.21	Reactive Charges 21-22
47	Reactive Energy Charge	5.33816	09.12.21	Interest Amount received in Reactive Account
48	Addl. Dev	489.56759	04.01.22	DSM Charges of 20-21 received from Jharkhand
49	Reactive Energy Charge	449.70232	04.01.22	Reactive Charges 21-22
50	Reactive Energy Charge	547.40910	04.02.22	Reactive Charges 21-22
51	Addl. Dev	7182.00679	08.02.22	Excess amount after clearing Wk-43
52	Addl. Dev	103.38490	28.02.22	DSM Charges of 20-21 received from Jharkhand and POSOCO CC (REC)
53	Reactive Energy Charge	22.28702	04.03.22	Reactive Charges 21-22
54	Reactive Energy Charge	978.22379	08.03.22	Reactive Charges 21-22
55	Reactive Energy Charge	502.63132	04.04.22	Reactive Charges 21-22
56	Addl. Dev	13586.90110	02.05.22	Addl. Dev Charge 21-22
57	Reactive Energy Charge	91.67842	02.05.22	Reactive Charges 21-22
58	Addl. Dev	323.72543	17.05.22	DSM Charges of 21-22 received from Jharkhand
59	Addl. Dev	223.19034	31.05.22	DSM Charges of 21-22 received from Jharkhand
60	Addl. Dev	17070.55890	02.06.22	DSM charges
61	Reactive Energy Charge	104.77973	02.06.22	Reactive Charges 21-22
62	Addl. Dev	700.00000	10.06.22	DSM Charges of 21-22 received from Jharkhand and DVC (Bhutan)
63	Addl. Dev	230.65522	24.06.22	DSM Charges of 21-22 received from Jharkhand and DVC (Bhutan)
64	Addl. Dev	200.00000	28.06.22	DSM Charges of 21-22 received from Jharkhand
65	Addl. Dev	200.00000	01.07.22	DSM Charges of 21-22 received from Jharkhand
66	Reactive Energy Charge	491.14301	08.07.22	Reactive Charges 21-22 received from Bihar
67	Addl. Dev	200.00000	14.07.22	DSM Charges of 21-22 received from Jharkhand
68	Addl. Dev	900.00000	20.07.22	DSM Charges of 21-22 received from Sikkim and Bihar
69	Addl. Dev	300.00000	25.07.22	DSM Charges of 21-22 received from Jharkhand
70	Addl. Dev	200.00000	26.07.22	DSM Charges of 21-22 received from Jharkhand
71	Addl. Dev	400.00000	28.07.22	DSM Charges of 21-22 received from Jharkhand
72	Addl. Dev	553.96908	08.08.22	DSM Charges of 21-22 received from Bihar
73	Reactive Energy Charge	56.45017	08.08.22	Reactive Charges 22-23
74	Reactive Energy Charge	586.61896	07.09.22	Reactive Charges 22-23
75	Reactive Energy Charge	152.77578	07.10.22	Reactive Charges 22-23
76	Addl. Dev	15507.63580	07.11.22	DSM Charges 22-23
77	Reactive Energy Charge	94.63234	07.11.22	Reactive Charges 22-23
78	Reactive Energy Charge	89.18883	02.12.22	Reactive Charges 22-23
79	Reactive Energy Charge	162.52773	05.01.23	Reactive Charges 22-23
80	Reactive Energy Charge	3.93158	07.02.23	Reactive Charges 22-23
81	Reactive Energy Charge	292.70498	06.03.23	Reactive Charges 22-23
82	Reactive Energy Charge	321.80291	30.03.23	Reactive Charges 22-23
83	Addl. Dev	10079.39783	06.04.23	DSM Charges 22-23
84	Reactive Energy Charge	716.65397	04.05.23	Reactive Charges 23-24
85	Reactive Energy Charge	508.35350	07.06.23	Reactive Charges 23-24
86	Reactive Energy Charge	83.11163	05.07.23	Reactive Charges 23-24
87	Reactive Energy Charge	498.36959	04.08.23	Reactive Charges 23-24
88	Reactive Energy Charge	50.77966	05.09.23	Reactive Charges 23-24
89	Reactive Energy Charge	5.26035	06.10.23	Reactive Charges 23-24
90	Reactive Energy Charge	6.79669	06.11.23	Reactive Charges 23-24
91	Reactive Energy Charge	0.11306	05.12.23	Reactive Charges 23-24
	Total	218731.92988		

Annexure B8-D

DSM account Reconciliation Status of ER constituents

Name of The Utility	2019-20				2020-21				2021-22				2022-23				2023-24			
	Q1 (17.07.19)	Q2 (21.10.19)	Q3 (13.01.20)	Q4 (15.04.20)	Q1 (15.07.20)	Q2 (23.10.20)	Q3 (20.01.21)	Q4 (28.04.21)	Q1 (06.07.21)	Q2 (07.10.21)	Q3 (11.01.22)	Q4 (18.04.22)	Q1 (15.07.22)	Q2 (21.10.22)	Q3 (19.01.23)	Q4 (28.04.23)	Q1 (28.07.23)	Q2 (19.10.23)	Q3 (25.01.24)	Q4 (24.04.24)
BSPHCL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
JUVNL	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DVC	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
GRIDCO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
WBSETCL	YES	YES	YES	YES	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
SIKKIM	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
NTPC	YES	YES	YES	YES	YES	YES	YES	YES	Yes	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
NHPC	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES
MPL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES
APNRL	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CHUZACHEN(GATI)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
NVVN(Ind-Bng)	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
NVVN(Ind-Nep)	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
NVVN (Bhutan)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	YES	YES
GMR	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
JITPL	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	YES
IPTCL (DAGACHU)	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES
JLHEP(DANS ENERGY)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	YES	YES	NO	YES
BRBCL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES	YES	YES
POWERGRID (ER-I)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
POWERGRID (ER-II)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES
TUL (TEESTA-III)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	NO	YES	YES
DIKCHU	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NA
SHIGA (TASHIDING)	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	NO	NO	NO	YES	YES	NO	YES
Rongrichu	NA				NA				NA				YES				NO			

(1) The dates in the bracket indicates the date of sending the Reconciliation statements by ERLDC to utilities.

(2) YES Indicates that signed reconciliation statement received by ERLDC

(3) NO Indicates that signed reconciliation statement is not received by ERLDC

Reactive Account Reconciliation Status

Name of The Utility	2019-20				2020-21				2021-22				2022-23				2023-24			
	Q1 (17.07.19)	Q2 (21.10.19)	Q3 (13.01.20)	Q4 (15.04.20)	Q1 (15.07.20)	Q2 (23.10.20)	Q3 (20.01.21)	Q4 (28.04.21)	Q1 (06.07.21)	Q2 (07.10.21)	Q3 (11.01.22)	Q4 (18.04.22)	Q1 (15.07.22)	Q2 (21.10.22)	Q3 (19.01.23)	Q4 (28.04.23)	Q1 (28.07.23)	Q2 (19.10.23)	Q3 (25.01.24)	Q4 (24.04.24)
BSPHCL	YES	NA	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
JUVNL	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
DVC	YES	N/A	N/A	N/A	YES	NO	NO	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
GRIDCO	YES	YES	YES	YES	YES	YES	YES	YES	Yes	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES
WBSETCL	YES	YES	NO	NO	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SIKKIM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
NTPC	NA																	YES	NO	
NHPC																		YES	YES	
MPL																		NA	NA	
APNRL																		NO	NO	
CHUZACHEN(GATI)																		YES	YES	
NVVN(Ind-Bng)																		YES	YES	
NVVN(Ind-Nep)																		YES	YES	
NVVN (Bhutan)																		NA	YES	
GMR																		NO	NO	
JITPL																		NO	YES	
INBEUL																		NO	NO	
TPTCL (DAGACHU)																		NO	NO	
JLHEP(DANS ENERGY)																		NO	YES	
BRBCL																		YES	YES	
POWERGRID (ER-I)																		NO	NO	
POWERGRID (ER-II)																		NO	YES	
TUL (TEESTA-III)																		NA	NA	
DIKCHU																		NA	NA	
SHIGA (TASHIDING)																		NO	YES	
OPGC																		NA	NA	
Rongnichu	YES	YES																		

TRAS Account Reconciliation Status

Name of The Utility	2023-24			
	Q1 (28.07.23)	Q2 (19.10.23)	Q3 (25.01.24)	Q4 (24.04.24)
NTPC	YES	YES	YES	YES
BRBCL	YES	YES	YES	YES
MPL	YES	YES	NO	YES

SRAS Account Reconciliation Status

Name of The Utility	2022-23		2023-24			
	Q3 (19.01.23)	Q4 (28.04.23)	Q1 (28.07.23)	Q2 (19.10.23)	Q3 (25.01.24)	Q4 (24.04.24)
NTPC	YES	YES	YES	YES	YES	YES
MPL	YES	YES	YES	YES	YES	YES
NHPC	YES	NO	NO	NO	YES	YES

Annexure B8-E

Reconciliation Between Open Access department of ERLDC and SLDCs, STUs and CTU

Sl. No.	STUs / SLDCs Name	Quarter-I (2022-23)	Quarter-II (2022-23)	Quarter-III (2022-23)	Quarter-IV (2022-23)	Quarter-I (2023-24)	Quarter-II (2023-24)	Quarter-III (2023-24)	Quarter-IV (2023-24)	Quarter-I (2024-25)
	Date of Issuance	28-07-2022	26-10-2022	30-01-2023	18-04-2023	21-07-2023	27-10-2023	29-01-2024	24-04-2024	30-07-2024
1	West Bengal - SLDC and STU	NO	NO	NO	NO	NO	NO	NO	NA	NA
2	DVC - SLDC	NO	NO	YES	YES	NO	NO	NA	NA	NA
3	OPTCL-SLDC and STU	YES	YES	YES	YES	YES	NO	NO	NA	NA
4	Jharkhand STU and SLDC	NO	NO	NO	NO	NO	NO	NO	NA	NA
5	Bihar-SLDC and STU	YES	NO	NO	NO	NO	NO	NA	NA	NA
6	Andhra Pradesh	NO	NO	NO	NO	NO	NO	NO	NA	NA
7	CHHATTISGARH	NO	NO	NO	NA	NO	NO	NA	NA	NA
8	Delhi	NO	NO	NO	NA	NO	NO	NA	NA	NA
9	HIMACHAL PRADESH	NO	NO	NO	NO	NO	NO	NA	NA	NA
10	JAMMU & KASHMIR	NO	NA	NA	NA	NA	NO	NA	NA	NA
11	KARNATAKA	NO	NO	NO	NO	NO	NO	NA	NA	NA
12	MADHYA PRADESH	NO	NO	NO	NO	NO	NO	NA	NA	NA
13	MAHARASTRA	NO	NO	NO	NO	NO	NO	NA	NA	NA
14	Manipur	NA	NA	NA	NA	NO	NO	NA	NA	NA
15	RAJASTHAN	NO	NO	NO	NO	YES	YES	NA	NA	NA
16	Gujarat	NA	NO	NO	NA	NO	NO	NA	NA	NA
17	Uttar Pradesh	NA	NO	NO	NO	NO	NO	NA	NA	NA
18	Tamil Nadu	NA	NA	NA	NA	NO	NO	NA	NA	NA
19	Telangana	NA	NA	NO	NO	NA	NA	NA	NA	NA
20	CTU	NO	NO	NO	NO	NO	NO	NO	NO	NO

Reconciliation Between Open Access department of ERLDC and Applicants										
Sl. No.	Applicants Name	Quarter-I (2022-23)	Quarter-II (2022-23)	Quarter-III (2022-23)	Quarter-IV (2022-23)	Quarter-I (2023-24)	Quarter-II (2023-24)	Quarter-III (2023-24)	Quarter-IV (2023-24)	Quarter-I (2024-25)
	Date of Issuance	28-07-2022	26-10-2022	30-01-2023	18-04-2023	21-07-2023	27-10-2023	29-01-2024	24-04-2024	30-07-2024
1	Bihar State Power Holding Company Limited	NA	NA	NA	NA	NA	NA	NA	NA	NO
2	GRIDCO Ltd	YES	YES	NA	NA	YES	YES	YES	YES	NO
3	Jindal India Thermal Power Limited	NO	NO	NO	NO	YES	YES	YES	NA	NA
4	Jharkhand Bijli Vitaran Nigam Limited	NO	NO	NO	NO	NO	NO	NO	NO	NO
5	West Bengal State Electricity Distribution Company Limited	NO	NO	NA	NA	NO	NO	NA	NA	NO
6	Adani Enterprises Limited	NA	NA	NA	NA	YES	NA	NA	NA	NO
7	Arunachal Pradesh Power Corporation Private Limited	NO	NO	NO	NO	NO	NO	NO	NO	NO
8	DALMIA CEMENT (BHARAT) LIMITED (RCW)	NA	NA	NA	NO	YES	YES	YES	YES	NO
9	HINDUSTAN POWER EXCHANGE LIMITED	NA	YES	YES	YES	YES	YES	YES	YES	NO
10	INDIAN ENERGY EXCHANGE LIMITED	NO	NO	NO	YES	YES	YES	YES	YES	NO
11	India Power Corporation Limited	NO	NO	NO	NO	YES	YES	YES	YES	NO
12	ITC Limited Dairy Plant	NO	NO	NA	NA	YES	YES	NA	NA	NA
13	ITC LTD Kidderpore	NO	NO	NO	NA	NA	NA	NA	NA	NA
14	I T C LIMITED, Sonar and Royal Bengal	NA	NO	NA	NA	NA	NA	NA	NA	NA
15	ITC Limited Corporate Office Kolkatta	NA	NA	NA	NA	NA	NO	NA	NA	NO
16	KREATE ENERGY(I) PRIVATE LIMITED	NO	NO	NO	NO	YES	YES	YES	YES	YES
17	NATIONAL ALUMINIUM COMPANY LIMITED AP	NA	NA	NA	NO	NO	NO	NA	NA	NA
18	NATIONAL ALUMINIUM COMPANY LIMITED-OD	NA	NA	NA	NO	NA	NO	NO	NO	NO
19	NTPC VIDYUT VYAPAR NIGAM LIMITED	YES	NA	NA	NA	YES	NA	NA	NA	NO
20	POWER EXCHANGE INDIA LIMITED	NO	YES	YES	YES	YES	YES	YES	NO	NO
21	PTC INDIA LIMITED	YES	YES	NO	NA	NA	NA	NA	NA	NO
22	TATA POWER TRADING COMPANY LIMITED	NO	NO	NO	NO	YES	YES	NA	NA	NO
23	TATA STEEL LIMITED @132kV	NO	NA	NA	NA	YES	NO	NA	NA	NA
24	Saranyu Power Trading Private Limited	NA	NO	NA	NO	NA	NA	NA	NA	NA
25	SHUBHEKSHA ADVISORS PRIVATE LIMITED	NA	NA	NA	NA	NA	NO	NA	NA	NA
26	Patliputra Cement Works	NA	NA	NA	NA	NA	NA	NA	NA	NO
27	MANIKARAN POWER LIMITED	NA	NA	NA	NA	NA	NA	YES	NA	NO
28	SOUTH BIHAR POWER DISTRIBUTION COMPANY LIMITED	NA	NA	NA	NA	NA	NA	NO	NA	NA
29	Tata Steel Limited Ferro Alloys Plant Joda	NA	NA	NA	NA	NA	NA	NA	NA	NO
30	ULTRATECH CEMENT LIMITED- ULTSLDCC47	NA	NA	NA	NA	NA	NA	NA	NA	NO
31	ULTRATECH CEMENT LIMITED UNIT: CUTTACK CEMENT WORKS	NA	NA	NA	NA	NA	NA	NA	NA	NO
32	OSTRO KANNADA POWER PRIVATE LIMITED	NA	NO	NA	NA	NA	NA	NA	NA	NA

Grid Controller of India Limited
(formerly Power System Operation Corporation Limited)
National Load Despatch Centre (NLDC)



Methodology
for Computation of
Average Monthly
Frequency Response Performance,
Beta ' β ' for Generating Stations

July, 2024

Prepared in compliance with
Regulation 62 Clause 5 and Regulation 65 Clause 4 of
CERC (Terms & Conditions of Tariff) Regulations, 2024

1. **Background:** Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, as notified on 15th March 2024, came into force on 01st April, 2024. This methodology for computation of Average Monthly Frequency Response Performance, Beta 'β' is in compliance with Regulation 62 Clause 5 and Regulation 65 Clause 4 of CERC (Terms and Conditions of Tariff) Regulations, 2024. The relevant regulations are quoted below:

Quote

CHAPTER – 11 COMPUTATION OF CAPACITY CHARGES AND ENERGY CHARGES

62. Computation and Payment of Capacity Charge for Thermal Generating Stations:

...(5) In addition to the AFC entitlement as computed above, the thermal generating station shall be allowed an incentive of up to 1.00% of AFC approved for a given year, which shall be billed monthly as per the following.

$$\text{Incentive} = (1.00\% \times \beta \times \text{CCy})/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission, and β shall range between 0 to 1.

Provided that the incentive shall be payable only if the Beta value is higher than 0.30.

CCy= Capacity Charges for the Year.

65. Computation and Payment of Capacity Charge and Energy Charge for Hydro Generating Stations:

... (4) In addition to the AFC entitlement as computed above, the hydro generating station shall be allowed an incentive of up to 3% of the Capacity Charge approved for a given year which shall be billed monthly as per the following.

$$\text{Incentive} = (3\% \times \beta \times \text{CCy})/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission and beta shall range between 0 to 1.

Provided that incentive shall be payable only if Beta value is higher than 0.30.

CCy= Capacity Charges for the Year.

Unquote

- 2. Scope and extent of application:** The scope and extent of application of this methodology shall be as per Regulation 2. (Scope and extent of application) of CERC (Terms and Conditions of Tariff) Regulations, 2024 and amendments thereof.
- 3. Definitions and Terms:** The definitions and terms used in this methodology are as per CERC (Indian Electricity Grid Code) Regulations, 2023 and CERC (Terms and Conditions of Tariff) Regulations, 2024 and amendments thereof.

4. Steps for computation of Average Monthly Frequency Response Performance, Beta 'β':

4.1. NLDC shall notify the **reportable event** in accordance with CERC (IEGC) Regulations, 2023.

a) After every event involving a sudden 1000 MW or more load or generation loss or a step change in frequency by 0.1 Hz, NLDC would get the PMUs frequency data. NLDC would also get the exact quantum of load/generation lost from the RLDC of the affected region. **{Clause 9(a)(i) of Annexure-2 of IEGC, 2023}**

b) NLDC shall plot the frequency graph and determine the initial frequency, minimum/maximum frequency, settling frequency and time points (points A, C and B). Accordingly, frequency difference points and corresponding time to be used for FRC calculations would be informed to all RLDCs. **{Clause 9(a)(ii) of Annexure-2 of IEGC, 2023}**

4.2. Generating stations shall extract **high resolution data (1 second or better resolution)** of active power generation and frequency, as recorded at the generating station. The generating station shall furnish the extracted high resolution data (1 second or better resolution) to the concerned Load Dispatch Centre (hereinafter LDC) within two (2) working days of notification of reportable event by NLDC.

a) The high resolution data to be submitted by the generating stations need to be time-stamped and should have time synchronization with GPS.

b) The concerned LDC would review the data furnished by generating stations and seek clarifications, if required. Generating stations shall provide the sought clarifications within two working days.

4.3. **Frequency Response Characteristic (FRC)** of the generating stations for each reportable event shall be calculated by concerned LDC based on the submitted high resolution data from generating stations, as per NLDC "Methodology for Computation of Primary Frequency Response Obligation and Performance", prepared in compliance with CERC (IEGC) Regulations, 2023.

- a) In case of non-submission of requisite data by generating station within two working days of notification of reportable event by NLDC, FRC shall be calculated based on the Historical Data Recording (HDR) data available at LDCs.

4.4. Frequency Response Obligation (FRO) to be considered for computation of Beta 'β':

- a) FRO of regional entity generating stations and state control areas, as assessed by NLDC, as per NLDC "Methodology for Computation of Primary Frequency Response Obligation and Performance", prepared in compliance with CERC (IEGC) Regulations, 2023, shall be considered for computation of Beta by the RLDC.
- b) FRO of generating stations, whose tariff is determined by CERC and are falling under the jurisdiction of SLDCs (in accordance with the control area jurisdiction as per Regulation 43 of CERC (IEGC) Regulations, 2023), as assessed by concerned SLDC shall be considered for computation of Beta by the SLDC.

4.5. Frequency Response Performance (FRP) of the generating stations for each reportable event shall be calculated by concerned LDC, as per NLDC "Methodology for Computation of Primary Frequency Response Obligation and Performance", prepared in compliance with CERC (IEGC) Regulations, 2023.

- a) **FRP of generating station for the reportable event = Actual Frequency Response Characteristic (AFRC), as calculated for the reportable event / Frequency Response Obligation (FRO) of the generating station, as applicable on the date of reportable event**

$$\text{FRP (Event } i) = \frac{\text{AFRC}}{\text{FRO}}$$

where, i = the reportable event occurred during the billing month and considered for computation of Beta, 'β'

- b) FRP shall be a numeric value truncated up to two decimal places.
- c) FRP of generating stations for each reportable event shall be calculated based on the high resolution data, submitted by generating station and examined by concerned LDC. In case of non-submission of requisite data by generating station within two working days of notification of reportable event by NLDC, FRC and FRP shall be calculated based on the Historical Data Recording (HDR) data available at LDCs.

NLDC Methodology for computation of Average Monthly FRP, Beta 'β'

- d) FRC and FRP of a generating station would be calculated only when the generating station (with at least one unit on-bar) was generating during the notified reportable event.
- e) The concerned LDC shall share the calculated FRC and FRP values with generating stations after each reportable event, within six (6) working days after the notification of reportable event by NLDC.

4.6. Consideration of Frequency Response Performance for each reportable event, FRP (Event i) as calculated above for the purpose of computation of Average Monthly FRP, Beta 'β':

- a) If FRP for an event is less than or equal to 0, FRP (Event i) shall be equal to 0.
- b) If FRP for an event lies between 0 to 1, FRP (Event i) shall be equal to the calculated value.
- c) If FRP for an event is greater than or equal to 1, FRP (Event i) shall be equal to 1.

4.7. The concerned LDC shall compute **Average Monthly Frequency Response Performance, Beta 'β'** (truncated up to 2 decimal places):

$$\text{Beta '}\beta\text{' = } \frac{\text{FRP (Event 1)} + \text{FRP (Event 2)} + \text{FRP (Event 3)} + \dots + \text{FRP (Event n)}}{\text{Number of reportable events considered for computation of Beta}}$$

$$\text{i.e. Beta '}\beta\text{' = } \frac{\sum_{i=1}^n \text{FRP (Event } i\text{)}}{n}$$

where,

- o *i* = the reportable event occurred during the billing month and considered for computation of Beta, 'β'
- o *n* = the total number of reportable events occurred during the billing month and are being considered for computation of Beta,

4.8. In case, there was no reportable event which can be considered for the generating station during the billing month, Average Monthly Frequency Response Performance, Beta 'β' for that particular billing month shall be Zero (0) for that generating station for the month.

4.9. The concerned LDC would furnish Average Monthly Frequency Response Performance, Beta 'β' computed for a billing month to respective RPC within thirteen (13) working days of the next month. The Beta 'β', furnished by concerned LDCs will be certified and issued by the RPC through publication on its website to make it a part of commercial accounting.

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