Agenda

for

166th OCC Meeting

Date: 20.02.2020
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Agenda for 166th OCC Meeting held on 20th February 2020 at Bhubaneswar, Odisha

Item no. 1: Confirmation of minutes of 165th OCC meeting of ERPC held on 22.01.2020

The minutes of 165th OCC meeting were uploaded in ERPC website and circulated vide letter dated 07.02.2020 to all the constituents.

Members may confirm the minutes of 165th OCC meeting.

PART A: ER GRID PERFORMANCE

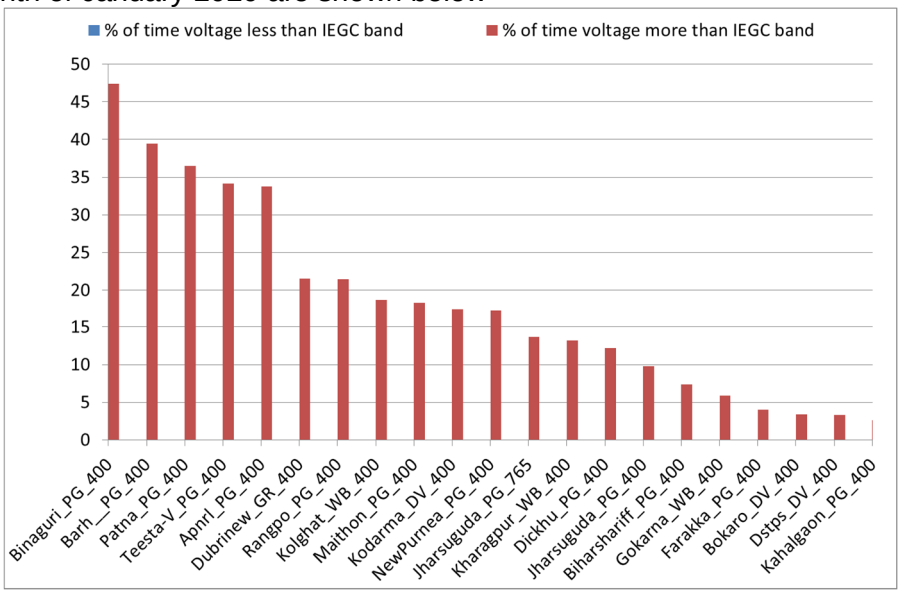
Item no. A1: ER Grid performance during January, 2020

The average consumption of Eastern Region for January – 2020 was 356.2 Mu. Eastern Region energy consumption reached a monthly maximum of 370.7 Mu on 31st January – 2020. Total Export schedule of Eastern region for January – 2020 was 2896.6 Mu, whereas actual export was 2742.9 Mu.

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

1. **Frequency profile**
2. **Over drawal/under injection by ER Entities**
3. **Performance of Hydro Power Stations during peak hours**
4. **Performance of ISGS during RRAS**
5. **Reactive Power performance of Generators**
6. **Over Voltage issue in ER substations**

High voltage is observed at different nodes in Eastern Region during the month of January 2020. Some of the nodes where voltage is beyond IEGC upper limit for significant amount of time during the month of January 2020 are shown below



It can be seen that many of the high voltage nodes such as Barh, APNRL, Kolaghat, Koderma etc. are generator nodes or close to generator node. As generators are not absorbing sufficient MVAr as per their capability curve is one of the reason for this sustained high voltage.

7. Restricted Governor /Free Governor Mode Operation of generators in ER

On 18th January 2020, at 12:36hrs 1085 MW generation loss occurred at Chandrapur in WR resulting frequency drop from 49.97 Hz to 49.88 Hz at Nadir point. FRC of the ER was 55% of ideal response as per tie line flow measured by ERLDC SCADA data. Despite of repeated reminders to generating stations, generation output data are yet to be received from Farakka STPP, Talcher STPP, BRBCL, Barh, NPGC, JITPL & APNRL for this event. At the time of the event, Teesta V, Teesta III and Dikchu HEP were not in service. As per the data available at ERLDC, response was satisfactory only for GMR and Talcher STPP. Though response has been observed in case of KhSTPP stage I, final response was not not adequate and it did not last for more than 2 minutes. In case of MPL, response was not satisfactory due to technical issues related to high specific coal consumption. In case of DVC, response was not satisfactory for all generating units except Mejia unit #7 and DSTPS unit #1. Summary of the response observed is shown in following table.

Category	Regional generating stations and state control area
Satisfactory response	GMR and Talcher STPP
Response has been observed but tuning required	KhSTPP stage I and MPL
Non-Satisfactory response	FSTPP, TSTPP, Barh STPP, BRBCL, JITPL, APNRL, Jharkhand, DVC, GRIDCO and WB
Unit not available	Teesta III, Dikchu and Teesta HEP

All the generating units and SLDCs are advised to share the reason for non-satisfactory response (whichever applicable) along with remedial action taken. All the regional generating stations and SLDCs are requested to nominate one nodal person for sharing FRC related information.

8. Severe Fluctuation in Voltage and Power in Jeypore -Gajuwaka Area (HVDC pole 1 tripped) observed on 31 Jan and 4th and 5th Feb 2020

Three events of severe nature have occurred near Jeypore and Gajuwaka Area where severe hunting has been observed in Power and Voltage and HVDC Gajuwaka Pole 1 has tripped.
The timing of the event is as follows:

1. 14:46hrs to 14:51hrs on 31-01-2020
2. 14:34hrs to 14:36hrs on 04-02-2020
3. 08:34hrs to 08:38hrs on 05-02-2020

An email was sent form ERLDC on 6th-Feb 2020 showing severity of the oscillation and seeking following information:

Orissa SLDC/OPTCL/OHPC/OPGC to find out and Share (SLDC to coordinate) and NTPC Talcher :

1. Any Generator Control Malfunction (All Hydro/thermal near Jeypore/Indrawati areas for their excitation/governor control issues)
2. Any Transmission line where continuous auto-reclosure occurring due to transient fault (Arcing due to lower voltage kv line passing below)
3. Any other reason for such faults and fluctuation in Orissa network
4. Any CPPs/Loads providing such fluctuation in the system
5. Why No generators of Orissa has reported hunting to System Operator in such huge network fluctuation

PGCIL Orissa RTAMC/AM to Check and Share :

1. HVDC Gajuwaka Pole 1 and 2 Alarm Log (10 min prior and 10 min after the event timing including the event)
2. Jeypore Statcom TFR for all triggering (In PMU its response has been observed)
3. Why Pole 1 tripped and not Pole 2
4. Why Pole 1 and Pole 2 were kept at uneven loading (150 and 350 MW)
5. Any Transmission line where continuous auto-reclosure occurring due to transient fault (Arcing due to lower voltage kv line passing below)

All were advised to immediately take up the issue and give it the highest priority in view of Grid Security and Reliability and respond**.**

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Peak hours declaration for the month of April 2020 for Eastern Region--ERLDC

Sub-clause (3) of clause 42 of CERC (Terms and Conditions of Tariff) Regulations, 2019 reads as

"… The number of hours of "Peak" and "Off-Peak" periods during a day shall be four and twenty respectively. The hours of Peak and Off-Peak periods during a day shall be declared by the concerned RLDC at least a week in advance …"

As per decision taken in 163rd ER OCC meeting, **July, August and September are declared as the high demand season for the year 2020-21 for Eastern Region**.

As per the previous year April month demand pattern of Eastern Region, **Peak hours for the month April 2020 of Eastern Region is proposed to be 19:00 hrs to 23:00 hrs** .

As per Sub-clause (3) of clause 42 of CERC (Terms and Conditions of Tariff) Regulations, 2019, in case of a generating station having beneficiaries across different regions, the High Demand Season and the Peak Hours will correspond to the High Demand Season and Peak Hours of the region in which majority of its beneficiaries, in terms of percentage of allocation of share, are located.

Member may please discuss.

Item No. B.2: Automatic Under Frequency Load Shedding (AUFLS) Scheme

In the 2nd meeting of NPC held on 16th July 2013, the following AUFLS scheme with 4 stages of frequency viz. 49.2 Hz, 49.0 Hz, 48.8 Hz & 48.6 Hz had been decided to implement in all the regions:

AUFLS	Frequency (Hz)	Load relief in MW					
		NR	WR	SR *	ER	NER	Total
Stage-I	**49.2**	2160	2060	2350	820	100	7490
Stage-II	**49.0**	2170	2070	2360	830	100	7530
Stage-III	**48.8**	2190	2080	2390	830	100	7590
Stage-IV	**48.6**	2200	2100	2400	840	100	7640
	Total (MW)	**8720**	**8310**	**9500**	**3320**	**400**	**30250**

*SR grid not integrated with NEW grid at that point of time.

The scheme had been implemented throughout the country.

In 7th NPC meeting held on 08thSeptember 2017, it was agreed that there is need for review of the quantum of load shedding. The RPCs were to deliberate on additional slabs of frequency as well as raising the set frequency for UFR operation and inform the outcome to NPC.

In 8thNPC meeting, held on 30.11.2018, members agreed for the AUFLS scheme with 4 stages and raising the frequency by 0.2 Hz viz. 49.4, 49.2, 49.0 & 48.8 Hz. It was further decided that the quantum for AUFLS would be reworked by NPC Secretariat considering the requirement of load shedding to increase the frequency to 50 Hz in each stage of AUFLS operation.

In 9th NPC meeting held on 22.11.2019, it was decided to implement the AUFLS scheme with 4 stages and raising the frequency by 0.2 Hz viz. 49.4, 49.2, 49.0 & 48.8 Hz by keeping the quantum for AUFLS same as decided in 2nd NPC Meeting. It was also decided that a committee

with all RPCs and NLDC would study and review the required quantum for each slab of AUFLS and submit a report to NPC. Minutes of the meeting are awaited.

The total load quantum for ER constituents is given below:

Control Area	Stage –I (49.4 Hz) (MW)	Stage –II (49.2 Hz) (MW)	Stage–III (49.0Hz) (MW)	Stage–IV (48.8Hz) (MW)	Total Relief by Control Area
Bihar	98	99	99	101	397
Jharkhand	61	62	61	62	246
DVC	134	135.5	136	137	542.5
Odisha	181.5	183.5	184	186	735
WB & CESC	345.5	350	350	354	1399.5
Total	**820**	**830**	**830**	**840**	**3320**

In 42nd TCC, all the constituents were advised to implement the revised AUFLS scheme as per the NPC decision within a month and submit a report to ERPC Secretariat and ERLDC.

TCC decided to review the implementation status in the next OCC Meeting.

In 164th OCC, all the SLDCs and STUs were advised to implement the revised AUFLS scheme by 1st week of January 2020 and submit a report to ERPC Secretariat and ERLDC.

In 165th OCC, JUSNL informed that revised AUFLS scheme had been implanted in Jharkhand except at Lalmatia and Jamthara.

DVC, Bihar and Odisha agreed to implement the revised AUFLS scheme by 31st January 2020. WBSETCL and CESC agreed to implement the revised AUFLS scheme by 15th February 2020.

*Report received from Odisha is enclosed at **Annexure-B2**.*

Members may update.

Item No. B.3: Implementation of Automatic Demand Management Scheme (ADMS)- ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	They would place the order to Chemtrol for implementation.	F <49.9 AND deviation > 12 % or 150 MW
4	Jharkhand	1. System Frequency < 49.9 Hz AND deviation > 12 % or 25 MW 2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW	In service from 21st August 2019.	Condition 1: Block I feeders will be selected for load shedding Condition 2: Block I & II feeders will be selected for load shedding Condition 3: Block I, II & III feeders will be selected for load shedding

5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval. It was informed that tender for the work has been floated.	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators
6.	Sikkim			Sikkim informed that they have submitted a proposal to PSDF Committee for installation of OPGW cables which is under approval stage. Sikkim added that ADMS scheme would be implemented after installation of OPGW.

In 42nd TCC, Bihar informed that the testing of ADMS would be done by end of December 2019.

Odisha informed that ADMS would be implemented by May 2020.

Sikkim informed that installation of OPGW is in progress, ADMS would be implemented after the installation of OPGW & renovation of sub-station tentatively by 2020.

TCC advised Odisha and Sikkim to implement ADMS at the earliest.

After detailed deliberation, TCC opined that uniform logic and settings are to be implemented for all the states. TCC advised to discuss the issue in next OCC Meeting to formulate uniform logic and setting of ADMS.

In 165th OCC, Bihar informed that ADMS had been tested on 10th January 2020 but it was not successful.

ERLDC gave a presentation on the uniform logic. The proposed logic for ADMS operation is given below:

If frequency is less than 49.9 Hz for 3 minutes
and
Overdrwal/Under injection > 150 MW or 12 %

OCC advised all the states to go through the presentation and submit their comments to ERPC and ERLDC for finalization of ADMS logic.

Members may update.

Item No. B.4: Implementation of SPS to avoid overdrawal from Jamshedpur (DVC) S/s

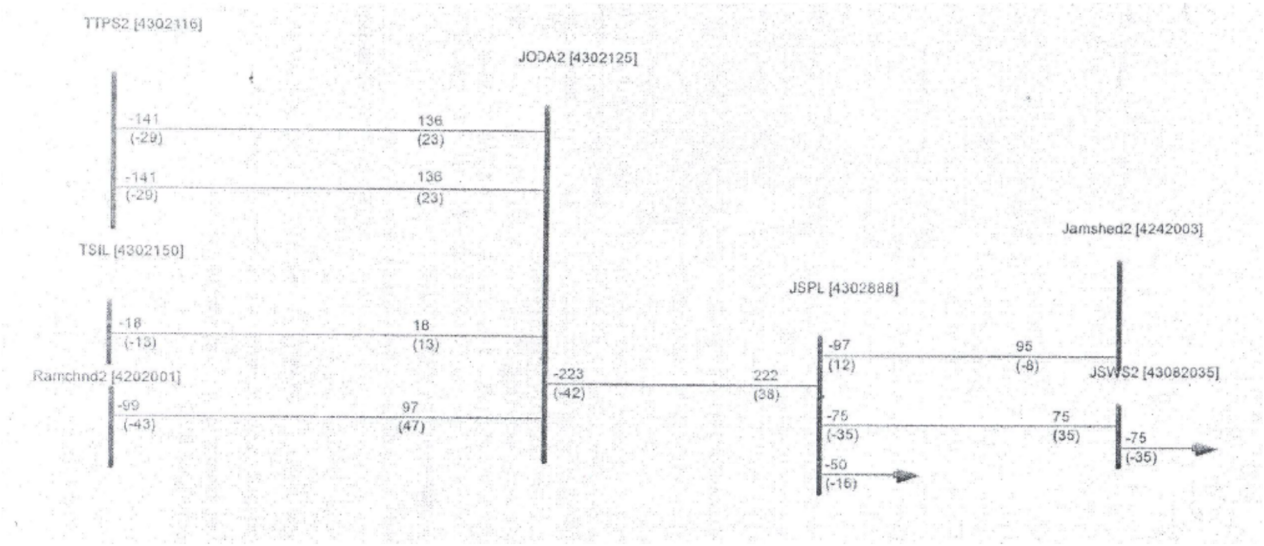
In 8th SSCM, OPTCL informed that they need power assistance of maximum 55 MW from 220kV Jamshedpur S/s, DVC to meet the load of JSPL during replacement work of the conductor of 220kV Joda-JSPL line.

DVC agreed to provide maximum 55 MW from 220kV Jamshedpur S/s during the conductor replacement work, however DVC requested to implement SPS to avoid over drawl from 220kV Jamshedpur S/s during any contingency in the system.

In 165th OCC, DVC requested to implement SPS to avoid over drawl from 220kV Jamshedpur S/s during any contingency in the system.

OCC advised OPTCL to give a requisition and other relevant details to DVC.

OCC decided to discuss the SPS in a separate meeting with all the concerned utilities.



Members may update.

Item No. B.5: Implementation of Automatic Generation Control in Eastern Region

In compliance to CERC's direction in order dated 06/12/2017 in petition no 79/RC/2017, AGC was commissioned in NTPC Barh on 01st August 2019 and operationalized since 23rd August, 2019.

Vide order dated 28th August 2019, CERC in Petition No.: 319/RC/2018 directed that all the ISGS stations whose tariff is determined or adopted by CERC shall be AGC-enabled and the ancillary services including secondary control through AGC be implemented as per the following direction:

I. All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by NLDC. NLDC shall notify the said requirements within one month of this order.
II. All such ISGS stations whose tariff is determined or adopted by CERC shall have communication from the nearest wide band node to the RTU in the unit control room.
III. The Central Transmission Utility (CTU) is directed to have communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dual communication.
IV. The NLDC is also directed to commission the required communication infrastructure.
V. The expenditure as a result of compliance of the above directions may be claimed as per relevant regulations or provisions of the PPA.
VI. The NLDC is directed to monitor implementation of the above directions so that all the ISGS stations whose tariff is determined or adopted by CERC are AGC-enabled within six months of this order.
VII. The framework regarding compensation for AGC support and deviation charges as stipulated in the Commission's Order in Petition no. 79/RC/2017 dated 06.12.2017 shall apply to the five pilot projects as also to other ISGS as and when they are AGC enabled. This arrangement shall remain in place till the relevant regulations inter alia on compensation for AGC services are framed by the Commission.
VIII. NLDC/RLDCs are allowed to operate the AGC system for enabling the signals to the power plants at the earliest.
IX. All new thermal ISGS stations with installed capacity of 200 MW and above and hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC shall mandatorily have the capability to provide AGC support.

All concerned plants may please ensure taking necessary action for arranging the communication (through redundant and alternate paths) from the existing nearest wideband communication node to their unit control rooms through two fiber optic cables, in coordination with CTU. It may please be noted that all the ISGS stations whose tariff is determined by or adopted by CERC should be AGC-enabled before 28th February 2020, as per order of CERC.

A. Status of implementation of AGC for ISGS stations

The list of plants identified for AGC operation by NLDC in Eastern Region are as given below:

S. No.	Power Plant	Thermal/Hydro	Cap (MW)
1	Farakka STPS – I & II	Thermal	1600
2	Kahalgaon STPS – II	Thermal	1500
3	Barh STPS	Thermal	1320
4	Maithon Power Limited	Thermal	1050
5	Talcher STPS – I	Thermal	1000
6	Kahalgaon STPS – I	Thermal	840
7	Nabinagar Thermal Power Project	Thermal	750
8	NPGC	Thermal	
9	Darlipalli	Thermal	
10	Teesta – V	Hydro	510
11	Farakka STPS – III	Thermal	500
12	MTPS Stage - II	Thermal	390
13	Rangit	Hydro	60

In 161st OCC, all the ISGS stations were advised to implement the AGC within 6 months as per the above CERC order.

In 163rd OCC, NHPC and NTPC informed that they are in process of implementation of AGC at their stations in coordination with NLDC. The technical specifications have been prepared.

This issue was further deliberated in the 2nd TeST meeting held on 26.11.2019 at ERPC, Kolkata.

MS, ERPC raised concerns about the present reporting of AGC data signal from generating stations to NLDC and concerned RLDC is getting data through NLDC over ICCP protocol.

NLDC informed that, as a part of pilot project of AGC, all generating stations' AGC data would be directly reporting to NLDC for first 3 years and the same would be diverted to respective RLDCs after SCADA upgradation.

NTPC raised the concern about the bandwidth requirement, list of signals and cable requirement for implementation of AGC.

NLDC informed that all generating stations must make arrangement for extending the AGC data signals to the nearest POWERGRID node and POWERGRID shall make available two Ethernet ports (main & its redundant) so that AGC signal from generating stations should reach to NLDC.

*NLDC further informed that requirement for AGC implementation like list of signals, bandwidth requirement, hardware, software & cable requirement etc. are made available at POSOCO website (*https://posoco.in/spinning-reserves/*).*

ERLDC suggested that firewalls should be available at both end i.e. at Generator end as well as NLDC end. NLDC informed that they have a firewall at their end in their system.

All generating stations agreed to install adequate level of firewall at their end for extending the AGC signals.

ERLDC raised concern about AGC implementation of Nabinagar (BRBCL) as OPGW communication link from generating station to nearest POWERGRID S/S i.e. 400 kV Sasaram is not available.

ERPC advised NLDC to add NPGC, Nabinagar (2x660 MW) in AGC implementation list as this station is commissioned in November 2019. NLDC agreed for the same.

It was decided to take the above issue to the next TCC/ERPC meeting for further deliberation.

In 42nd TCC, NTPC and NHPC informed that they would place the order by March 2020 and implement the AGC by June 2020. MPL informed that AGC would be implemented by February 2020.

Powergrid informed that only single communication connectivity is available at MPL, Teesta V and Rangit. Other generating stations are having dual communication connectivity.

TCC advised all generating stations to make arrangement for extending the AGC data signals to the nearest POWERGRID node.

B. Status of implementation of AGC as a pilot project in states

In 162nd OCC, WBPDCL submitted that Bakreswar TPP is planning to implement AGC but there is no clarity on the source from where to receive the AGC control signal (from SLDC/ERLDC). This aspect needed to be clarified first.

In the meeting, it was clarified that AGC signal for intra-state generating stations would be generated by the concerned SLDC and the relevant communication path is to be established between SLDC to plant. For ISGS stations, the AGC signal would be sent from NLDC.

OCC advised SLDC, WB to establish the required hardware for generating AGC signal at SLDC.

In 163rd OCC, OPGC and SLDC, Odisha were advised to formulate the plan jointly for implementation of AGC. OCC advised them to submit the schedule of implementation of AGC to ERPC and ERLDC within a week.

All SLDCs and their respective state sector generators were advised to visit Barh STPS as well as to NLDC to have a first-hand knowledge on the implementation and functioning of AGC at control centre level as well as at generating station level.

Summary of status of implementation:

State	Station/Unit	Action plan
DVC	Mejia unit#8	• Finalization of technical specification, vendors and estimation: 30th November 2019 • NIT 31st January 2020 • Order placement 30th March 2020 • Commissioning of AGC 31st July 2020
West Bengal	Unit-5 of Bakreswar TPP	SLDC, WB to establish the required hardware for generating AGC signal at SLDC.
Odisha	Unit#3 of OPGC	SLDC, Odisha and OPGC agreed to submit their plan by 1st week of November 2019

In 42nd TCC, DVC intimated that AGC shall be implemented in unit 7 and 8 of Mejia as per the given schedule by 31st July 2020.

Odisha informed that SLDC and OPGC will sit together and finalise the scheme.

WBPDCL informed that they have already collected offer from Siemens for implementation of AGC and they are awaiting the concurrence from SLDC.

SLDC, WB informed that they are not in a position to implement AGC unless a clear direction is given by WBERC. Further, implementation of intra state DSM is a prerequisite for implementation of AGC in the state.

It was decided to request CERC to include this as an issue in the Agenda for discussion in the meeting of Forum of Regulators.

Members may update.

Item No. B.6: Outage of important transmission lines

1. 400 kV Kishenganj-Patna D/C lines:

In 162nd OCC, Powergrid informed that one circuit of 400 kV Kishenganj-Patna D/C line would be restored through ERS by December 2019. Powergrid added that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by March 2020.

MS, ERPC submitted that Powergrid had repeatedly changed their schedule of restoration of the line. He advised Powergrid to give a report on restoration schedule committed till date in chronological order along with the reason for changing the scheduled dates.

He added that a Committee would visit the site once again in 2nd week of November 2019 to assess the situation.

In 163rd OCC, Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line would be restored through ERS by December 2019. Powergrid added that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by March 2020.

Thereafter, Powergrid vide letter dated 3rd January 2020 informed that the temporary restoration of the line using ERS could not be completed due to pathetic condition of approach road, unprecedented cold weather condition and continued heavy water current in the Ganga river.

Powergrid added that restoration work is under progress in war footing basis and it is expected to be restored temporarily by 3rd/4th week of January 2020 however permanent restoration is expected to be completed by end of March 2020.

In 24th January 2020 meeting held at Patna, Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line was restored through ERS on 22nd January 2020.

Powergrid may update.

2. 400 kV Barh-Motihari D/C and 400 kV Barh-Gorahkpur D/C lines

In 161st OCC, ERLDC informed that 400 KV Gorakhpur –Motihari(DMTCL) –D/C were out since 13/08/2019 on tower collapse at LOC 27/0 and 400 KV Barh–Motihari(DMTCL) –D/C were out since 04/09/2019 on tower collapse at LOC 26/0.

In 163rd OCC, OCC advised Powergrid to make direct connectivity i.e. 400 kV Barh- Gorahkpur D/C line, till restoration of the LILO portion of Motihari.

Powergrid agreed to make direct connectivity with Twin Moose conductor but DMTCL has to do the necessary destringing of the conductor of the LILO section with the original line to enable PGCIL to establish the direct connectivity.

OCC advised DMTCL to complete the destringing work at the earliest so that Powergrid could start the bypass arrangement.

In 164th OCC, Member Secretary, ERPC informed that a separate meeting with the concerned utilities would be conducted at Patna, Bihar in January 2020.

DMTCL vide mail dated 11th January 2020 informed that de-stringing of 400kV Barh-Gorakhpur ckt-1&2 of LILO section work completed. Detail report is enclosed at ***Annexure-B6****.*

Members may update.

Item No. B.7: Operationalizing Bus splitting at Biharsariff--ERLDC

Bus split arrangement at Biharsariff was already commissioned, however it was not put in service as split bus arrangement was causing uneven loading in 400/220 kV ICTs at Biharsariff. Thus earlier it was decided that the same will be put in service after commssiong of 4th ICT at Biharsariff. After commissioning of 4th ICT simulation studies are carried out at ERLDC and same is also shared with Bihar SLDC. From the study it is observed that Bus-split at Biharshariff has no significant effect on loading of 400 KV lines but 400/220 KV ICT flows is getting significantly skewed.

- N-1 contingency of 500 MVA ICT-IV leads to 265 MW loading on ICT –II (315 MVA rating) where in base case without bus-split, total ICT loading at Biharshariff was 560 MW and Bihar demand 4650 MW.
- If we consider summer peak case having 5300 MW Bihar demand with 660 MW Biharshariff ICTs loading, N-1 contingency of 500 MVA ICT-IV leads to 301 MW loading on ICT –II (315 MVA rating).

Members may discuss.

Item No. B.8: FGD phasing plan for units commissioned after 31.03.2018--CEA

CEA requested to provide the phasing plan for the new units to be commissioned. List of the units are enclosed at **Annexure-B8**.

Members may submit their plan of implementation.

Item No. B.9: Review of implementation of PSDF approved projects of Eastern Region.

NLDC (POSOCO) being the Nodal Agency for PSDF schemes, is carrying out PSDF Secretariat function under directions of MoP. Recently NLDC is directed by MoP to disburse the PSDF sanctioned funds as early as possible as its non-utilization is being viewed seriously by MoP on various fora.

In view of the above, status review of the projects being executed under PSDF funding in Eastern Region, is required to be carried out on regular basis for expediting the projects. A Detailed statement of the Eastern Region project entities approved in PSDF is enclosed as **Annexure-B9**.

All the constituents are requested to furnish/update the status of their respective project in every OCC and also requested to submit requisition for disbursement to NLDC at the earliest by 1st February 2020, so that amount may be released by 31st March 2020.

Members may update.

Item No. B.10: WIDE DEVIATION OF REAL TIME GENERATION/SCHEDULE GENARATION(SG) OF TALA WITH RESPECT TO DECLARED CAPACITY---WBSEDCL

Due to wide deviation between Declared capacity & real time generation of Tala HEP the day ahead & intraday planning of the beneficiaries are getting dislocated on regular basis specially during the evening peak period.

In practice distribution utilities like WBSEDCL tunes the day ahead LGBR by trading through Exchange platform, based on the day ahead availability received from different power stations under long/Medium term PPA within 12.00hrs of every day. But in real time it is observed that the Schedule Generation (SG) of Tala HEP differs widely w.r.t that of day ahead DC. So, for such unrealistic day ahead DC prediction from Bhutan side the beneficiaries are failing to plan their power purchase portfolio on economic principle & facing severe problem to take proper decision for load generation balancing under prevailing stringent DSM regime.

In 165th OCC, WBSEDCL explained that the Schedule Generation (SG) of Tala HEP differs widely w.r.t that of day ahead declared capacity. In few days the deviation in generation was in tune of 100 to 130 MW during the peak hours.

WBSEDCL informed that they are facing severe problem in balancing the load and generation due to the wide deviation in Tala HEP generation.

DGPC informed that they are giving the schedule to NLDC, Bhutan and they are generating as per the schedule declared.

OCC decided to communicate the issue to NLDC, Bhutan.

Bhutan NLDC informed that they are consistently monitoring and comparing the schedule and actual injection in the Indian periphery. In the event of unexpected variation, this office is rescheduling the DC in advance in the WBES. Of late, this office had been receiving the mails from India on the deviation. However, it is observed at Bhutan end that there is not much deviation between the actual and the scheduled. The recent international coordination meeting held between Bhutan and India at Thimphu also acknowledged the improvement in scheduling.

Bhutan NLDC will continue to strictly monitor on real-time basis and revise as and when required (within the required time) so that the grid security is maintained.

Members may discuss.

Item No. B.11: Report of expert group to review India Electricity Grid Code(IEGC)--ERLDC

The Commission vide office order dated 28.5.2019 constituted an Expert Group to review "Indian Electricity Grid Code and other related issues" under the Chairmanship of Shri Rakesh Nath, Ex-Chairperson, CEA & Ex-Member (Tech) of APTEL with Shri A.S.Bakshi, Ex-Chairperson, CEA & Ex-Member, CERC, Shri Ravinder, Ex-Chairperson, CEA & ExChief (Engg.), CERC as Members and Shri S.C.Shrivastava, Chief (Engg.), CERC as Member, Convenor. The group co-opted Shri S.R.Narasimhan, Director (S.O), POSOCO and Shri Hemant Jain, Chief Engineer (G.M), CEA as Members of the Expert Group.

The Expert Group has finalized its recommendation as per comments received from various stake holder and several expert group meetings in the form of draft Indian Electricity Grid Code (IEGC), 2020, which is published in CERC website at the following link
http://cercind.gov.in/2020/reports/Final%20Report%20dated%2014.1.2020.pdf

In 165th OCC, members requested Member Secretary, ERPC to conduct a workshop on the draft Indian Electricity Grid Code (IEGC), 2020 for better understanding.

Member Secretary, ERPC agreed to conduct the workshop in February 2020.

As per the OCC decision, the workshop was conducted at ERPC on 13th February, 2020 wherein Shri S. R. Narasimhan, Director (SO), POSOCO gave a detailed presentation.

In the workshop, it was informed that all states may submit their comments on the draft Indian Electricity Grid Code (IEGC), 2020 for further discussion.

Members may discuss.

Item No. B.12: Training on "Safe and Secure Power System Operation"

As a part of Capacity Building initiative for the Power Sector engineers of the Eastern Region, a '5 days Training Programme' on "Ensuring Safe and Secure Power System Operation" is being organized by ERPC in association with Asia Institute of Power Management (AIPM), a training arm of CESC Limited at Kolkata from 02.03.2020 to 06.03.2020 (5 days) under PSDF Project. This will be the 4th Training Module for the year 2019 – 20 and ERPC Secretariat had notified to all the Power Utilities of ER on 27.01.2020 seeking nomination for 1 to 2 engineers of each organisation since the batch size is limited to 35 nos. only. Except a few organisation of ER including Bhutan Authorities, the nominations from most of the organizations are still awaited.

The Constituents who are yet to nominate engineers (1 / 2 nos.) for the 4th Module of AIPM Training commencing from 02.03.2020 to 06.03.2020 may please send the nominations to ERPC Secretariat at mserpc-power@nic.in positively by 21.02.2020.

Members may send the nomination for training.

Item No. B.13: Updated Black Start and Restoration Procedure of Eastern Region – ERLDC

In compliance with clause 5.8 (a) and (b) of the present IEGC, The Restoration Procedure has to be developed and updated annually by RLDC in consultation with NLDC, all users, STU,SLDC,CTU, RPC Secretariat of the region.

Draft copy of "Black Start and Restoration Procedure" was circulated on 16th Jan 2020 for review and feedback from stake holder. All stake holder are requested to give comments by 27th Jan 2020.

So that the procedure can be finalized by 30th Jan 2020.

In line with decision taken during 165th OCC meeting "Black Start and Restoration Procedure" of Eastern Region was finalized and circulated to all concerned on 31st Jan 2020.

Members may note.

Item No. B.14: Ratification of projected Demand and generation for POC transmission charges and loss calculations for Q1(2020-21) --ERLDC

The projected Demand and Generation of ER constituents to be considered in the base case for POC transmission charge and loss calculations for Q1 (April 20-June 20) are attached at **Annexure-B14** for ratification by the constituents

A two days training program on Demand and RE Forecasting & Renewable Integration will be organized at ERLDC on 02nd and 03rd March 2020. SLDCs are requested to nominate one or two executives for this training program.

Members may confirm. Members may send the nomination for training.

Item No. B.15: Replacement DCD for Malbase Substation--Bhutan

DCD (data downloading device) used to download the energy meter data from SEM energy meter of 400kV Siliguri and 220kV Binaguri feeder has gone faulty because of which Malbase substation is not able to send the meter data to the concerned authority since 06.01.2020.

Members may discuss.

Item No. B.16: Additional agenda

PART C: ITEMS FOR UPDATE

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

UFR Healthiness Certification for the month of January 2020 has been received from OPTCL, CESC, WBSETCL, DVC, BSPTCL and JUSNL.

Members may note.

In 161st OCC, Bihar was advised to review the UFR feeders as per the revised system configuration and suggested to shift the UFRs to unimportant radial loads.

In 42nd TCC, BSPTCL informed that they had already replaced the defective UFR. BSPTCL added that they are in process of reviewing the UFR list.

Bihar may update.

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

At present, the following islanding schemes are in service:

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

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

The healthiness certificate for Islanding Scheme for January, 2020 has been received from CTPS, DVC, NTPC, West Bengal, JUSNL, WBPDCL and CESC.

In 163rd OCC, DVC informed that since all units of CTPS-A would be retired shortly, instead of Chandrapura TPS islanding scheme, they are planning to implement an islanding scheme with units 5 & 6 of Mejia TPS (old).

OCC advised DVC to submit the detailed draft plan of the islanding scheme to ERPC and ERLDC.

DVC may update.

A. Status of Islanding Scheme of IBTPS

Islanding schem of IBTPS was discussed and finalized in earlier OCC and PCC meeting, OPGC ensured that the islanding scheme will be in place within 6 months post finalization of scheme.

OPGC may update.

B. Status of Islanding Scheme of KBUNL

BSPTCL and KBUNL may update.

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

The Status of healthiness certificate for January, 2020 is given below:

Sl. No.	Name of the SPS	Healthiness certificate received from	Healthiness certificate not received from
1.	*Talcher HVDC*	*NTPC,GMR,*	*JITPL, Powergrid,*
2.	SPS in CESC system	*CESC*	*Nil*

Members may update.

Item no. C.4: Review of the PSS Tuning of Generators in Eastern Region --ERLDC

Power System Stabilizer (PSS) tuning is an ongoing exercise in Eastern regional grid after observation of various low frequency oscillation from time to time in the grid. In line with this, OCC has decided that all generating plants in eastern region will submit their PSS tuning plan to ERLDC/ERPC and the test reports for validation. During last 4 years, 39 Units PSS have been tuned whose details are given at **Annexure-C4.1**. While the units where PSS have not been tuned in last three are given in **Annexure-C4.2**. It has been observed that utility such as OPGC, OHPC, WBSEDCL, NTPC, GMR and few others have yet not submitted their plan for PSS tuning to ERLDC/ERPC.

In view of the above, all generating utilities who have not yet submitted their PSS tuning plan are advised to submit the same to ERLDC/ERPC in compliance to CERC and CEA regulation on Power System stabilizer and associated tuning for reliability and security of the Grid.

Following PSS tunning is done in the month of January 2020:

Sl No	Plant	Unit(s)	Date(s)
1	HEL	1-2	3rd Jan-2020
2	Mejia, DVC	5,6,7,8	22-23 Jan 2020
3	CTPS, DVC	7-8	24-25 Jan 2020

Members may update.

Item no. C.5: Transfer capability determination by the states

Latest status of State ATC/TTC declared by states for the month of May-2020

Sl No	State / Utility	TTC import (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	5300	--	100	--	5200	--	Jan-20
2	JUSNL	1172	--	31	--	1141	--	Apr-20
3	DVC	1553	2799	65	51	1488	2748	May-20
4	OPTCL	3382	1386	84	61	3298	1325	May-20
5	WBSETCL	4010	--	400	--	3610	--	Feb-20
6	Sikkim	295	--	2.5	--	292.5	--	Dec-19

Members may update.

Item no. C.6: Mock Black start exercises in Eastern Region – ERLDC

Mock black start date for financial year 2019-20 is as follows:

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2019	Done on 19th July 2019	Last Week of January 2020	*January 2020*
2	Maithon	1st week of June 2019	Taken up only after replacing the governing systems of the units	1st Week of February 2020	
3	Rengali	2nd week of June 2019	Done on 27th June 2019	Last week of November 2020	Done on 17th January 2020
4	U. Indarvati	3rd week ofJune 2019	Done on 7th November 2019	2nd week of February 2020	
5	Subarnarekha	1st week of October 2019	Done 20th August 2019	1st week of January 2020	12th Feb 2020
6	Balimela	3rd week of October 2019	Done on 17th July 2019	1st week of March 2020	*Dec 2019*
7	Teesta-V	2nd week of May 2019	Done on 28th Nov 2019	Last week of February 2020	
8	Chuzachen	Last Week of Dec 2019	Done on 5th December 2019	Last week of March 2020	
9	Burla	Last Week of June 2019	Done on 20th July 2019	Last week of February 2020	December 2019
10	TLDP-III	1st Week of June 2019	November-19	2nd Week of January 2020	
11	TLDP-IV	Last Week of June 2019	December-19	1st Week of February 2020	
12	Teesta-III	Last Week of Oct 2019		First Week of March 2020	
13	Jorthang	First Week of May 2019		First Week of Feb 2020	
14	Tasheding	2nd Week of May 2019		2nd Week of Feb 2020	
15	Dikchu	Sep 2019		3rd Week of Feb 2020	19th & 20th Feb 2020

Members may update.

Item no. C.7: Summary of Status Update on Previous agenda items in OCC

OCC	Agenda	Decision	Status Update
155	**C.22: Collection of modeling data from Renewable as well as conventional energy generators: ERLDC**	OCC advised all the constituents to submit the details of renewable power plants of 5 MW and above.	157th OCC advised all the SLDCs to submit the details to ERPC and ERLDC. Format along with an explanation for collection of Wind and Solar Data has been shared by ERLDC to all SLDC. **Bihar/ West Bengal and**

			Orissa are having Solar Plant with more than 5 MW capacity. However, details were recived only from some of the plants in Odisha.
156	**Low frequency Oscillation at MTDC BNC-ALP-Agra**	OCC Advised ERTS-2 to submit the analysis report to ERLDC/ERPC	159th OCC Powergrid informed that the issue was referred to ABB, Sweden. The report is yet to be received from ABB. **PGCIL may update on Report submission to OCC.**
156	**Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)**	DGPC informed that an Expert Committee was constituted to enable the autorecloser for transmission lines connected to Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala and Chuka. DGPC added that they are planning to implement the autorecloser scheme for the transmission lines connected at Chuka by May 2019. Based on the experience gained, they would implement the autorecloser scheme for the transmission lines connected at Tala.	In 159th OCC meeting DGPC informed that they are implementing autorecloser at Tala also. The A/R is implemented at Binaguri end and there have been various cases where successful A/R has occurred at Binaguri but due to no A/R attempt Tala has a blackout in June 2019. In addition, in month of Aug also many times 400 kV lines successfully reclosed from Binaguri end. The experience on 220 kV Chukha-Birpara in the form of successful A/R has been observed on 25th June 2019. DGPC has informed that after the deliberation in their group, they would be implementing the A/R at Tala by the end on August 2019. **DGPC may kindly appraise the status of A/R on lines from Tala and Malbase.**

In 164th OCC, DGPC informed that they are still analyzing the performance of autorecloser at Chuka end.

OCC advised Bhutan representatives to submit the relevant details (DR and relay settings) of autorecloser at Chuka end to ERLDC. The issue would be placed in next PCC Meeting for fruitful discussion.

Members may update.

Item no. C.8: Transmission Constraint in the 220 kV System in Eastern Region—ERLDC

Constituents	Constraint list	Issues based on ATC/TTC case submission by States	Action Plan by Utilities/ SLDC
West Bengal, DVC	220 kV Waria-Bidhan Nagar D/C	N-1 Contingency	3rd ICT of 315 MVA at Bidhannagar planned by WBSETCL
CESC, PGCIL	220 kV Shubhasgram-EMSS D/C	N-1 Contingency	
WBSETCL, PGCIL	220 kV Newtown-Rajarhat D/C	N-1 Contingency	*Power flow in 220 kV Newtown-Rajarhat D/C would be reduced after commissioning of 400kV Rajarhat S/s and 765 kV network.*
WBSETCL	220 kV Howrah-New-Chanditala D/C	N-1 Contingency	*Power flow in 220 kV Howrah-New-Chanditala D/C line is high due low generation availability at KTPP.*
DVC, PGCIL	220 kV Durgapur (PG)-Parulia D/C	N-1 Contingency	LILO of 220 KV DTPS-Parulia at DSTPS(Andal) with 400/220 KV ICTs at DSTPS
Jharkhand, PGCIL	220 kV Hatia-Ranchi D/C	N-1 Contingency	3rd ckt of 220 kV Hatia-Ranchi commissioned
Bihar	220 kV Mujaffarpur-Hazipur D/C	N-1 Contingency	A New 400/220/132 kV sub-station at Chhapra(2x500+2x200 MVA) has been proposed to meet the nearby growing power demand. The 220 kV connectivity of the proposed GSS as follow:- • Chapra(new)-Amnour DCDS • Chhapra(new)-Goplaganj DCDS
Bihar	220 kV Hazipur-Amnour D/C	N-1 Contingency	

Bihar, PGCIL	220 kV Patna-Sipara T/C	N-1 Contingency	Two nos. of 400/220/132 kv Jakkanpur GSS and Naubarpur GSS are proposed in nearby area which is already approved in 13th Plan
Bihar, PGCIL	220 kV Khagaul-Sipara S/C	Overlaod of 220 kV Khagaul-Sipara	Already resolved by addition of 02 mor lines i.e. 220 kV Khagaul-Patna(PG) D/C (Ckt 2 &3)
Bihar	220 kV Bodhgaya-Gaya D/C	N-1 Contingency	A new 400/220/132 kV sub-station at Chandauti has been proposed with connectivity at 220 kV by LILO of both circuits of Gaya(PG)-Sonenagar(new)

JUSNL and CESC may update.

Item no. C.9: Submission of Renewable Generation data on daily basis West Bengal--ERLDC

West Bengal has total renewable installed capacity of 178.5 MW (65 MW solar, 95.5 MW small hydro, 16 MW biomass and 2 MW wind). Presently WBSETCL sends the renewable energy generation data in mu on monthly basis at around 20th of every month to MIS department. As per the monthly energy file of October-2019, total renewable generation was 28.559 MU, which comes to daily generation of around 0.9 MU. On November-2019 & December-2019 the daily generation figure is around 0.5 MU and 0.3 MU respectively. As this generation data is being sent as a consolidated monthly figure only, almost 20 days after end of each month, this significant quantum of daily generation is not being reflected in the daily PSP report prepared by ERLDC and sent to MOP, CEA and other higher authorities.

In view of this, in order to make the daily PSP report complete, WBSETCL is being advised to send daily MU figure of renewable generation plant-wise or total wind/solar by the end of each night-shift or by the next day.

SLDC, WBSETCL may deliberate

Item no. C.10: Monitoring of Next Six-Month New Element Integration in OCC and Its Update on Monthly Basis --ERLDC

It has been observed that many elements are getting interconnected into the system and beforehand details are not available with the system operator resulting in difficulty in carrying our operational planning activity. In view of this, as a regular agenda all ISTS and ISGS/IPP to update the OCC regarding any new elements at 220 kV and above which will be integrated in next six month with the grid. For State Grid, SLDC will be submitting the details on behalf of its intrastate Generation and transmission system. The format is given below:

Transmission Elements	Agency/ Owner	Scheme (ERSS/ TBCB/ Standing	Schedule Completion	Projected Month for	Issue Being

		Committee/State		Completion	Faced

In previous several OCC, Transmission licensees and SLDCs are requested to submit RLDC/RPC following details on monthly basis

- List of transmission element /generators of State and ISTS licensees synchronised in the last month.
- List of transmission element /generators expected to be synchronised during next month or in near future

Some SLDCs are submitting the list of intrastate and interstate line on regular basis, however transmission element /generators expected to be synchronised during next month or in near future is not submitted by any SLSC/Transmission licensee to RLDC/RPC.

In 162nd OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the details the list of transmission elements / generators already synchronized / charged in the previous month as well as those expected to be commissioned in the near future (as per the format specified) to ERLDC

In 163rd OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the details to erldcprotection@posoco.co.in as per the format.

List of upcoming Transmission Element is received from Bihar and Jharkhand.

DVC, OPTCL , WBSETCL and Sikkim may update.

Item no. C.11: Reconductoring work of 400 kV Rangpo-Binaguri D/C lines

In 162nd OCC, Powergrid informed that SPS at Rangpo is ready and it can be put in service as and when required.

Powergrid explained that reconductoring work of both 400 kV Rangpo-Binaguri D/C lines would take 1 year time approximately and they are ready to take shutdown of both the circuits from 01.11.2019.

ED, ERLDC advised Powergrid to complete the reconductoring work of one circuit by end of February 2019. He added that after February 2019, shutdown of both lines is not possible in view of the likelihood of rise in hydro generation in Sikkim.

MS, ERPC submitted that there is a need for reviewing the progress of the work by field visit. In this regard a Committee shall be formed comprising the members from ERPC Secretariat, ERLDC, WBSETCL, PGCIL, TVTPL etc. The Committee will visit the site and check the preparedness of the work. Also, periodic inspection will be done to assess the progress of the work.

In 42nd TCC, Powergrid updated that reconductoring of 11 km of both the circuits out of 110 km line had been completed (9.3 km in West Bengal and 1.7 km in Sikkim).

Powergrid further informed that they are facing severe ROW issues in Sikkim and requested Power and Energy Department, Govt. of Sikkim to support in resolving the ROW issues.

Powergrid added that they are putting all the efforts to complete the reconductoring work of both 400 kV Rangpo-Binaguri D/C lines by April 2020.

TCC advised Powergrid to complete the work as per the schedule so that evacuation of hydro power from Sikkim would not get affected in the coming monsoon season.

TCC requested Sikkim to help Powergrid in resolving the ROW issues for smooth completion of the reconductoring work.

ERPC Secretariat informed that a Committee with members from ERPC Secretariat, WBSETCL, PGCIL, TVPTL has been formed to monitor the progress of the work and the Committee would visit the site in every two months.

PGCIL was requested to furnish the status of progress to ERPC Secretariat every month for discussion in the OCC meeting.

In 165th OCC, Powergrid updated that reconductoring of 14 km of both the circuits out of 110 km line had been completed.

Powergrid added that 70% of the line is in hilly area and reconductoring of the hilly area would be completed by April 2020. Rest of the reconductoring work would be carried out by taking single circuit shutdown.

Powergrid may update.

Item no. C.12: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTS licensee

Thermal Loading of Transmission line and associated terminal equipment is one of the most vital data which is utilized for Operation Purpose, calculation of ATC/TTC and various other studies. This information has to be submitted by the transmission utilities. However even after regular follow-up in past several OCC meetings, significant delay has been observed in submission. Status of submission of data upto first week of December 2019 is as follows:

Name of Utility	**Whether End Equipment Rating Submitted or Not?**
PGCIL ERTS-1 and ERTS-2	Partial Details (Final Complete details yet to be received)
DMTCL	NA
POWERLINKS	NA
Sterlite (ENICL, OGPTL, PKTCL)	NA
TVPTL	NA
Alipurduar Transmission Limited	NA
Powerlink	NA
CBPTCL	NA
OPTCL	Submitted (Revised list given to OPTCL for submission)
WBSETCL	Submitted
BSPTCL	Submitted
DVC	Submitted
JUSNL	NA

Members may update.

Item no. C.13: Conversion of Line Reactor as Bus reactor with NGR bypass Scheme -ERLDC

A mail was circulated by ERLDC for collecting the switchability information of the Line reactors and the availability of the required NGR bypass arrangement for converting the line reactor to Bus reactor. So far following response received from the corresponding owner:

1. 400 kV Kishanganj-Darbhanga D/C at Darbhanga end (owned by ATL) – Switchable but no NGR by pass arrangement.
2. 400 kV Barh-Motihari D/C at Barh end (Owned by Barh) – Switchable but no NGR by pass arrangement.

All the other utilities are requested to submit the details at the earliest so that RLDC can do operational planning for better reactive power management.

Also, Barh and ATL are request to do necessary by pass arrangement of NGR as early as possible so that during winter season these resources could be used for maintaining better voltage profile in the grid.

In 163rd OCC, OCC advised all the utilities to submit the details to ERLDC and ERPC at the earliest (not later than 30/11/2019) so that ERLDC can do operational planning for better reactive power management.

OCC advised Barh and ATL to do the necessary by pass arrangement of NGR at the earliest.

In 164th OCC, NTPC requested to provide the scheme for NGR bypass arrangement.

OCC advised NTPC to interact with Powergrid for the scheme and advised submit the plan for implementation of NGR bypass arrangement at Barh STPS, NTPC.

List of Line reactors which cannot be converted into Bus reactor is circulated in the meeting.

OCC advised all the constituents to go through the list and implement the necessary bypass arrangement.

Members may update.

PART D:: OPERATIONAL PLANNING

Item no. D.1: Anticipated power supply position during March 20

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of March 20 were prepared by ERPC Secretariat on the basis of LGBR for 2019-20 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-D.1**.

Members may confirm.

Item no. D.2: Shutdown proposal of transmission lines and generating units for the month of March 20

Generator shutdown for March 20:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
NTPC	Barh STPS	5	660	21.03.20	04.04.20	11	Short Shutdown

1. Total shutdown of 1020 MW Tala Hydropower Plant

Tala had been facing problem of concrete mass falling off the water conducting system since 2018. The Management had proposed for the inspection and hence, the Plant will be under total shutdown for 04 days (four), tentatively from **02-March-2020** to **05-March-2020**. On daily returnable basis from 07.00hrs to 20.00hrs BST

Indian counterparts may have maintenance on the international lines emanating from Tala to India, if required so that multiple shutdowns are avoided.

2. Total Shutdown of 336 MW Chhukha Power Plant.

Management has proposed for ROV inspection of water conducting system of CHP. Therefore the total shutdown of CHP units required for the inspection on daily returnable basis from **11 March-2020 to 18 March-2020 from 07.00hrs to 18.00hrs**. During the shutdown period opportunity may be taken to carry out maintenance of lines at the Indian portion too.

ERLDC may place the list transmission line shutdown discussed on 17th February 2020 through VC.

Members may confirm.

1. OPGW Installation in Teesta III-Kishanganj link--Powergrid

Powergrid is implementing OPGW on Teesta III-Kishanganj line under Fiber Optic Expansion Package (Additional Requirement). Following issues are faced during execution of the work:

A. OPGW erection in section having aviation globules

During erection of opgw, it is found that aviation globules are present in drum no. 41 (Loc. No 266 to Loc. No 270). For opgw erection, following options are proposed:

OPTION-1:
OPGW in existing 400KV TeestaIII-Kishanganj line for drum-41

Taking out of aviation globules	Shutdown required on 400KV TeestaIII-Kishanganj TL for 2 days (06.02.20 & 07.02.20 ODB from 08:00 hrs to 17:00 hrs)
Installation of OPGW	A/R in non-auto mode for 5 days in 400KV TeestaIII-Kishanganj TL (08.02.20 to 12.02.20)
Putting the aviation globules in 400KV Rangpo-Kishanganj TL (earthwire)	Shutdown required 400KV Rangpo-Kishanganj TL for 2 days (13.02.20 to 14.02.20)

OPTION-2:
OPGW in existing 400KV Rangpo-Kishanganj line for drum-41

Installation of OPGW	A/R in non-auto mode for 7 days in 400KV Rangpo-Kishanganj TL (06.02.20 to 12.02.20). During this period, A/R in non-auto mode will not be availed for 400KV Teesta III-Kishanganj TL.

TPTL may kindly confirm implementation of the work. Approval of the Shutdown/AutoReclose in non-auto mode is also requested to be arranged by ERLDC.

Members may discuss.

Item no. D.3: Prolonged outage of Power System elements in Eastern Region as on 07-02-2020

(i) Thermal Generating units:

S.No	Station	Owner	Unit No	Capacity	Reason(s)	Outage Date
1	BARH	NTPC	4	660	MAINTENANCE/ ANNUAL OVERHAULING	26-Nov-19
2	TALCHER	NTPC	1	500	MAINTENANCE/ ANNUAL OVERHAULING	16-Jan-20
3	Rangit	NHPC	2	20	MAINTENANCE/ Annual Maintenance	8-Jan-20
4	Teesta-V	NHPC	2	170	MAINTENANCE/ Annual Maintenance	28-01-2020
5	CHUZACHEN	GATI	1	55	MAINTENANCE/ ANNUAL OVERHAULING	4-Feb-20
6	CHUZACHEN	GATI	2	55	MAINTENANCE/ ANNUAL OVERHAULING	4-Feb-20
7	KOLAGHAT	WBPDCL	1	210	MAINTENANCE/ POLLUTION CONTROL PROBLEM	10-May-18
8	CHANDRAPURA TPS	DVC	3	130	MAINTENANCE/ TURBINE BLADE DAMAGE	30-Jul-17
9	SAGARDIGHI	WBPDCL	3	500	MAINTENANCE/ ANNUAL OVERHAULING	19-Jan-20
10	FARAKKA	NTPC	3	200	SUPER HEATER SPRAY LINE LEAKAGE	23-Dec-19

11	MTPS ST-2	NTPC	2	195	CONDENSER PROBLEM	1-Feb-20
12	KOLAGHAT	WBPDCL	3	210	Bottom ash evacuation problem	24-Nov-19
13	KOLAGHAT	WBPDCL	4	210	HIGH DRAFT PRESSURE	17-Nov-19
14	KOLAGHAT	WBPDCL	2	210	ESP MAINTENANCE	26-Dec-18
15	KOLAGHAT	WBPDCL	6	210	RSD/LOW SYSTEM DEMAND	16-Jan-20
16	BANDEL	WBPDCL	5	210	RSD/LOW SYSTEM DEMAND	5-Feb-20
17	SAGARDIGHI	WBPDCL	1	300	POOR COAL STOCK	6-Feb-20
18	BOKARO B	DVC	3	210	PROBLEM IN ASH POND	12-Sep-19
19	RAGHUNATHPUR TPS	DVC	1	600	PROBLEM IN GOVERNOR SYSTEM	7-Jan-20
20	MEJIA	DVC	2	210	RSD/LOW SYSTEM DEMAND	5-Jan-20
21	MEJIA	DVC	4	210	RSD/LOW SYSTEM DEMAND	13-Jan-20
22	MTPS ST-1	BSPHCL	2	110	RSD/LOW SYSTEM DEMAND	19-Oct-19
23	DPL	WBPDCL	7	300	ASH HANDLING PROBLEM	4-Feb-20
24	TENUGHAT	JUVNL	2	210	Due to S/D of 220KV Tenughat-Patratu ckt	6-Feb-20
	Sub Total			5895		

Generators/ constituents are requested to update the expected date of revival of the units.

(ii) Hydro Generating units:

Sl. No.	Station		Unit No.	Capacity	Reason (s) of outage	Outage date
1	BURLA	OHPC	1	49.5	MAINTENANCE/R & M WORK	14.03.2018
		OHPC	5	37.5	MAINTENANCE/R & M WORK	25.10.2016
		OHPC	6	37.5	MAINTENANCE/R & M WORK	16.10.2015
		OHPC	7	37.5	MAINTENANCE/ANNUAL MAINTENANCE	06.12.2019
2	BALIMELA	OHPC	1	60	MAINTENANCE/R & M WORK	05.08.2016
		OHPC	2	60	MAINTENANCE/R & M WORK	20.11.2017
3	CHIPLIMA	OHPC	3	24	MAINTENANCE/R & M WORK	15.10.2015
		OHPC	1	24	MAINTENANCE/ANNUAL MAINTENANCE	08.01.2020
4	INDRAVATI	OHPC	2	150	MAINTENANCE/ANNUAL MAINTENANCE	11.01.2020
5	U.KOLAB	OHPC	3	80	Guide bearing temperature high	7-Jan-20

It is seen that about 560 MW hydro capacities in Odisha is under forced outage / planned outage in the period of peak monsoon and therefore not available for providing the much needed

peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units.

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage From DATE	Reasons for Outage
1	220 KV BALIMELA - U' SILERU	OPTCL / APSEB	10-03-2018	LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18
2	400 KV IBEUL JHARSUGUDA D/C	IBEUL	29-04-2018	TOWER COLLAPSE AT LOC 44,45
3	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	49 NOS OF TOWER COLLAPSED.AS REPORTED BY SLDC OPTCL, TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS.
4	400/132 KV, ICT II (200 MVA) AT KAHALGAON	NTPC	02-08-2019	Y PHASE BUSHING BURSTED
5	132 KV KhSTPP-KAHALGAON(BSPTCL)	BSPHCL	23-09-2019	TO RESTRICT LOADING ON 400/132 KV KAHALGAON(NTPC) ICT 1 /LOAD OF KAHALGAON SHIFTED TO NEW SABOUR(GORADIH).
6	400 KV MOTIHARI(DMTCL)-GORAKHPUR-I	POWERGRID/DMTCL	13-08-2019	LINE SWITHED OFF DUE TO ANTICIPATED TOWER COLLAPSE AT LOC 27/0(132) DUE TO CHANGE OF COURSE OF GANDAK RIVER.TOWER COLLAPSED REPORTED AT LOC 27/0(132) ON 15/08/19 AT 07:00 HRS. 400KV BARH -GORAKHPUR 2 CHARGED AT 10:06 HRS ON 31.01.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI. 400KV BARH -GORAKHPUR 1 CHARGED AT 18:57 HRS ON 05.02.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI.
7	400 KV MOTIHARI(DMTCL)-GORAKHPUR-II	POWERGRID/DMTCL	13-08-2019	
8	400 KV BARH-MOTIHARI(DMTCL) -I	POWERGRID/DMTCL	04-09-2019	TOWER COLLAPSE AT LOCATION 26/0 AND 25/5. 400KV BARH -GORAKHPUR 2 CHARGED AT 10:06 HRS ON 31.01.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI. 400KV BARH -GORAKHPUR 1 CHARGED AT 18:57 HRS ON 05.02.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI.
9	400 KV BARH-MOTIHARI(DMTCL) -II	POWERGRID/DMTCL	04-09-2019	

10	765KV-ANGUL-JHARSUGUDA-IV	POWERGRID/DMTCL	05-02-2020	OPENED ON OVER VOLTAGE AT JHARSUGUDA
11	220KV BEGUSARAI-NEW PURNEA-I	BSPTCL	13-10-2019	B-N, 5.98kA, 12.6km at NEW PURNEA;Since line was tripping frequently in the past and hence will not to be charged till: 1)sag/clearance issue is resoved 2)Healthiness certificate from independent third party obtained 3)ensure auto reclosure healthiness.
12	220KV BEGUSARAI-NEW PURNEA-II	BSPTCL	14-10-2019	R-N, 1.93kA, 85.6km A/R successful at NEW PURNEA.Since line was tripping frequently in the past and hence will not be charged till: 1)sag/clearance issue is resoved 2)Healthiness certificate from independent third party obtained 3)ensure auto reclosure healthiness.
13	400 KV BINAGURI-RANGPO-1	POWERGRID	01-11-2019	S/D AVAILED FOR RECONDUCTORING WORK TILL 31/01/2020
14	400 KV BINAGURI-RANGPO-2	POWERGRID	01-11-2019	S/D AVAILED FOR RECONDUCTORING WORK TILL 31/01/2020
15	400 KV ALIPURDUAR-JIGMELLING I	POWERGRID/BHUTAN	05-12-2019	Initially Antitheft charged from Alipurduar end at 19:59 hrs on 05.12.19 and later on at 22:48 hrs kept open on H/V.
16	400KV-ALIPURDUAR (PG)-BINAGURI-4	POWERGRID	30-01-2020	OPENED ON OVER VOLTAGE AT BINAGURI
17	400KV MAIN BUS - 1 AT SUBHASGRAM(PG)	POWERGRID	03-01-2020	CONSTRUCTION WORK BY MCNALLY BHARAT UNDER ERSS-XVIII PROJECT/PLANNED S/D UPTO 17.2.20
18	220KV-BUDHIPADAR-RAIGARH-1	OPTCL/CHATTISGARH	01-01-2020	LINE DIVERSION FOR CONSTRUCTION OF OPGC, MGR LINE
19	220KV-BUDHIPADAR-KORBA-2	OPTCL/CHATTISGARH	01-01-2020	LINE DIVERSION FOR CONSTRUCTION OF OPGC, MGR LINE

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

** Transmission licensees whose line were out due to tower collapse/ bend, may please update the detail restoration plan and as on date work progress status in OCC.

Also Monthly progress report to be submitted to ERLDC/ERPC till restoration of the element.

Members may update.

PART E :: ITEMS FOR INFORMATION

The following agenda items are placed for information and necessary compliance:

Item No. E.1: Submission of data in MERIT Order portal--CEA

CEA vide mail dated 9th July 2019 informed that the MERIT Order portal had been launched on 23rd June, 2017 by Honourable Minister of Power. One of the most important advantages of "Merit" Portal is Transparent information dissemination pertaining to marginal variable cost and source wise purchase of electricity and indication of supply side reliability, adequacy, and cost of power procurement.

However, it has been observed that many of the states are not filling the data regularly and sometimes the data filled varies widely from the data available on the respective RLDCs daily reports.

It is requested that the states may be advised to fill the data regularly and check that correct data is filled on the MERIT Portal.

In 159th OCC, all the SLDCs were advised to fill the correct data in MERIT portal on regular basis.

Item No. E.2: Status of 1st Third Party Protection Audit:

The compliance status of 1st Third Party Protection Audit observations is as follows:

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	46	85.19
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	49	72.06
Odisha	59	42	71.19
JUSNL	34	25	73.53
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

** Pending observations of Powergridare related to PLCC problems at other end.*

The substation wise status of compliance are available at ERPC website (Observations include PLCC rectification/activation which needs a comprehensive plan).

In 118th OCC, all the constituents were advised to comply the pending observations at the earliest. All the STUs informed that most of the observations are related to funding from PSDF. DPRs have been submitted to PSDF committee.

Item No. E.3: Commissioning of new transmission elements in Eastern Region

The details of new units/transmission elements commissioned in the month of January-2020 based on the inputs received from beneficiaries

Monthly commissioning List of Transmission element and generators: January 2020					
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	125 MVAR Bus Reactor @ Subhashgram	PGCIL	11-01-2020	13:45	407/402 KV

2	400kv Alipurduar - Binaguri ckt-3	ATL	16-01-2020	14:19	
3	400kV Alipurduar - Binaguri ckt-4	ATL	16-01-2020	22:19	422/423kV
4	500MVA, 400/220kV ICT#2 at Pusauli	PGCIL	16-01-2020	23:01	
5	315MVA, 400/220kV ICT III at Mendhasal	OPTCL	24-01-2020	13:37	
6	80MVAR L/R of 400kV Patna - Barh ckt#1 at Patna S/S	PGCIL	28-01-2020	16:53	80MVAR B/R reconfigured as Line Reactor

Item No. E.4: UFR operation during the month of January'20

System frequency touched a maximum of 50.27 Hz at 17:03hrs of 01/01/2020 and a minimum of 49.69 Hz at 14:27 hrs of 06/01/2020 & 22:09 hrs of 26/01/2020. Hence, no report of operation of UFR has been received from any of the constituents.

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Annexure-B2

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ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Government of Odisha Undertaking)
CIN: U40102OR2004SGC007553
OFFICE OF THE CHIEF GENERAL MANAGER (O&M)
JANPATH, BHUBANESWAR- 751022, Tel : 0674-2542479, Fax : 0674-2542542932

TW-GM(O&M)-CGM(O)-4/2014(Vol-I)/ 236 **Dated:** 11-02-2020

To,

The Member Secretary,
Eastern Region Power Committee,
14, Golf Course Road, Tollygunj,
Kolkata-700033.

Sub: Furnishing Revised Automatic Under Frequency Load Shedding (AUFLS) scheme under OPTCL.

Sir,

With reference to above, the revised Automatic Under Frequency Load Shedding (AUFLS) scheme under OPTCL are annexed herewith for favour of your kind information.

Encl: As above

Yours faithfully,

11.02.2020

Chief General Manager (O&M)

CC:

Chief Load Despatcher, SLDC, Odisha

Feeder wise Automatic under frequency load shedding of OPTCL

State / Utility	Stage / Frequency	Name of Circle	Name of Division	Name of E&MR Division	Name of Grid / Sub-Station	Name of Feeder	Load in MW	DATE OF LAST TESTING
OPTCL	Stage-I	Bolangir	Kesinga	Bolangir New	Kesinga	33kV Narla Feeder	11.0	31.01.20
	49.4 Hz	Bolangir	Kesinga	Bolangir New	Junagarh	33kV Charbahalpur Feeder	10.0	31.01.20
		Berhampur	Bhanjanagar	Berhampur	Bhanjanagar	33kV KB Pur Feeder	7.0	22.01.20
		Berhampur	Bhanjanagar	Berhampur	Aska	33kV Buguda Feeder	11.0	21.01.20
		Berhampur	Berhampur	Berhampur	Berhampur	33kV Chikiti Feeder	11.0	21.01.20
		Berhampur	Chhatrapur	Berhampur	Balugoan	33kV Khalikote Feeder	16.0	27.01.20
		Bhubaneswar	Khurda	Bhubaneswar	Khurda	33KV Banki Feeder	13.0	23.01.20
		Bhubaneswar	Khurda	Bhubaneswar	Nayagarh	33kV Khandapada Feeder	8.5	27.01.20
		Cuttack	Cuttack	Cuttack	Jagatsinghpur	33kV Balikuda Feeder	11.0	04.02.20
		Chainpal	Chainpal	Meramundali	Boinda	33kV Jarpada Feeder	12.0	03.02.20
		Jajpur Rd(Balasore)	Bhadrak	Jajpur Rd(Balasore)	Bhadrak	33kV Dhamnagar Feeder	16.0	03.02.20
		Jajpur Rd(Balasore)	Balasore	Jajpur Rd(Balasore)	Balasore	33kV Srijang Feeder	6.5	03.02.20
		Bolangir	Bolangir	Bolangir	Bolangir (Old)	33kV Dumarbahal Feeder	10.5	20.01.20
		Burla	Barpali	Burla	Bargarh	33kV Dunguri Feeder	15.0	04.02.20
		Burla	Rourkela	Burla	Rourkela	33kV Lathikata Feeder	8.0	04.02.20
		Bolangir	Nuapada	Bolangir	Khariar	33kV Khariar RE	15.0	02.02.20
						Total	**181.5**	
OPTCL	Stage-II	Jayanagar	Jayanagar	Rayagada	Jayanagar	33kV Boriguma Feeder	10.0	18.01.20
	49.2Hz	Jayanagar	Jayanagar	Rayagada	Sunabeda	33kV Laxmipur Feeder	8.0	18.01.20
		Jayanagar	Therubali	Rayagada	Therubali	33kV Bissm Katak Feeder	8.0	05.02.20
		Berhampur	Phulbani	Berhampur	Phulbani	33kV Kalinga Feeder	8.0	27.01.20
		Cuttack	Paradeep	Cuttack	Kendrapara	33kV Luna Feeder	15.0	To be configured by GE
		Cuttack	Paradeep	Cuttack	Pattamundai	33kV Rajnagar Feeder	8.0	05.02.20
		Berhampur	Chhatrapur	Berhampur	Chatrapur	33kV Rambha Feeder	14.0	24.01.20
		Cuttack	Paradeep	Cuttack	Chandikhole	33kV Kabatabandaha Feeder	15.0	05.02.20
		Bhubaneswar	Puri	Bhubaneswar	Nimapara	33kV Kakatpur Feeder	13.0	30.01.20
		Bhubaneswar	Khurda	Bhubaneswar	Khurda	33kV Delanga Feeder	12.0	23.01.20
		Chainpal	Dhenkanal	Meramundali	Dhenkanal	33kV Hindol RD Feeder	12.0	03.02.20
		Chainpal	Chainpal	Meramundali	Chainpal	33kV Banarpal Feeder	15.0	04.02.20

7.2.2020

		Jajpur Rd(Balasore)	Jajpur Road	Jajpur Rd(Balasore)	Jajpur Road	33kV Panikoili Feeder	12.0	03.02.20
		Berhampur	Bhanjanagar	Berhampur	Bhanjanagar	33kV Belaguntha Feeder	12.0	22.01.20
		Burla	Rajgangpur	Burla	Sundargarh	33kV Bargoan Feeder	6.5	04.02.20
		Berhampur	Bhanjanagar	Berhampur	Aska	33kV Budamba Feeder	15.0	21.01.20
						Total	183.5	
OPTCL	Stage-III	Jajpur Rd(Balasore)	Bhadrak	Jajpur Rd(Balasore)	Bhadrak	33kV Chandabali Feeder	16	03.02.20
	49.0Hz	Chainpal	Dhenkanal	Meramundali	Dhenkanal	33kV Gondia Feeder	13.0	03.02.20
		Burla	Burla	Burla	Sambalpur	33kV Rengali Feeder	15.0	04.02.20
		Burla	Barpali	Burla	Bargarh	33kV Turung Feeder	22.0	04.02.20
		Bhubaneswar	Nayagarh	Bhubaneswar	Nayagarh	33kV Binodpara Feeder	12.0	27.01.20
		Burla	Jharsuguda	Burla	Brajarajnagar	33kV Sargipali Feeder	15.0	04.02.20
		Bolangir	Bolangir	Bolangir	Patnagarh	33kV Khaparakhol Feeder	8.0	22.01.20
		Jajpur Rd(Balasore)	Joda	Jajpur Rd(Balasore)	Palasponga	33kV Remuli Feeder	18.0	03.02.20
		Chainpal	Chainpal	Meramundali	Boinda	33kV Athamalik Feeder	5.0	03.02.20
		Chainpal	Chainpal	Meramundali	Chainpal	33kV Parjang Feeder	13.0	03.02.20
		Chainpal	Dhenkanal	Meramundali	Kalarangi	33kV Goda Feeder	10.0	04.02.20
		Bolangir	Kesinga	Bolangir	Kesinga	33kV Titilagarh Feeder	12.0	31.01.20
		Bhubaneswar	Puri	Bhubaneswar	Nimapara	33kV Konark Feeder	7.0	30.01.20
		Berhampur	Bhanjanagar	Berhampur	Aska	33kV Nuagaon Feeder	10.0	21.01.20
		Jajpur Rd(Balasore)	Jajpur Road	Jajpur Rd(Balasore)	Jajpur Road	33kV Kuakhia Feeder	8.0	03.02.20
						Total	184.0	
OPTCL	Stage-IV	Bolangir	Nuapada	Bolangir	Khariar	33kV Khariar Feeder-II	7.0	02.02.20
	48.8Hz	Jayanagar	Jayanagar	Rayagada	Sunabeda	33kV Nandapur Feeder	7.0	18.01.20
		Burla	Rourkela	Burla	Barkote	33kV Mahuldhia Feeder	9.0	04.02.20
		Jajpur Rd(Balasore)	Joda	Jajpur Rd(Balasore)	Polaponga	33kV Keonjhar Feeder	17.0	03.02.20
		Berhampur	Bhanjanagar	Berhampur	Aska	33kV Kabisuryanagar Feeder	13.0	21.01.20
		Burla	Rajgangpur	Burla	Sundargarh	33kV Subdega Feeder	5.0	04.02.20
		Berhampur	Bhanjanagar	Berhampur	Bhanjanagar	132kV Phulbani Feeder	22.0	22.01.20
		Cuttack	Paradeep	Cuttack	Kendrapara	132kV Pattamundai Feeder	24.0	05.02.20
		Jajpur Rd(Balasore)	Jajpur Road	Jajpur Rd(Balasore)	Jajpur Road	132kV Anandapur Feeder	30.0	03.02.20
		Bolangir	Bolangir	Bolangir	Bolangir (New)	132kV Patanagarh Feeder	22.0	31.01.20
		Jayanagar	Jayanagar	Rayagada	Jayanagar	132kV Tentulikhunti Feeder	30.0	20.01.20
						Total	186.0	
					UFR Scheme		735	

2.2.2020

Restoration schedule of 400 kV Barh-Motihari D/C and 400 kV Motihari-Gorakhpur D/C lines

In 161st OCC, ERLDC informed that 400 KV Barh – Motihari (DMTCL) – D/C were out since **04/09/2019** on tower collapse at LOC 26/0 and 400 KV Motihari – Gorakhpur(DMTCL) –D/C were out since **13/08/2019** on tower collapse at LOC 27/0.

After detailed deliberation, it was emerged that one of the circuits of 400 KV Barh–Motihari(DMTCL) –D/C line could be restored as 400 KV Barh–Motihari(DMTCL) S/C line and other circuit could be directly connected to Gorakhpur to operate as 400 KV Barh-Gorakhpur S/C line keeping one circuit of 400 kV Motihari – Gorakhpur line under outage, till its tower restoration, so that Barh STPS generation could be evacuated safely.

Subsequently it was reported that on **7th Oct 2019** tower no 25/5 of Motihari-Barh got collapsed due to which temporary restoration of 400kV Barh-Motihari line as earlier planned, now seems to be in-feasible.

Under the circumstances POWERGRID is requested to furnish a detailed plan for restoration of 400kV Barh – Gorakhpur D/C (by passing the LILO point at Motihari) on urgent basis to maintain reliability of ER – NR inter regional corridor and safe evacuation of Barh STPS power.

The Committee constituted for analyzing the major outages of ISTS elements of ER had made extensive deliberation on this issue in its 3rd meeting held on 24.10.2019. The Committee also considered to visit the affected location of tower collapse in December, 2019 to assess the actual site condition and volume of work involved etc.

In 163rd OCC, DMTCL informed that the restoration work would start from 15th December 2019 after completion of approach road for carrying the construction material and mobilization of gangs.

DMTCL added that restoration of 400 kV Barh-Motihari D/C line would take five months and restoration of 400 kV Motihari -Gorahkpur D/C line would take six months.

a) Direct connectivity of 400 kV Barh- Gorahkpur D/C line

In 163rd OCC, Powergrid was advised to make direct connectivity i.e. 400 kV Barh- Gorahkpur D/C line, till restoration of the LILO portion of Motihari.

Powergrid agreed to make direct connectivity with Twin Moose conductor but DMTCL has to do the necessary destringing of the conductor of the LILO section with the original line to enable PGCIL to establish the direct connectivity.

OCC advised DMTCL to complete the destringing work at the earliest so that Powergrid could start the bypass arrangement.

Thereafter, DMTCL vide mail dated 11th January 2020 informed that de-stringing of 400kV Barh-Gorakhpur ckt-1&2 of LILO section work completed.

POWERGRID informed that they have mobilized the required man and material for stringing of conductor to provide direct connectivity from BARH STPS to Gorakhpur which is likely to be completed within 5 days.

b) Issues related to Bihar:

In 163rd OCC, Bihar informed that they are facing severe power shortage at Motihari due to outage of above lines and requested DMTCL to accelerate the restoration work. Bihar requested DMTCL to complete the restoration work before summer.

Thereafter, Bihar informed that, outage of the above 400 kV Transmission Lines has severally affected East Champaran (Motihari) & West Champaran (Bettiah) and the adjoining areas which caused acute power crisis since September '2019. The feeder wise load details at DMTCL (Motihari) is as follows:

	132kV Substation	**OFF peak load**	**Peak load**
Motihari (DMTCL) 400/132 KV, **Transformer Capacity** – 2*200 MVA	Motihari	50	60
	Bettiah	45	47
	Narkatiyaganj	12	18
	Ramnagar	55	65
	Valmikinagar	03	05
	Raxaul	30	45
	Parwanipur (Nepal)	65	80
	TOTAL	260	320

Therefore, 260-320 MW loss of load occurred due to outage of this transmission line. Nepal is also facing a deficit of 70-80 MW power supply through 132 kV Raxaul-Parwanipur (Nepal) line.

The vast areas which are adversely affected due to the outage of 400 KV Transmission Lines are being fed partially through GSS Gopalganj , Parwanipur (Nepal) T/L, Surajpura (Nepal) & GSS Sitamarhi . GSS Gopalganj is fed through single source i.e. 220 KV D/C MTPS-Gopalganj T/L. This Line gets overloaded during peak hours and in that condition BSPTCL is left with no other option except load shedding in almost five districts namely East Champaran(Motihari) & West Champaran (Bettiah) , Siwan , Gopalganj & Chhapra . The situation may further worsen in case of outage of 220 KV MTPS-Gopalganj T/L & it will lead to total blackout in the northern region of Bihar.

Due to outage of these 400 kV Transmission Lines since sep'2019, Bihar has to face a deficit of 320 MW, which was met through alternative sources with a load restriction of approximately 125-160 MW. In present scenario, due to lower demand BSPTCL is able to meet the demand

through available sources. But, the situation will worsen with increasing load demand in upcoming months.

Therefore, it is requested to kindly take necessary measures at your end to ensure the timely availability of 400 KV D/C Barh-Motihari-Gorakhpur T/L to avoid any load restriction.

c) Latest restoration schedule submitted by DMTCL:

400kV Motihari - Barh line with ERS single ckt	
Activity	**End Date**
Piles -	30th Jan 2020
Pile caps & chimney -	7th Feb 2020
Tower supply -	10-Feb-20
Condcuotor supply -	30th Jan 2020
Tower erection -	23-Feb-20
Stringing completion for towers 25/1, 25/2 &25/3 -	29-Feb-20
ERS - Mobilization -	7th Feb 2020
ERS - Installation & Stringing -	29th Feb 2020
400kV Motihari - Barh D/C line permanent restoration by 25-May-20	
400kV Motihari Gorakhpur D/C line	
Islanding-	19-Feb-20
Pile completion -	24-Mar-20
Pile caps & Chimney -	30-Mar-20
Tower supply-	20-Feb-20
Conductor supply -	20th Feb 2020
Tower erection -	22-Apr-20
Stringing	30-Apr-20
Commissioning -	30 Apr 2020

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Annexure-B8

FGD status for Under Construction/commissioned Thermal Power Plant after 31.08.2017

S.N	Developer	Project Name	LOA Date	Sector	State	Region	Unit No	Cap. (MW)	DT-of COMMISSIONING (MM/DD/YYYY)	Whether FGD space available (Y/N)	Whether FGD planned (Y/N)	FGD Phasing Plan for Implementation (DD/MM/YYYY)	Remarks	Current Status	Date of award	Executing Agency
2	NTPC	Barh STPP-I	Mar-05	Central Sector	Bihar	ER	U-1	660	UC	Y	Y	31/12/2022	FGD contract awarded on 18.09.2019	FGD is awarded to BHEL on 18.09.18.Yet to mobilize. Basic Engg ordering in progress.	18-09-2018	BHEL
3	NTPC	Barh STPP-I	Mar-05	Central Sector	Bihar	ER	U-2	660	UC	Y	Y	31/12/2022	FGD contract awarded on 18.09.2019	FGD is awarded to BHEL on 18.09.18.Yet to mobilize. Basic Engg ordering in progress.	18-09-2018	BHEL
4	NTPC	Barh STPP-I	Mar-05	Central Sector	Bihar	ER	U-3	660	UC	Y	Y	31/12/2022	FGD contract awarded on 18.09.2019	FGD is awarded to BHEL on 18.09.18.Yet to mobilize. Basic Engg ordering in progress.	18-09-2018	BHEL
5	NTPC	Nabi Nagar TPP	Jan-08	Central Sector	Bihar	ER	U-3	250	26.02.2019	Y	Y	31/12/2022	FGD contract awarded on 10.07.2019	Work in progress.		
6	NTPC	Nabi Nagar TPP	Jan-08	Central Sector	Bihar	ER	U-4	250	UC	Y	Y	31/12/2022	FGD contract awarded on 10.07.2019	Work in progress.		
7	NTPC	Nabi Nagar STPP	Jan-13	Central Sector	Bihar	ER	U-1	660	29.03.2019	Y	Y	31/12/2022	FGD contract awarded on 14.06.2019	Work in progress.		
8	NTPC	Nabi Nagar STPP	Jan-13	Central Sector	Bihar	ER	U-2	660	UC	Y	Y	31/12/2022	FGD contract awarded on 14.06.2019	Work in progress.		
9	NTPC	Nabi Nagar STPP	Jan-13	Central Sector	Bihar	ER	U-3	660	UC	Y	Y	31/12/2022	FGD contract awarded on 14.06.2019	Work in progress.		
12	NTPC	North Karanpura TPP	Feb-14	Central Sector	Jharkhand	ER	U-1	660	UC	Y	Y	31/12/2022	FGD contract awarded on 31.07.2018	Work in progress.	31-07-2018	BHEL
13	NTPC	North Karanpura TPP	Feb-14	Central Sector	Jharkhand	ER	U-2	660	UC	Y	Y	31/12/2022	FGD contract awarded on 31.07.2018	Work in progress.	31-07-2018	BHEL
14	NTPC	North Karanpura TPP	Feb-14	Central Sector	Jharkhand	ER	U-3	660	UC	Y	Y	31/12/2022	FGD contract awarded on 31.07.2018	Work in progress.	31-07-2018	BHEL
21	NTPC	Darlipalli STPP	Feb-14	Central Sector	Odisha	ER	U-1	800	UC	Y	Y	31/12/2022	FGD contract awarded on 18.09.2018	site mobilization being done.	18-09-2018	L&T
22	NTPC	Darlipalli STPP	Feb-14	Central Sector	Odisha	ER	U-2	800	UC	Y	Y	31/12/2022	FGD contract awarded on 18.09.2018	site mobilization being done.	18-09-2018	L&T
36	NTPC	Patratu (3x800 MW)	Mar-18	Central Sector	Jharkhand	ER	U-1	800	UC	Y	Y	31/12/2022	Awarded along with main plant on 03.08.2018	Work in progress.		BHEL
37	NTPC	Patratu (3x800 MW)	Mar-18	Central Sector	Jharkhand	ER	U-2	800	UC	Y	Y	31/12/2022	Awarded along with main plant on 03.08.2018	Work in progress.		BHEL
38	NTPC	Patratu (3x800 MW)	Mar-18	Central Sector	Jharkhand	ER	U-2	800	UC	Y	Y	31/12/2022	Awarded along with main plant on 03.08.2018	Work in progress.		BHEL
39	NTPC-SAIL	Rourkela PP-II Exp	May-16	Central Sector	Odisha	ER	U-1	250	UC	Y	Y	31/12/2022		Tender issued earlier has been annulled. Fresh tender issued on 27.08.19 (being done by NTPC). Award being expedited		

FGD status for Under Construction/commissioned Thermal Power Plant after 31.08.2017

S.N	Developer	Project Name	LOA Date	Sector	State	Region	Unit No	Cap. (MW)	DT-of COMMISSIONING (MM/DD/YYYY)	Whether FGD space available (Y/N)	Whether FGD planned (Y/N)	FGD Phasing Plan for Implementation (DD/MM/YYYY)	Remarks	Current Status	Date of award	Executing Agency
44	BSEB	Barauni TPS Extn.	Mar-11	State Sector	Bihar	ER	U-8	250	11.01.2018	Y	Y	31/12/2022	NIT issued on 27.08.2019.	Revised estimate for tender towards appointment of Project Management Consultant for "Feasibility study, selection of implementing agency and supervision of installation , commissioning, testing & inspection till completion of project for installation of FGD ,SCR etc at 2X250MW extension project of Barauni TPS, Begusarai as per revised emission norms declared by MoEF&CC is under consideration		
45	BSEB	Barauni TPS Extn.	Mar-11	State Sector	Bihar	ER	U-9	250	31.03.2018	Y	Y	31/12/2022	NIT issued on 27.08.2019.	Revised estimate for tender towards appointment of Project Management Consultant for "Feasibility study, selection of implementing agency and supervision of installation , commissioning, testing & inspection till completion of project for installation of FGD ,SCR etc at 2X250MW extension project of Barauni TPS, Begusarai as per revised emission norms declared by MoEF&CC is under consideration		
50	OPGCL	Ib valley TPP	Mar-14	State Sector	Odisha	ER	U-3	660	20.04.2019	Y	Y	31-12-2023		Consultant finalized, Techno – commercial bid evaluation in progress.		
52	OPGCL	Ib valley TPP	Mar-14	State Sector	Odisha	ER	U-4	660	11.05.2019	Y	Y	31-12-2023		Consultant finalized, Techno – commercial bid evaluation in progress.		
84	JICPL	Siriya TPP (Jas Infra. TPP)	Mar-11	Private Sector	Bihar	ER	U-1	660	UC					Uncertain Project		
85	JICPL	Siriya TPP (Jas Infra. TPP)	Mar-11	Private Sector	Bihar	ER	U-2	660	UC					Uncertain Project		
86	JICPL	Siriya TPP (Jas Infra. TPP)	Mar-11	Private Sector	Bihar	ER	U-3	660	UC					Uncertain Project		
87	JICPL	Siriya TPP (Jas Infra. TPP)	Mar-11	Private Sector	Bihar	ER	U-4	660	UC					Uncertain Project		
103	Corporate Power Ltd.	Matrishri Usha TPP Ph-I	Dec-09	Private Sector	Jharkhand	ER	U-1	270	UC					Uncertain Project		
104	Corporate Power Ltd.	Matrishri Usha TPP Ph-I	Dec-09	Private Sector	Jharkhand	ER	U-2	270	UC					Uncertain Project		
105	Corporate Power Ltd.	Matrishri Usha TPP Ph-II	Mar-11	Private Sector	Jharkhand	ER	U-3	270	UC					Uncertain Project		
106	Corporate Power Ltd.	Matrishri Usha TPP Ph-II	Mar-11	Private Sector	Jharkhand	ER	U-4	270	UC					Uncertain Project		
107	Essar Power Ltd.	Tori TPP Ph-I	Aug-08	Private Sector	Jharkhand	ER	U-1	600	UC					Uncertain Project		
108	Essar Power Ltd.	Tori TPP Ph-I	Aug-08	Private Sector	Jharkhand	ER	U-2	600	UC					Uncertain Project		
109	Essar Power Ltd.	Tori TPP Ph-II	Aug-08	Private Sector	Jharkhand	ER	U-3	600	UC					Uncertain Project		
129	Ind Barath	Ind Barath TPP (Odisha)	May-09	Private Sector	Odisha	ER	U-2	350	UC					Uncertain Project		
130	KVK Nilanchal	KVK Nilanchal TPP	Nov-09	Private Sector	Odisha	ER	U-1	350	UC					Uncertain Project		
131	KVK Nilanchal	KVK Nilanchal TPP	Nov-09	Private Sector	Odisha	ER	U-2	350	UC					Uncertain Project		
132	KVK Nilanchal	KVK Nilanchal TPP	Nov-09	Private Sector	Odisha	ER	U-3	350	UC					Uncertain Project		
133	LBP Ltd.	Lanco Babandh TPP	Nov-09	Private Sector	Odisha	ER	U-1	660	UC					Uncertain Project		

FGD status for Under Construction/commissioned Thermal Power Plant after 31.08.2017

S.N	Developer	Project Name	LOA Date	Sector	State	Region	Unit No	Cap. (MW)	DT-of COMMISSIONING (MM/DD/YYYY)	Whether FGD space available (Y/N)	Whether FGD planned (Y/N)	FGD Phasing Plan for Implementation (DD/MM/YYYY)	Remarks	Current Status	Date of award	Executing Agency
134	LBP Ltd.	Lanco Babandh TPP	Nov-09	Private Sector	Odisha	ER	U-2	660	UC					Uncertain Project		
135	MPCL	Malibrahmani TPP	Jun-10	Private Sector	Odisha	ER	U-1	525	UC					Uncertain Project		
136	MPCL	Malibrahmani TPP	Jun-10	Private Sector	Odisha	ER	U-2	525	UC					Uncertain Project		
139	India Power Corporation (Haldia) Limited	India Power TPP	Sep-10	Private Sector	WB	ER	U-2	150	31.12.2017	Y	Y	31.03.2023				
140	India Power Corporation (Haldia) Limited	India Power TPP	Sep-10	Private Sector	WB	ER	U-3	150	UC	Y	Y			Uncertain Project		

POWER SYSTEM DEVELOPMENT FUND

Status of the Projects approved in Eastern Region

Sl No	State	Entity	Name of the Proposal & No	Date of Sanction	Approved DPR cost	Sanctioned Grant	Date of signing of Agreement	Date of First Disbursment	Completion Schedule (in months)	Grant Disbusred till date	% Grant disbursed	Under process of disbusrement	Total Awards amount placed till date	Remarks
1	Bihar	BSPTCL	Renovation and Upgradation of protection system of substations. (18)	11-May-15	71.35	64.22	3-Dec-15	16-May-16	24	56.04	87.26%		69.20	Final 10% not yet claimed
2			Installation of Capacitor bank in 20 Nos of Grid Sub Station. (74)	5-Sep-16	20.98	18.88	14-Mar-18	26-Mar-19	24	16.99	89.98%		20.98	Final 10% not yet claimed
3			Renovation and Upgradation of the protection and control system of 12nos 132/33 Grid Sub Station. (73)	2-Jan-17	54.69	49.22	Agreement not signed		24	0.00	0.00%			Agreement not signed
			Total		**147.02**	**132.32**				**73.03**	**55.19%**		**90.18**	
4	Jharkhand	JUSNL	Renovation & Upradation of protection system of Jharkhnad. (161)	15-Nov-17	153.48	138.13	3-Jul-18	28-Mar-19	16	39.03	28.26%	75.65	140.09	60% grant under process of disbusrement
5			Reliable Communication & data acquisition system upto 132kV Substations ER. (177)	24-May-19	46.82	22.36	Agreement not signed				0.00%			Agreement not signed
			Total		**200.3**	**160.49**				**39.03**	**24.32%**	75.65	**140.09**	
6	Odisha	OPTCL	Renovation and Upgradation of protection system of substaions. (08)	11-May-15	180.56	162.50	5-Aug-15	22-Mar-16	24	46.04	28.33%		60.26	Final 10% not yet claimed
7			Implementation of OPGW based reliable communication at 132 kv and above substations.	15-Nov-17	51.22	25.61	3-Jan-18	29-Mar-19	36	7.68	29.99%		51.22	60% grant not yet requested
8			Installation of 125 MVAR Bus Reactor along with construction of associated by each at 400kV Grid S/S of Mendhasal, Meramundali & New Duburi for VAR control & stabilisation of system voltage. (179)	27-Jul-18	30.26	27.23	21-Sep-18	1-Apr-19	18	2.72	9.99%			Awards not yet placed & 20% not yet requested
9			Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)	24-May-19	3.26	2.93	Agreement signed		10		0.00%			Agreement signed
10			Protection Upgradation and installation os Substation Automatic System (SAS) for seven nos of 220/132/33kV Substations (Balasore, Bidanasi, Budhipadar, Katapali, Narendrapur, New Bolangir & Paradeep). (209)	24-May-19	40.7	36.63			18		0.00%			Agreement is under execution
11		OHPCL	Renovation and Upgradation of protection and control system of OHPC. (109)	22-May-17	24.83	22.35	19-Sep-17	25-May-18	24	4.07	18.19%		17.17	60% grant not yet requested
			Total		**330.83**	**277.25**				**59.11**	**21.32%**		**121.66**	
12	West Bengal	WBSETCL	Renovation and Upgradation of protection system of substations. (07)	31-Dec-14	120.67	108.60	10-Feb-15	4-Feb-16	15	46.10	42.45%		51.23	Project Completed. Short closed
13			Installation of switchable reactor & shunt capacitor for voltage improvement. (88)	22-May-17	48.19	43.37	10-Aug-17	22-Jun-18	19	11.69	26.95%		28.30	60% not yet claimed
14			Renovation & Modernisation of Transmission System. (87)	22-May-17	93.51	70.13	10-Aug-17	25-Jun-18	25	63.12	90.00%		93.51	Final 10% not yet claimed
15			Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid. (210)	24-May-19	79.71	71.74	24-Jun-19	23-Oct-19	19		0.00%	7.17		Order would be placed in Feb 20
16			Project for establishment of reliable communication and data acquisition at different substation at WBSWTCL. (222)	24-May-19	62.39	31.19	24-Jun-19	23-Oct-19	25	3.12	10.00%			Tendering in process& 20% not yet requested

POWER SYSTEM DEVELOPMENT FUND

Status of the Projects approved in Eastern Region

Sl No	State	Entity	Name of the Proposal & No	Date of Sanction	Approved DPR cost	Sanctioned Grant	Date of signing of Agreement	Date of First Disbursment	Completion Schedule (in months)	Grant Disbusred till date	% Grant disbursed	Under process of disbusrement	Total Awards amount placed till date	Remarks
17		WBPDCL	Renovation and Modernization of 220/ 132 kV STPS switch yard and implementation of Substaion Automation System. (72)	5-Sep-16	26.09	23.48	29-Dec-16	18-May-17	18	7.05	30.02%			60% not yet claimed. Claimed on 15th Jan 2020
18			Implementation of Islanding scheme at Bandel Thermal Power Station. (97)	16-May-17	1.54	1.39	10-Aug-17	14-Dec-17	8	1.39	100.00%			Project Completed
19			Renovation and Modernization of switchyard and related protection system of different power stations (BTPS, BKTPS and KTPS) of WBPDCL (155)	27-Jul-18	50.18	45.16	20-Dec-18	27-Mar-19	12	4.52	10.01%			20% not yet claimed Claimed on 31 Dec 2019
			Total		**482.28**	**395.06**				**136.99**	**34.68%**		**173.04**	
20	DVC	DVC	Renovation and Upgradation of the protection and control system of Ramgarh Sub Station. (81)	2-Jan-17	28.85	25.96	11-Apr-17	31-May-17	24	22.95	88.41%		28.27	Final 10% not yet claimed.
21			Renovation and Modernization of control and protection system and replecement of equipment at Parulia, Durgapur, Kalyanewari, Giridhi Jamsedpur, Barjora, Burnpur, Dhanbad and Bundwan substation. (106)	16-May-17	156.11	140.50	21-Jun-17	14-Dec-17	24	36.06	25.67%		122.75	60% not yet claimed. wiil be done by end of Jan 2020
			Total		**184.96**	**166.46**				**59.01**	**35.45%**		**151.03**	
22	Sikkim	ENPD, Sikkim	Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim. (173)	24-May-19	20.00	10.00	4-Dec-19				0.00%			Initla 10% not yet claimed
					20.00	**10.00**				**0.00**	**0.00%**		**0.00**	
23	PGCIL	PGCIL	Installation of STATCOMs in ER at Ranchi-New, Rourkela, Kishanganj and Jeypore substations of POWERGRID. (56)	5-Jan-16	700.31	630.28	29-Sep-16	31-Mar-17	30	571.69	90.70%		651.52	Project Completed
24	ERPC	ERPC	Creation and Maintenance of web based protection database management. (67)	17-Mar-16	20	20.00	26-Apr-16	28-Jun-16	18	14.83	74.15%		16.48	Final 10% not yet claimed
25			Study Programme on power trading at NORD POOL Academy for Power System Engineers of Eastern Region. (122)	27-Jul-18	5.46	5.46	21-Sep-18	27-Mar-19	60	4.61	84.43%		5.37	Final 10% not yet claimed
26			Traning Program for Power system Engineers of various constituents of Eastern Region. (117)	27-Jul-18	0.61	0.61	21-Sep-18	11-Apr-19	60	0.18	29.51%		0.61	60% not yet claimed
			Total		**726.38**	**656.35**				**591.31**	**90.09%**		**673.98**	
			GrandTotal		**2,091.77**	**1,797.94**				**958.48**	**53.31%**	**75.65**	**1349.96**	

Annexure-B14

DEMAND FORECASTUSING PAST3 YEARS DATA (Apr 2020 - June 2020)															
										1	2	3	4		
	2017-18			2018-19			2019-20								
	Apr-17	May-17	Jun-17	Apr-18	May-18	Jun-18	Apr-19	May-19	Jun-19	2017-18 Average	2018-19 Average	2019-20 Average	Projected Demand for (Apr 2020 - June 2020) before normalization	Data given by DICs	Comments
Chandigarh	321	340	356	252	350	369	256	380	413	339	324	350	348		
Delhi	5,685	6,021	6,526	5,200	6,442	6,934	5,664	6,461	6,904	6,077	6,192	6,343	6,470	6500	As per data given by Delhi
Haryana	7,463	7,780	8,912	7,706	8,351	10,050	8,127	8,874	10,237	8,052	8,702	9,079	9,639		
Himachal Pradesh	1,329	1,349	1,377	1,424	1,405	1,474	1,387	1,480	1,619	1,352	1,434	1,495	1,571		
Jammu & Kashmir	2,062	2,134	2,214	2,183	2,356	2,197	2,308	2,426	2,362	2,137	2,245	2,365	2,478		
Punjab	8,078	8,229	11,024	7,083	8,920	12,377	7,087	8,850	13,149	9,110	9,460	9,695	10,007		
Rajasthan	9,155	10,305	10,347	10,053	11,298	11,698	10,560	11,791	12,620	9,936	11,016	11,657	12,591		
Uttar Pradesh	17,332	17,819	18,061	16,697	19,284	20,062	19,935	22,057	21,407	17,737	18,681	21,133	22,579	22000	As per data given by UP
Uttarakhand	1,917	1,992	2,027	1,953	2,097	2,134	1,922	2,155	2,164	1,979	2,061	2,080	2,142		
Northern Region	**49,643**	**51,820**	**54,890**	**48,367**	**56,243**	**60,715**	**47,210**	**59,343**	**64,838**						
Chattisgarh	3,887	3,713	3,203	3,645	3,652	3,718	4,574	4,504	4,078	3,601	3,672	4,385	4,670		
Gujarat	15,285	15,325	15,695	15,005	15,855	16,327	17,865	18,094	18,424	15,435	15,729	18,128	19,123		
Madhya Pradesh	8,402	8,227	7,610	8,589	8,745	8,366	10,018	10,131	10,180	8,080	8,567	10,110	10,949		
Maharashtra	22,494	21,778	20,520	23,207	23,254	21,703	23,150	23,613	22,912	21,597	22,721	23,225	24,142		
Daman & Diu	334	339	342	347	310	351	340	344	350	338	336	345	346		
Dadra Nagar Haveli	753	768	771	778	778	778	818	799	824	764	778	814	835		
Goa	557	504	464	562	530	493	594	554	621	508	528	590	623		
ESIL	648	645	665	580	632	708	703	522	514	624	640	580	570	700	As per data given by ESIL
Western Region	**49,788**	**49,048**	**47,034**	**50,434**	**52,442**	**50,922**	**56,222**	**57,093**	**56,768**						
Andhra Pradesh	7,848	7,882	8,000	8,945	9,249	9,188	9,160	9,854	10,170	7,910	9,127	9,728	10,740		
Telangana	9,001	7,396	7,207	9,125	7,752	7,616	10,202	8,684	8,355	7,868	8,164	9,080	9,583		
Karnataka	9,987	9,358	8,612	10,688	9,778	8,991	12,688	12,158	11,490	9,319	9,819	12,112	13,210		
Kerala	3,862	3,837	3,597	3,934	3,997	3,533	4,300	4,205	4,071	3,765	3,821	4,192	4,353	3950	As per data given by Kerala
Tamil Nadu	14,975	14,743	14,274	14,981	14,702	14,851	15,659	15,522	15,668	14,664	14,845	15,616	15,994		
Pondicherry	387	378	379	388	400	395	444	442	470	381	394	452	480		
Goa SR													80		
Southern Region	**42,535**	**40,885**	**38,844**	**45,684**	**43,234**	**42,658**	**49,103**	**47,465**	**44,844**						
Bihar	3,904	4,021	4,131	4,595	4,814	4,900	5,155	5,326	5,483	4,019	4,770	5,321	6,006		
DVC	2,651	2,684	2,518	2,760	2,701	2,700	3,014	2,963	2,950	2,618	2,720	2,976	3,129		
Jharkhand	1,197	1,211	1,228	1,221	1,284	1,198	1,325	1,389	1,362	1,212	1,234	1,359	1,415		
Odisha	4,227	4,208	3,929	4,348	4,615	4,652	5,140	4,606	4,949	4,121	4,538	4,898	5,296		
West Bengal	7,793	7,495	7,768	8,899	8,385	8,603	8,699	9,022	9,088	7,685	8,629	8,936	9,668		
Sikkim	91	78	78	90	88	78	98	93	89	82	85	93	98		
Bhutan															
Eastern Region	**19,191**	**19,032**	**18,987**	**21,275**	**21,249**	**21,487**	**22,378**	**22,781**	**22,808**						

DEMAND FORECAST USING PAST 3 YEARS DATA (Apr 2020 - June 2020)

										1	2	3	4		
	2017-18			2018-19			2019-20								
	Apr-17	May-17	Jun-17	Apr-18	May-18	Jun-18	Apr-19	May-19	Jun-19	2017-18 Average	2018-19 Average	2019-20 Average	Projected Demand for (Apr 2020 - June 2020) before normalization	Data given by DICs	Comments
Arunachal Pradesh	129	145	123	125	123	133	136	138	144	132	127	139	140		
Assam	1,399	1,580	1,623	1,503	1,596	1,750	1,667	1,673	1,791	1,534	1,616	1,710	1,797		
Manipur	154	161	155	186	172	172	188	181	182	157	177	184	199		
Meghalaya	291	304	272	307	368	326	337	325	367	289	334	343	376		
Mizoram	85	85	77	89	87	93	113	100	99	82	90	104	114		
Nagaland	120	131	146	127	119	129	131	128	140	132	125	133	131		
Tripura	252	276	304	265	276	276	291	295	311	277	272	299	305		
N. Eastern Region	**2,209**	**2,391**	**2,387**	**2,552**	**2,611**	**2,564**	**2,780**	**2,674**	**2,861**						
All India (sum of all regions)	**1,63,366**	**1,63,176**	**1,62,142**	**1,68,312**	**1,75,779**	**1,78,346**	**1,77,693**	**1,89,356**	**1,92,119**	**1,62,895**	**1,74,146**	**1,86,389**	2,12,196		
All India Peak Met	**1,58,393**	**1,56,733**	**1,53,179**	**1,61,286**	**1,70,765**	**1,69,942**	**1,76,810**	**1,82,533**	**1,82,454**	**1,56,102**	**1,67,331**	**1,80,599**	1,92,508		

Notes

1. Projections are based on the past 3 years' monthly Peak Demand Met data available on the website of CEA
2. The above projections are being done for financial year 2020-2021 (Q1) i.e April 2020-June 2020
3. Projections are being done based on the forecast function available in MS Office Excel

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
1	Uttar Pradesh	NR	10892											10892	As per data given by Uttar Pradesh	10833	10833
2	Delhi	NR	1248											1248	As per data given by Delhi	1095	1095
3	Haryana	NR	3084											3084			3084
4	Uttarakhand	NR	1046											1046			1046
5	Punjab	NR	5462											5462			5462
6	Rajasthan	NR	8103											8103			8103
7	Himachal Pradesh	NR	1045											1045			1045
8	Jammu & Kashmir	NR	996											996			996
9	BBMB	NR	2133											2133			2133
10	Chandigarh	NR	0											0			0
11	Railways	NR	0											0			0
12	Dadri Thermal	NR	1847											1847	As per data given by NTPC	1200	1200
13	Rihand	NR	2912											2912		2795	2795
14	Singrauli	NR	1716											1716		1858	1858
15	Unchahar	NR	1472											1472		1421	1421
16	Auraiya	NR	281											281		150	150
17	Dadri CCPP	NR	641											641		300	300
18	NAPS	NR	399											399			399
19	Jhajjar	NR	1118											1118	As per data given by Jhajjar	1414	1414
20	DHAULIGANGA	NR	291											291			291
21	Tanakpur	NR	91											91			91
22	Koteshwar	NR	407											407			407
23	Tehri	NR	568											568			568
24	Anta	NR	267											267	As per data given by NTPC	150	150
25	RAAP B	NR	377											377			377
26	RAPP C	NR	429											429			429
27	AD Hydro	NR	222											222			222
28	Everest	NR	104											104			104

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
29	Karcham Wangtoo	NR	1133											1133			1133
30	Bairasul	NR	123											123			123
31	Chamera 1	NR	555											555			555
32	Chamera 2	NR	308											308			308
33	Chamera 3	NR	248											248			248
34	Naptha Jhakri	NR	1624											1624			1624
35	Lanco Budhil	NR	73											73			73
36	DULHASTI	NR	378											378			378
37	Salal	NR	704											704			704
38	Sewa-II	NR	139											139			139
39	URI 1 HPS	NR	549											549			549
40	URI II HPS	NR	248											248			248
41	Sree Cement	NR	223											223			223
42	Parbati III	NR	491											491			491
43	Rampur HEP	NR	449											449	As per data given by Rampur HEP	442	442
44	KOLDAM	NR	878											878	As per data given by NTPC	792	792
45	Rosa Power	NR															0
46	Kishanganga	NR	271											271			271
47	Sainj HEP	NR	71											71			71
48	Tanda Stg-2	NR							Tanda Stg-2	5	660	432	432	432	As per data given by NTPC	433	433
49	Bhadla Solar	NR_RJ															0
50	West Bengal	ER	5479											5479			5479
51	Odisha	ER	2985	OPGC Stage-II	4	660	432	432						3417			3417
52	Bihar	ER	204											204			204
53	Jharkhand	ER	301											301			301
54	Sikkim	ER	0											0			0
55	Chujachan	ER	111											111			111
56	DVC	ER	5094											5094			5094
57	Durgapur Steel	ER															
58	Koderma TPP	ER															
59	Bokaro TPS	ER															
60	Raghunathpur	ER															
61	MPL	ER	1005											1005			1005
62	Teesta V	ER	532											532			532

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
63	Kahalgaon	ER	2079											2079	As per data given by NTPC	2171	2171
64	Farakka	ER	1858											1858		1960	1960
65	Talcher	ER	978											978			978
66	Rangit	ER	67											67			67
67	Adhunik Power	ER	503											503			503
68	Barh	ER	1276											1276	As per data given by NTPC	1238	1238
69	Kamalanga TPP (GMR)	ER	633											633			633
70	JITPL	ER	674											674			674
71	Jorethang	ER	91											91			91
72	Bhutan	ER	1152						Mangdechu HEP	1	180	143	570	1722			1722
									Mangdechu HEP	2	180	143					
									Mangdechu HEP	3	180	143					
									Mangdechu HEP	4	180	143					
73	Teesta-III	ER	1317											1317			1317
74	Dikchu HEP	ER	123											123			123
75	Nabinagar BRBCL	ER	696						Nabinagar BRBCL	4	250	164	164	860			860
76	Tashiding HEP	ER	112											112			112
77	Kanti Bijlee Stg-2 (KBUNL)	ER															0
78	Nabinagar STPS (NPGC)			Nabinagar STPS	1	660	432	432						432			432
79	Darlipalli STPP ST-I								Darlipalli STPP ST-I	1	800	524	524	524	As per data given by NTPC	560	560
80	MP	WR	5162											5162			5162
81	Maharashtra	WR	15823											15823			15823
82	Chattisgarh	WR	2429											2429			2429
83	Gujarat	WR	11369	Wanakbori TPS Extn.	8	800	524	524						11893			11893
84	Goa	WR	0											0			0
85	D&D	WR	0											0			0
86	DNH	WR	0											0			0
87	Vindhyachal	WR	4581											4581	As per data given by NTPC	4415	4415
88	Ratnagiri Dabhol	WR	619											619			619
89	TAPS (1,2,3,4)	WR	1166											1166			1166
90	Jindal	WR	623											623	As per data given by Jindal	360	360
91	LANCO	WR	576											576			576

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
92	NSPCL Bhilai	WR	476											476			476
93	Korba	WR	2477											2477	As per data given by NTPC	2421	2421
94	SIPAT	WR	2882											2882		2794	2794
95	CGPL	WR	3407											3407			3407
96	Mauda	WR	2217											2217		2050	2050
97	Gandhar	WR	484											484	As per data given by NTPC	350	350
98	Kawas	WR	510											510		250	250
99	SSP	WR	290											290			290
100	KAPS	WR	308											308			308
101	Essar Mahan	WR	958											958	As per data given by Essar Mahan	1123	1123
102	BALCO	WR	586											586			586
103	KSK Mahanadi	WR	1245											1245			1245
104	Sasan UMPP	WR	3824											3824			3824
105	JPL Stg-2	WR	1088											1088	As per data given by JPL Stg-2	1100	1100
106	DGEN	WR	541											541			541
107	DB Power Ltd.	WR	1182											1182	As per data given by DB Power Ltd.	1020	1020
108	Korba West	WR	385											385			385
109	Dhariwal	WR	282											282	As per data given by Dhariwal	273	273
110	GMR Chhattisgarh	WR	747											747			747
111	JP Nigrie	WR	1249											1249	As per data given by JP Nigrie	1240	1240
112	GMR Warora	WR	566											566			566
113	ACBIL+Spectrum+ MCCPL	WR	674											674	As per data given by ACBIL	676	676
114	MB Power (Anuppur)	WR	1082											1082			1082
115	RKM Power	WR	880											880			880
116	Jhabua Power	WR	497											497	As per data given by Jhabua Power	566	566
117	TRN Energy	WR	449											449	As per data given by TRN Energy	549	549
118	Sholapur STPP	WR	549	Sholapur STPP	2	660	432	432						981	As per data given by NTPC	970	970
119	Lara STPP	WR	678											678	As per data given by NTPC	560	560

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
120	SKS Power	WR	511											511			511
121	Gadarwada	WR		Gadarwada	1	800	528	528						528	As per data given by NTPC	560	560
122	Khargone STPS	WR							Khargone STPS	1	660	432	864	864	As per data given by NTPC	867	867
									Khargone STPS	2	660	432					
123	Naranpar_Ostro	WR_GJ													As per last Quarter	125	125
124	Rewa_Solar (Acme+Arinsun+Badwar_Mahinder)	WR_MP													As per last Quarter	0	0
125	Vadwa_Green Infra(wind)	WR_GJ													As per last Quarter	90	90
126	Dayapar Inox(wind)	WR_GJ													As per last Quarter	75	75
127	Bhuvad_Renew (wind)	WR_GJ														60	60
128	Roha Green infra (wind)	WR_GJ													As per last Quarter	91	91
129	Ratadiya AGEMPL (wind)	WR_GJ														25	25
130	AGTPP, NEEPCO	NER	104											104			104
131	Doyang, NEEPCO	NER	48											48			48
132	Kopili, NEEPCO	NER	188											188			188
133	Kopili 2, NEEPCO	NER	25											25			25
134	Khandong, NEEPCO	NER	47											47			47
135	Ranganadi, NEEPCO	NER	386											386			386
136	AGBPP_Kathalguri	NER	230											230			230
137	Loktak, NHPC	NER	105											105			105
138	Palatana GBPP	NER	647											647	As per data given by Palatana GBPP	680	680
139	Bongaigaon_NTPC	NER	695											695	As per data given by NTPC	615	615
140	Pare HEP NEEPCO	NER	119											119			119
141	Arunachal Pradesh	NER	0	Dikshi	1	8	6	6						6			6
142	Assam	NER	208											208			208
143	Manipur	NER	0											0			0
144	Meghalaya	NER	208											208			208
145	Nagaland	NER	12											12			12

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20							
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
146	Tripura	NER	183											281			281
147	Mizoram	NER	29											29			29
148	Andhra Pradesh	SR	7019											7019			7019
149	Telangana	SR	6338											6338			6338
150	Karnataka	SR	9073											9073			9073
151	Kerala	SR	1534											1534	As per data given by Kerala	1600	1600
152	Tamil Nadu	SR	9294											9294			9294
153	Pondy	SR	0											0			0
154	Ramagundam	SR	2433											2433	As per data given by NTPC	2421	2421
155	Simhadri II	SR	964											964		943	943
156	Simhadri I	SR	904											904		943	943
157	SEPL	SR	0											0			0
158	Lanco Kondapalli	SR	0											0			0
159	Kaiga	SR	822											822			822
160	NEYVELI (EXT) TPS	SR	557											557			557
161	NEYVELI TPS-II	SR	725											725			725
162	NEYVELI TPS-II EXP	SR	738											738			738
163	MAPS	SR	227											227			227
164	Vallur	SR	1334											1334			1334
165	Meenakhshi	SR	14											14			14
166	Coastal Energen	SR	604											604			604
167	Kudankulam	SR	1118											1118			1118
168	Tuticorin TPP	SR	724											724			724
169	Thermal Power Tech	SR	1271											1271			1271
170	IL&FS	SR	907											907			907
171	Talcher Stage II	SR	1912											1912			1912
172	Sembcorp Gayatri Power Ltd.	SR	1270											1270			1270
173	Kudgi STPS	SR	1771											1771	As per data given by NTPC	2050	2050
174	Neyveli New Thermal Power	SR		Neyveli New Thermal Power	1	500	330	330	Neyveli New Thermal Power	2	500	330	330	660			660
175	Green Infra_SR	SR_TN														125	125
176	Mytrah	SR_TN													As per last Quarter	125	125

Generation Projection (April 2020 - June 2020)

				Generation declared Commercial from 1st July'19 to 31st Dec'19					Generation declared/expected to be declared Commercial from 1st Jan'20 to 31st Mar'20								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
177	Orange	SR_TN														100	100
178	Betam	SR_TN													As per last Quarter	125	125
	TOTAL		211044											216709			215815

Note:

1. Projections are based on monthly maximum injection in the last 3 years from actual metered data.
2. Generation forecast has been done based on the following criteria
(i) If there is an increasing trend then last year average generation has been considered
(ii) Otherwise average of past three year average generation has been considered
3. In case of new generators where past data was not available following has been assumed
(i) 0.8 plf for hydro generators
(ii) 0.7 plf for thermal generators.
(iii) 0.3 plf for gas stations

Table 1: Unit Where PSS tuning Completed during last Four years (2016-2020)

Power Plant	Unit No	PSS tuned (Yes/No)	PSS in Service (Yes/No)	Last PSS Tuning Date
Kolaghat-WBPDCL	4-5	Yes	Yes	2019
Sagardighi-WBPDCL	3-4	Yes	Yes	2019
Santhaldih-WBPDCL	5-6	Yes	Yes	2019
Bandel-WBPDCL	5	Yes	Yes	2019
Bakreshwar-WBPDCL	1-5	Yes	Yes	2019
Budge Budge-CESC	3	Yes	Yes	2019
Durgapur-DVC	1-2	Yes	Yes	2019
Koderma-DVC	2	Yes	Yes	2019
Kahalgaon NTPC	1	Yes	Yes	2017
Kahalgaon NTPC	2-3	Yes	Yes	2016
BRBCL	2	Yes	Yes	2019
Teesta-III	1-6	Yes	Yes	2019
Tashiding	1-2	Yes	Yes	2017
Dikchu	1-2	yes	yes	2017
Maithon Power Limited	1	Yes	Yes	2019
Maithon Power Limited	2	Yes	Yes	2017
JITPL	1-2	Yes	Yes	2016
Tenughat	1-2	Yes	Yes	2017
Adhunik	2	Attempted	Yes	2019
HEL	1-2	Yes	Yes	2020
NPGC	1	Yes	Yes	2019
Mejia, DVC	5,6,7,8	Yes	Yes	2020
CTPS, DVC	7-8	Yes	Yes	2020

*(*Total 36 units PSS has been tuned, among these few Units may require re-tuning due to network changes and has been intimated)*

Table 2 : Units Where PSS tuning is carried out prior to 2016 or No Information on Tuning has been shared.

Power Plant	Unit No	Utility	Remarks from Utility on Tuning
DPL	**7-8**	**WBPDCL (After takeover)**	**No Details**
PPSP	**1-4**	**WBSEDCL**	**No Details**
TLDP III	**1-4**	**WBSEDCL**	**No Details**
TLDP IV	**1-4**	**WBSEDCL**	**No Details**
Budge Budge	**1-2**	**CESC**	**No Details**
Kahalgaon	**4-7**	**NTPC**	**No Details**
Farakka	**1-6**	**NTPC**	**No Details**
Talcher Stage 1	**1-2**	**NTPC**	**No Details**
Talcher Stage 2	**3-6**	**NTPC**	**No Details**
NPGC	**1-1**	**NTPC**	**No Details**
BRBCL	**1-3**	**NTPC**	**No Details**
KBUNL	**1-4**	**NTPC**	**No Details**
Rangit	**1-3**	**NHPC**	**No Details**
GMR	**1-3**	**GMR**	Dec 2020 (Overhauling)
IB TPS	**1-4**	**OPGC**	**No Details**
Upper Indravati	**1-4**	**OHPC**	**No Details**
Balimela	**1-8**	**OHPC**	**No Details**
Upper Kolab	**1-4**	**OHPC**	**No Details**
Rengali	**1-5**	**OHPC**	**No Details**
Sterlite	**1-4**	**Sterlite**	**No Details**
Subarnrekha	**1-2**	**JUUNL**	**No Details**
Tala, Chukha Mangdechu	**All Units**	**BPC**	**No Details**
Chujachen	1-2	IPP	Planned In Feb 2020
Teesta 5	1-3	NHPC	Planned In March 2020
Waria	4-1	DVC	Planned in April 2020
Mejia	4-8	DVC	Planned in December 2019
Chandrapura B	1-2	DVC	Planned in December 2019
Raghunathpur	1-2	DVC	Planned in Feb 2021 for Unit 1 and June 2021 for Unit 2
Jorethang	1-2	IPP	Planned In Jan 2020
Bokaro	A1,B	DVC	Planned in Jun 2020
Koderma	1-1	DVC	Planned in May 2020
Barh	4-5	NTPC	Planned in Nov 2019
Sagardighi	1-2	WBPDCL	PSS tuning Order Placed for one Unit
Kolaghat	1-3	WBPDCL	PSS tuning planned with DAVR Upgrade (Order placed)
Adhunik	1-2	APNRL	Unit 1 in Next AOH , Unit 2 in Dec 2019

*(*Units need to submit their PSS tuning plan in line with IEGC and CEA standard Regulations to ERLDC/ERPC)*

Annexure-D.1

Anticipated Power Supply Position for the month of
Mar-20

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	5350	2860
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	419	343
		- Central Sector	4366	2180
	iii)	SURPLUS(+)/DEFICIT(-)	-565	-337
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1360	830
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	341	162
		- Central Sector	926	477
	iii)	SURPLUS(+)/DEFICIT(-)	-93	-191
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	3055	1890
	ii)	NET POWER AVAILABILITY- Own Source	5298	3022
		- Central Sector	513	220
		Long term Bi-lateral (Export)	1765	1313
	iii)	SURPLUS(+)/DEFICIT(-)	991	38
4		**ODISHA**		
	i)	NET MAX DEMAND	5235	2910
	ii)	NET POWER AVAILABILITY- Own Source	3848	1681
		- Central Sector	1626	806
	iii)	SURPLUS(+)/DEFICIT(-)	240	-423
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	7735	3873
	ii)	CESC's DRAWAL	0	62
	iii)	TOTAL WBSEDCL's DEMAND	7735	3935
	iv)	NET POWER AVAILABILITY- Own Source	4701	1942
		- Import from DPL	465	0
		- Central Sector	2503	1195
	v)	SURPLUS(+)/DEFICIT(-)	-66	-798
	vi)	EXPORT (TO B'DESH & SIKKIM)	-445	-786
5.2		**DPL**		
	i)	NET MAX DEMAND	0	205
	ii)	NET POWER AVAILABILITY	465	222
	iii)	SURPLUS(+)/DEFICIT(-)	465	17
5.3		**CESC**		
	i)	NET MAX DEMAND	1850	972
	ii)	NET POWER AVAILABILITY - OWN SOURCE	750	483
		FROM HEL	540	364
		Import Requirement	560	125
	iii)	TOTAL AVAILABILITY	1850	972
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	9585	5050
	ii)	NET POWER AVAILABILITY- Own Source	5916	2647
		- Central Sector+Others	3603	1559
	iii)	SURPLUS(+)/DEFICIT(-)	-66	-845
7		**SIKKIM**		
	i)	NET MAX DEMAND	110	56
	ii)	NET POWER AVAILABILITY- Own Source	2	2
		- Central Sector+Others	174	70
	iii)	SURPLUS(+)/DEFICIT(-)	66	16
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	23975	13596
		Long term Bi-lateral by DVC	1765	1313
		EXPORT BY WBSEDCL	-445	-786
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	27032	13167
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1736	-957