AGENDA
FOR
179th OCC MEETING

Date: 21.05.2021

Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 179th OCC MEETING TO BE HELD ON 21.05.2021(FRIDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 178th OCC Meeting held on 17th March 2021 through MS Teams online platform.

The minutes of 178th Operation Sub-Committee meeting held on 17.03.2021 circulated vide letter dated 30.04.2021.

Members may confirm the minutes of 178th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Un-interrupted and Reliable Power Supply to Oxygen Plants in ER.

MS ERPC, vide letter dated 04th May 2021 and 05th May 2021, advised all concerned SLDCs to maintain an uninterrupted and reliable power supply to all Oxygen Gas manufacturing plants, to ensure adequate generation of Oxygen in the prevailing Covid-19 situation. In case, there is any interruption of power supply to the oxygen producing plants, the same may be intimated to ERPC and ERLDC at the earliest. The letter along with the advisory received from MoP is attached at **Annexure-B1**.

Members may update.

ITEM NO. B.2: Early restoration of 220 kV Farakka-Lalmatia S/C line

220 kV Farakka-Lalmatia S/C has tower collapse at two locations one near Farakka (29-April-2021 event) and one near Lalmatia (on 21st April event). Due to ownership/maintenance/court litigation issue restoration of 220 kV Farakka-Lalmatia S/C is not taking place. This 220 /132/33 kV Lalmatia substation is relying on only 132 kV lines. In addition, the non-availability of 220 kV Farakka- Lalmatia S/C is also leading to islanding of Farakka Super thermal power plant out of scope.

220 kV Godda-Lalmatia D/C line also had tower collapse on 29-April-2021.

It may be noted that the Lalmatia Mines which is being supplied through this substation is the source of coal supply to 400 kV Kahalgaon NTPC and 400 kV Kahalgaon NTPC substation. Any loss of supply to mines for a longer period will result in the outage of these two power plants due to the coal supply issue from the affected mines.

As tower collapse is observed at two different locations close to both the ends so major part of the line cannot be kept anti-theft charged. Thus, continuous monitoring of the uncharged section is very much required. Also, arrangement for antitheft charging of the healthy portion of line is to

be done at the earliest.

Hence NTPC Farakka, ECL and JUSNL/Jharkhand SLDC may share the restoration plan of 220 kV Farakka-Lalmatia S/C line.

NTPC Farakka, ECL and JUSNL may update

ITEM NO. B.3: Measures to be taken to address flood like situation at 400kV Kishanganj GIS S/s (PGCIL), 400/220 KV GIS Darbhanga (DMTCL), and 400/220 KV GIS Motihari (DMTCL)

It is well known that, 400kV Darbhanga (DMTCL) S/S was under complete shutdown during monsoon of 2020 due to Flood water of Kamla Balan river entering into the S/s and 400kV Kishanganj GIS S/s (PGCIL) was under complete shutdown during monsoon of 2017 due to change in river course of Mahananda river. Kindly intimate if any precautionary measures are to be taken this year to combat any such situation & what measures/preparedness are proposed in the event of 400kV & 220kV Darbhanga(DMTCL),Motihari (DMTCL) and Kishanganj(PGCIL) S/S needs to be completely bypassed in upcoming monsoon due to flood like situation.

PGCIL and DMTCL may update.

ITEM NO. B.4: Backing down of Teesta-V generation on 14.04.2021 from block no. 80 to 85

Teesta-V power station was scheduled to generate 504 MW on 14-04-2021 from 06:15 PM to 09:15 PM and was generating power accordingly. However at about 07:45 PM on 14- 04-2021, Power House control room of Teesta V Power Station was intimated by local police Singtam about trapping of some local people in the Teesta river at Bageykhola near Mazhitar. Power station was requested to back down generation in order to rescue them. Sensing the urgency of the matter and human lives being at stake, immediate orders were issued to back down on generation, so that the river level could be lowered for safe evacuation of the locals involved and ERLDC was informed about the compelling reasons for doing so .Copies of e-mail are attached at **Annexure B4**. The rescue operation was completed by 9:15 PM (85th block). After receiving the rescue massage from SHO, Singtam, the generation of the units was resumed as per schedule approved by ERLDC. In order to avoid occurrence of such incidence in future, Teesta-V Power Station has requested district administration of East district & South district of Sikkim to issue necessary advisory to locals for desisting from entering the Teesta river especially after 05.00 PM.

Seeing the then situation, on humanitarian ground the prime priority left with NHPC was to rescue the lives of people rather than generation. As the above incident was beyond the control of NHPC and hence back down of generation was the force majeure condition before the power station, therefore, it is requested to waive off the deviation charges / additional deviation charges.

Members may discuss.

ITEM NO. B.5: Outage of Important Transmission System.

1. **132kV Sagbari –Melli.**

In the 174th OCC meeting, Sikkim informed that 132kVMelli-Sagabari S/C is under outage because of faulty breaker issue at Sagbari end. Sikkim informed that 132 kV Sagbari S/s is under DISCOM jurisdiction.

In the 176th OCC meeting, Sikkim informed that the circuit breaker issue has been resolved.

They further informed that as the line was under outage for more than two years, there were vegetation & RoW issues. They added that there is conductor snapping in the line between loc. 20 and loc. 29.

In 177th OCC Meeting, Sikkim informed that necessary RoW clearance has been received for 80% section of the line and it would take two more weeks to get the clearance for remaining section of the line OCC advised Sikkim to expedite the work and restore the line at the earliest.

In the 178th OCC meeting, Sikkim informed that necessary RoW clearance for charging of the line is being taken up by the Discom. They submitted that the issue would be resolved within a month.

Sikkim may update.

2. **400 kV Maithon- Maithon RB D/C**

400kV Maithon-Maithon RB D/C is under continuous shutdown from 12-01-21, for re-conductoring work.
In 177th OCC Meeting, Powergrid submitted that 14 km of stringing has been completed out of 31 km for each circuit.

OCC advised Powergrid to submit the detailed plan and timeline of restoration of the line to ERPC secretariat/ERLDC within a week.

In the 178th OCC meeting, Powergrid informed that out of total 63 km circuit length of both circuits, HTLS stringing for 41.5 km has been completed till date and the target date for completion of the work is June' 21.

MPL informed that any long-term shutdown for the lines evacuating power from MPL would not be allowed after April'21 in view of summer demand.

OCC advised Powergrid to expedite the reconductoring work and to avail the shutdown of the 400 kV Maithon-MPL lines in consultation with MPL and ERLDC.

Powergrid may update the status of the work.

3. 400 KV main bay of Patna-1 at Kishanganj S/s.

The said bay has been out of service due to problem in Y-ph CB mechanism from 10/04/20.

In the 178th OCC meeting, Powergrid informed that the restoration work would be completed by May' 21 and added that5-6 days of shutdown for 400 kV Kishanganj-Patna D/C lines would be required for completion of the work.

It was informed that shutdown of 400 kV Kishanganj-Patna lines have already been approved for the month of May-21 for LILO work of Saharsa and for shifting of line on pile foundation at Kankai river.

OCC advised Powergrid to optimize their plan for shutdown of 400 kV Kishanganj-Patna D/C lines and complete the work before high hydro period.

ERLDC stated that the shutdowns would be allowed based on the hydro situation.

Powergrid may update.

4. 400KV New Purnea-Gokarna & 400KV New Purnea-FSTPP.

In the 175th OCC meeting, Powergrid informed that the line has already been restored on ERS.

In 177th OCC Meeting, Powergrid informed that two out of two pile foundations had been completed and tower erection is under progress along with one open cast foundation.

They further informed that they want to avail the shutdown of both the lines from 23rd March 2021 for the bypass arrangement from Farakka to Gokarna as discussed in 177th OCC Maintenance program meeting.

In 178th OCC, Powergrid informed that the work could not be completed due to non-availability of shutdown by SLDC, West Bengal.

SLDC West Bengal informed that the shutdown would be allowed after getting some hydro supports i.e. end of May'21.

ERLDC stated that based on the discussion on the 178th OCC shutdown meeting, a study has been carried out and it was found that the proposed shutdown may be allowed in early May-21 before onset of the high hydro period.

OCC opined that after starting of the hydro season it would be difficult to carry out the restoration work at site and also allowing shutdown 400 kV Purnea-Farakka & Purnea-Gokrna line in high hydro is not desirable from grid operation point of view.

OCC advised SLDC West Bengal to facilitate the initial shutdown for two days for bypassing arrangement work in mid of May'21.

Powergrid may update.

5. **Shutdown of Transmission Lines for insulator replacement work.**

All transmission licensee may send list of lines in which insulator replacement work is to be done mentioning the locations for insulator replacement, location at which insulator already replaced and locations at which insulator replacement work is pending for better planning and optimisation of shutdown.

Members may discuss.

ITEM NO. B.6: Repeated disturbances at 132/66 kV Melli S/S in March 2021

The occurrence of repeated grid events at 132/66 kV Melli S/S has been reported in March 2021 resulting in power failure at Melli and Kalimpong areas. In 101st PCC Meeting held on 13.04.2021, the agenda was placed for discussion. PCC referred the issue to OCC for discussion as Sikkim representative were not present in the meeting.

In the 178th OCC meeting, OCC decided that a complete review protection system of Melli S/s may be carried out by a team comprising of the technical experts from Powergrid, West Bengal and Sikkim tentatively in the last week of April'21 and the team has to submit its report to ERPC. Further, OCC advised respective utilities to nominate one representative preferably from the nearby areas.

A site visit by the Team comprising of Powergrid, West Bengal and Sikkim was carried out on 05-05-2021.

Team members may update.

ITEM NO. B.7: Repair/rectification of D/C tower at location 79 of 132kV Rangpo-Melli and 132 kV Rangpo –Gangtok line.

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

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

In 43rd ERPC Meeting, Powergrid informed that the tower at location no. 79 is in vulnerable condition and needs immediate attention so as to avoid any further devastation.

Sikkim informed that they are in process of obtaining approval from State Govt. for rectification of the defective tower

In view of importance of the said line for power supply to State Capital, ERPC advised Sikkim to resolve the issue on priority basis and same shall be monitored in lower forum of ERPC.

In the 178th OCC meeting, Sikkim informed that they would communicate the status of the proposal for rectification of the defective tower within a month.

Sikkim may update.

ITEM NO. B.8: Shutdown proposal submitted by Powergrid.

The following shutdown proposal of Powergrid was placed in 179th OCC Shutdown meeting held on 17/05/2021 for discussion. However the shutdown request could not be finalized as Sikkim representative was not available in the meeting.

SL No.	Name of the element	From Date	From Time (Hrs)	To Date	To Time (Hrs)	Remarks	Reason
1	132KV-RANGIT-RANGPO-1	01-06-21	08:00	10-06-21	17:00	OCB	Re-routing of Loc 24 due to Hill sinking & Tower strengthening work at Loc 3 of LILO
2	132KV-RANGIT-KURSEONG-1	01-06-21	08:00	08-06-21	17:00	OCB	Re-routing of Loc 24 due to Hill sinking

Members may discuss.

ITEM NO. B.9: List of Important Elements in ER

In compliance with IEGC 5.2 (c) List of Important Grid Elements of Eastern regional Grid has been prepared and draft version of the same is circulated by ERLDC via mail on 12-May-2021. Constituents are requested to review and give input by 25th May so that it can be finalized. The list is attached at **Annexure B.9**.

Members may update.

ITEM NO. B.10: Sudden switching off of 315 MVA ICT-V at Malda S/S on 28.04.2021

RTAMC ER-II vide mail dated - April 28, 2021, had intimated that a hot spot observed at B-Phase CT clamp of LV side of 400/220 kV 315 MVA ICT-V at Malda Substation. The ICT was switched off at 07:48 hrs on 28/04/2021 and was later intimated to ERLDC through email. However, neither the consent from SLDC WB was taken nor was switching off code obtained from ERLDC Control Room.

While originally, request for Emergency Shutdown was placed on, April 27, 2021, same was categorically denied by West Bengal whose representative inspected the substation and found no emergency. The same was communicated to Powergrid, RTAMC ER-II & ERLDC Control Room.

Powergrid may explain.

ITEM NO. B.11: Status of implementation of AGC as a pilot project in States.

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.

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 states.

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

In 169th OCC Meeting, SLDC DVC informed that due to COVID-19 pandemic, participation in the tender was very less therefore they are floating a new tender for implementation of AGC. AGC would be implemented by Feb 2021.

Odisha informed that they could not visit Barh NTPC and NLDC due to ongoing COVID 19 pandemic situation.

OCC advised SLDC Odisha and OPGC to interact with Barh NTPC & ERLDC to get the technical specifications & the procedure for implementation of AGC.

Latest status of implementation:

State	Station/Unit	Deliberation in 178th OCC Meeting
DVC	Mejia unit#7 &8	DVC updated that previous NIT had been cancelled and fresh indent to be placed in April'21.
West Bengal	Unit-5 of Bakreswar TPP	SLDC West Bengal informed that at present there is no relevant regulation by WBERC for implementation of AGC in state generators. They would proceed for AGC implementation only after getting direction from WBERC.
Odisha	Unit#3 of OPGC	OPGC informed that purchase order for AGC implementation is to be placed to M/s Siemens within one month.

Members may update.

ITEM NO. B.12: Review of implementation of PSDF approved projects of ER.

In 10th NPC meeting held on 09.04.2021, RPCs were advised take up the matter for improvement of the fund disbursement and expeditious implementation of the sanctioned projects under PSDF.

In view of the above, status review of the projects being executed under PSDF funding in Eastern Region would be carried out on regular basis for expediting the projects. All the constituents are

requested to furnish/update the status of their respective project in every month.

Concerned utilities may update the present status of the project as given in the **Annexure-B12**.

Members may update.

ITEM NO. B.13: Review of System Protection Scheme (SPS) designed for NEW-SR grid integration - NLDC.

The existing SPS on NEW-SR corridor (for 765 kV Solapur-Raichur lines) were implemented during the synchronization of SR grid with NEW grid in the year 2014. Over the years, SR grid has been integrated with NEW grid through many inter-regional lines apart from 765 kV Solapur-Raichur. The newly commissioned HVDC Raigarh (WR)-Puglur (SR) Bipole is very soon expected to be in operation which will further strengthen the network connecting Southern Region.

In 176th OCC Meeting, ERLDC informed that the draft SOP has been prepared.

OCC advised SLDC Odisha and others to go through the SOP and submit their comments/observation, if any, at the earliest.

In 177th Meeting, OCC advised SLDC Odisha to submit their comments to ERLDC within a week.

In the 178th OCC meeting, SLDC Odisha informed that their observation would be submitted soon.

SLDC Odisha, vide letter no CLD (OS)-239/2020/906 dated 22.04.2021 gave in principle approval for the draft SOP.

Members may note.

ITEM NO. B.14: Monthly Data on Category-wise consumption of electricity in states

The data of category-wise consumption of electricity in the states/UTs are being frequently referred to by CEA and Ministry of Power. In this regard, as advised by Member (GO &D), GM division of CEA has advised the following:

- The monthly data of category-wise consumption of electricity in the states/UTs may be discussed in the OCC meeting on regular basis with comparative analysis of the same for corresponding monthly data of previous years.
- In case the utilities have reservations on submitting unaudited data then the same may be mentioned in the data itself that these data are unaudited. In that case the data so received would be used only for the purpose of trend analysis and would not be used in any report of CEA.

In 177th OCC Meeting, OCC advised all SLDCs to take up the issue with their DISCOM(s) and submit the required data on monthly basis to ERPC secretariat.

In the 178th OCC meeting, CESC informed they had submitted the data. Odisha, Jharkhand & Bihar informed that they would submit the date within a week.DVC & West Bengal informed that they had written a letter in this regard to their Discoms.

Members may update.

PART C: ITEMS FOR UPDATE

ITEM NO. C.1: ER Grid performance during April'2021

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month April-2021 were as follows:

Average Consumption (MU)	Maximum Consumption (MU)/ Date	Maximum Demand (MW) Date/Time	Minimum Demand(MW) Date/Time	Schedule Export (MU)	Actual Export (MU)
492	525.3 28-04-2021	24656 MW, 27-04-2021 22:50 Hrs.	15910 MW, 22-04-2021 08:12 Hrs.	2267	2120

ERLDC may present performance of Eastern Regional Grid.

ITEM NO. C.2: Primary frequency response of ER generating units in April'2021

Frequency response characteristics (FRC) have been analysed pan India for one event of sudden frequency change that occurred in the month of April 2021. The details of this event and the overall response of the Eastern region have been summarized in Table 1.

Table 1: Summary of the events and Frequency Response Characteristic (FRC) of the Eastern Region for the events.

Event	Frequency Change	Power Number (ΔMW/Δf)	ER FRC
Event 1: On 08th April 2021 at 03:31:34 hrs, around 1045 MW generation loss occurred at Bhadla in NR.	49.994Hz to 49.903 Hz. Later stabilized at 49.95 Hz	11484	14 %

Summary of the analysis of these events are given below:

1. In spite of repeated reminders, generation end data (generation output in MW and frequency/speed measured at generator end) and FRCs are yet to be received from few regional generating stations (ISGS and IPP) and SLDCs respectively. List of such regional generating stations/SLDCs are shown below (as per status on 08th May2021).
   a) NTPC Farakka
   b) NTPC Kahalgaon
   c) NTPC Talcher
   d) NTPC Barh
   e) NTPC Darlipalli
   f) BRBCL
   g) JITPL
   h) Bihar SLDC

i) Jharkhand SLDC
j) WB SLDC

2. Based on data received from regional generating stations & SLDCs and SCADA data archived at ERLDC, regional generating stations' and state control areas' performance have been analyzed and summarized in Table 2**.**

3. Based on data received from state generating stations & SLDCs, the performance of state generating stations has been analyzed and summarized in Table 3.

Table 2: performance of regional generating stations and state control areas for the events in April 2021

Generating Station/ SLDC	Response observed
NTPC Farakka	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
NTPC Kahalgaon	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
NTPC Talcher	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
NTPC Barh	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
NTPC Darlipalli	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
BRBCL	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
NPGC Nabinagar	Non-Satisfactory
GMR	Unit 1 satisfactory; Unit 2 Non satisfactory
JITPL	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
MPL	Non-Satisfactory; Both the units were being run in VWO due to poor vaccum
Adhunik	Non-Satisfactory
Teesta V HEP	Unit not in service
Teesta III HEP	Unit not in service
Dikchu HEP	Unit not in service

Generating Station/ SLDC	Response observed
Bihar SLDC	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)
Jharkhand SLDC	Satisfactory (As per FRC calculated based on ERLDC SCADA data)
DVC SLDC	Non-Satisfactory
GRIDCO SLDC	Non-Satisfactory
WB SLDC	Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)

Table 3: Performance of state generating stations for the events in April 2021 (Based on data received from SLDC/generating stations)

Generating Station	Response observed
HEL	**Satisfactory;**
BBGS	**Non-Satisfactory for unit 1 and 3**; Both units were being run at more than installed capacity. Satisfactory for unit 2.
GMR unit 3	Satisfactory
Koderma, RTPS, DSTPS	**Non-Satisfactory**

The Report on primary frequency response observed in the generating units of Eastern Region for April 2021 is attached at **Annexure C2**.

Members may update.

ITEM NO. C.3: Primary Frequency Response Testing of Generating Units

In 176th OCC Meeting, ERLDC informed that as per preliminary report received for units where PFR have been completed, the primary frequency response observed during testing were satisfactory.

In 177th OCC Meeting, ERLDC informed that information regarding testing schedule of JITPL & GMR has not been received.

OCC advised GMR & JITPL to share their schedule for PFR testing to ERLDC.

In the 178th OCC meeting, GMR updated that the PFR testing for their units have been scheduled in the month of May'21 and the date of scheduling would be intimated shortly.

The status of the testing schedule for the generators is enclosed at **Annexure C.3**.

Respective Generators may update.

ITEM NO. C.4: Testing of Primary Frequency Response of State Generating units by third party agency.

In the 171st OCC Meeting, OCC advised all the SLDC's to prepare the action plan for their state generators and submit the details to ERPC and ERLDC at the earliest.

DVC vide-mail dated 6th Oct 2020 informed that the Primary Frequency Response Testing may be carried out for the following generating units:

Sl. No.	Name of the Units	Capacity (MW)
1	BTPS-A	500
2	CTPS Unit #7&8	2X250
3	DSTPS Unit#1&2	2X500
4	KTPS Unit # 1&2	2X500
5	MTPS Unit # 3 to 8	2 X 210 +2 X 250 + 2X 500
6	RTPS Unit # 1 & 2	2 X 600

DVC informed that both the agencies M/s Siemens & M/s Solvina have agreed to carry out the testing at pre-agreed rates, terms & conditions.

In the 176th OCC meeting, OPGC informed that they would finalize the order with Siemens by end of Feb'2021.

SLDC, DVC informed that indent has been placed for PFR testing of their generating units.

On request from WBPDCL, OCC advised ERLDC to share all relevant documents related to selection of the vendor for PFR Testing along with contact details of the vendors to West Bengal SLDC for further sharing by them with their state generators.

In 177th OCC Meeting, SLDC, Bihar informed that PFR testing for Barauni TPS would be completed by April '2021. OHPC informed that PFR testing is being planned to be carried out for units of Indravati & Rengali. OCC advised OHPC to submit a schedule for testing to ERLDC/ERPC secretariat.

OCC advised SLDC DVC, SLDC West Bengal & SLDC Jharkhand to coordinate with their generators and submit the schedule of PFR testing.

In the 178th OCC meeting, WBPDCL informed that they have received some of the relevant documents from SLDC West Bengal. Further they informed that they are collecting some other

information to finalize the scope and purchase order for PFR testing.

DVC informed that the indent has been placed for PFR testing of generating units and the order would be placed tentatively in October'21.

Members may update.

ITEM NO. C.5: PSS tuning of Generators in Eastern Region.

The PSS tuning activity is mandatory in line with IEGC and CEA regulations. The Procedure of PSS tuning for helping utilities in getting this activity carried out has been approved in 171st OCC Meeting and shared with all concerned utilities.

In 176th OCC Meeting, NTPC informed that PSS tuning schedule for BRBCL &Barh has been submitted. OCC advised NTPC to submit a complete schedule for PSS Tuning of all of their units to ERPC secretariat/ERLDC within two weeks.

OHPC informed that they have already taken up with OEM for PSS tuning of their units. OCC advised to submit a status report in this regard.

In 177th OCC Meeting, DVC informed that PSS tuning of Unit#1 of Bokaro-A TPS had been completed.

WBSEDCL stated that the status of PSS tuning in PPSP units would be submitted shortly.

In the 178th OCC meeting, ERLDC informed that PSS tuning for APNRL units were carried out however it was not successful due to some technical issue at APNRL end.

It was informed that PSS tuning of Unit#4 of Mejia TPS of DVC had been completed on 07.04.2021.

The updated schedule for PSS tuning of the units is attached at **Annexure C5**.

Members may update.

ITEM NO. C.6: Status of UFRs healthiness installed in Eastern Region.

UFRs healthiness status has been received from West Bengal, DVC and CESC.

Members may update.

ITEM NO. C.7: Status of Islanding Schemes healthiness installed in Eastern Region.

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

Details received from the constituents are as follows:

Sl. No	Name of Islanding Scheme	Confirmation from Generator Utility end	Confirmation from Transmission Utility end
1	CESC as a whole Islanding	Healthy	Healthy
2	BkTPS Islanding Scheme		
3	Tata Power Islanding Scheme Haldia		
4	Chandrapura TPS Islanding Scheme, DVC	Not in service	
5	Farakka Islanding Scheme, NTPC		
6	Bandel Islanding Islanding Scheme, WBPDCL		

In 178th OCC Meeting, OCC advised concerned constituents to update the status of Islanding scheme healthiness regularly on monthly basis by 7th of every month.

Members may update.

ITEM NO. C.8: Transfer capability determination by the states.

Latest status of State ATC/TTC declared by states during the month of July-2021

Sl No	State/Utility	TTC (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	6075	--	122	--	5953	--	May-21
2	JUSNL	1577	--	52	--	1525	--	July-21
3	DVC	1728	3343	68	54	1660	3289	July-21
4	OPTCL	2167	1340	88	61	2079	1279	April-21
5	WBSETCL	5325	--	400	--	4925	--	June-21
6	Sikkim	315	--	2.44	--	315.56	--	Feb-21

Declaration of TTC/ATC on SLDC Website:

Sl. No	SLDC	Declared on Website	Website Link	Constraint Available on Website	Type of Website Link
1	BSPTCL	Yes	http://www.bsptcl.in/ViewATCTTCWeb.aspx?GL=12&PL=10	Yes	Static Link-Table
2	JUSNL	Yes	http://www.jusnl.in/pdf/download/ttc_atc_nov_2020.pdf	Yes	Static link –pdf file
3	DVC	Yes	https://application.dvc.gov.in/CLD/atcttcmenu.jsp#	Yes	Static Link-Word file
4	OPTCL	Yes	https://www.sldcorissa.org.in/TTC_ATC.aspx	Yes	Static Link-pdf file
5	WBSETCL	Yes	http://www.wbsldc.in/atc-ttc	No (Not updating)	Static Link-Table
6	Sikkim	No	https://power.sikkim.gov.in/atc-and-ttc	No (Not updating)	Static Link-Excel file

After collecting state ATC/TTC value from SLDCs, NLDC is publishing all value at a single location in their website; it is available under monthly ATC subsection of Market section. As some of the states in Eastern Region are not declaring ATC/TTC on 3- Month ahead while few don't declare constraint, it becomes very difficult to publish the values uniformly for all the states in a timely manner.

A meeting with the state reliability coordinators was held on 22nd April for harmonizing the TTC declaration process and to remove all the gaps. Following that meeting, response is yet to be received from any of the states. All states are requested to comply with the TTC declaration requirement with highest priority.

Members may update.

ITEM NO. C.9: Mock Black start exercises in Eastern Region

Mock black start date for financial year 2021-22 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 Oct 2021		Second Week of Feb 2022	
2	Balimela	Second week of Nov 2021		First Week of March 2022	
3	Rengali	Second week of Nov 2021		First 2eek of March 2022	
4	Burla	Second week of Nov 2021		First Week of March 2022	

5	U. Indravati	Last week of Oct 2021		Second Week of Feb 2022	
6	Maithon	Third Week of Nov 2021		First Week of March 2022	
7	TLDP-III	Second week of Nov 2021		Second Week of Feb 2022	
8	TLDP-IV	Third Week of Nov 2021		First Week of March 2022	
9	Subarnarekha	Second week of Nov 2021		Second Week of Feb 2022	
10	Teesta-V	Third Week of Nov 2020		Third Week of March 2022	
11	Chuzachen	Second week of Nov 2021		First Week of March 2022	
12	Teesta-III	Third Week of Nov 2021		First Week of March 2022	
13	Jorethang	Third Week of Nov 2021		First Week of March 2022	
14	Tasheding	Second week of Nov 2021		First Week of March 2022	
15	Dikchu	Second week of Nov 2021		Second Week of Feb 2022	

Members may update.

PART D: OPERATIONAL PLANNING

ITEM NO. D.1: Anticipated power supply position during June 2021

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of May 2021 were prepared by ERPC Secretariat on the basis of LGBR for 2021-22 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is enclosed at **Annexure-D1**.

Members may update.

ITEM NO. D.2: Preparedness for meeting summer demand in 2021.

This year, the mercury has started rising sharply from February end, which is a bit earlier than previous year and indicative of scorching summer that lies ahead. As per IMD forecast, higher Maximum temperature than usual is expected in Odisha, Jharkhand and Bihar in Eastern Region. With India's reasonably well fight back against COVID-19 and largest vaccination drive, this summer is likely to be extremely challenging for system operators to ensure reliable power supply, particularly to the remote corners of the region.

Therefore, very robust planning and preparedness is absolutely essential for meeting the system demand in a reliable manner. In view of this, dissemination of the following information and formulating action plans are extremely important:

Information:

1. Realistic forecast of peak and off-peak load to be met by each state for the months of April-21 to June-21.
2. Proper projection of availability of state internal generation
3. Anticipated network congestion in STU systems
4. Areas likely to experience low voltage in each state
5. Identification of nodes (at 132kV level) by each state, where very high amount of Air conditioning load is anticipated.

Action plan:

1. Ensuring maximum VAR support from all state generators as per their capability curve.
2. Ensuring timely completion of all over hauling maintenance activity of all generators and transmission elements and maintaining maximum possible resource adequacy.
3. Strengthening of network by restoring elements under long outage before April-21, where ever it is possible.
4. Timely Switching off/on of Bus reactors as per real time voltage as well as under RLDC instruction.
5. Monitoring the compliance of proper reactive power support by RE resources, as per CEA connectivity standard.

6. With higher maximum temperature higher sag of overhead transmission lines is expected. So regular tree cutting activity and preventing encroachment of vegetation in the corridor is extremely important. SLDCs to inform all transmission licensees under their respective jurisdiction, accordingly.

In addition to the above, SLDCs too may share their comprehensive summer preparedness plan.

In the 178th OCC meeting, ERLDC informed that they had received some of the data from SLDCs and further some additional information/data have been sought from all SLDCs. After receiving the same, the study would be carried out and the report would be finalized by April'21.

OCC advised all SLDCs to furnish the requisite data to ERLDC at the earliest so that the report can be finalized by end of April'21.

SLDCs may update.

ITEM NO. D.3: Shutdown proposal of transmission lines for the month of June' 2021.

The Shutdown proposals of the transmission lines for the month of June, 2021was discussed and finalized in the Shutdown meeting of Transmission line held on 17.05.2021.

Members may note.

ITEM NO. D.4: Shutdown proposal of generating units for the month of June' 2021.

Generator unit shutdown schedule for June' 2021 is given in the table.

Proposed Maintenance Schedule of Thermal Generating Units of ER in the month of June '21 (as finalized in LGBR meeting for 2021-22)

System	Station	Unit	Capacity (MW)	Period (as per LGBR 2020-21)		No. of Days	Reason
				From	To		
WBPDCL	Kolaghat TPS	4	210	10.06.2021	19.06.2021	10	Boiler Inspection
	Bakreshwar TPS	5	210	01.06.2021	05.07.2021	30	COH
Odisha	IB TPS	3	660	01.06.2021	25.06.2021	25	AOH
NTPC	TSTPS	4	500	01.06.2021	15.07.2021	30	OH
IPP	GMR	1	350	01.06.2021	15.07.2021	30	Turbine Overhauling

Members may update.

ITEM NO. D.5: Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 10.05.2021)

a) Thermal Generating Stations outage report:

Sl. No	Station	State	Agency	Unit No.	Capacity in Mw	Reason(s)	Outage Date
1	KOLAGHAT	WEST BENGAL	WBPDCL	1	210	ESP R & M	07-Jun-18
2	KOLAGHAT	WEST BENGAL	WBPDCL	2	210	ESP & Ash Handling R & M	26-Dec-19
3	BOKARO'B'	DVC	DVC	3	210	INITAILLY OUT DUE TO ASH PONDAGE PROBLEM UPTO 31/12/21. LATER OUT DUE TO POLLUTION CLERANCE ISSUE	21-Oct-20
4	WARIA TPS	DVC	DVC	4	210	TAKEN OUT OF BAR DUE TO NON RECEIPT OF ENVIRONMENTAL CLEARANCE	31-Dec-20
5	BARAUNI TPS	BIHAR	BSPHCL	9	250	PROBLEM IN GT	05-Mar-21
6	TTPS	ODISHA	NTPC	6	110	HAND TRIPPED DUE TO SMOKE IN GENERATOR; Parmanently closed	07-Mar-21
7	BARAUNI TPS	BIHAR	BSPHCL	6	110	ABNORMAL TSI PARAMETER	17-Mar-21
8	MEJIA TPS	DVC	DVC	3	210	Generator inter-turn fault	19-Mar-21
9	TTPS	ODISHA	NTPC	1	62.5	Hand tripped due to coal shortage; Parmanently closed	22-Mar-21
10	TTPS	ODISHA	NTPC	2	62.5	Hand tripped due to coal shortage; Permanently closure	23-Mar-21
11	TTPS	ODISHA	NTPC	4	62.5	Hand tripped due to coal shortage; Permanently closed	23-Mar-21
12	TTPS	ODISHA	NTPC	5	110	Hand tripped due to coal shortage; Permanently closed	23-Mar-21
13	TTPS	ODISHA	NTPC	3	62.5	CLOSURE OF TTPS; Permanently closed	31-Mar-21
14	BANDEL TPS	WEST BENGAL	WBPDCL	1	82.5	Furnace wall tube leakage	20-Apr-21
15	DPL	WEST BENGAL	WBPDCL	7	300	SUPERHEATER SPRAY LINE LEAKAGE	20-Apr-21
16	TENUGHAT	JHARKHAND	TVNL	1	210	Maintenance Work	24-Apr-21
17	MUZAFFAR PUR TPS	BIHAR	BSPHCL	2	110	Low Furnace Pressure	29-Apr-21
18	KOLAGHAT	WEST BENGAL	WBPDCL	6	210	Low System Demand	02-May-21
19	KOLAGHAT	WEST BENGAL	WBPDCL	4	210	Low System Demand	03-May-21
20	RTPS	DVC	DVC	2	600	Low System Demand	07-May-21
21	SAGARDIGHI	WEST BENGAL	WBPDCL	1	300	Generator hydrogen gas leakage into the stator cooling water	08-May-21

						system	

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

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

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

S.No	Station	State	Agency	Unit No.	Capacity in Mw	Reason(s)	Outage Date
1	KOLAGHAT	WEST BENGAL	WBPDCL	6	210	Low System Demand	02-May-21
2	KOLAGHAT	WEST BENGAL	WBPDCL	4	210	Low System Demand	03-May-21
3	RTPS	DVC	DVC	2	600	Low System Demand	07-May-21

c) Hydro Unit Outage Report:

Sl. No.	Station	State	Agency	Unit No	Capacity	Reason(s)	Outage
1	BALIMELA HPS	ODISHA	OHPC	1	60	R & M WORK	05-Aug-2016
2	BALIMELA HPS	ODISHA	OHPC	2	60	R & M WORK	20-Nov-2017
3	BURLA HPS/HIRAKUD I	ODISHA	OHPC	5	37.5	R & M WORK	25-Oct-2016
4	BURLA HPS/HIRAKUD I	ODISHA	OHPC	6	37.5	R & M WORK	16-Oct-2015
5	BURLA HPS/HIRAKUD I	ODISHA	OHPC	7	37.5	ANNUAL MAINTENANCE	20-Jan-2020
6	BALIMELA HPS	ODISHA	OHPC	5	60	STATOR EARTH FAULT	13-Dec-2020
7	RENGALI HPS	ODISHA	OHPC	2	50	Heavy oil leakage in cylinder of first gate	20-Mar-2021
8	U.KOLAB	ODISHA	OHPC	2	80	TGB PAD VIBRATION HIGH	19-Mar-2021
9	U.KOLAB	ODISHA	OHPC	3	80	Turbine Guide Bearing Problem	07-Jan-2021
10	JORETHANG	SIKKIM	DANS	1	48	ANNUAL MAINTENANCE	26-Feb-2021
11	RENGALI HPS	ODISHA	OHPC	5	50	ANNUAL MAINTENANCE WORK	16-Dec-2020

It is seen that about 552..5 MW hydro capacities in Odisha is under forced outage / planned outage and therefore not available for providing the much needed peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units.

d) Long outage report of transmission lines:

SL NO	Transmission Element / ICT	Agency	Outage DATE	Reasons for Outage
1.	400 KV IBEUL JHARSUGUDA D/C	IBEUL	29-04-2018	TOWER COLLAPSE AT LOC 44,45
2.	220/132 KV 100 MVA ICT I AT LALMATIA	FSTPP/JUSNL	22-01-2019	FAILURE OF HV SIDE BREAKER
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.PRESENTLY CHARGED FROM PANDIABILLI END (LOC 156) TO LOC 58
4.	220kV Barauni-Hajipur Ckt-1	BSPTCL	28-09-2019	TOWER COLLAPSE AT LOCATION 38 & 39. CKT-2 IS ON ERS SINCE 13.01.2020.
5.	220/132 KV 100 MVA ICT 3 at Chandil	JUSNL	30-04-2020	ICT BURST AND DAMAGED AFTER FIRE REPORTED
6.	800KV HVDC ALIPURDUAR-AGRA-POLE-IV	PGCIL	10-04-2021	BLOCKED after healthiness testing, for overvoltage mitigation
7.	800KV HVDC ALIPURDUAR-AGRA-POLE-III	PGCIL	10-04-2021	BLOCKED after healthiness testing, for overvoltage mitigation
8.	220KV/132 KV 100 MVA ICT 4 AT RANGPO	PGCIL	08-04-2021	Hand Tripped after tripping of all 400/220 ICTs at Rangpo on 8.4.21 after disturbance and thereafter developed relay reset problem
9.	400KV/220KV 315 MVA ICT 2 AT RANGPO	PGCIL	20-02-2021	SD FOR SF6 GAS LEAKAGE RECTIFICATION WORK IN ICT-2 GIS MODULE UP TO 16/03/2021 16:00 HRS, FURTHER EXTENSION REQUESTED.
10.	400KV/220KV 315 MVA ICT 2 AT Meramandali	OPTCL	21-02-2021	FIRE HAZARD
11.	400KV-BINAGURI-TALA-4	PGCIL/ Bhutan	03-05-2021	VOLTAGE REGULATION AT BHUTAN END VOLTAGE REGULATION
12.	400KV-BINAGURI-TALA-2	PGCIL/ Bhutan	21-04-2021	
13.	400KV/220KV 315 MVA ICT 4 AT JEERAT	WBSETCL	09-04-2021	TRIPPED ON DIFFERENTIAL AND PRD PROTECTION OPTD
14.	220 KV GODDA-LALMATIA D/C	JUSNL	21-04-2021	Tower collapsed at loc. No. 4
15.	220KV-FSTPP-LALMATIA-1	JUSNL	21-04-2021	THREE TOWER COLLAPSED NEAR LALMATIA

16.	220KV-GODDA-LALMATIA-1&2	JUSNL	21-04-2021	TOWER COLLAPSED NEAR LALMATIA
17.	400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELLING-2	PGCIL/ Bhutan	25-04-2021	VOLTAGE REGULATION
18.	765KV-ANGUL-JHARSUGUDA-3	PGCIL	01-05-2021	VOLTAGE REGULATION
19.	400KV-NEW PURNEA-FARAKKA-1	PGCIL	09-05-2021	Restoration of both lines from ERS tower to permanent tower. (400kV-Farakka-Gokarna restored at 17:23hrs on 10.05.2021 as an interim arrangement)
20.	400KV-NEW PURNEA-GOKARNA-1	PGCIL	09-05-2021	Restoration of both lines from ERS tower to permanent tower. (400kV-Farakka-Gokarna restored at 17:23hrs on 10.05.2021 as an interim arrangement)

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

ITEM NO. D.6: Commissioning of new units and transmission elements in Eastern Grid in the month of April-2021

The details of new units/transmission elements commissioned in the month of April -2021 based on the inputs received from beneficiaries:

Monthly commissioning List of Transmission element and generators: April 2021					
SL NO	**Element Name**	**Owner**	**Charging Date**	**Charging Time**	**Remarks**
1	220KV/132KV 100 MVA ICT 4 AT RANGPO	PGCIL	01-Apr-21	17:39	
2	400KV-SITAMARHI-MOTIHARI-2	PMTL	02-Apr-21	14:22	
3	400KV-SITAMARHI-DARBHANGA (DMTCL)-2	PMTL	02-Apr-21	15:29	
4	400KV TIE BAY OF (400KV-SITAMARHI--2 AND FUTURE) AT MOTIHARI	PMTL	02-Apr-21	14:23	
5	400KV MAIN BAY OF SITAMARHI -2 AT MOTIHARI	PMTL	02-Apr-21	14:22	
6	400KV MAIN BAY OF MOTIHARI-2 AT SITAMARHI	PMTL	02-Apr-21	13:25	

7	400KV MAIN BAY OF DARBHANGA (DMTCL)-2 AT SITAMARHI	PMTL	02-Apr-21	15:29	
8	400KV TIE BAY OF (SITAMARHI--1 AND SITAMARHI--2) AT DARBHANGA (DMTCL)	PMTL	02-Apr-21	15:30	
9	400KV MAIN BAY OF SITAMARHI -2 AT DARBHANGA (DMTCL)	PMTL	02-Apr-21	15:26	
10	400KV-SITAMARHI-MOTIHARI-1	PMTL	03-Apr-21	17:51	
11	400KV MAIN BAY OF SITAMARHI -1 AT MOTIHARI	PMTL	03-Apr-21	17:51	
12	400KV TIE BAY OF (125MVAR 400KV B/R-2 AND 400KV--MOTIHARI-1) AT SITAMARHI	PMTL	03-Apr-21	17:49	
13	400KV MAIN BAY OF MOTIHARI-1 AT SITAMARHI	PMTL	03-Apr-21	17:48	
14	220KV/11KV 10 MVA ST AT RONGNICHU	MBPCL	04-Apr-21	13:49	
15	220KV MAIN BAY OF STATION TRANSFORMER (ST) AT RONGNICHU	MBPCL	04-Apr-21	13:49	
16	125MVAR 400KV B/R-1 AT SITAMARHI	PMTL	04-Apr-21	16:34	
17	220KV MAIN BAY OF 11/220KV GT1 AT RONGNICHU	MBPCL	05-Apr-21	16:38	
18	220KV MAIN BAY OF 11/220KV GT2 AT RONGNICHU	MBPCL	05-Apr-21	16:43	
19	220KV-DARBHANGA(DMTCL)-LAUKAHI-2	BSPTCL	06-Apr-21	13:43	
20	400KV TIE BAY OF (400KV--DARBHANGA (DMTCL)-2 AND 400KV/220KV 500 MVA ICT 2) AT SITAMARHI	PMTL	07-Apr-21	18:05	
21	400KV MAIN BAY OF 400KV/220KV 500 MVA ICT 2 AT AT SITAMARHI	PMTL	07-Apr-21	18:05	
22	400KV TIE BAY OF (MOTIHARI-2 AND 500 MVA ICT 1) AT SITAMARHI	PMTL	07-Apr-21	16:03	
23	400KV MAIN BAY OF 400KV/220KV 500 MVA ICT 1 AT SITAMARHI	PMTL	07-Apr-21	16:03	
24	400KV/220KV 500 MVA ICT 2 AT SITAMARHI	PMTL	08-Apr-21	18:25	

25	400KV/220KV 500 MVA ICT 1 AT SITAMARHI	PMTL	08-Apr-21	17:25	
26	220KV BUS COUPLER BAY AT SITAMARHI	PMTL	08-Apr-21	18:09	
27	220KV/132KV 200 MVA ICT 2 AT SITAMARHI	PMTL	09-Apr-21	18:01	
28	220KV MAIN BAY OF 220KV/132KV 200 MVA ICT 2 AT SITAMARHI	PMTL	09-Apr-21	18:01	
29	220KV/132KV 200 MVA ICT 1 AT SITAMARHI	PMTL	10-Apr-21	17:15	
30	220KV MAIN BAY OF 220KV/132KV 200 MVA ICT 1 AT SITAMARHI	PMTL	10-Apr-21	17:15	
31	132KV MAIN BAY OF 220KV/132KV 200 MVA ICT 2 AT SITAMARHI	PMTL	10-Apr-21	15:55	
32	220KV MAIN BAY OF MOTIPUR-2 AT SITAMARHI	PMTL	10-Apr-21	11:51	
33	220KV MAIN BAY OF MOTIPUR-1 AT SITAMARHI	PMTL	10-Apr-21	12:00	
34	220KV MAIN BAY OF RAXAUL -2 AT SITAMARHI	PMTL	11-Apr-21	22:42	
35	220KV MAIN BAY OF RAXAUL -1 AT SITAMARHI	PMTL	11-Apr-21	22:32	
36	132KV MAIN BAY OF RUNNISAIDPUR-2 AT SITAMARHI	PMTL	11-Apr-21	18:03	Bay first time charged without line (not ready yet)
37	132KV MAIN BAY OF RUNNISAIDPUR-1 AT SITAMARHI	PMTL	11-Apr-21	17:58	Bay first time charged without line (not ready yet)
38	132KV MAIN BAY OF PUPRI-2 AT SITAMARHI	PMTL	11-Apr-21	17:43	Bay first time charged without line (not ready yet)
39	132KV MAIN BAY OF PUPRI-1 AT SITAMARHI	PMTL	11-Apr-21	17:29	Bay first time charged without line (not ready yet)
40	132KV MAIN BAY OF 220KV/132KV 200 MVA ICT 1 AT SITAMARHI	PMTL	11-Apr-21	14:52	
41	220KV-SITAMARHI-MOTIPUR-2	BSPTCL	12-Apr-21	17:01	
42	220KV-SITAMARHI-MOTIPUR-1	BSPTCL	12-Apr-21	18:10	

43	400KV/220KV 315 MVA ICT 3 AT JEYPORE	PGCIL	16-Apr-21	16:55	
44	400KV MAIN BAY OF 315 MVA ICT 3 AT MOTIHARI (DMTCL)	PMTL	18-Apr-21	16:54	
45	400KV TIE BAY OF (400KV-SITAMARHI--1 AND 315 MVA ICT 3) AT MOTIHARI	PMTL	19-Apr-21	17:00	
46	765KV 262 MVAr BR 1 AT DARLIPALI (DSTPS) along with Bays	NTPC Darlipali	22-Apr-21	10:28	
47	400KV/220KV 315 MVA ICT 1 AT DSTPS(ANDAL)	DVC	23-Apr-21	17:58	Ideal charged from 400kV Side
48	33KV/0.415KV 0.630 MVA ICT 1 AT ROURKELA	PMTL	28-Apr-21	12:14	
49	220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 1 AT AT DSTPS(ANDAL)	DVC	28-Apr-21	12:28	

Members may update.

ITEM NO. D.7: UFR operation during the month of April 2021

Frequency profile for the month as follows:

Month	Max (Date/Time)	Min (Date/Time)	Less IEGC Band (%)	Within IEGC Band (%)	More IEGC Band (%)
April, 2021	50.29 Hz, 04-04-2021 18:01 Hrs.	49.69 Hz , 11-04-2021 21:07 Hrs	7.97	75.06	16.97

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

Members may note.

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Annexure- B1

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033

Tel. No.: 033-24239651,24239658 FAX No.:033-24239652, 24239653 Web: **www.erpc.gov.in**

No.: ERPC/MS/2021-22/ 187 Date: 05.05.2021

To

As per list enclosed.

Subject: Advisory to ensure uninterrupted and reliable power supply to Oxygen Gas manufacturing plants - regarding.

Sir,

In continuation to the letter No. ERPC/MS/2021-22/180 dated 04.05.2021, an advisory received from Ministry of Power attached at **ANNEXURE-I**, which is to be followed to maintain an uninterrupted and reliable power supply to all Oxygen Gas manufacturing plants located in your control area to ensure adequate generation of Oxygen in the prevailing Covid-19 situation.

In addition, it is also requested that in case Oxygen generating power plant is taking power supply from captive power plant (CPP), an alternate supply from DISCOM may be taken up immediately.

This may be treated as "**most urgent**".

Yours faithfully

Mondal
05/05/2021
(N. S. Mondal)
Member Secretary

LIST OF ADDRESSES:

1. Chief Engineer, Trans (O&M), Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021.
2. Electrical Superintending Engineer (CRITL), Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021.
3. Chief Engineer (SLDC), Damodar Valley Corporation, GOMD-I Premises, P.O.- Danesh Seikh Lane, Howrah- 711109.
4. Electrical Superintending Engineer (CLD), Jharkhand Urja Sancharan Nigam Limited, Kusai Colony, Doranda, Ranchi-834002.
5. Sr. General Manager (PP), GRIDCO, Janpath, Bhubaneswar.
6. Chief General Manager (O&M), OPTCL, Janpath, Bhubaneswar, Odisha – 751 022. FAX: 0674-2542932 cgm.onm@optcl.co.in
7. Chief Load Dispatcher, SLDC, OPTCL, P.O. Mancheswar Rly. Colony, Bhubaneswar-751017
8. Chief Engineer (CLD) WBSETCL, P.O. Danesh Sheikh Lane, Andul Road, Howrah-711109.
9. Addl. Chief Engineer (ALDC), West Bengal Electricity Distribution Company Ltd, Vidyut Bhavan, 7th Floor, Bidhannagar, Sector-I, Salt Lake City, Kolkata-700091(Fax-033-2334-5862)
10. GM (SYS OPERATION), CESC, CHOWRINGHEE SQUARE, KOLKATA (FAX NO.033-22253756/22129871)
11. Chief Engineer (Trans.), Power Deptt., Govt. of Sikkim, Gangtok-731010
12. Executive Director, ERLDC, POSOCO, Tollygunge, Kolkata-700033.

COPY TO:

1) Member (GO&D), CEA
2) Chairperson, TCC & Director (Technical), BSPGCL-cum-PMC, BSPHCL, Vidyut Bhavan, Bailey Road, Patna-800021.
3) Director (Operation), Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna-800021.
4) Chief Engineer (Commercial), Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800021.
5) Director (Project), North Bihar Power Distribution Company Limited, Vidyut Bhavan , Bailey Road, Patna-800021.
6) Director (Commercial), GRIDCO Ltd., Janpath, Bhubaneswar-751022.
7) Director (Operation), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
8) Director (Project), Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
9) Chief Engineer (S&D-JBVNL), Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
10) Chief Engineer (S&D), Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.

11) Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
12) Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.-
13) Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
14) Executive Director (Generation), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.

ANNEXURE-I

Advisory to ensure uninterrupted and reliable Power-Supply to Oxygen Gas manufacturing plants

In the Current pandemic situation with the increasing number of COVID-19 positive cases across the country, the manufacturing and distribution of Life-Saving **Oxygen Gas** is of vital importance. A reliable and continuous power supply to these oxygen generating plants is of utmost importance. Hence to maintain an uninterruptable and reliable power supply to these oxygen generating plants, the following measures may be taken.

1. The sub-station supplying to the Oxygen Gas plant to be operated with Double Bus Scheme with two independent sources as far as possible to maintain the reliability of power supply
2. All the Transmission/sub-transmission lines providing power supply to these Oxygen gas Plants to be patrolled thoroughly and necessary corrective action to be taken immediately
3. The protection settings to be checked to avoid any unwanted tripping.
4. Element Outages affecting the power- supply to the Oxygen Gas plants to be deferred (except for emergency) in the Vicinity of these Oxygen Gas plants
5. The Tap Position of the Inter-connected Transformed to be reviewed to maintain a better voltage profile
6. In case the sub-station supplying power-supply to the Oxygen plants are facing chronic and severe low-voltage, the Capacitor Banks to be taken in-service in and around the sub-station and if required augmentation of Capacitor banks to planned at the earliest
7. The line loadings at the sub-station feeding to the Oxygen Gas Plant to be within N-1 Limits
8. To enable continuous monitoring of the power supply to these Oxygen Gas Plants, a suitable SCADA display to be developed and monitored by the SLDC Operator

Gmail **TEESTA STAGE-V POWER STATION <teestav.nhpc@gmail.com>**

Trapping of personnel in middle of river of downstream of Teesta V Power Station for 14-04-2021

2 messages

TEESTA STAGE-V POWER STATION <teestav.nhpc@gmail.com> Wed, Apr 14, 2021 at 8:18 PM
To: ERLDC Control Room <erldccr@posoco.in>

Sir,
We have received a call from district police, Singtam for reducing the load as few students/girls were trapped in the middle of the river Teesta-V down stream near Singtam. So, we have reduced the load accordingly.
As we have given almost 1 and half hour peaking , we ask your good office to give three machine schedule for more 1 and half hour during the 22:30 hrs to 24:00 hrs to complete the 3 hours peaking for the day.
Shift Incharge
TEESTA-V POWER STATION
NHPC Ltd.
Mob. +919800003801

TEESTA STAGE-V POWER STATION <teestav.nhpc@gmail.com> Wed, Apr 14, 2021 at 9:27 PM
To: ERLDC Control Room <erldccr@posoco.in>

Sir,
In continuation to the trailing mail, the rescue operation of the said persons have successful. As we have stopped our generation for the said reason, the level in our dam has increased considerably, now we are ready to provide a full load of Three units (504MW). Hence, we request your good office to provide schedule for three machines for the remaining blocks as possible.

Thanking you and Regards
Shift Incharge
TEESTA-V POWER STATION
NHPC Ltd.
Mob. +919800003801

[Quoted text hidden]

Gmail **TEESTA STAGE-V POWER STATION <teestav.nhpc@gmail.com>**

Full PAF for 14.04.2021

1 message

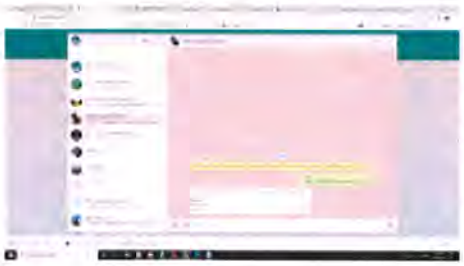
TEESTA STAGE-V POWER STATION <teestav.nhpc@gmail.com> Wed, Apr 14, 2021 at 10:29 PM
To: ERLDC Control Room <erldccr@posoco.in>, ERLDC Final Scheduling <finalschder@posoco.in>

Dear Sir,

As communicated to your good office earlier regarding the trapping of persons in the middle of downstream of Teesta river near Bagey Khola , Mazhitar town at around 19:45 Hrs. Accordingly, Power station have backed out generation as per the instruction of the local Police Station. After receiving confirmation from the police station about the rescuing of all persons, we have resumed Generation of three machines (504 MW). Hence, we ask your good office to give full PAF for the day and the penalty for the same may be waived off. A screenshot of the communication received from the police station is being attached for your ready reference.

Regards

GM(Electrical)
Power House
TEESTA-V POWER STATION
NHPC Ltd.
Mob. +919800003801



WhatsApp Image 2021-04-14 at 22.28.57.jpeg
154K

Annexure- B9

List of Important Grid Elements in Eastern Region

In compliance to IEGC section 5.2(c)

May -2021

Eastern Regional Load Despatch Centre
Power System Operation Corporation Ltd
14 Golf Club Road,
Kolkata 700033

Table of Contents

1.0 Introduction

Important Grid Elements of Eastern regional Grid has been issued in compliance with IEGC 5.2 (c).

1. The criterion that has been adopted for including a transmission line in this list is as follows:
    a) All HVDC Transmission elements including Poles & Back-to-back Blocks.
    b) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors, Transformers, TCSC, FSC, Filter Banks and STATCOM connected at 400 kV and above voltage level.
    c) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors, Transformers, TCSC, FSC, Filter Banks and STATCOM owned by ISTS Licensees, Central Sector Generating Stations, ISGS and Generating Stations whose dispatch schedules are being done by ERLDC
    d) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors and Transformers connected to ISTS Licensees, Central Sector Generating Stations, ISGS and Generating Stations whose dispatch schedules are being done by ERLDC
    e) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors and Transformers at 400 kV and above voltage level in state control areas (SLDC jurdisction).
    f) All Transmission elements from the territory of one State control area to other state control areas.
    g) All Transmission elements affecting system security or forming part of Islanding Scheme.
    h) 220 kV Transmission elements feeding loads of a strategic/sensitive nature
    i) All cross border AC and DC transmission elements

2. The transmission lines in the above context means a grid element from bus-bar to bus bar and includes all equipment such as associated circuit breakers, Line reactors , isolators, CVT's , CT's, LAs etc.

3. The criteria that has been adopted for including a generating unit is as follows:
    a) All Regional entities
    b) All thermal unit of 200 MW and above
    c) All Hydro unit of 25 MW and above

In view of the network security ERLDC will also consider the following criteria for important grid element, inline with the IEGC and CEA grid standards operation liasion

1. Before performing any operation (including switching in and switching out) by any of the USER, which would have an impact on the security and reliability of the regional grid, the same shall be intimated to ERLDC by the USER along with the likely time and status of normalization. SLDC should intimate such operation by any of their state control areas entities to ERLDC.

2. In respect of two main and transfer bus switching scheme at 400 kV substations, ERLDC shall be informed whenever the 400 kV transfer breakers at any substation is utilized for switching any line/ICT.

3. In respect of 765/400kV substation/Power station switchyard having breaker and a half switching scheme, outage within the substation (say main or tie circuit breaker) not affecting power flow on any line/ICT can be availed by the constituents only after obtaining code from ERLDC. However, while availing such shutdowns or carrying out switching operations it must be ensured by the substation that at least two Dias are complete even after such outage from the view point of network reliability. Any outage not fulfilling the above condition needs the approval of ERLDC.

4. Transmission elements/bays/buses commissioned after finalization of this documents and falls under above criteria will be under purview of important regional grid elements

2.0 HVDC Link

Sl.No	HVDC link	Link Capacity	Owned By	Connected Substation			Connecting Region/Country
1	± 800 kV Agra-Alipurdwar- Bishwand Chariyali	6000 MW	Powergrid	400 kV Agra	400 kV Alipurdwar	400 kV Bishwand Chariyali	Norther Region with Eastern Region and Northeastern region
2	± 500 kV Talcher-Kolar	2500 MW (Including 500 MW overload capacity)	Powergrid	400 kV Talcher	400 kV Kolar		Eastern Region and Southern Region
3	Back-to-Back at Gazuwaka Pole-1	500 MW	Powergrid	400 kV Gazuwaka (East Bus)	400 kV Gazuwaka (South Bus)		Eastern Region and Southern Region
				Physically located in Southern Region			
4	Back-to-Back at Gazuwaka Pole-2	500 MW	Powergrid	400 kV Gazuwaka (East Bus)	400 kV Gazuwaka (South Bus)		Eastern Region and Southern Region
				Physically located in Southern Region			
5	Back-to-Back at Sasaram Pole-1	500 MW	Powergrid	400 kV Sasaram (East Bus)	400 kV Sasaram (North Bus)		Eastern Region and Northern Region
				Physically located in Eastern Region			
6	Back-to-Back at Bheramara	500 MW	PGCB	400 kV Bheramara	230 kV Bheramara		Eastern Region (India) and Bangladesh
				Physically located in Bangladesh			

3.0 STATCOM

SL No.	Substation	Owner	VSC	MSC	MSR
1	Jeypore	POWERGRID	± 2X100	2X125	2X125
2	Ranchi	POWERGRID	± 2X150	NIL	2X125
3	Rourkella	POWERGRID	± 2X150	NIL	2X125
4	Kishanganj	POWERGRID	± 2X100	NIL	2X125

4.0 List of Important Substations

400 kV and above

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
1	Darlipalli	765	1 & 1/2 Circuit Breaker (I-type)	AIS	NTPC	Generator	45398	45314	34.3	50 kAmps
2	Gaya	765	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	26712	26683	20.2	50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	30452	30365	44.0	63 kAmps
3	Sasaram	765	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	9886	9913	7.5	50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	11511	11537	16.6	63 kAmps
4	New Ranchi	765	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	18539	18566	14.0	50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	24742	24757	35.7	63 kAmps
5	Jharsuguda	765	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	56285	56123	42.5	50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	42954	42588	62.0	63 kAmps
6	Angul	765	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	29168	29178	22.0	50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	20835	20852	19.3	63 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
7	Mednipur	765	1 & 1/2 Circuit Breaker (I-type)	AIS	PMJTL	Load				50 kAmps
		400	1 & 1/2 Circuit Breaker (I-type)	AIS	PMJTL	Load				63 kAmps
8	Adunik	400	1 & 1/2 Circuit Breaker (D-type)	AIS	APNRL	Generator	22414	22444	32.4	40 kAmps
9	Ailpurduar	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	15634	12647	22.6	40 kAmps
10	Arambagh	400	Double Main and Transfer	AIS	WBSETCL	Load	14395	14416	20.8	40 kAmps
11	Baharampur	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	19459	19388	28.1	40 kAmps
12	Bakreswar	400	Double Main and Transfer	AIS	WBSETCL	Load	9457	9458	13.7	40 kAmps
13	Banka	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	14629	14627	21.1	40 kAmps
14	Barh	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	20021	19826	28.9	40 kAmps
15	Baripada	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	13301	13303	19.2	40 kAmps
16	Bidhannagar	400	Double Main and Transfer	AIS	WBSETCL	Load	19358	19379	27.9	40 kAmps
17	Biharshariff	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	28198	28005	40.7	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
18	Binaguri	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	22236	16257	32.1	40 kAmps
19	Bokaro	400	Double Main	AIS	DVC	Generator	10468	10465	15.1	40 kAmps
20	Bolangir	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	5606	4922	8.1	40 kAmps
21	Chaibasa	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	17644	17687	25.5	40 kAmps
22	Chandwa	400	Double Main	AIS	POWERGRID	Load	17187	17213	24.8	40 kAmps
23	Daltonganj	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	3642	3660	5.3	40 kAmps
24	Darbhanga	400	1 & 1/2 Circuit Breaker (D-type)	GIS	DMTCL	Load	11788	11557	17.0	40 kAmps
25	Dikchu	400	1 & 1/2 Circuit Breaker (I-type)	AIS	DIKCHU	Generator	11698	6943	16.9	40 kAmps
26	DSTPS	400	1 & 1/2 Circuit Breaker (D-type)	AIS	DVC	Generator	15773	15812	22.8	40 kAmps
27	Durgapur A	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Generator	13342	13365	19.3	40 kAmps
28	Durgapur B	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Generator	19932	19945	28.8	40 kAmps
29	Farakka	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	35486	34876	51.2	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
30	Gokarna	400	Double Main and Transfer	AIS	WBSETCL	Load	8251	8284	11.9	40 kAmps
31	HEL	400	1 & 1/2 Circuit Breaker (D-type)	AIS	HEL	Generator	6760	6732	9.7	40 kAmps
32	GMR	400	1 & 1/2 Circuit Breaker (D-type)	AIS	GMR	Generator	15838	15306	22.9	40 kAmps
33	Ind Bharat	400	1 & 1/2 Circuit Breaker (I-type)	AIS	Ind Bharat	Generator	6639	6658	9.6	40 kAmps
34	Indravati	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	6302	4630	9.1	40 kAmps
35	Indravati	400	1 & 1/2 Circuit Breaker (D-type)	AIS	OHPC	Generator	6200	4545	8.9	40 kAmps
36	Jamshedpur	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	22532	22561	32.5	40 kAmps
37	Jeerat	400	Double Main and Transfer	AIS	WBSETCL	Load	11870	11908	17.1	40 kAmps
38	Jeypore	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	5993	4359	8.7	40 kAmps
39	JITPL	400	1 & 1/2 Circuit Breaker (I-type)	AIS	JITPL	Generator	9401	9417	13.6	40 kAmps
40	JSPL	400	1 & 1/2 Circuit Breaker (D-type)	AIS	OHPC	Generator	12118	11898	17.5	40 kAmps
41	Kahalgaon-A	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	17293	17285	25.0	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
42	Kahalgaon-B	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	22777	22678	32.9	40 kAmps
43	Keonjhar	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	6453	6484	9.3	40 kAmps
44	Kharagpur	400	Double Main and Transfer	AIS	WBSETCL	Load	15419	15454	22.3	40 kAmps
45	Kishanganj	400	1 & 1/2 Circuit Breaker (I-type)	GIS	POWERGRID	Load	22878	18845	33.0	40 kAmps
46	Koderma	400	1 & 1/2 Circuit Breaker (D-type)	AIS	DVC	Generator	23146	23075	33.4	40 kAmps
47	Kolaghat	400	Double Main and Transfer	AIS	WBSETCL	Generator	14373	14367	20.7	40 kAmps
48	Lakhisarai	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	13088	13113	18.9	40 kAmps
49	Lapanga	400	1 & 1/2 Circuit Breaker (D-type)	AIS	OPTCL	Load	25427	25095	36.7	63 kAmps
50	Maithon A	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Generator	18018	18058	26.0	40 kAmps
51	Maithon B	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Generator	22353	22372	32.3	40 kAmps
52	Malda	400	Double Main and Transfer	AIS	POWERGRID	Load	18562	18434	27.2	40 kAmps
53	Mejia-B	400	1 & 1/2 Circuit Breaker (D-type)	AIS	DVC	Generator	16668	16695	24.1	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
54	Meeramandali	400	1 & 1/2 Circuit Breaker (D-type)	AIS	OPTCL	Load	19755	18861	28.5	40 kAmps
55	Mendasal	400	1 & 1/2 Circuit Breaker (I-type)	AIS	OPTCL	Load	10176	9943	14.7	40 kAmps
56	Motihari	400	1 & 1/2 Circuit Breaker (D-type)	GIS	DMTCL	Load	3026	3053	4.4	40 kAmps
57	MPL	400	1 & 1/2 Circuit Breaker (D-type)	AIS	MPL	Generator	18219	18251	26.3	40 kAmps
58	Muzaffarpur	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	17862	17544	25.8	40 kAmps
59	Nabinagar	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	7810	7824	11.3	40 kAmps
60	New Chanditala	400	Double Main and Transfer	AIS	WBSETCL	Load	15787	15816	22.8	40 kAmps
61	New Duburi	400	1 & 1/2 Circuit Breaker (I-type)	AIS	OPTCL	Load	10911	10778	15.7	40 kAmps
62	New PPSP	400	Double Main and Transfer	AIS	WBSETCL	Load	16494	16516	23.8	40 kAmps
63	NPGC	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	16485	16493	23.8	40 kAmps
64	OPGC	400	1 & 1/2 Circuit Breaker (D-type)	AIS	OPGC	Generator	25560	25371	36.9	63 kAmps
65	Pandiabili	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	9493	9318	13.7	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
66	Patna	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	24624	24226	35.5	40 kAmps
67	PPSP	400	Double Main	AIS	WBSETCL	Generator	16430	16452	23.7	40 kAmps
68	Purnea	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	21705	19533	31.3	40 kAmps
69	Raghunathpur	400	1 & 1/2 Circuit Breaker (D-type)	AIS	DVC	Generator	20086	20121	29.0	40 kAmps
70	Rajarhat	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	9291	9314	13.4	40 kAmps
71	Ranchi	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	27095	27106	39.1	40 kAmps
72	Rangpo	400	Double Main	AIS	POWERGRID	Load	13979	8550	20.2	40 kAmps
73	Rengali	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	18689	17857	27.0	40 kAmps
74	Rourkela	400	1 & 1/2 Circuit Breaker (D-type)	AIS	POWERGRID	Load	26391	26216	38.1	40 kAmps
75	SEL	400	1 & 1/2 Circuit Breaker (D-type)	AIS	SEL	Generator	25111	24897	36.2	40 kAmps
76	Subhasgram	400	1 & 1/2 Circuit Breaker (I-type)	AIS	POWERGRID	Load	9097	9093	13.1	40 kAmps
77	Talcher	400	1 & 1/2 Circuit Breaker (D-type)	AIS	NTPC	Generator	24537	23565	35.4	40 kAmps

Sl. No.	Name of Sub-Station/ Power Station	Voltage Level (in kV)	Bus Arrangement Scheme	AIS/GIS	Ownership	Bus type (Load/Generator)	Fault level			Breaker Rating (Kamps)
							MVA (Max)	MVA (Min)	Kamps (Max)	
78	Teesta III	400	Double Main	GIS	TUL	Generator	11403	6444	16.5	40 kAmps
79	Teesta V	400	Double Main	GIS	NHPC	Generator	12522	7835	18.1	40 kAmps
80	TISCO	400	1 & 1/2 Circuit Breaker (D-type)	AIS	DVC	Load	11366	11426	16.4	40 kAmps
81	Sitamarhi	400	1 & 1/2 Circuit Breaker (I-type)	AIS	PMTL	Load				63 kAmps

220 kV Important Substations

Sl No	Name of Substation	Sl No	Name of Substation	Sl No	Name of Substation
1	400/220 kV Kishanganj (220 kV Side)	52	400/220 kV New Purnea (220 kV Side)	102	220/132 kV Biharshariff (220 kV Side)
2	400/220 kV Patna (220 kV Side)	53	220/132 kV New town (220 kV Side)	103	220/132 kV Bishnupur (220 kV Side)
3	220/132 kV Purnea (220 kV Side)	54	220 kV New Melli	104	220/132 kV Bodhagya (220 kV Side)
4	400/220 kV Ranchi (220 kV Side)	55	220/132 kV Siliguri (220 kV Side)	105	220/132 kV Bokaro (220 kV Side)
5	400/220 kV Alipudwar	56	220/132 kV NJP WB (220 kV Side)	106	220/132 kV Budhipadar (220 kV Side)
6	220/132 Alipudwar WB (220 kV Side)	57	400/220 kV Pandiabilli (220 kV Side)	107	220/132 kV Burnpur (220 kV Side)
7	220/132 kV Arah (220 kV Side)	58	220/132 kV Parulia DVC (220 kV Side)	108	220/132 kV Chaibasa New(J) (220 kV Side)
8	220/132 kV Atri (220 kV Side)	59	400/220 kV Durgapur (220 kV Side)	109	220/132 kV Chandiposh (220 kV Side)
9	220/132 kV Balasore(220kV Side)	60	220/132 kV Puri (220 kV Side)	110	220/132 kV Chandrapura TPS B (220 kV Side)
10	400/220 kV Baripada (220 kV Side)	61	220/132 kV Nadokar (220 kV Side)	111	220/132 kV Waria (220 kV Side)
11	220/132 kV Begusarai	62	400/220 kV Sasaram (220 kV Side)	112	220/132 kV Uihep (220 kV Side)
12	400/220 kV Binaguri (220 kV Side)	63	400/220 kV Rajarhat (220 kV Side)	113	220/132 kV U. Kolab (220 kV Side)
13	220/132 kV Birpara (220 kV Side)	64	220/132 kV Ramchandrapur (220 kV Side)	114	220/132 kV Theruvali (220 kV Side)
14	220/132 kV Bodhgaya (220 kV Side)	65	400/220 kV Rangpo (220 kV Side)	115	220/132 kV Rengali (220 kV Side)
15	400/220 kV Bolangir (220 kV Side)	66	220 kV Rengali Odisha	116	220/132 kV Sadaipur (220 kV Side)
16	400/220 kV Chaibasa (220 kV Side)	67	400/220 kV Rengali (220 kV Side)	117	220/132 kV Sagardighi (220 kV Side)
17	220/132 kV Chaibasa New (220 kV Side)	68	220 kV Rengali Power House	118	220/132 kV Santaldih (220 kV Side)
18	220/132 kV Chandil (220 kV Side)	69	400/220 kV Rourkela (220 kV Side)	119	220/132 kV Satgachia (220 kV Side)
19	220 kV Chukha	70	220/132 kV Sahapuri (220 kV Side)	120	220/132 kV Patratu TPS (220 kV Side)
20	220/132 kV Dalkola WB (220 kV Side)	71	220 kV Salakati	121	220/132 kV Ramgarh (220 kV Side)
21	220 kV Dalkola	72	220/132 kV Sipara (220 kV Side)	122	400/220 kV Meramandali (220 kV Side)
22	400/220 kV Daltonganj (220 kV Side)	73	220/132 kV Sonnegar (220 kV Side)	123	220/132 kV Mejia (220 kV Side)
23	220/132 kV Dehri (220 kV Side)	74	220/132 kV Subhasgram WB (220 kV Side)	124	400/220 kV Mendhasal (220 kV Side)
24	220 kV Dhanbad	75	400/220 kV Subhasgram (220 kV Side)	125	220/132 kV Kolaghat TPS (220 kV Side)
25	220/132 kV Dumka (220 kV Side)	76	220/132 kV Tarkera (220 kV Side)	126	220/132 kV Kasba (220 kV Side)
26	220 kV EMSS	77	220 kV Tasheding	127	220/132 kV Katapalli (220 kV Side)
27	400/220 kV Farakka (220 kV Side)	78	400/220 kV Talcher STPS (220 kV Side)	128	220/132 kV Kharagpur (220 kV Side)
28	220/132 kV Fatuah (220 kV Side)	79	220/132 Talcher TPS (220 kV Side)	129	220/132 kV Krishnanagar (220 kV Side)
29	765/400/220 kV Gaya (220 kV Side)	80	220/132 kV Bhanjnagar (220 kV Side)	130	220/132 kV Kalyaneshwari (220 kV Side)
30	220/132 kV Gazol (220 kV Side)	81	220/132 kV Bidanasi (220 kV Side)	131	220/132 kV Gokarno (220 kV Side)
31	220/132 kV Kizirsarai (220 kV Side)	82	220/132 kV Budhipadar (220 kV Side)	132	220/132 kV Gopalganj (220 kV Side)
32	220/132 kV Hatia (220 kV Side)	83	220/132 kV Chandaka (220 kV Side)	133	220/132 kV Govindpur (220 kV Side)
33	220/132 kV Hazipur (220 kV Side)	84	220/132 kV Dharampur (220 kV Side)	134	220 kV IBTPS-1
34	400/220 kV Jeerat (220 kV Side)	85	220/132 kV Domjur (220 kV Side)	135	220/132 kV Jamshedpur (220 kV Side)
35	220/132 kV Jeynagar(220 kV Side)	86	220/132 kV Duburi(old) (220 kV Side)	136	220/132 kV Jayanagar (220 kV Side)
36	400/220 kV Jeypore (220 kV Side)	87	220/132 kV Lakhikantpur (220 kV Side)	137	220/132 kV Giridih (220 kV Side)
37	220 kV Jorthang	88	220/132 kV Laxmipur (220 kV Side)	138	220/132 kV Howrah (220 kV Side)
38	400/220 kV Keonjhar (220 kV Side)	89	220/132 kV Midnapore (220 kV Side)	139	220/132 kV Dharampur (220 kV Side)
39	220/132 kV Keonjhar (220 kV Side)	90	220/132 kV Narendrapur (220 kV Side)	140	220/132 kV DPL (220 kV Side)
40	220/132 kV Katapalli	91	220/132 kV Nayagarh (220 kV Side)	141	220/132 kV Darbhanga (220 kV Side)
41	220/132 kV New Khagaria (220 kV Side)	92	220/132 kV Rishra (220 kV Side)	142	220/132 kV Ctps A (220 kV Side)
42	220/131 kV Khagaul (220 kV Side)	93	400/220 kV Arambagh (220 kV Side)	143	400/220 kV Sitamarhi (220 kV Side)
43	220/132 kV Kishanganj Bihar(220 kV Side)	94	400/220 kV Bakreswar (220 kV Side)		
44	220/132 kV Kalyaneswari (220 kV Side)	95	220/132 kV Balimela (220 kV Side)		
45	220/132 kV Lalmatia (220 kV Side)	96	220/132 kV Barasat (220 kV Side)		
46	220/132 kV Madehpura (220 kV Side)	97	220/132 kV Barjora (220 kV Side)		
47	400/220 kV Maithon (220 kV Side)	98	220/132 kV Barkot (220 kV Side)		
48	400/220 kV Malabase (220 kV Side)	99	220/132 kV Begusarai (220 kV Side)		
49	400/220 kV Malda (220 kV Side)	100	220/132 kV Bhanjnagar (220 kV Side)		
50	400/220 kV Meramandali (220 kV Side)	101	400/220 kV Bidhannagar (220 kV Side)		
51	400/220 kV Muzzafarpur (220 kV Side)				

132 kV Important Substations

Sl No	Name of Substation	Sl No	Name of Substation
1	132 kV Jamaui	34	132 kV Kolaghat(Dvc)
2	132 kV Melli	35	132 kV Kolaghat(WB)
3	132 kV Njp	36	132 kV Kurseong
4	132 kV Rihand	37	132 kV Lakhisarai
5	132 kV Arha	38	132 kV Lalmatia
6	132 kV Bangiriposi	39	132 kV Maithon
7	132 kV Banka	40	132 kV Malda(PG)
8	132 kV Barhi	41	132 kV Malda(WB)
9	132 kV Baripada	42	132 kV Manique
10	132 kV Bethia(B)	43	132 kV Melli
11	132 kV Bhograi	44	132 kV Mohania
12	132 kV Birpara(PG)	45	132 kV Motihari(B)
13	132 kV Birpara(WB)	46	132 kV Motihari(DMTCL)
14	132 kV Chandauli	47	132 kV Nbu
15	132 kV Chandil	48	132 kV Pataratu(Dvc)
16	132 kV Chujachen	49	132 kV Patratu
17	132 kV Daltonganj	50	132 kV Patratu(Jharkahnd)
18	132 kV Daltonganj (PG)	51	132 kV Purnea
19	132 kV Dumraon	52	132 kV Purnea(PG)
20	132 kV Gangtok	53	132 kV Pusuali
21	132 kV Garwa	54	132 kV Rajgir
22	132 kV Jagdishpur	55	132 kV Rammam
23	132 kV Jaleswr	56	132 kV Rangit
24	132 kV Jamtara	57	132 kV Rangpo
25	132 kV Japla	58	132 kV Raxaul(B)
26	132 kV Joda	59	132 kV Rihand
27	132 kV Kahalgaon	60	132 kV Sabour
28	132 kV Karmanasa	61	132 kV Sagbari
29	132 kV Kendposi	62	132 kV Sahupuri
30	132 kV Kharagpur(Dvc)	63	132 kV Siliguri(PG)
31	132 kV Kharagpur(WB)	64	132 kV Sonenagar
32	132 kV Khudra	65	132 kV Sultangunj
33	132 kV Kisanganj	66	132 kV Sitamarhi (PMTL)

5.0 List of Important Transmission Lines

5.1 Trans-national lines: -

Sl No	Voltage Level	From Bus	To Bus	Ckt ID	Line Length		Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
					Total	Indian Portion			From End	To End			
1	400	Binaguri	Tala	T1	146	98	ACSR Twin Moose	POWERGRID + BPC	POWERGRID(ER)	DGPC(Bhutan)	D/C	874	560
2	400	Binaguri	Tala	T2	146	98	ACSR Twin Moose	POWERGRID + BPC	POWERGRID(ER)	DGPC(Bhutan)	D/C	874	560
3	400	Binaguri	Tala	T4	140	115	ACSR Twin Moose	POWERGRID + BPC	POWERGRID(ER)	DGPC(Bhutan)	D/C	874	560
4	400	Binaguri	Malbase	T3	125	115	ACSR Twin Moose	POWERGRID + BPC	POWERGRID(ER)	BPC(Bhutan)	D/C	874	560
5	400	Baharampur	Bheramara	T1	NA	100	ACSR Twin Moose	POWERGRID + Bangladesh Grid	POWERGRID(ER)	Bangladesh	D/C	874	560
6	400	Baharampur	Bheramara	T2	NA	100	ACSR Twin Moose	POWERGRID + Bangladesh Grid	POWERGRID(ER)	Bangladesh	D/C	874	560
7	400	Alipurduar	Jigmelling	Q1	162.2	63.93	ACSR Quad Moose	POWERGRID + BPC	POWERGRID(ER)	BPC(Bhutan)	D/C	1749	681
8	400	Alipurduar	Jigmelling	Q2	162.2	63.93	ACSR Quad Moose	POWERGRID + BPC	POWERGRID(ER)	BPC(Bhutan)	D/C	1749	681
9	400	Muzzafarpur	Dhalkebar	1	NA	128	ACSR Twin Moose	Cross Border Power Trans. Ltd.	POWERGRID(ER)	Nepal	D/C	874	560
10	400	Muzzafarpur	Dhalkebar	2	NA	128	ACSR Twin Moose	Cross Border Power Trans. Ltd.	POWERGRID(ER)	Nepal	D/C	874	560
11	220	Birpara	Chukha	1	70.2	38	Zebra	POWERGRID + BPC	POWERGRID	Druk Green (Bhutan)	D/C	213	131
12	220	Birpara	Chukha	2	70.2	38	Zebra	POWERGRID + BPC	POWERGRID	Druk Green (Bhutan)	D/C	213	131
13	220	Birpara	Malbase	1	40.7	38	Zebra	POWERGRID + BPC	POWERGRID	BPC(Bhutan)	S/C	213	131
14	132	Raxual	Parwanipur	1	NA	6.5	Panther	BSPTCL + Nepal	BSPTCL	Nepal	S/C	84	48
15	132	Kataiya	Kusaha	1	59	NA	HTLS	BSPTCL + Nepal	BSPTCL	Nepal	S/C	NA	NA
16	132	Kataiya	Kusaha	2	59	NA	HTLS	BSPTCL + Nepal	BSPTCL	Nepal	S/C	NA	NA
17	132	Gandak	Valmikinagar	1	NA	NA	Panther	BSPTCL + Nepal	BSPTCL	Nepal	S/C	84	48
18	33	Pupri	Jaleswar	1	NA	NA	NA	BSPTCL + Nepal	NBPDCL	Nepal	S/C	NA	NA
19	33	Raxual	Birganj	1	NA	NA	NA	BSPTCL + Nepal	NBPDCL	Nepal	S/C	NA	NA
20	33	Jainagar	Siraha	1	NA	NA	NA	BSPTCL + Nepal	NBPDCL	Nepal	S/C	NA	NA
21	33	Kataiya	Rajbiraj	1	NA	NA	NA	BSPTCL + Nepal	NBPDCL	Nepal	S/C	NA	NA

5.2 Inter regional lines : -

765 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Gaya	Balia	B1	237	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	3880	2194
2	Sasaram	Fathepur	B1	356	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	3880	2194
3	Gaya	Varanasi	B1	273	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	3880	2194
4	Gaya	Varanasi	B2	272	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	3880	2194
5	Ranchi	Dharamjayagarh	B1	303	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	S/C	3880	2194
6	Ranchi	Dharamjayagarh	B2	354	Quad Bersimis	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	S/C	3880	2194
7	Jharsuguda	Dharamjayagarh	H1	152.67	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
8	Jharsuguda	Dharamjayagarh	H2	152.67	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
9	Jharsuguda	Dharamjayagarh	H3	147.79	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
10	Jharsuguda	Dharamjayagarh	H4	147.79	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
11	Jharsuguda	Raipur	H1	304.95	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
12	Jharsuguda	Raipur	H2	304.95	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	4452	2470
13	Angul	Srikakulam	H1	276.5	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(SR)	D/C	4452	2470
14	Angul	Srikakulam	H2	276.5	Hexa Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(SR)	D/C	4452	2470
400 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Muzaffarpur	Gorakhpur	Q1	261	ACSR Quad Moose	POWERLINKS	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
2	Muzaffarpur	Gorakhpur	Q2	261	ACSR Quad Moose	POWERLINKS	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
3	Motihari	Gorakhpur	Q1	190	ACSR Quad Moose	POWERGRID+ DMTCL(LILO)	DMTCL	POWERGRID(NR)	D/C	1749	681
4	Motihari	Gorakhpur	Q2	190	ACSR Quad Moose	POWERGRID+ DMTCL(LILO)	DMTCL	POWERGRID(NR)	D/C	1749	681
5	Sasaram	Allahabad	T1	212	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	874	560
6	Biharshariff	Balia	Q1	241.8	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
7	Biharshariff	Balia	Q2	241.8	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
8	Patna	Balia	Q1	195.3	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
9	Patna	Balia	Q2	195.3	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
10	Patna	Balia	Q3	185	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
11	Patna	Balia	Q4	185	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
12	Biharshariff	Varanasi	Q1	321	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
13	Biharshariff	Varanasi	Q2	321	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	D/C	1749	681
14	Sasaram	Varanasi	T1	143.73	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NR)	S/C	874	560
15	Ranchi	Sipat	Q1	405.8	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	1749	681
16	Ranchi	Sipat	Q2	405.8	ACSR Quad Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	1749	681
17	Jharsuguda	Raigarh	T1	114.5	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	874	560
18	Jharsuguda	Raigarh	T2	114.5	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	874	560

19	Jharsuguda	Raigarh	T3	152.33	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	874	560
20	Jharsuguda	Raigarh	T4	145.48	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(WR)	D/C	874	560
21	Jeypore	Gazuwaka	T1	220	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(SR)	D/C	874	560
22	Jeypore	Gazuwaka	T2	220	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(SR)	D/C	874	560
23	Binaguri	Bongaigaon	T1	218	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NER)	D/C	874	560
24	Binaguri	Bongaigaon	T2	218	ACSR Twin Moose	POWERGRID	POWERGRID(ER)	POWERGRID(NER)	D/C	874	560
25	Alipurduar	Bongaigaon	C1	105.69	AAAC Quad Moose	ENICL	POWERGRID(ER)	POWERGRID(NER)	D/C	1679	646
26	Alipurduar	Bongaigaon	C2	105.69	AAAC Quad Moose	ENICL	POWERGRID(ER)	POWERGRID(NER)	D/C	1679	646

220 kV

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Pusauli	Sahupuri	1	71	Zebra	BSPHCL & UPPCL	POWERGRID(ER)	UPPCL	S/C	213	131
2	Budhipadar	Korba-E	1	184	Zebra	OPTCL & CSEB	OPTCL	NTPC	D/C	213	131
3	Budhipadar	Korba-E	2	184	Zebra	OPTCL & CSEB	OPTCL	NTPC	D/C	213	131
4	Budhipadar	Raigarh(PG)	1	83.37	Zebra	POWERGRID	OPTCL	POWERGRID(WR)	S/C	213	131
5	Alipurduar	Salakati	1	100.6	Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(NER)	D/C	213	131
6	Alipurduar	Salakati	2	100.6	Zebra	POWERGRID	POWERGRID(ER)	POWERGRID(NER)	D/C	213	131
7	Balimela	U. Silleru	1	24.7	Zebra	OPTCL & APTRANSCO	OHPC	APGENCO	S/C	213	131

132 kV

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	MACHKUND	VIZAG	1	160	Panther	OPTCL & APTRANSCO	OPTCL	APTRANSCO	S/C	84	48

5.2 Inter Utility lines : -

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
765 kV											
1	Jharsuguda	Darlipalli	H1	20.54	Hexa Zebra	POWERGRID	POWERGRID	NTPC	D/C	4452	2470
2	Jharsuguda	Darlipalli	H2	20.54	Hexa Zebra	POWERGRID	POWERGRID	NTPC	D/C	4452	2470
400 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Biharshariff	Koderma	Q1	110.7	ACSR Quad Moose	POWERGRID	POWERGRID	DVC	D/C	1749	681
2	Biharshariff	Koderma	Q2	110.7	ACSR Quad Moose	POWERGRID	POWERGRID	DVC	D/C	1749	681
3	Kahalgaon B	Banka	T1	47.7	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
4	Kahalgaon B	Banka	T2	47.7	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
5	Kahalgaon B	Barh	Q1	217.2	ACSR Quad Moose	POWERGRID	NTPC	NTPC	D/C	1749	681
6	Kahalgaon B	Barh	Q2	217.2	ACSR Quad Moose	POWERGRID	NTPC	NTPC	D/C	1749	681
7	Kahalgaon B	Maithon A	T1	172	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
8	Kahalgaon B	Farakka	T1	95.3	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
9	Kahalgaon B	Farakka	T2	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
10	Sasaram	Nabinagar	T1	81.7	ACSR Twin Lapwing	POWERGRID	POWERGRID	BRBCL	D/C	1071	564
11	Sasaram	Nabinagar	T2	81.7	ACSR Twin Lapwing	POWERGRID	POWERGRID	BRBCL	D/C	1071	564
12	Gaya	NPGC	Q1	95	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
13	Gaya	NPGC	Q2	95	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
14	Patna	NPGC	Q1	141	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
15	Patna	NPGC	Q2	141	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
16	Gaya	Koderma	Q1	82	ACSR Quad Moose	POWERGRID	POWERGRID	DVC	D/C	1749	681
17	Gaya	Koderma	Q2	82	ACSR Quad Moose	POWERGRID	POWERGRID	DVC	D/C	1749	681
18	Patna	Barh	Q1	93.1	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
19	Patna	Barh	Q2	93.1	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
20	Patna	Barh	Q3	68.7	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
21	Patna	Barh	Q4	68.7	ACSR Quad Moose	POWERGRID	POWERGRID	NTPC	D/C	1749	681
22	Barh	Motihari	Q1	237	ACSR Quad Moose	POWERGRID	NTPC	DMTCL	D/C	1749	681
23	Barh	Motihari	Q2	237	ACSR Quad Moose	POWERGRID	NTPC	DMTCL	D/C	1749	681
24	Lakhisarai	Kahalgaon A	T1	145	ACSR Twin Moose	POWERGRID	POWERGRID	NTPC	D/C	874	560
25	Lakhisarai	Kahalgaon A	T2	145	ACSR Twin Moose	POWERGRID	POWERGRID	NTPC	D/C	874	560
26	Kishanganj	Teesta III	Q1	215	ACSR Quad Moose	TVPTL	POWERGRID	TUL	D/C	1749	681
27	Kahalgaon A	Maithon B	T1	172	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
28	Kahalgaon A	Farakka	T3	95.3	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
29	Kahalgaon A	Farakka	T4	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
30	MPL	Ranchi	T1	187.6	ACSR Twin Moose	POWERGRID	MPL	POWERGRID	D/C	874	560
31	MPL	Ranchi	T2	187.6	ACSR Twin Moose	POWERGRID	MPL	POWERGRID	D/C	874	560
32	MPL	Maithon B	T1	31.5	ACSR Twin Moose	POWERGRID	MPL	POWERGRID	D/C	874	560
33	MPL	Maithon B	T2	31.5	ACSR Twin Moose	POWERGRID	MPL	POWERGRID	D/C	874	560
34	Adhuinik	Jamshedpur	Q1	0.3	ACSR Quad Moose	APNRL	APNRL	POWERGRID	D/C	1749	681
35	Adhuinik	Jamshedpur	Q2	0.3	ACSR Quad Moose	APNRL	APNRL	POWERGRID	D/C	1749	681
36	New Ranchi	New PPSP	T1	113	ACSR Twin Moose	PKTCL	POWERGRID	WBSETCL	D/C	874	560
37	New Ranchi	New PPSP	T2	113	ACSR Twin Moose	PKTCL	POWERGRID	WBSETCL	D/C	874	560
38	Ranchi	Raghunathpur	Q2	155.5	ACSR Quad Moose	DVC	POWERGRID	DVC	D/C	1749	681
39	Ranchi	Raghunathpur	Q3	155.5	ACSR Quad Moose	DVC	POWERGRID	DVC	D/C	1749	681
40	Ranchi	Raghunathpur	T1	155.5	ACSR Twin Moose	POWERGRID	POWERGRID	DVC	D/C	874	560
41	Raghunathpur	Maithon B	T1	44	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
42	Andal	Jamshedpur	T1	156.8	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
43	Andal	Jamshedpur	T2	156.8	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
44	Mejia	Maithon A	T2	60	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
45	Mejia	Maithon A	T3	60	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
46	Mejia	Jamshedpur	T1	167.7	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
47	Mejia	Maithon B	T1	83.7	ACSR Twin Moose	POWERGRID	DVC	POWERGRID	D/C	874	560
48	TISCO	Jamshedpur	Q1	32	ACSR Quad Moose	POWERGRID	DVC	POWERGRID	D/C	1749	681
49	TISCO	Baripada	Q1	108.3	ACSR Quad Moose	POWERGRID	DVC	POWERGRID	D/C	1749	681
50	Chaibasa	Kharagpur	T1	161.6	ACSR Twin Moose	PKTCL	POWERGRID	WBSETCL	D/C	874	560
51	Chaibasa	Kharagpur	T2	161.6	ACSR Twin Moose	PKTCL	POWERGRID	WBSETCL	D/C	874	560
52	GMR	Angul	T1	31	ACSR Twin Moose	GMR	GMR	POWERGRID	D/C	874	560
53	GMR	Angul	T2	31	ACSR Twin Moose	GMR	GMR	POWERGRID	D/C	874	560
54	Indravati	Indravati	T1	3.7	ACSR Twin Moose	OPTCL	OHPC	POWERGRID	D/C	874	560
55	Meramundali	Talcher	T1	51	ACSR Twin Moose	POWERGRID	OPTCL	POWERGRID	D/C	874	560
56	Meramundali	Talcher	T2	88.61	ACSR Twin Moose	POWERGRID	OPTCL	NTPC	D/C	874	560
57	Meramundali	Bolangir	T1	221.4	ACSR Twin Moose	POWERGRID	OPTCL	POWERGRID	D/C	874	560
58	New Dubri	Baripada	T1	190.2	ACSR Twin Moose	POWERGRID	OPTCL	POWERGRID	D/C	874	560
59	New Dubri	Pandiabili	T1	142	ACSR Twin Moose	POWERGRID	OPTCL	POWERGRID	D/C	874	560
60	Sterlite	Jharsuguda	T1	45.1	ACSR Twin Moose	OPTCL	OPTCL	POWERGRID	D/C	874	560
61	Sterlite	Jharsuguda	T2	45.1	ACSR Twin Moose	OPTCL	OPTCL	POWERGRID	D/C	874	560
62	Rourkella	Talcher	T1	171	ACSR Twin Moose	POWERGRID	POWERGRID	NTPC	D/C	874	560
63	Rourkella	Talcher	T2	171	ACSR Twin Moose	POWERGRID	POWERGRID	NTPC	D/C	874	560
64	Talcher	Rengali	T1	24	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
65	Talcher	Rengali	T2	24	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
66	Baripada	Kharagpur	T1	98.6	ACSR Twin Moose	WBSETCL & OPTCL	POWERGRID	WBSETCL	D/C	874	560

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
67	Angul	Jitpl	T1	80	ACSR Twin Moose	JINDAL	POWERGRID	JINDAL	D/C	874	560
68	Angul	Jitpl	T2	80	ACSR Twin Moose	JINDAL	POWERGRID	JINDAL	D/C	874	560
69	Jharsuguda	Ind Bharat	T1	64	ACSR Twin Moose	IBEUL	POWERGRID	IBEUL	D/C	874	560
70	Jharsuguda	Ind Bharat	T2	64	ACSR Twin Moose	IBEUL	POWERGRID	IBEUL	D/C	874	560
71	Jharsuguda	OPGC	S1	51.3	Tripple Snowbird	OGPTL	POWERGRID	OPGC	D/C	1320	610
72	Jharsuguda	OPGC	S2	51.3	Tripple Snowbird	OGPTL	POWERGRID	OPGC	D/C	1320	610
73	Sagardighi	Subhasgram	T1	246	ACSR Twin Moose	POWERGRID	WBPDCL	POWERGRID	D/C	874	560
74	Jeerat	Rajarhat	T1	41	ACSR Twin Moose	POWERGRID	WBSETCL	POWERGRID	D/C	874	560
75	Sagardighi	Farakka	T1	55	ACSR Twin Moose	POWERGRID	WBPDCL	NTPC	D/C	874	560
76	Sagardighi	Farakka	T2	76	ACSR Twin Moose	POWERGRID	WBPDCL	NTPC	D/C	874	560
77	Sagardighi	Durgapur B	T1	127	ACSR Twin Moose	WBSETCL	WBPDCL	POWERGRID	D/C	874	560
78	Sagardighi	Durgapur B	T2	127	ACSR Twin Moose	WBSETCL	WBPDCL	POWERGRID	D/C	874	560
79	Sagardighi	Baharampur	E1	30	Twin HTLS	POWERGRID	WBPDCL	POWERGRID	D/C	1749	560
80	Sagardighi	Baharampur	E2	30	Twin HTLS	POWERGRID	WBPDCL	POWERGRID	D/C	1749	560
81	Bidhannagar	Durgapur B	T1	11	ACSR Twin Moose	WBSETCL	WBSETCL	POWERGRID	D/C	874	560
82	Bidhannagar	Durgapur B	T2	11	ACSR Twin Moose	WBSETCL	WBSETCL	POWERGRID	D/C	874	560
83	Farakka	Durgapur B	T1	146	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
84	Farakka	Malda	E1	40	Twin HTLS	POWERGRID	NTPC	POWERGRID	D/C	1749	560
85	Farakka	Malda	E2	40	Twin HTLS	POWERGRID	NTPC	POWERGRID	D/C	1749	560
86	Farakka	Baharampur	E1	82.34	Twin HTLS	POWERGRID	NTPC	POWERGRID	D/C	1749	560
87	Farakka	Baharampur	E2	82.34	Twin HTLS	POWERGRID	NTPC	POWERGRID	D/C	1749	560
88	Farakka	Gokarna	S1	119.7	Tripple Snowbird	POWERGRID	NTPC	WBSETCL	D/C	1320	610
89	PURNEA(PG)	Gokarna	S1	250	Tripple Snowbird	POWERGRID	POWERGRID	WBSETCL	D/C	1320	610
90	Farakka	PURNEA(PG)	S1	171	Tripple Snowbird	POWERGRID	NTPC	WBSETCL	D/C	1320	610
91	Farakka	Durgapur A	T2	150	ACSR Twin Moose	POWERGRID	NTPC	POWERGRID	D/C	874	560
92	Haldia	Subhasgram	T1	89	ACSR Twin Moose	HEL	HEL	POWERGRID	D/C	874	560
93	Haldia	Subhasgram	T2	89	ACSR Twin Moose	HEL	HEL	POWERGRID	D/C	874	560
94	Teesta V	Rangpo	T1	11.6	ACSR Twin Moose	POWERGRID	NHPC	POWERGRID	D/C	874	560
95	Teesta V	Rangpo	T2	11.6	ACSR Twin Moose	POWERGRID	NHPC	POWERGRID	D/C	874	560
96	Rangpo	Dikchu	Q1	32.4	ACSR Quad Moose	POWERGRID+DIKCHU+TVPTL	POWERGRID	Greenko	D/C	1749	681
97	Dikchu	Teesta III	Q1	15.1	ACSR Quad Moose	DIKCHU+TVPTL	Greenko	TUL	D/C	1749	681
98	KISHANGANJ	DARBHANGA	Q1	209	QUAD-MOOSE	ATL	POWERGRID	DMTCL	D/C	1749	681
99	KISHANGANJ	DARBHANGA	Q2	209	QUAD-MOOSE	ATL	POWERGRID	DMTCL	D/C	1749	681
100	Sitamarhi	Darbhanga(DMTCL)	S1	80	Tripple Snowbird	PMTL	POWERGRID	DMTCL	D/C	1320	610
101	Sitamarhi	Darbhanga(DMTCL)	S2	80	Tripple Snowbird	PMTL	POWERGRID	DMTCL	D/C	1320	610
102	Sitamarhi	Motihari(DMTCL)	S1	80	Tripple Snowbird	PMTL	POWERGRID	DMTCL	D/C	1320	610
103	Sitamarhi	Motihari(DMTCL)	S2	80	Tripple Snowbird	PMTL	POWERGRID	DMTCL	D/C	1320	610
104	Medinipur	Kharagpur	T1	115.15	ACSR Twin Moose	PMJTL/WBSETCL	POWERGRID	WBSETCL	D/C	874	560

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
105	Medinipur	Kharagpur	T2	115.15	ACSR Twin Moose	PMJTL/WBSETCL	POWERGRID	WBSETCL	D/C	874	560
106	Medinipur	New Chanditala	T1	96.11	ACSR Twin Moose	PMJTL/WBSETCL	POWERGRID	WBSETCL	D/C	874	560
107	Medinipur	New Chanditala	T2	96.11	ACSR Twin Moose	PMJTL/WBSETCL	POWERGRID	WBSETCL	D/C	874	560
220 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Begusarai	New Purnea	1	189	Zebra	BSPTCL	BSPTCL	POWERGRID	D/C	213	131
2	Begusarai	New Purnea	2	189	Zebra	BSPTCL	BSPTCL	POWERGRID	D/C	213	131
3	Biharsharif(B)	Biharsharif (PG)	1	1.67	Zebra	BSPTCL	BSPTCL	POWERGRID	S/C	213	131
4	Biharsharif(B)	Biharsharif (PG)	2	1.67	Zebra	BSPTCL	BSPTCL	POWERGRID	S/C	213	131
5	Biharsharif(B)	Biharsharif (PG)	3	1.67	Zebra	BSPTCL	BSPTCL	POWERGRID	S/C	213	131
6	Biharsharif(B)	Tenughat	1	180	Moose	BSPHCL & JUSNL	BSPTCL	TVNL	S/C	213	131
7	Dehri	Pusauli	1	65	Zebra	BSPHCL	BSPTCL	POWERGRID	S/C	213	131
8	Dehri	Gaya	1	95	Zebra	BSPHCL & PG	BSPTCL	POWERGRID	D/C	213	131
9	Dehri	Gaya	2	95	Zebra	BSPHCL & PG	BSPTCL	POWERGRID	D/C	213	131
10	Darbhanga	DMTCL (Darbhanga)	1	2.92	Zebra	BSPTCL	BSPTCL	DMTCL	D/C	213	131
11	Darbhanga	DMTCL (Darbhanga)	1	2.92	Zebra	BSPTCL	BSPTCL	DMTCL	D/C	213	131
11	DMTCL (Darbhanga)	Samastipur (Ujiyrpur)	2	50	Zebra	BSPTCL	DMTCL	BSPTCL	D/C	213	131
12	DMTCL (Darbhanga)	Motipur	1	109	Zebra	BSPTCL	DMTCL	BSPTCL	D/C	213	131
13	DMTCL (Darbhanga)	Motipur	2	109	Zebra	BSPTCL	DMTCL	BSPTCL	D/C	213	131
14	DMTCL (Darbhanga)	Laukahi	1	88.8	Zebra	BSPTCL	DMTCL	BSPTCL	D/C	213	131
15	DMTCL (Darbhanga)	Laukahi	2	88.8	Zebra	BSPTCL	DMTCL	BSPTCL	D/C	213	131
16	Fatuha	Patna	1	26	Zebra	BSPTCL	BSPTCL	POWERGRID	S/C	213	131
17	New Purnea	Madhepura	1	100	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
18	New Purnea	Madhepura	2	100	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
19	Muzzafarpur	Hazipur	1	51	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
20	Muzzafarpur	Hazipur	2	51	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
21	Muzzafarpur	MTPS	1	17	Zebra	POWERLINKS	POWERGRID	BSPTCL	D/C	213	131
22	Muzzafarpur	MTPS	2	17	Zebra	POWERLINKS	POWERGRID	BSPTCL	D/C	213	131
23	Arrah	Khagaul	1	48.3	Zebra	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
24	Arrah	Khagaul	2	48.3	Zebra	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
25	Arrah	Pusauli New	1	112	Zebra	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
26	Pusauli	Pusauli New	1	6.5	Zebra	POWERGRID	POWERGRID	BSPTCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
27	Gaya	Sonenagr New	1	91.59	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
28	Gaya	Sonenagr New	2	91.59	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131
29	Gaya	Khizisarai GIS	1	51.69	Zebra	BSPHCL & PG	POWERGRID	BSPTCL	D/C	213	131
30	Gaya	Khizisarai GIS	2	51.69	Zebra	BSPHCL & PG	POWERGRID	BSPTCL	D/C	213	131
31	Patna	Khagaul	1	40	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
32	Patna	Khagaul	2	25.5	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
33	Patna	Khagaul	3	25.5	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
34	Patna	Sipara	1	0.45	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
35	Patna	Sipara	2	0.45	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
36	Patna	Sipara	3	0.25	Zebra	BSPHCL	POWERGRID	BSPTCL	D/C	213	131
37	Kishanganj (B)	Kishanganj (PG)	1	4.49	Zebra	POWERGRID	BSPTCL	POWERGRID	D/C	213	131
38	Kishanganj (B)	Kishanganj (PG)	2	4.24	Zebra	POWERGRID	BSPTCL	POWERGRID	D/C	213	131
39	Kishanganj (B)	Kishanganj (PG)	3	4.49	Zebra	POWERGRID	BSPTCL	POWERGRID	D/C	213	131
40	Kishanganj (B)	Kishanganj (PG)	4	4.24	Zebra	POWERGRID	BSPTCL	POWERGRID	D/C	213	131
41	Chandil	Ranchi	1	78.4	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
42	Chandil	Santaldhi	1	98	Zebra	WBSETCL & JUSNL	JUSNL	WBPDCL	D/C	213	131
43	Ramchandrapur	Joda	1	130	Zebra	OPTCL & JUSNL	JUSNL	OPTCL	D/C	213	131
44	Lalmatia	Farakka	1	79	Zebra	ECL	JUSNL	NTPC	D/C	213	131
45	Hatia	Ranchi	1	40.1	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
46	Hatia	Ranchi	2	35	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
47	Hatia	Ranchi	3	40.1	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
48	Dumka New	Maithon	1	73.2	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
49	Dumka New	Maithon	2	73.2	Zebra	JUSNL	JUSNL	POWERGRID	D/C	213	131
50	Chaibasa (PG)	Chaibasa New(J)	1	0.7	Zebra	JUSNL	POWERGRID	JUSNL	D/C	213	131
51	Chaibasa (PG)	Chaibasa New(J)	2	0.7	Zebra	JUSNL	POWERGRID	JUSNL	D/C	213	131
52	Waria	Bidhannagar	1	17.2	Zebra	DVC & WBSETCL	DVC	WBSETCL	D/C	213	131
53	Waria	Bidhannagar	2	17.2	Zebra	DVC & WBSETCL	DVC	WBSETCL	D/C	213	131
54	Paruliad	Parulia	1	1	Zebra	DVC	DVC	POWERGRID	D/C	213	131
55	Paruliad	Parulia	2	1	Zebra	DVC	DVC	POWERGRID	D/C	213	131
56	Kalyaneswari	Maithon	1	7.6	Zebra	DVC	DVC	POWERGRID	D/C	213	131
57	Kalyaneswari	Maithon	2	7.6	Zebra	DVC	DVC	POWERGRID	D/C	213	131
58	Dhanbad	Maithon	1	51.8	Zebra	DVC	DVC	POWERGRID	D/C	213	131
59	Dhanbad	Maithon	2	51.8	Zebra	DVC	DVC	POWERGRID	D/C	213	131
60	Jeynagar	Jeypur	1	7.7	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
61	Jeynagar	Jeypur	2	7.7	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
62	TTPS	TSTPP	1	34.5	Zebra	OPTCL	OPTCL	NTPC	S/C	213	131
63	Tarkera	Rourkella	1	15.3	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
64	Tarkera	Rourkella	2	15.3	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
65	Rengali	Rengali Pg	1	1	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
66	Rengali	Rengali Pg	2	1	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
67	Balasor	Baripada	1	74.2	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
68	Balasor	Baripada	2	74.2	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
69	Katapalli	Bolangir	1	116.7	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
70	Bolangir	New Bolangir	1	2.8	Zebra	OPTCL	POWERGRID	OPTCL	D/C	213	131
71	Keonjhar_Op	Keonjhar	1	7.48	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
72	Keonjhar_Op	Keonjhar	2	7.48	Zebra	OPTCL	OPTCL	POWERGRID	D/C	213	131
73	Pandiabili	Atri	1	45	Zebra	OPTCL	POWERGRID	OPTCL	D/C	213	131
74	Pandiabili	Atri	2	45	Zebra	OPTCL	POWERGRID	OPTCL	D/C	213	131
75	Pandiabili	Samangara (Puri)	1	45	Zebra	OPTCL	POWERGRID	OPTCL	D/C	213	131
76	Pandiabili	Samangara (Puri)	2	45	Zebra	OPTCL	POWERGRID	OPTCL	D/C	213	131
77	Dalkhola_WB	Dalkola	1	1.1	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
78	Dalkhola_WB	Dalkola	2	1.1	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
79	Subhasgram	Subhasgram (PG)	T1	1	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
80	Subhasgram	Subhasgram (PG)	T2	1	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
81	NJP(W)	Binaguri	1	0.1	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
82	NJP(W)	Binaguri	2	0.1	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
83	CLC	Subhasgram (PG)	1	19	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
84	New Town AA-III	Subhasgram (PG)	1	22.5	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
85	New Town AA-III	Rajarhat	1	7.5	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
86	New Town AA-III	Rajarhat	2	7.5	Zebra	WBSETCL	WBSETCL	POWERGRID	D/C	213	131
87	Subhasgram (PG)	EMSS (CESC)	1	23	HTLS	CESC	POWERGRID	CESC	D/C	540	131
88	Subhasgram (PG)	EMSS (CESC)	2	23	HTLS	CESC	POWERGRID	CESC	D/C	540	131
89	Alipuduar (WB)	Alipurduar (PG)	T1	6.34	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
90	Alipuduar (WB)	Alipurduar (PG)	T2	6.34	Zebra	POWERGRID	WBSETCL	POWERGRID	D/C	213	131
91	Rangpo	Tasiding	1	46.1	Zebra	POWERGRID + SIKKIM	POWERGRID	Dans Energy	D/C	213	131
92	New Melli	Jorthang	1	21	Zebra	DANS	POWERGRID	Dans Energy	D/C	213	131
93	New Melli	Jorthang	2	21	Zebra	DANS	POWERGRID	Dans Energy	D/C	213	131
94	New Melli	Tasiding	1	18.1	Zebra	POWERGRID + SIKKIM	POWERGRID	Dans Energy	D/C	213	131
95	Dalkhola	Gazole	1	98.31	ZEBRA	POWERGRID	POWERGRID	WBSETCL	D/C	213	131
96	Dalkhola	Gazole	2	98.31	ZEBRA	POWERGRID	POWERGRID	WBSETCL	D/C	213	131
97	Malda	Gazole	1	18.14	ZEBRA	POWERGRID	POWERGRID	WBSETCL	D/C	213	131
98	Malda	Gazole	2	18.14	ZEBRA	POWERGRID	POWERGRID	WBSETCL	D/C	213	131
99	Sasaram	Nadokhar	1	6.98	ZEBRA	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
100	Sasaram	Nadokhar	2	6.98	ZEBRA	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
101	Arrah	Nadokhar	1	112	ZEBRA	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
102	Arrah	Nadokhar	2	112	ZEBRA	POWERGRID	POWERGRID	BSPTCL	D/C	213	131
103	Sitamarhi	Motipur	2	52.1	Zebra	BSPTCL	POWERGRID	BSPTCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
104	Rangpo	Rongnichu	1	7.26	ACSR Zebra	MBPCL	POWERGRID	MBPCL	D/C	213	131
105	Rangpo	Rongnichu	1	7.26	ACSR Zebra	MBPCL	POWERGRID	MBPCL	D/C	213	131
132 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Barhi	B'Shariff	1	170	Panther	BSPTCL & DVC	DVC	BSPTCL	S/C	84	48
2	Barhi	Rajgir	1	125	Panther	BSPTCL & DVC	DVC	BSPTCL	S/C	84	48
3	Kahalgaon	Kahalgaon	1	2	Panther	BSPTCL	BSPTCL	NTPC	S/C	84	48
4	Arrah	Arrah	1	3	Panther	POWERGRID+BSPTCL	BSPTCL	POWERGRID	S/C	84	48
5	Dumraon	Arrah	1	61	Panther	POWERGRID+BSPTCL	BSPTCL	POWERGRID	S/C	84	48
6	Purnea	Purnea(Pg)	1	1	Panther	BSPTCL	BSPTCL	POWERGRID	S/C	84	48
7	Purnea	Purnea(Pg)	1	1	Panther	BSPTCL	BSPTCL	POWERGRID	S/C	84	48
8	Purnea	Purnea(Pg)	1	1	Panther	BSPTCL	BSPTCL	POWERGRID	S/C	84	48
9	Purnea(Pg)	Kisanganj	1	70	Panther	BSPTCL	POWERGRID	BSPTCL	S/C	84	48
10	Khudra	Pusuali	1	15	Panther	BSPTCL	BSPTCL	POWERGRID	S/C	84	48
11	Mohania	Pusuali	1	16	Panther	BSPTCL	BSPTCL	POWERGRID	S/C	84	48
12	Karmanasa	Sahupuri	1	27	Panther	BSPTCL & UPPCL	BSPTCL	UPPCL	S/C	84	48
13	Karmanasa	Chandauli	1	25	Panther	BSPTCL & UPPCL	BSPTCL	UPPCL	S/C	84	48
14	Sonenagar	Rihand	1	139	Panther	BSPTCL & UPPCL	BSPTCL	UPPCL	S/C	84	48
15	Lakhisarai	Jamaui	1	25	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
16	Lakhisarai	Jamaui	2	25	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
17	Banka	Sultangunj	1	46.5	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
18	Banka	Sultangunj	2	46.5	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
19	Motihari(Dmtcl)	Motihari(B)	1	39	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
20	Motihari(Dmtcl)	Motihari(B)	2	39	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
21	Motihari(Dmtcl)	Bethia(B)	1	39	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
22	Motihari(Dmtcl)	Bethia(B)	2	39	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
23	Motihari(Dmtcl)	Raxaul(B)	1	59	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
24	Motihari(Dmtcl)	Raxaul(B)	2	59	Panther	BSPTCL	DMTCL	BSPTCL	D/C	84	48
25	Daltonganj	Daltonganj (Pg)	1	20	Panther	JUSNL	JUSNL	POWERGRID	D/C	84	48
26	Daltonganj	Daltonganj (Pg)	2	20	Panther	JUSNL	JUSNL	POWERGRID	D/C	84	48
27	Maithon	Jamtara	1	100	Panther	DVC & JUSNL	DVC	JUSNL	S/C	84	48
28	Pataratu(Dvc)	Patratu(Jharkahnd)	1	1	Panther	DVC & JUSNL	DVC	JUSNL	D/C	84	48
29	Pataratu(Dvc)	Patratu(Jharkahnd)	2	1	Panther	DVC & JUSNL	DVC	JUSNL	D/C	84	48
30	Kharagpur(Dvc)	Kharagpur(Wb)	1	Bus Extention	Panther	DVC	DVC	WBSETCL	S/C	84	48

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
31	Kolaghat(Dvc)	Kolaghat(Wb)	2	Bus Extention	Panther	DVC	DVC	WBSETCL	S/C	84	48
32	Joda	Kendposi	1	48	Panther	OPTCL & JUSNL	OPTCL	JUSNL	S/C	84	48
33	Baripada	Bangiriposi	1	31.2	Panther	OPTCL	POWERGRID	OPTCL	S/C	84	48
34	Baripada	Baripada	1	11	Panther	OPTCL	POWERGRID	OPTCL	S/C	84	48
35	Bhograi	Baripda	1	112	Panther	OPTCL	OPTCL	POWERGRID	S/C	84	48
36	Jaleswr	Baripda	1	88	Panther	OPTCL	OPTCL	POWERGRID	S/C	84	48
37	Japla	Sonenagar	1	49.5	Panther	BSPTCL & JUSNL	JUSNL	BSPTCL	S/C	84	48
38	Lalmatia	Sabour	1	72	Panther	BSPTCL & JUSNL	JUSNL	BSPTCL	S/C	84	48
39	Chandil	Manique	1	1	Panther	JUSNL & DVC	JUSNL	DVC	D/C	84	48
40	Chandil	Manique	2	1	Panther	JUSNL & DVC	JUSNL	DVC	D/C	84	48
41	Patratu	Patratu	1	3	Panther	JUSNL & DVC	JUSNL	DVC	S/C	84	48
42	Garwa	Rihand	1	30	Panther	JUSNL & UPPCL	JUSNL	UPPCL	S/C	84	48
43	Rangit	Rammam	1	27	Panther	POWERGRID	NHPC	WBSETCL	S/C	84	48
44	Kahalgaon	Sabour	1	37	Panther	BSPTCL	NTPC	BSPTCL	S/C	84	48
45	Kahalgaon	Lalmatia	1	34	Panther	BSPTCL	NTPC	JUSNL	S/C	84	48
46	Birpara(Pg)	Birpara(Wb)	1	1	Panther	WBSETCL	POWERGRID	WBSETCL	D/C	84	48
47	Birpara(Pg)	Birpara(Wb)	2	1	Panther	WBSETCL	POWERGRID	WBSETCL	D/C	84	48
48	Malda(Pg)	Malda(Wb)	1	6	Panther	WBSETCL	POWERGRID	WBSETCL	D/C	84	48
49	Malda(Pg)	Malda(Wb)	2	6	Panther	WBSETCL	POWERGRID	WBSETCL	D/C	84	48
50	Siliguri(Pg)	Nbu	1	8	Panther	WBSETCL	POWERGRID	WBSETCL	S/C	84	48
51	Siliguri(Pg)	Njp	1	15	Panther	WBSETCL	POWERGRID	WBSETCL	S/C	84	48
52	Rangit	Sagbari	1	32.5	Panther	SIKKIM	NHPC	SIKKIM	S/C	84	48
53	Arha	Jagdishpur	1	30	Panther	BSPTCL	POWERGRID	BSPTCL	S/C	84	48
54	Rangit	Rangpo	1	54	Panther	POWERGRID	NHPC	POWERGRID	S/C	84	48
55	Rangit	Kurseong	1	61	Panther	POWERGRID & WBSETCL	NHPC	WBSETCL	S/C	84	48
56	Siliguri(PG)	Kurseong	1	32	Panther	POWERGRID & WBSETCL	POWERGRID	WBSETCL	S/C	84	48
57	Rangit	Sagbari	1	25	Panther	SIKKIM	NHPC	SIKKIM	S/C	84	48
58	Banka	Sabour	1	45	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
59	Banka	Sabour	2	45	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
60	Banka	Banka	1	11	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
61	Banka	Banka	2	11	Panther	BSPTCL	POWERGRID	BSPTCL	D/C	84	48
62	Rangpo	Chujachen	1	20	Panther	GATI INFRA	POWERGRID	GATI	S/C	84	48
63	Rangpo	Chujachen	2	20	Panther	GATI INFRA	POWERGRID	GATI	S/C	84	48
64	Siliguri(Pg)	Melli	1	90	Panther	POWERGRID	POWERGRID	SIKKIM	S/C	84	48
65	Rangpo	Melli	1	17	Panther	POWERGRID	POWERGRID	SIKKIM	S/C	84	48

5.3 Other important lines

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
765 kV											
1	Jharsuguda	Angul	H1	272	Quad Bersimis	POWERGRID	POWERGRID	POWERGRID	D/C	4452	2470
2	Jharsuguda	Angul	H2	272	Quad Bersimis	POWERGRID	POWERGRID	POWERGRID	D/C	4452	2470
3	Jharsuguda	Angul	H3	295	Hexa Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	4452	2470
4	Jharsuguda	Angul	H4	295	Hexa Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	4452.063396	2470
5	Medinipur	New Ranchi	H1	269.04	Quad Bersimis	PMJTL	PMJTL	POWERGRID	D/C	4452.063396	2470
6	Medinipur	New Ranchi	H2	269.04	Quad Bersimis	PMJTL	PMJTL	POWERGRID	D/C	4452.063396	2470
400 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Baripada	Pandiabili	T1	302	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
2	Baripada	Pandiabili	T2	302	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
3	Lakhisarai	Biharsariff	T1	89	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
4	Lakhisarai	Biharsariff	T2	89	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
5	New Ranchi	Chandwa	Q1	68	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
6	New Ranchi	Chandwa	Q2	68	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
7	Ailpurduar	Binaguri	Q1	123.711	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
8	Ailpurduar	Binaguri	Q2	123.711	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
9	Ailpurduar	Binaguri	Q3	117.98	ACSR Quad Moose	ATL	POWERGRID	POWERGRID	D/C	1749	681
10	Ailpurduar	Binaguri	Q4	117.98	ACSR Quad Moose	ATL	POWERGRID	POWERGRID	D/C	1749	681
11	Bakreswar	Arambagh	T1	130	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560
12	Bakreswar	Jeerat	T2	162	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560
13	Banka	Biharsariff	T1	184	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
14	Banka	Biharsariff	T2	184	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
15	Baripada	Pandiabili	T1	301	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
16	Biharshariff	Pusauli	T1	195	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
17	Biharshariff	Pusauli	T2	195	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
18	Biharshariff	Muzaffarpur	T1	130	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
19	Biharshariff	Muzaffarpur	T2	130	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
20	Biharshariff	Purnea	Q1	231	ACSR Quad Moose	ENICL	POWERGRID	POWERGRID	D/C	1749	681

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
21	Biharshariff	Purnea	Q2	231	ACSR Quad Moose	ENICL	POWERGRID	POWERGRID	D/C	1749	681
22	Binaguri	Alipurduar	T1	217	ACSR Twin Moose	ENICL	POWERGRID(ER)	POWERGRID(ER)	D/C	874	560
23	Binaguri	Alipurduar	T2	217	ACSR Twin Moose	ENICL	POWERGRID(ER)	POWERGRID(ER)	D/C	874	560
24	Binaguri	Kishanganj	Q1	98	ACSR Quad Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
25	Binaguri	Kishanganj	Q2	98	ACSR Quad Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
26	Binaguri	Rangpo	E1	110	Twin HTLS	POWERGRID	POWERGRID	POWERGRID	D/C	2000	560
27	Binaguri	Rangpo	E2	110	Twin HTLS	POWERGRID	POWERGRID	POWERGRID	D/C	2000	560
28	Kishanganj	Rangpo	Q1	189	ACSR Quad Moose	TVPTL	POWERGRID	POWERGRID	D/C	1749	681
29	Bokaro	Koderma	T1	99	ACSR Twin Moose	POWERGRID	DVC	DVC	D/C	874	560
30	Bokaro	Koderma	T2	99	ACSR Twin Moose	POWERGRID	DVC	DVC	D/C	874	560
31	Chaibasa	Rourkela	T1	120	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
32	Chaibasa	Rourkela	T2	120	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
33	DSTPS	Raghunathpur	T1	72.5	ACSR Twin Moose	DVC	DVC	DVC	D/C	874	560
34	DSTPS	Raghunathpur	T2	72.5	ACSR Twin Moose	DVC	DVC	DVC	D/C	874	560
35	Farakka	Kahalgaon	T1	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
36	Farakka	Kahalgaon	T2	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
37	Farakka	Kahalgaon	T3	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
38	Farakka	Kahalgaon	T4	95	ACSR Twin Moose	POWERGRID	NTPC	NTPC	D/C	874	560
39	Gaya	Chandwa	Q1	117	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
40	Gaya	Chandwa	Q2	117	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
41	Indravati	Rengali	T1	356	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
42	Jamshedpur	Chaibasa	T1	82	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
43	Jamshedpur	Chaibasa	T2	82	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
44	Jamshedpur	Baripada	T1	141	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
45	Jeypore	Indravati	T1	72	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
46	Kahalgaon	Barh	Q1	217	ACSR Quad Moose	POWERGRID	NTPC	NTPC	D/C	1749	681
47	Kahalgaon	Barh	Q2	217	ACSR Quad Moose	POWERGRID	NTPC	NTPC	D/C	1749	681
48	Keonjhar	Baripada	T1	156	ACSR Twin Moose	OPTCL	POWERGRID	POWERGRID	S/C	874	560
51	Bidhannagar	New Chanditala	T1	151.87	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	S/C	874	560
52	Arambagh	New Chanditala	T1	59.22	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	S/C	874	560
53	Kolaghat TPS	Arambagh	T1	75	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560
54	Kolaghat TPS	New Chanditala	T1	64.68	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560
55	Kolaghat TPS	Khargpur	T1	98	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
56	Kolaghat TPS	Khargpur	T1	80	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	S/C	874	560
57	Maithon	Jamshedpur	T1	153	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
58	Maithon	Ranchi	T1	200	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
59	Maithon	Ranchi	T2	200	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
60	Maithon	Gaya	Q1	277	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
61	Maithon	Gaya	Q2	277	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
62	Malda	Purnea	T1	167	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
63	Malda	Purnea	T2	167	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
64	Meeramundali	New Duburi	T1	90	ACSR Twin Moose	POWERGRID	OPTCL	OPTCL	D/C	874	560
65	Meeramundali	New Duburi	T2	90	ACSR Twin Moose	POWERGRID	OPTCL	OPTCL	D/C	874	560
66	Meramundali	Mendasal	T1	99	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560
67	Meramundali	Mendasal	T2	99	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560
68	Muzaffarpur	Darbhanga	S1	62.8	TRIPLE SNOWBIRD	DMTCL	POWERGRID(ER)	DMTCL	D/C	1320	610
69	Muzaffarpur	Darbhanga	S2	62.8	TRIPLE SNOWBIRD	DMTCL	POWERGRID(ER)	DMTCL	D/C	1320	610
70	New Chanditala	Jeerat	T1	79.85	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	S/C	874	560
71	New PPSP	Arambagh	T1	207	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	D/C	874	560
72	New PPSP	Arambagh	T2	207	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	D/C	874	560
73	New PPSP	PPSP	T1	2	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	D/C	874	560
74	New PPSP	PPSP	T2	2	ACSR Twin Moose	WBSETCL	WBSETCL	WBSETCL	D/C	874	560
75	Parulia	Jamshedpur	T1	177	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
76	Patna	Kishanganj	Q1	347	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
77	Patna	Kishanganj	Q2	347	ACSR Quad Moose	POWERGRID	POWERGRID	POWERGRID	D/C	1749	681
78	PPSP	Bidhanagar	T1	185	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	D/C	874	560
79	PPSP	Bidhanagar	T2	185	ACSR Twin Moose	WBSETCL	WBPDCL	WBSETCL	D/C	874	560
80	Purnea	Binaguri	E1	168	Twin HTLS	POWERGRID	POWERGRID	POWERGRID	D/C	1749	560
81	Purnea	Binaguri	E2	168	Twin HTLS	POWERGRID	POWERGRID	POWERGRID	D/C	1749	560
82	Purnea	Muzaffarpur	Q1	240	ACSR Twin Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
83	Purnea	Muzaffarpur	Q2	240	ACSR Twin Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
84	Purnea	Kishanganj	Q1	71	ACSR Twin Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
85	Purnea	Kishanganj	Q2	71	ACSR Twin Moose	POWERLINKS	POWERGRID	POWERGRID	D/C	1749	681
86	Ranchi	Ranchi New	Q1	77	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	Q/C	1749	681
87	Ranchi	Ranchi New	Q2	77	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	Q/C	1749	681
88	Ranchi	Ranchi New	Q3	79	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	Q/C	1749	681
89	Ranchi	Ranchi New	Q4	79	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	Q/C	1749	681

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
90	Ranchi	Rourkela	T1	143	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
91	Ranchi	Rourkela	T2	143	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
92	Rengali	Keonjhar	T1	100	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	S/C	874	560
93	Rourkela	Jharsuguda	T1	143	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
94	Rourkela	Jharsuguda	T2	143	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
95	Rourkela	Jharsuguda	T3	130.6	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
96	Rourkela	Jharsuguda	T4	124.4	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
97	Sasaram	Daltonganj	T1	196.19	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
98	Sasaram	Daltonganj	T2	196.19	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
99	SEL	Lapanga	T1	18.6	ACSR Twin Moose	OPTCL	SEL	OPTCL	D/C	874	560
100	SEL	Lapanga	T2	18.6	ACSR Twin Moose	OPTCL	SEL	OPTCL	D/C	874	560
101	Meeramandali	Lapanga	T1	214.8	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560
102	Meeramandali	Lapanga	T2	214.8	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560
103	OPGC	Lapanga	A1	24.5	AAAC Twin Moose	OPTCL	OPTCL	OPTCL	D/C	1406	524
104	OPGC	Lapanga	A2	24.5	AAAC Twin Moose	OPTCL	OPTCL	OPTCL	D/C	1406	524
105	Rajarhat	Subhasgram	T1	34	ACSR Twin Moose	POWERGRID	POWERGRID	POWERGRID	D/C	874	560
106	New Duburi	TSL Kalinganagar	T1	8.65	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560
107	New Duburi	TSL Kalinganagar	T2	8.65	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	874	560

220 kV

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Alipurduar	Birpara	1	57.486	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
2	Alipurduar	Birpara	2	57.486	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
3	Arambagh	Domjur	1	57	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
4	Arambagh	Domjur	2	57	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
5	Arambagh	Midnapore	1	71	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
6	Arambagh	Midnapore	2	71	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
7	Arambagh	Rishra	1	73	Zebra	WBSETCL	WBSETCL	WBSETCL	S/C	213	131
8	Arambagh	N.Bishnupur	1	55	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
9	Arambagh	N.Bishnupur	2	55	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
10	Bakreswar	Sadaipur	1	20.5	Zebra	WBSETCL	WBPDCL	WBSETCL	D/C	213	131
11	Bakreswar	Sadaipur	2	20.5	Zebra	WBSETCL	WBPDCL	WBSETCL	D/C	213	131
12	Balimela	Jeynagar	1	93	Zebra	OPTCL	OHPC	OPTCL	T/C	213	131
13	Balimela	Jeynagar	2	93	Zebra	OPTCL	OHPC	OPTCL	T/C	213	131
14	Balimela	Jeynagar	3	93	Zebra	OPTCL	OHPC	OPTCL	T/C	213	131
15	Barasat	Kasba	1	23	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
16	Barasat	Kasba	2	23	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
17	Bidhannagar	Bakreswar	1	47	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
18	Bidhannagar	Bakreswar	2	47	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
19	Bidhannagar	DPL	1	5	Zebra	WBSETCL	WBSETCL	DPL	D/C	213	131
20	Bidhannagar	DPL	2	5	Zebra	WBSETCL	WBSETCL	DPL	D/C	213	131
21	Biharshariff	Begusarai	1	75	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
22	Biharshariff	Begusarai	2	75	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
23	Biharshariff	Bodhagya	1	85	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
24	Biharshariff	Bodhagya	2	85	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
25	Biharshariff	Fatuah	1	40	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
26	Biharshariff	Fatuah	2	40	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
27	Binaguri	Siliguri	1	8	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
28	Binaguri	Siliguri	2	8	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
31	Birpara	Binaguri	1	80	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
32	Birpara	Binaguri	2	80	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
34	Bishnupur	Santaldih	1	92	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
35	Bishnupur	Santaldih	2	92	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
36	Bokaro	Chandrapura TPS B	1	42	Zebra	DVC	DVC	DVC	D/C	213	131
37	Bokaro	Chandrapura TPS B	2	42	Zebra	DVC	DVC	DVC	D/C	213	131
38	Bokaro	Jamshedpur	1	150	Zebra	DVC	DVC	DVC	D/C	213	131
39	Bokaro	Jamshedpur	2	150	Zebra	DVC	DVC	DVC	D/C	213	131
40	Bokaro	Ramgarh	1	55	Zebra	DVC	DVC	DVC	D/C	213	131
41	Bokaro	Ramgarh	2	55	Zebra	DVC	DVC	DVC	D/C	213	131
42	Burnpur	Mejia	1	70	Zebra	DVC	DVC	DVC	S/C	213	131
43	Chandil	Ramchandrapur	1	30	Zebra	JUSNL	JUSNL	JUSNL	S/C	213	131
44	Ctps A	Dhanbad	1	63	Zebra	DVC	DVC	DVC	S/C	213	131
45	Ctps B	Dhanbad	2	63	Zebra	DVC	DVC	DVC	S/C	213	131
46	Dalkhola	Kishanganj	1	30	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
47	Dalkhola	Kishanganj	2	30	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
48	Dalkhola	Purnea	1	41	Zebra	POWERGRID	WBSETCL	WBSETCL	D/C	213	131
49	Dalkhola	Purnea	2	41	Zebra	POWERGRID	WBSETCL	WBSETCL	D/C	213	131
50	Dhanbad	Giridih	1	44	Zebra	DVC	DVC	DVC	D/C	213	131
51	Dhanbad	Giridih	2	44	Zebra	DVC	DVC	DVC	D/C	213	131
52	Dharampur	Rishra	1	25	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
53	Dharampur	Rishra	2	25	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
54	Farakka	Lalmatia	1	79	Zebra	ECL	NTPC	NTPC	S/C	213	131
55	Gokarno	Krishnanagar	1	105	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
56	Gokarno	Krishnanagar	2	105	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
57	Gokarno	Sagardighi	1	39	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
58	Gokarno	Sagardighi	2	39	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
59	IBTPS	Budhipadar	1	25	Zebra	OPTCL	OPGC	OPTCL	Q/C	213	131
60	IBTPS	Budhipadar	2	25	Zebra	OPTCL	OPGC	OPTCL	Q/C	213	131
61	IBTPS	Budhipadar	3	25	Zebra	OPTCL	OPGC	OPTCL	Q/C	213	131
62	IBTPS	Budhipadar	4	25	Zebra	OPTCL	OPGC	OPTCL	Q/C	213	131
63	Jayanagar	Laxmipur	1	81	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
64	Jayanagar	Laxmipur	2	81	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
65	Jeerat	Dharampur	1	30	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
66	Jeerat	Dharampur	2	30	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
67	Jeerat	Barasat	1	42	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
68	Jeerat	Barasat	2	42	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
69	Jeerat	Newtown	1	80	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
70	Jeerat	Newtown	2	80	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
71	Jeyanagar	U.Kolab	1	6	Zebra	OPTCL	OPTCL	OHPC	D/C	213	131
72	Jeyanagar	U.Kolab	2	6	Zebra	OPTCL	OPTCL	OHPC	D/C	213	131
73	Kalyaneshwari	Burnpur	1	18	Zebra	DVC	DVC	DVC	S/C	213	131
74	Kalyaneshwari	Mejia	1	55	Zebra	DVC	DVC	DVC	T/C	213	131
75	Kalyaneshwari	Mejia	2	55	Zebra	DVC	DVC	DVC	T/C	213	131
76	Kalyaneshwari	Mejia	3	55	Zebra	DVC	DVC	DVC	T/C	213	131
77	Kasba	EM bypass	1	1	Single Core XLPE	CESC	WBSETCL	CESC	S/C	213	131
78	Kasba	Subhasgram(Wb)	1	20	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
79	Kasba	Subhasgram(Wb)	2	20	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
80	Katapalli	Budhipadar	1	61	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
81	Katapalli	Budhipadar	2	61	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
82	Kharagpur	Midnapore	1	46	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
83	Kharagpur	Midnapore	2	46	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
84	Kolaghat TPS	Howrah	1	71	Zebra	WBSETCL	WBPDCL	WBSETCL	D/C	213	131
85	Kolaghat TPS	Howrah	2	71	Zebra	WBSETCL	WBPDCL	WBSETCL	D/C	213	131
86	Mejia	Barjora	1	16	Zebra	DVC	DVC	DVC	D/C	213	131
87	Mejia	Barjora	2	16	Zebra	DVC	DVC	DVC	D/C	213	131
88	Mejia	Muchipara	1	31	Zebra	DVC	DVC	DVC	D/C	213	131
89	Mejia	Muchipara	2	31	Zebra	DVC	DVC	DVC	D/C	213	131
90	Mendhasal	Chandaka	1	20	Zebra	OPTCL	OPTCL	OPTCL	Q/C	213	131
91	Mendhasal	Chandaka	2	20	Zebra	OPTCL	OPTCL	OPTCL	Q/C	213	131
92	Mendhasal	Narendrapur	1	174	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
93	Mendhasal	Nayagarh	1	65	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
94	Mendhasal	Bhanjnagar	1	135	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
95	Meramandali	NALCO	1	10	Zebra	OPTCL	OPTCL	NALCO	D/C	213	131
96	Meramandali	NALCO	2	10	Zebra	OPTCL	OPTCL	NALCO	D/C	213	131
97	Meramundali	Bhanjnagar	1	134	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
98	Meramundali	Narsinghpur	1	56	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
100	Meramundali	Bidanasi	1	90	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	213	131
101	Meramundali	Bidanasi	2	90	ACSR Twin Moose	OPTCL	OPTCL	OPTCL	D/C	213	131
102	Meramundali	Duburi(old)	1	95	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
103	Meramundali	Duburi(old)	2	95	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
104	MTPS	Begusarai	1	152	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
105	MTPS	Begusarai	2	152	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
106	MTPS	Darbhanga	1	68	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
107	MTPS	Darbhanga	2	68	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
108	MTPS	Gopalganj	1	101	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
109	MTPS	Gopalganj	2	101	Zebra	BSPTCL	BSPTCL	BSPTCL	D/C	213	131
110	Nayagarh	Bhanjnagar	1	68.7	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
111	Parulia	Muchipara	1	16	Zebra	DVC	DVC	DVC	D/C	213	131
112	Parulia	Muchipara	2	16	Zebra	DVC	DVC	DVC	D/C	213	131
113	Patratu TPS	Hatia	1	51	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
114	Patratu TPS	Hatia	2	51	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
115	Patratu TPS	Tenughat	1	53	ACSR Twin Moose	JUSNL	JUSNL	TVNL	S/C	213	131
116	Rangpoo	New Melli	1	20	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
117	Rangpoo	New Melli	2	20	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
118	Rengali	Barkot	1	34	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
119	Rengali	Chandiposh	1	102	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
120	Sadaipur	Gokarno	1	61.5	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
121	Sadaipur	Gokarno	2	61.5	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
122	Santaldih	Bidhannagr	1	100	Zebra	WBSETCL	WBPDCL	WBSETCL	S/C	213	131
123	Satgachia	Bakreswar	1	140	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
124	Satgachia	Bakreswar	2	140	Zebra	WBSETCL	WBSETCL	WBPDCL	D/C	213	131
125	Satgachia	Krishnanagar	1	53	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
126	Satgachia	Krishnanagar	2	53	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
127	Siliguri	Kishanganj	1	108	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
128	Siliguri	Kishanganj	2	108	Zebra	POWERGRID	POWERGRID	POWERGRID	D/C	213	131
129	Subhasgram (WB)	Lakhikantpur	1	50	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
130	Subhasgram (WB)	Lakhikantpur	2	50	Zebra	WBSETCL	WBSETCL	WBSETCL	D/C	213	131
131	Talcher	Meramundali	1	20	Zebra	OPTCL	NTPC	OPTCL	S/C	213	131
132	Tarkera	Barkot	1	101	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
133	Tarkera	Budhipadar	1	120	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
134	Tarkera	Budhipadar	2	120	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
135	Tarkera	Chandiposh	1	30	Zebra	OPTCL	OPTCL	OPTCL	S/C	213	131
136	Theruvalli	Bhanjnagar	1	176	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
137	Theruvalli	Bhanjnagar	2	176	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
138	Theruvalli	Laxmipur	1	64	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131

Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
139	Theruvalli	Laxmipur	2	64	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
140	Theruvalli	Narendrapur	1	196	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
141	Theruvalli	Narendrapur	2	196	Zebra	OPTCL	OPTCL	OPTCL	D/C	213	131
142	U. Kolab	Jayanagar	1	6	Zebra	OPTCL	OHPC	OPTCL	D/C	213	131
143	U. Kolab	Jayanagar	2	6	Zebra	OPTCL	OHPC	OPTCL	D/C	213	131
144	U. Kolab	Theruvali	1	136	Zebra	OPTCL	OHPC	OPTCL	S/C	213	131
145	Uihep	Theruvali	1	90	Zebra	OPTCL	OHPC	OPTCL	Q/C	213	131
146	Uihep	Theruvali	2	90	Zebra	OPTCL	OHPC	OPTCL	Q/C	213	131
147	Uihep	Theruvali	3	90	Zebra	OPTCL	OHPC	OPTCL	Q/C	213	131
148	Uihep	Theruvali	4	90	Zebra	OPTCL	OHPC	OPTCL	Q/C	213	131
149	Waria	Mejia	1	34	Zebra	DVC	DVC	DVC	D/C	213	131
150	Waria	Mejia	2	34	Zebra	DVC	DVC	DVC	D/C	213	131
151	Waria	Parulia	1	21	Zebra	DVC	DVC	DVC	D/C	213	131
152	Waria	Parulia	2	21	Zebra	DVC	DVC	DVC	D/C	213	131
153	Dumka New	Govindpur	1	101.54	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
154	Dumka New	Govindpur	2	101.54	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
155	Ramchandrapur	Chaibasa New(J)	1	39.6	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
156	Ramchandrapur	Chaibasa New(J)	2	39.6	Zebra	JUSNL	JUSNL	JUSNL	D/C	213	131
132 kV											
Sl No	From Bus	To Bus	Ckt ID	Line Length	Conductor type	Line Owner	Owner		Circuit Configuration	Thermal Loading Limit (MVA)	SIL (MW)
							From End	To End			
1	Gangtok	Rangpo	1	48	Panther	POWERGRID	POWERGRID	POWERGRID	D/C	84	48
2	Gangtok	Rangpo	1	48	Panther	POWERGRID	POWERGRID	POWERGRID	D/C	84	48

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6.0 List of Important Transformer

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
Angul	6000	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			3	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			4	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
Gaya	6000	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			3	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			4	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
Jharsuguda	6000	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			3	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			4	1500	1-	POWERGRID	HV	23	4	12	12	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
New Ranchi	3000	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
Darlipalli	510	765/132	1	255	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	255	1-Phase	POWERGRID	HV	23	4	12	12	NA
New Sasaram	1500	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
Mednipur	3000	765/400	1	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
			2	1500	1-Phase	POWERGRID	HV	23	4	12	12	NA
Alipurduar	630	400/220	1	315	3-Phase	POWERGRID	NA	NA	NA	NA	NA	NA
			2	315	3-Phase	POWERGRID	NA	NA	NA	NA	NA	NA
Baripada	1130	400/220	1	315	3-Phase	POWERGRID	HV	17	5	11	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	11	9	NA
			3	500	3-Phase	POWERGRID	NA	NA	NA	NA	NA	NA
Biharshariff	1445	400/220	1	315	3-	POWERGRID	HV	17	5	12	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
			2	315	3-Phase	POWERGRID	HV	17	5	12	9	NA
			3	315	3-Phase	POWERGRID	HV	17	5	12	9	NA
			4	500	3-Phase	POWERGRID	HV	17	5	12	9	NA
Binaguri	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
Bolangir	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9B	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9B	9	NA
Chaibasa	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Darbhanga	1000	400/220	1	500	3-Phase	DMTCL	NA	NA	NA	NA	NA	NA
			2	500	3-Phase	DMTCL	NA	NA	NA	NA	NA	NA
Motihari	715	400/220	1	200	3-Phase	DMTCL	HV	17	5	7	9	NA
			2	200	3-	DMTCL	HV	17	5	7	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
			3	315	3-Phase	DMTCL	HV	17	5	7	9	NA
Dikchu	270	400/132	1	270	1-Phase	Green Co	NA	NA	NA	NA	NA	NA
FSTPP	315	400/220	1	315	3-Phase	NTPC	HV	17	5	11	9B	NA
Gaya	1315	400/220	1	315	3-Phase	POWERGRID	HV	17	5	12	9	NA
			2	500	3-Phase	POWERGRID	HV	17	5	12	9	NA
			3	500	3-Phase	POWERGRID	HV	17	5	12	9	NA
Indravati	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9B	9	NA
			2	315	3-Phase	OPTCL	HV	17	5	9B	9	NA
Jamshedpur	945	400/220	1	315	3-Phase	POWERGRID	HV	17	5	13	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	13	9	NA
			3	315	3-Phase	POWERGRID	HV	17	5	13	9	NA
Jeypore	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	14	9	NA
			2	315	1-	POWERGRID	HV	17	5	14	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
Keonjhar	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Kishangunj	1000	400/220	1	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Maithon	1000	400/220	1	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Malda	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
Muzzaffarpur	1130	400/220	1	315	3-Phase	POWERGRID	HV	17	5	12	9B	NA
			2	315	3-Phase	POWERGRID	HV	17	5	12	9B	NA
			3	500	3-Phase	POWERGRID	HV	17	5	12	9B	NA
New Purnea	1000	400/220	1	500	3-Phase	POWERGRID	HV	17	5	11	9	Alstom
			2	500	3-	POWERGRID	HV	17	5	11	9	Alstom

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
Pandiabili	1000	400/220	1	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Parulia	945	400/220	1	315	3-Phase	POWERGRID	HV	17	5	11	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	11	9	NA
			3	315	3-Phase	POWERGRID	HV	17	5	11	9	NA
Patna	1500	400/220	1	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			2	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
			3	500	3-Phase	POWERGRID	HV	17	5	9B	9B	NA
Ranchi	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9B	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9B	9	NA
Rangpo	1575	400/220	1	315	1-Phase	POWERGRID	HV	17	5	9	9	NA
			2	315	1-Phase	POWERGRID	HV	17	5	9	9	NA
			3	315	1-	POWERGRID	HV	17	5	9	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
			4	315	1-Phase	POWERGRID	HV	17	5	9	9	NA
			5	315	1-Phase	POWERGRID	HV	17	5	9	9	NA
Rengali	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9	9	NA
Rourkela	630	400/220	1	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	10	9	NA
Sasaram	1000	400/220	1	500	3-Phase	POWERGRID	HV	17	5	7	9	NA
			2	500	3-Phase	POWERGRID	HV	17	5	7	9	NA
Subhasgram	1760	400/220	1	315	3-Phase	POWERGRID	HV	17	5	9	9	NA
			2	315	3-Phase	POWERGRID	HV	17	5	9	9	NA
			3	315	3-Phase	CESC	HV	17	5	9	9	NA
			4	315	3-Phase	CESC	HV	17	5	9	9	NA
			5	500	3-	POWERGRID	HV	17	5	9	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
TSTPP	630	400/220	1	315	3-Phase	NTPC	HV	17	5	13	9	NA
			2	315	3-Phase	NTPC	HV	17	5	13	9	NA
Banka	715	400/220	1	200	3-Phase	POWERGRID	HV	17	5	7	9	NA
			2	200	3-Phase	POWERGRID	HV	17	5	7	9	NA
			3	315	3-Phase	POWERGRID	HV	17	5	7	9	NA
Barh	400	400/220	1	200	3-Phase	NTPC	NA	NA	NA	NA	NA	NA
			2	200	3-Phase	NTPC	NA	NA	NA	NA	NA	NA
KhSTPP	400	400/220	1	200	3-Phase	NTPC	HV	17	5	10	9	NA
			2	200	3-Phase	NTPC	HV	17	5	10	9	NA
Lakhisarai	715	400/220	1	200	3-Phase	POWERGRID	HV	17	5	9	9	NA
			2	200	3-Phase	POWERGRID	HV	17	5	9	9	NA
			3	315	3-Phase	POWERGRID	HV	17	5	9	9	NA
Nabinagar	400	400/132	1	200	3-	BRBCL	NA	NA	NA	NA	NA	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
			2	200	3-Phase	BRBCL	NA	NA	NA	NA	NA	NA
			3	200	3-Phase	BRBCL	NA	NA	NA	NA	NA	NA
Bokaro A	630	400/220	1	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
			2	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
Koderma	630	400/220	1	315	3-Phase	DVC	HV	17	5	9B	9B	NA
			2	315	3-Phase	DVC	HV	17	5	9B	9B	NA
RTPS	630	400/220	1	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
			2	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
TISCO	630	400/132	1	315	3-Phase	DVC	HV	17	5	9B	9B	NA
			2	315	3-Phase	DVC	HV	17	5	9B	9B	NA
DSTPS	630	400/220	1	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
			2	315	3-Phase	DVC	NA	NA	NA	NA	NA	NA
Mendasal	630	400/220	1	315	3-	OPTCL	HV	17	5	9	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
			2	315	3-Phase	OPTCL	HV	17	5	9	9	NA
Meramundali	630	400/220	1	315	3-Phase	OPTCL	HV	17	5	10	9	NA
			2	315	3-Phase	OPTCL	HV	17	5	10	9	NA
New Duburi	630	400/220	1	315	3-Phase	OPTCL	HV	17	5	9	9	NA
			2	315	3-Phase	OPTCL	HV	17	5	9	9	NA
STERLITE	630	400/220	1	315	3-Phase	OPTCL	HV	17	5	11	9	NA
			2	315	3-Phase	OPTCL	HV	17	5	11	9	NA
Lapanga	630	400/220	1	315	3-Phase	OPTCL	HV	17	5	11	9	NA
			2	315	3-Phase	OPTCL	HV	17	5	11	9	NA
Arambag	1260	400/220	1	315	3-Phase	WBSETCL	HV	17	5	11	9	NA
			2	315	3-Phase	WBSETCL	HV	17	5	11	9	NA
			3	315	3-Phase	WBSETCL	HV	17	5	11	9	NA
			4	315	3-	WBSETCL	HV	17	5	11	9	NA

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
Bakreswar	630	400/220	1	315	3-Phase	WBSETCL	LV (220KV)	17	2.75	11	9	FUJI
			2	315	3-Phase	WBSETCL	LV (220KV)	17	2.75	11	9	FUJI
Bidhannagar	630	400/220	1	315	3-Phase	WBSETCL	HV	17	5	9B	9	NA
			2	315	3-Phase	WBSETCL	HV	17	5	9B	9	NA
Gokarna	630	400/220	1	315	3-Phase	WBSETCL	HV	17	5	9B	9B	Xi'an XD Transformer Co. Ltd., P.R. China
			2	315	3-Phase	WBSETCL	HV	17	5	9B	9B	
Jeerat	1260	400/220	1	315	3-Phase	WBSETCL	LV	17	2.88	11	NA	NA
			2	315	3-Phase	WBSETCL	LV	17	2.88	11	NA	NA
			3	315	3-Phase	WBSETCL	LV	17	2.88	11	NA	NA
			4	315	3-Phase	WBSETCL	LV	17	2.88	11	NA	NA
Kharagpur	945	400/220	1	315	3-Phase	WBSETCL	HV	17	5	7	9	Areva
			2	315	3-Phase	WBSETCL	HV	17	5	7	9	Areva
			3	315	3-	WBSETCL	HV	17	5	7	9	EMCO

Name of S/S	Total Capacity	Voltage level	ICT No	Rating (MVA)	Unit type	Owner	Tap provided in which side	No of Taps	Voltage (kV) change per Tap	Present Tap position	Nominal Tap position	Make
					Phase							
KTPP	630	400/220	1	315	3-Phase	WBSETCL	HV	17	5	12	9	NA
			2	315	3-Phase	WBSETCL	HV	17	5	12	9	NA
Sagardighi	315	400/220	1	315	3-Phase	WBSETCL	HV	17	5	10	9	NA
Sitamarhi	1000	400/220	1	500	3-Phase	PMTL	NA	NA	NA	NA	NA	NA
			2	500	3-Phase	PMTL	NA	NA	NA	NA	NA	NA

7.0 List of Important Generators

Sl No.	Station	Total Install Capacity	*Unit No*	Fuel Type	Size	Type	GT			Owner	Make	Commissioned in
							Rating (MVA)	Voltage Ratio	Present Tap (Total Tap)			
Central Sector												
1	Farakka STPS Stage I & II	1600	1	Coal	200	Pit Head	247	400/15.75	3(5)	NTPC	BHEL	Jan-86
			2	Coal	200	Pit Head	247	400/15.75	6(13)	NTPC	BHEL	Dec-86
			3	Coal	200	Pit Head	247	400/15.75	6(13)	NTPC	BHEL	Aug-87
			4	Coal	500	Pit Head	588	400/21	7(13)	NTPC	BHEL	Sep-92
			5	Coal	500	Pit Head	588	400/21	7(13)	NTPC	BHEL	Feb-94
2	Farakka STPS Stage III	500	6	Coal	500	Pit Head	588	400/21	7(13)	NTPC	BHEL	Mar-11
3	Kahalgaon STPS Stage I	840	1	Coal	210	Pit Head	247	NA	NA	NTPC	Electrosila USSR	Mar-92
			2	Coal	210	Pit Head	247	NA	NA	NTPC	Electrosila USSR	Mar-94
			3	Coal	210	Pit Head	247	NA	NA	NTPC	Electrosila USSR	Mar-95
			4	Coal	210	Pit Head	247	NA	NA	NTPC	Electrosila USSR	Mar-96
4	Kahalgaon STPS Stage II	1500	5	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Mar-07
			6	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Mar-08
			7	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Jun-09
5	Talcher STPS Stage I	1000	1	Coal	500	Pit Head	588	400/21	8(13)	NTPC	ABB Germany	Feb-95
			2	Coal	500	Pit Head	588	400/21	8(13)	NTPC	ABB Germany	Mar-96
6	Talcher STPS Stage II	2000	3	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Jan-03
			4	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Oct-03
			5	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	May-04
			6	Coal	500	Pit Head	588	NA	NA	NTPC	BHEL	Feb-05
7	Barh STPS Stage II	1320	4	Coal	660	Pit Head	777	NA	NA	NTPC	BHEL	15-11-2014
			5	Coal	660	Pit Head	777	NA	NA	NTPC	BHEL	18-02-2016
8	Nabinagar	750	1	Coal	250	Pit Head	295	NA	NA	NTPC	BHEL	15-01-2017
			2	Coal	250	Pit Head	295	NA	NA	NTPC	BHEL	10-09-2017
			3	Coal	250	Pit Head	295	NA	NA	NTPC	BHEL	26-02-2019
9	KBUNL Stage II	390	3	Coal	195	Pit Head	247	NA	NA	NTPC	BHEL	18-03-2017
			4	Coal	195	Pit Head	247	NA	NA	NTPC	BHEL	01-07-2017
10	Nabinagar STPP Stage I	660	1	Coal	660	Pit Head	777	NA	NA	NTPC	BHEL & Alstom	06-09-2019
11	Darlipali STPP	800	1	Coal	800	Pit Head	942	NA	NA	NTPC	Toshiba JSW	
12	Teesta V	510	1	Hydro	170	Run of River	210	400/13.8	3(5)	NHPC	Toshiba	28-03-2008
			2	Hydro	170	Run of River	210	400/13.8	3(5)	NHPC	Toshiba	06-02-2008
			3	Hydro	170	Run of River	210	400/13.8	3(5)	NHPC	Toshiba	20-03-2008
Jharkhand												
1	Tenughat	2x210	1	Coal	210	Pit Head	294	220/15.75	1(9)	TVNL	NA	Sep-96
			2	Coal	210	Pit Head	294	220/15.75	1(9)	TVNL	NA	Sep-97
2	Subarnarekha	2X65	1	Hydro	65	Pondage	94	132/11	2(5)	JUVNL	NA	

Sl No.	Station	Total Install Capacity	*Unit No*	Fuel Type	Size	Type	GT			Owner	Make	Commissioned in
							Rating (MVA)	Voltage Ratio	Present Tap (Total Tap)			
			2	Hydro	65	Pondage	94	132/11	2(5)	JUVNL	NA	
DVC												
1	Waria	(U#4) 210	4	Thermal	210	Load Center	294	220/16	NA	DVC	BHEL	Sep-82
2	Mejia	1340	1	Thermal	210	Pit Head	247	220/15.75	NA	DVC	BHEL	Dec-97
			2	Thermal	210	Pit Head	247	220/15.75	NA	DVC	BHEL	Mar-99
			3	Thermal	210	Pit Head	247	220/15.75	NA	DVC	BHEL	Sep-99
			4	Thermal	210	Pit Head	247	220/15.75	NA	DVC	BHEL	Feb-05
			5	Thermal	250	Pit Head	294	220/16.5	NA	DVC	BHEL	Feb-08
			6	Thermal	250	Pit Head	294	220/16.5	NA	DVC	BHEL	Sep-08
3	Mejia-B	1000	7	Thermal	500	Pit Head	588	400/21	4(9)	DVC	BHEL	Aug-11
			8	Thermal	500	Pit Head	588	400/21	4(9)	DVC	BHEL	Aug-12
4	CTPS B	500	7	Thermal	250	Pit Head	294	NA	NA	DVC	BHEL	Nov-11
			8	Thermal	250	Pit Head	294	NA	NA	DVC	BHEL	Jul-11
5	Koderma TPS	1000	1	Thermal	500	Pit Head	588	400/21	5(9)	DVC	BHEL	Jul-13
			2	Thermal	500	Pit Head	588	400/21	5(9)	DVC	BHEL	Jun-14
6	Bokaro"B"	210	3	Thermal	210	Pit Head	247	NA	NA	DVC	BHEL	Apr-94
7	Bokaro"A"	500	1	Thermal	500	Pit Head	588	NA	NA	DVC	BHEL	23-02-2017
8	RAGHUNATHPUR	1200	1	Thermal	600	Pit Head	706	NA	NA	DVC	Shanghai Electric	Mar-16
			2	Thermal	600	Pit Head	706	NA	NA	DVC	Shanghai Electric	Mar-16
9	DSTPS	1000	1	Thermal	500	Pit Head	588	400/21	5(9)	DVC	BHEL	May-12
			2	Thermal	500	Pit Head	588	400/21	5(9)	DVC	BHEL	Mar-13
West Bengal												
1	Kolaghat	1260	1	Thermal	210	Pit Head	247	220/15.75	3(5)	WBPDCL	BHEL	09-09-1990
			2	Thermal	210	Pit Head	247	220/15.75	3(5)	WBPDCL	BHEL	09-03-1986
			3	Thermal	210	Pit Head	247	220/15.75	3(5)	WBPDCL	BHEL	12-10-1984
			4	Thermal	210	Pit Head	247	420/15.75	4(5)	WBPDCL	BHEL	01-04-1995
			5	Thermal	210	Pit Head	247	420/15.75	5(5)	WBPDCL	BHEL	14-05-1991
			6	Thermal	210	Pit Head	247	420/15.75	4(5)	WBPDCL	BHEL	01-01-1994
2	Sagardighi	1600	1	Thermal	300	Pit Head	370	400/20	3(5)	WBPDCL	Dongfang	Sep-08
			2	Thermal	300	Pit Head	370	400/20	3(5)	WBPDCL	Dongfang	Nov-08
			3	Thermal	500	Pit Head	588	NA	NA	WBPDCL	BHEL	Jul-16
			4	Thermal	500	Pit Head	588	NA	NA	WBPDCL	BHEL	Jan-17
3	Bakreswar	1050	1	Thermal	210	Pit Head	250	220/15.75	3(5)	WBPDCL	BHEL	29-11-2000
			2	Thermal	210	Pit Head	250	220/15.75	3(5)	WBPDCL	BHEL	01-04-2001
			3	Thermal	210	Pit Head	250	220/15.75	3(5)	WBPDCL	BHEL	11-10-2001
			4	Thermal	210	Pit Head	250	420/15.75	4(5)	WBPDCL	BHEL	08-03-2009
			5	Thermal	210	Pit Head	250	420/15.75	4(5)	WBPDCL	BHEL	27-06-2009

Sl No.	Station	Total Install Capacity	*Unit No*	Fuel Type	Size	Type	GT			Owner	Make	Commissioned in
							Rating (MVA)	Voltage Ratio	Present Tap (Total Tap)			
4	Santaldih	500	5	Thermal	250	Pit Head	294	220/16.5	4(5)	WBPDCL	BHEL	
			6	Thermal	250	Pit Head	294	220/16.5	4(5)	WBPDCL	BHEL	
5	Bandel	U#5 (210)	5	Thermal	210	Load Center	276	138/15.75	3(3)	WBPDCL	BHEL	
6	TLDP III	132	1	Hydro	33	Run of River	39	NA	NA	WBSEDCL	NA	19-05-2013
			2	Hydro	33	Run of River	39	NA	NA	WBSEDCL	NA	01-04-2013
			3	Hydro	33	Run of River	39	NA	NA	WBSEDCL	NA	01-04-2013
			4	Hydro	33	Run of River	39	NA	NA	WBSEDCL	NA	01-05-2013
7	TLDP IV	160	1	Hydro	40	Run of River	47	NA	NA	WBSEDCL	NA	11-03-2016
			2	Hydro	40	Run of River	47	NA	NA	WBSEDCL	NA	21-03-2016
			3	Hydro	40	Run of River	47	NA	NA	WBSEDCL	NA	17-07-2016
			4	Hydro	40	Run of River	47	NA	NA	WBSEDCL	NA	19-08-2016
8	PPSP*	900	1	Hydro	225	Pump Storage	295	NA	NA	WBSEDCL	Mitsui	
			2	Hydro	225	Pump Storage	295	NA	NA	WBSEDCL	Mitsui	
			3	Hydro	225	Pump Storage	295	NA	NA	WBSEDCL	Mitsui	
			4	Hydro	225	Pump Storage	295	NA	NA	WBSEDCL	Mitsui	
9	DPL	550	7	Thermal	300	Pit Head	370	220/20	3(5)	WBPDCL	Dongfang	30-04-2008
			8	Thermal	250	Pit Head	315	220/16.5	3(5)	WBPDCL	Dongfang	01-10-2014
10	HALDIA	600	1	Thermal	300	Pit Head	370	NA	NA	HEL	Shanghai Electric	28-01-2015
			2	Thermal	300	Pit Head	370	NA	NA	HEL	Shanghai Electric	21-02-2015
11	Budge-Budge	750	1	Thermal	250	Load Center	294	132/16.5	6(9)	CESC	Parson	
			2	Thermal	250	Load Center	294	132/16.5	6(9)	CESC	Parson	
			3	Thermal	250	Load Center	294	235/16.5	5(9)	CESC	BHEL	
* PPSP machines also operate in motor mode and their rating as motor is 250 MW each												
Odisha												
1	IBTPS Stage I	420	1	Thermal	210	Pit Head	294	220/15.75	NA	OPGC	NA	1994
			2	Thermal	210	Pit Head	294	220/15.75	NA	OPGC	NA	1996
2	IBTPS Stage II	1320	1	Thermal	660	Pit Head	777	NA	NA	OPGC	BHEL	03-07-2019
			2	Thermal	660	Pit Head	777	NA	NA	OPGC	BHEL	21-08-2019
3	Balimela	510	1	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	14-03-1973
			2	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	25-01-1974
			3	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	24-08-1974
			4	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	26-03-1975
			5	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	07-05-1976
			6	Hydro	60	Pondage	71	132/11	NA	OHPC	NA	05-01-1977
			7	Hydro	75	Pondage	88	132/11	NA	OHPC	NA	23-12-2008
			8	Hydro	75	Pondage	88	132/11	NA	OHPC	NA	23-01-2009
4	U-Kolab	320	1	Hydro	80	Pondage	94	220/11	NA	OHPC	NA	15.03.1988
			2	Hydro	80	Pondage	94	220/11	NA	OHPC	NA	14.04.1988

Sl No.	Station	Total Install Capacity	*Unit No*	Fuel Type	Size	Type	GT			Owner	Make	Commissioned in
							Rating (MVA)	Voltage Ratio	Present Tap (Total Tap)			
			3	Hydro	80	Pondage	94	220/11	NA	OHPC	NA	10.02.1990
			4	Hydro	80	Pondage	94	220/11	NA	OHPC	NA	12.01.1993
5	U-Indravati	600	1	Hydro	150	Pondage	177	NA	NA	OHPC	NA	19.09.1999
			2	Hydro	150	Pondage	177	NA	NA	OHPC	NA	28.12.1999
			3	Hydro	150	Pondage	177	NA	NA	OHPC	NA	04.10.2000
			4	Hydro	150	Pondage	177	NA	NA	OHPC	NA	19.04.2001
6	Rengali	200	1	Hydro	50	Pondage	59	220/11	NA	OHPC	NA	27.08.1985
			2	Hydro	50	Pondage	59	220/11	NA	OHPC	NA	26.03.1986
			3	Hydro	50	Pondage	59	220/11	NA	OHPC	NA	10.08.1989
			4	Hydro	50	Pondage	59	220/11	NA	OHPC	NA	19.03.1990
7	Sterlite (CPP)	2400	1	Thermal	600	Pit Head	750	242.4/22	3(5)	Vedanta	BHEL	30-03-2011
			2	Thermal	600	Pit Head	750	242.4/22	3(5)	Vedanta	BHEL	29-11-2010
			3	Thermal	600	Pit Head	750	242.4/22	3(5)	Vedanta	BHEL	19-08-2011
			4	Thermal	600	Pit Head	750	242.4/22	3(5)	Vedanta	BHEL	26-04-2012
IPPs												
1	MPL	1050	1	Thermal	525	Pit Head	617	NA	NA	MPL	BHEL	01-09-2011
			2	Thermal	525	Pit Head	617	NA	NA	MPL	BHEL	24-07-2012
2	ADHUNIK	540	1	Thermal	270	Pit Head	330	400/16.5	8(19)	APNRL	BHEL	21-01-2013
			2	Thermal	270	Pit Head	340	400/16.5	3(5)	APNRL	BHEL	19-05-2013
3	GMR	1050	1	Thermal	350	Pit Head	412	NA	NA	GMR	Shanghai Electric	28-03-2013
			2	Thermal	350	Pit Head	412	NA	NA	GMR	Shanghai Electric	29-09-2013
			3*	Thermal	350	Pit Head	412	NA	NA	GMR	Shanghai Electric	25-03-2014
4	JITPL	1200	1	Thermal	600	Pit Head	706	NA	NA	Jindal	BHEL	06-06-2014
			2	Thermal	600	Pit Head	706	NA	NA	Jindal	BHEL	12-02-2015
5	INDBHARAT	700	1	Thermal	350	Pit Head	412	NA	NA		NA	19-07-2016
			2	Thermal	350	Pit Head	412	NA	NA		NA	
6	JLHEP	96	1	Hydro	48	Run of River	63	220/11	3(5)	Dans Energy	Alstom	26-09-2015
			2	Hydro	48	Run of River	63	220/11	3(5)	Dans Energy	Alstom	01-10-2015
7	TEESTA -III	1200	1	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	28-02-2017
			2	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	23-02-2017
			3	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	23-02-2017
			4	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	23-02-2017
			5	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	28-02-2017
			6	Hydro	200	Run of River	246	420/15	3(5)	TUL	Andritz	28-02-2017
8	DIKCHU	96	1	Hydro	48	Run of River	60	NA	NA	Green Co	Alstom	12-04-2017
			2	Hydro	48	Run of River	60	NA	NA	Green Co	Alstom	28-05-2017
9	Tashding	97	1	Hydro	48.5	Run of River	60	NA	NA	Dans Energy	Alstom	18-10-2017
			2	Hydro	48.5	Run of River	60	NA	NA	Dans Energy	Alstom	18-10-2017

Sl No.	Station	Total Install Capacity	*Unit No*	Fuel Type	Size	Type	GT			Owner	Make	Commissioned in
							Rating (MVA)	Voltage Ratio	Present Tap (Total Tap)			
10	CHJACHEN	110	1	Hydro	55	Run of River	65	132/11	4(5)	Gati Infra	Alstom	
			2	Hydro	55	Run of River	65	132/11	4(5)	Gati Infra	Alstom	
* Unit-3 of GMR is Dedicated to Odisha												
Bhutan												
1	Tala	1020	1	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	12-02-2007
			2	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	20-11-2006
			3	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	30-03-2007
			4	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	10-11-2006
			5	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	07-10-2006
			6	Hydro	170	Run of River	200	NA	NA	Druk Green	BHEL	31-07-2006
2	Chukha	336	1	Hydro	84	Run of River	99	NA	NA	Druk Green	NA	07-09-1986
			2	Hydro	84	Run of River	99	NA	NA	Druk Green	NA	30-10-1986
			3	Hydro	84	Run of River	99	NA	NA	Druk Green	NA	13-03-1988
			4	Hydro	84	Run of River	99	NA	NA	Druk Green	NA	22-08-1988
3	Mandechu	720	1	Hydro	180	Run of River	212	NA	NA	Druk Green	BHEL	28-06-2019
			2	Hydro	180	Run of River	212	NA	NA	Druk Green	BHEL	08-07-2019
			3	Hydro	180	Run of River	212	NA	NA	Druk Green	BHEL	16-08-2019
			4	Hydro	180	Run of River	212	NA	NA	Druk Green	BHEL	14-08-2019
5	Dagachu	126	1	Hydro	63	Run of River	75	NA	NA	Tata Power	NA	
			2	Hydro	63	Run of River	75	NA	NA	Tata Power	NA	

8.1 List of line reactors

Sl No	Voltage	From Bus	To Bus	Line Owner	Ckt ID	Line Length	Reactor (MVAr)								Remarks
							From End				To End				
							Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	
1	765	Angul	Srikakulam	POWERGRID	1	277	1X240	1-Phase	YES	YES	1X240	1-Phase			
2	765	Angul	Srikakulam	POWERGRID	2	277	1X240	1-Phase	YES	YES	1X240	1-Phase			
3	765	Angul	Jharsuguda	POWERGRID	1	273	1X240	1-Phase	YES	YES	1X240	1-Phase	NO	YES	
4	765	Angul	Jharsuguda	POWERGRID	2	273	1X240	1-Phase	YES	YES	1X240	1-Phase	NO	YES	
5	765	Angul	Jharsuguda	POWERGRID	3	273	1X240	1-Phase	YES	YES	1X240	1-Phase	NO	YES	
6	765	Angul	Jharsuguda	POWERGRID	4	273	1X240	1-Phase	YES	YES	1X240	1-Phase	NO	YES	
7	765	Gaya	Balia	POWERGRID	1	120	1X240	1-Phase	YES	YES	1X240	1-Phase	YES		
8	765	Gaya	Varanasi	POWERGRID	1	272	1X240	1-Phase	YES	YES	1X240	1-Phase	NO		
9	765	Gaya	Varanasi	POWERGRID	2	272	1X240	1-Phase	YES	YES	1X240	1-Phase	NO		
10	765	Jharsuguda	Dharamjaygarh	POWERGRID	1	151	-				1X330	1-Phase			
11	765	Jharsuguda	Dharamjaygarh	POWERGRID	2	151	-				1X330	1-Phase			
12	765	Jharsuguda	Dharamjaygarh	POWERGRID	3	148	-				1X330	1-Phase			
13	765	Jharsuguda	Dharamjaygarh	POWERGRID	4	148	-				1X330	1-Phase			
14	765	Jharsuguda	Raipur	POWERGRID	1	303	1X240	1-Phase	YES	YES	1X240	1-Phase			
15	765	Jharsuguda	Raipur	POWERGRID	2	303	1X240	1-Phase	YES	YES	1X240	1-Phase			
16	765	Ranchi (new)	Dharamjaygarh	POWERGRID	1	303	1X240	1-Phase	YES	YES	1X330	1-Phase	NO		
17	765	Ranchi (new)	Dharamjaygarh	POWERGRID	2	303	1X240	1-Phase	YES	YES	1X330	1-Phase	NO		
18	765	Sasaram	Fatehpur	POWERGRID	1	356	1X330	1-Phase	YES	YES	1X330	1-Phase	NO	YES	
19	765	Ranchi (new)	Mednipur	PMJTL	1	269	1X240	1-Phase	YES	YES	1X240	1-Phase	YES	YES	
20	765	Ranchi (new)	Mednipur	PMJTL	2	269	1X240	1-Phase	YES	YES	1X240	1-Phase	YES	YES	
21	400	Meramundali	Bolangir	POWERGRID	1	221.4	-				1X50	3-Phase	YES	YES	
22	400	Banka	B'shariff	POWERGRID	1	184.55	1X50	3-Phase	YES	YES	-				
23	400	Banka	B'shariff	POWERGRID	2	184.55	1X50	3-Phase	YES	YES	-				
24	400	Baripada	Pandiabili	POWERGRID	1	301	-				1X63	3-Phase	YES	YES	
25	400	Baripada	New Duburi	POWERGRID	1	190.2	1X63	3-Phase	YES	YES					
26	400	Biharsariff	Varanasi	POWERGRID	1	321	1X50	3-Phase	YES	YES	-				
27	400	Biharsariff	Varanasi	POWERGRID	2	321	1X50	3-Phase	YES	YES	-				
28	400	Binaguri	Alipurduar	ENICL + POWERGRID	1	224	1X80	3-Phase	YES	YES	-				
29	400	Binaguri	Alipurduar	ENICL + POWERGRID	2	224	1X80	3-Phase	YES	YES	-				
30	400	Binaguri	Bongaigaon	POWERGRID	1	216	-				1X63	3-Phase			
31	400	Binaguri	Bongaigaon	POWERGRID	2	216	-				1X63	3-Phase			
32	400	Binaguri	Tala	POWERGRID	1	115	1X63	3-Phase	NO	YES	-				
33	400	Binaguri	Tala	POWERGRID	2	115	1X63	3-Phase	NO	YES	-				
34	400	Binaguri	Tala	POWERGRID	4	98	1X63	3-Phase	NO	YES	-				
35	400	Bolangir	Jeypore	POWERGRID	1	288	1X50	3-Phase	YES	YES	1X80	3-Phase	NO	YES	
36	400	B'shariff	Balia	POWERGRID	1	242	-				1X50	3-Phase	NO		

Sl No	Voltage	From Bus	To Bus	Line Owner	Ckt ID	Line Length	Reactor (MVAr)								Remarks
							From End				To End				
							Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	
37	400	B'shariff	Balia	POWERGRID	2	242	-				1X50	3-Phase	NO		
38	400	B'shariff	New purnea	ENICL	1	232	1X80	3-Phase	YES	YES	-				
39	400	B'shariff	New purnea	ENICL	2	232	1X80	3-Phase	YES	YES	-				
40	400	B'shariff	Sasaram	POWERGRID	1	195	1X50	3-Phase	YES	NO					
41	400	Farakka	Durgapur	POWERGRID	1	150	1X50	3-Phase	NO	NO	-				
42	400	Farakka	Gokorno	POWERGRID	1	119.7	1X80	3-Phase	YES	YES					
43	400	Farakka	Baharampur	POWERGRID	2	82.34	1X50	3-Phase	YES	YES					
44	400	Farakka	Rajarhat	POWERGRID	1		1X80	3-Phase	YES	YES					
45	400	Gorakhpur	Motihari	POWERGRID + DMTCL(LILO)	1	190	1X80	3-Phase			1X50	3-Phase	YES	NO	
46	400	Gorakhpur	Motihari	POWERGRID + DMTCL(LILO)	2	190	1X80	3-Phase			1X50	3-Phase	YES	NO	
47	400	Jeypore	Gajuwaka	POWERGRID	1	220	-				1X80	3-Phase			
48	400	Jeypore	Gajuwaka	POWERGRID	2	220	-				1X80	3-Phase			
49	400	K'gaon	Maithon	POWERGRID	1	172	-				1X50	3-Phase	NO	NO	
50	400	K'gaon	Maithon	POWERGRID	2	172	-				1X50	3-Phase	NO	NO	
51	400	Kharagpur	Chaibasa	PKTCL	1	162	-				1X63	3-Phase	NO	YES	
52	400	Kharagpur	Chaibasa	PKTCL	2	162	-				1X63	3-Phase	NO	YES	
53	400	Lakhisarai	Khstpp	POWERGRID	1	145	1X50	3-Phase	NO	YES	-				
54	400	Lakhisarai	Khstpp	POWERGRID	2	145	1X50	3-Phase	NO	YES	-				
55	400	Lakhisarai	B'shariff	POWERGRID	2	89	-				1X50	3-Phase	YES	NO	
56	400	Maithon	Gaya	POWERGRID	1	235	1X50	3-Phase	YES	NO	1X50	3-Phase	YES	YES	
57	400	Maithon	Gaya	POWERGRID	2	235	1X50	3-Phase	YES	NO	1X50	3-Phase	YES	YES	
58	400	Maithon	Mejia	POWERGRID	1	83	1X50	3-Phase	YES	NO	-				
59	400	Malda	New purnea	POWERGRID	1	167	1X63	3-Phase	NO	NO	-				
60	400	Malda	New purnea	POWERGRID	2	167	1X63	3-Phase	NO	NO	-				
61	400	Meramundali	Talcher	POWERGRID	1	88.61	1X63	3-Phase	YES	NO	-				
62	400	Motihari	Barh	POWERGRID	1	237	1X80	3-Phase	YES	NO	1X63	3-Phase	YES	NO	
63	400	Motihari	Barh	POWERGRID	2	237	1X80	3-Phase	YES	NO	1X63	3-Phase	YES	NO	
64	400	Patna	NPGC	POWERGRID	1	141	1X80	3-Phase	YES	YES					
65	400	Patna	NPGC	POWERGRID	1	141	1X80	3-Phase	YES	YES					
66	400	Patna	Barh	POWERGRID	1	93.1	1X80	3-Phase	YES	YES					
67	400	Patna	Barh	POWERGRID	2	93.1	1X125	3-Phase	YES	YES					
68	400	Mpl	Ranchi	POWERGRID	1	188	1X50	3-Phase	YES	NO	1X50	3-Phase	YES	YES	
69	400	Mpl	Ranchi	POWERGRID	2	188	1X50	3-Phase	YES	NO	1X50	3-Phase	YES	YES	
70	400	Muzaffarpur	Gorakhpur	POWERLINKS	1	260	1X63	3-Phase	YES	YES	-				
71	400	Muzaffarpur	Gorakhpur	POWERLINKS	2	260	1X50	3-Phase	YES	YES	-				
72	400	New purnea	Farakka	POWERGRID	1		1X80	3-Phase	YES	YES					
73	400	New purnea	Muzaffarpur	POWERGRID	1	240	1X63	3-Phase	YES	YES	1X63	3-Phase	YES	YES	

Sl No	Voltage	From Bus	To Bus	Line Owner	Ckt ID	Line Length	Reactor (MVAr)								Remarks
							From End				To End				
							Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	
74	400	New purnea	Muzaffarpur	POWERGRID	2	240	1X63	3-Phase	YES	YES	1X63	3-Phase	YES	YES	
75	400	New ranchi	New PPSP	PKTCL	1	117	1X50	3-Phase	NO	YES	-				
76	400	New ranchi	New PPSP	PKTCL	2	117	1X50	3-Phase	NO	YES	-				
77	400	Pandiabili	Mendasal	POWERGRID	1	273	1X63	3-Phase	NO	NO					LR at Medhasal end shifted to Pandiabili
78	400	Pandiabili	Mendasal	POWERGRID	2	273	1X63	3-Phase	NO	NO					
79	400	Patna	Kishangunj	POWERGRID	1	352	1X63	3-Phase	NO	YES	1X80	3-Phase	YES	YES	
80	400	Patna	Kishangunj	POWERGRID	2	352	1X63	3-Phase	NO	YES	1X80	3-Phase	YES	YES	
81	400	Patna	Balia	POWERGRID	1	185	-				1X63	3-Phase	NO	NO	
82	400	Patna	Balia	POWERGRID	2	185	-				1X63	3-Phase	NO	NO	
83	400	Purnea	Binaguri	POWERGRID	1	168	1X63	3-Phase	NO	YES	-				
84	400	Purnea	Kishanganj	POWERGRID	1	71	1X63	3-Phase	NO	YES	-				
85	400	Rajarhat	Gokorna	POWERGRID	1		1X80	3-Phase	YES	YES	-				Line not yet commissioned
86	400	Rajarhat	Farakka	POWERGRID	1		1X80	3-Phase	YES	YES	-				Line not yet commissioned
87	400	Ranchi	Sipat	POWERGRID	1	405	1X80	3-Phase	NO	YES	1X80	3-Phase			
88	400	Ranchi	Sipat	POWERGRID	2		1X80	3-Phase	NO	YES	1X80	3-Phase			
89	400	Rengali	Indravati(s/c)	POWERGRID	1	356	1X50	3-Phase	NO	YES	1X50	3-Phase	NO	NO	
90	400	Rengali	Keonjhor	POWERGRID	1	100	1X63	3-Phase	NO	NO					
91	400	Rourkela	Chaibasa	POWERGRID	1	120	1X50	3-Phase	YES	YES	-				
92	400	Rourkela	Chaibasa	POWERGRID	2	120	1X50	3-Phase	NO	YES	-				
93	400	Rourkela	Jharsuguda	POWERGRID	1	142	1X63	3-Phase	NO	YES	-				
94	400	Rourkela	Jharsuguda	POWERGRID	2	142	1X63	3-Phase	NO	YES	-				
95	400	Rourkela	Talcher	POWERGRID	1	175	-				1X50	3-Phase	NO	NO	
96	400	Rourkela	Talcher	POWERGRID	2	175	-				1X50	3-Phase	NO	NO	
97	400	RTPS	Ranchi	POWERGRID	2	155.5	1X50	3-Phase	NO	NO	-				
98	400	RTPS	Ranchi	POWERGRID	3	155.5	1X50	3-Phase	NO	NO	-				
99	400	Sagardighi	Subashgram	POWERGRID	1	256.3					1X50	3-Phase	YES	NO	
100	400	Sasaram	Allahabad	POWERGRID	1	271	1X63	3-Phase	YES	YES	-				
101	400	Sasaram	Sarnath	POWERGRID	1	77	1X63	3-Phase	YES	YES	-				
102	400	Sasaram	Biharshariff	POWERGRID	1	195	1X63	3-Phase	YES	YES	-				
103	400	Sasaram	Biharshariff	POWERGRID	2	198.9	1X63	3-Phase	YES	YES	-				
104	400	Darbhanga	Kishanganj	ATL	1	209	1X80	3-Phase	Yes	No	1X80	3-Phase	YES	YES	
105	400	Darbhanga	Kishanganj	ATL	2	209	1X80	3-Phase	Yes	No	1X80	3-Phase	YES	YES	
106	400	Teesta-III	Kishanganj	TVPTL	1	215	-				1X63	3-Phase	YES	YES	
107	400	Pandiabili	New Duburi	POWERGRID	1	143.35	1X63	3-Phase	YES	YES	-				
108	400	Baripada	Keonjhar	POWERGRID	1	156.25	3X16.67	1-Phase	YES	NO	-				

Sl No	Voltage	From Bus	To Bus	Line Owner	Ckt ID	Line Length	Reactor (MVAr)								Remarks
							From End				To End				
							Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	Rating	Unit Type	Switchable(with additional CB) : YES or NO?	Provision to use as Bus reactor	
109	400	Jeerat	Bakreswar	WBSETCL	1	162	1X50	3-Phase	NO	NO					
110	400	Arambag	Bakreswar	WBSETCL	1	130	1X63	3-Phase	NO	NO					

8.2 List of Bus reactors

Sl No	Name of Substation	Voltage Level	Reactor (MVAr)	Unit Type	Remarks	Owner
1	ANGUL	765	2X330	1-Phase		POWERGRID
		400	3X125	3-Phase		POWERGRID
2	GAYA	765	2X240	1-Phase		POWERGRID
		400	2X125	3-Phase		POWERGRID
3	JHARSUGUDA	765	2X240	1-Phase		POWERGRID
		400	2X125	3-Phase		POWERGRID
4	RANCHI (NEW)	765	2X240	1-Phase		POWERGRID
		400	2X125	3-Phase		POWERGRID
5	SASARAM	765	1X330	1-Phase		POWERGRID
		400	2X125	3-Phase		POWERGRID
6	MEDNIPUR	765	2X330	1-Phase		PJMTL
		400	2X125	3-Phase		PJMTL
7	ALIPURDUAR	400	2X125	3-Phase		POWERGRID
8	ARAMBAGH	400	1X50 +1X125	3-Phase		POWERGRID
9	BAKRESWAR	400	1X50	3-Phase		POWERGRID
10	BANKA	400	1X80 + 1X125	3-Phase		POWERGRID
11	BARH	400	1X80	3-Phase		POWERGRID
12	BARIPDA	400	2X125	3-Phase		POWERGRID
13	BEHRAMPUR	400	1X80 + 1X125	3-Phase		POWERGRID
14	BIDHANNAGAR	400	1X50	3-Phase		WBSETCL
15	BIHARSHARIFF	400	1X50 + 1X80 + 1X125	3-Phase		POWERGRID
16	BINAGURI	400	2X125	3-Phase		POWERGRID
17	BOLANGIR	400	1X80+1X125	3-Phase		POWERGRID
18	CHAIBASA	400	1X80	3-Phase		POWERGRID
19	CHANDWA	400	2X125	3-Phase		POWERGRID
20	DALTONGANJ	400	1X80	3-Phase		POWERGRID
21	DARBHANGA	400	2X125	3-Phase		POWERGRID
22	DUBURI	400	1X80	3-Phase		OPTCL
23	DURGAPUR	400	1X50+3X125	3-Phase		POWERGRID
24	FARAKKA	400	2X50	3-Phase		NTPC
25	GOKARNA	400	1X80	3-Phase		WBSETCL
26	INDRAVATI	400	1X125	3-Phase		POWERGRID
27	JAMSHEDPUR	400	1X50+2X125	3-Phase		POWERGRID
28	JEERAT	400	2X50	3-Phase		WBSETCL
29	JEYPORE	33	31.5	3-Phase	Tertiary	POWERGRID
		400	1 X 63+1X125	3-Phase		POWERGRID
30	JITPL	400	2X50	3-Phase		JITPL
31	KAHALGAON	400	2X50	3-Phase		NTPC
32	KEONJHAR	400	1X80+1X125	3-Phase		POWERGRID
33	KHARAGPUR	400	1X80	3-Phase		WBSETCL
34	KISHANGANJ	400	2X125	3-Phase		POWERGRID
35	KODERMA	400	2X50	3-Phase		DVC
36	LAKHISARAI	400	1X80+1X125	3-Phase		POWERGRID
37	MAITHON	400	1X50+2X125	3-Phase		POWERGRID
38	MAITHON RB	400	2X50	3-Phase		MPL
39	MOTIHARI	400	2X125	3-Phase		DMTCL
40	MUZAFFARPUR	400	2X125	3-Phase		POWERGRID
41	NABINAGAR (BRBCL)	400	1X50	3-Phase		BRBCL
42	NEW CHANDITALA	400	1X80	3-Phase		POWERGRID
43	NEW PPSP	400	1X80	3-Phase		WBSETCL
44	NEW PURNIA	400	2X125	3-Phase		POWERGRID
45	PANDIABALLI	400	1X80+1X63	3-Phase		POWERGRID
46	PATNA	400	1X80+2X125	3-Phase		POWERGRID
47	RAGUNATHPUR	400	2X50	3-Phase		DVC
48	RAJARHAT	400	2X125	3-Phase		POWERGRID
49	RANCHI	400	1X80+1X125	3-Phase		POWERGRID
50	RANGPO	400	2X80	3-Phase		POWERGRID
51	RENGALI	33	31.5	3-Phase	Tertiary	POWERGRID
		400	2X125	3-Phase		POWERGRID
52	ROURKELA	400	2X125	3-Phase		POWERGRID
53	SUBHASGRAM	400	1x125	3-Phase		POWERGRID
54	NEW MELLI	220	2X31.5	3-Phase		POWERGRID

9 Series Compensation and Harmonic Filters

SERIES COMPENSATION DETAILS			
S.NO	Line	End at which installed	Compensation
1	400kV Purnea – Muzaffarpur D/C	Purnea	40% fixed, +15%/-5% dynamic
2	400kV Jeypore-Bolangir S/C	Jeypore	63% (fixed)
3	400kV Rengali-Indravati S/C	Rengali	40% (fixed)
4	400kV Jeypore-Gajuwaka D/C	Jeypore	40% (fixed)
5	400kV Ranchi-Sipat D/C	Ranchi	40% (fixed)

HVDC Fliter Details

Filters at Gazuwaka East	Number
106 MVAR Doubled Damped Filter	1
106 MVAR 3rd Harmonic/Doubled Damped Filter	2
50 MVAR Bus Reactor	2
Filters at Talcher	**Number**
Doubled Damped filter	
120 MVAR (Switchable)	6
97 MVAR	3
66 MVAR Shunt Capacitor	1
72.6 MVAR Shunt Capacitor	2
Filters at Pusauli	**Number**
112 MVAR at North Bus	4
112 MVAR at East Bus	4
Filters at Bheremara	**Number**
91 MVAR at 400 kV Side	4
91 MVAR at 230 kV Side	4
Filters at Alipurduar	
FILTER BANK 1	
HP 12 (125 Mvar)	125
HP 12B (160 Mvar)	160
HP 24/36 (125 Mvar)	125
HP 3 (159 Mvar)	159
HP 12B (160 Mvar)	160
FILTER BANK 2	
HP 12 (125 Mvar)	125
HP 12B (160 Mvar)	160
HP 24/36 (125 Mvar)	125
HP 3 (159 Mvar)	159

10 List of important buses

10.1 765 kV Buses

Sl No	Name of Substation	Name of Buses
1	765 /400/220 kV Sasaram (765 kV Side)	765 kV Main Bus-1 at 765 /400/220 kV Sasaram
		765 kV Main Bus-2 at 765 /400/220 kV Sasaram
2	765/400/220 kV Gaya (765 kV Side)	765 kV Main Bus-1 at 765/400/220 kV Gaya
		765 kV Main Bus-2 at 765/400/220 kV Gaya
3	765/400 kV New Ranchi (765 kV Side)	765 kV Main Bus-1 at 765/400 kV New Ranchi
		765 kV Main Bus-2 at 765/400 kV New Ranchi
4	765/400 kV Jharsuguda (765 kV Side)	765 kV Main Bus-1 at 765/400 kV Jharsuguda
		765 kV Main Bus-2 at 765/400 kV Jharsuguda
		765 kV Main Bus-3 at 765/400 kV Jharsuguda
		765 kV Main Bus-4 at 765/400 kV Jharsuguda
5	765 kV Darlipalli(765 kV Side)	765 kV Main Bus-1 at 765 kV Darlipalli
		765 kV Main Bus-2 at 765 kV Darlipalli
6	765/400 kV Angul (765 kV Side)	765 kV Main Bus-1 at 765/400 kV Angul
		765 kV Main Bus-2 at 765/400 kV Angul
7	765/400 kV Mednipur (765 kV Side)	765 kV Main Bus-1 at 765/400 kV Mednipur
		765 kV Main Bus-2 at 765/400 kV Mednipur

10.2 400 kV Buses

Sl No	Name of Substation	Name of Buses
1	765/400 kV Angul (400 kV Side)	400 kV Main Bus-1 at 765/400 kV Angul
		400 kV Main Bus-2 at 765/400 kV Angul
		400 kV Main Bus-3 at 765/400 kV Angul
		400 kV Main Bus-4 at 765/400 kV Angul
2	400/220 kV Baripada (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Baripada
		400 kV Main Bus-2 at 400/220 kV Baripada
3	400/220 kV Bolangir (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Bolangir
		400 kV Main Bus-2 at 400/220 kV Bolangir
4	400 kV Indravati(400 kV Side)	400 kV Main Bus-1 at 400 kV Indravati
		400 kV Main Bus-2 at 400 kV Indravati
5	400/220 kV Jeypore (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Jeypore
		400 kV Main Bus-2 at 400/220 kV Jeypore
6	400/220 kV Keonjhar (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Keonjhar
		400 kV Main Bus-2 at 400/220 kV Keonjhar

Sl No	Name of Substation	Name of Buses
7	400/220 kV Lapanga (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Lapanga
		400 kV Main Bus-2 at 400/220 kV Lapanga
8	400/220 kV Pandiabilli (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Pandiabilli
		400 kV Main Bus-2 at 400/220 kV Pandiabilli
9	400/220 kV Rourkela (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Rourkela
		400 kV Main Bus-2 at 400/220 kV Rourkela
10	400/220 kV Rengali (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Rengali
		400 kV Main Bus-2 at 400/220 kV Rengali
11	400/220 kV Chaibasa (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Chaibasa
		400 kV Main Bus-2 at 400/220 kV Chaibasa
12	400 kV Chandwa(400 kV Side)	400 kV Main Bus-1 at 400 kV Chandwa
		400 kV Main Bus-2 at 400 kV Chandwa
13	765/400 kV New Ranchi (400 kV Side)	400 kV Main Bus-1 at 765/400 kV New Ranchi
		400 kV Main Bus-2 at 765/400 kV New Ranchi
14	400/220 kV Bakreswar TPS (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Bakreswar TPS
		400 kV Main Bus-2 at 400/220 kV Bakreswar TPS
		400 kV Transfer Bus at 400/220 kV Bakreswar TPS
15	400 kV Bahrampur(400 kV Side)	400 kV Main Bus-1 at 400 kV Bahrampur
		400 kV Main Bus-2 at 400 kV Bahrampur
16	400/220 kV Binaguri (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Binaguri
		400 kV Main Bus-2 at 400/220 kV Binaguri
17	400/220 kV Gokarno (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Gokarno
		400 kV Main Bus-2 at 400/220 kV Gokarno
18	400/220 kV Maithon(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Maithon
		400 kV Main Bus-2 at 400/220 kV Maithon
19	400/220 kV Malda (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Malda
		400 kV Main Bus-2 at 400/220 kV Malda
		400 kV Transfer Bus at 400/220 kV Malda
20	400 kV New PPSP(400 kV Side)	400 kV Main Bus-1 at 400 kV New PPSP
		400 kV Main Bus-2 at 400 kV New PPSP
21	400/220 kV Rajarhat(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Rajarhat
		400 kV Main Bus-2 at 400/220 kV Rajarhat
22	400/220 kV Subhasgram (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Subhasgram
		400 kV Main Bus-2 at 400/220 kV Subhasgram
23	400 kV GMR(400 kV Side)	400 kV Main Bus-1 at 400 kV GMR
		400 kV Main Bus-2 at 400 kV GMR
24	400 kV JITPL(400 kV Side)	400 kV Main Bus-1 at 400 kV JITPL
		400 kV Main Bus-2 at 400 kV JITPL
25	400 kV Adhunik(400 kV Side)	400 kV Main Bus-1 at 400 kV Adhunik
		400 kV Main Bus-2 at 400 kV Adhunik
26	400/220 kV Arambag (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Arambag

Sl No	Name of Substation	Name of Buses
		400 kV Main Bus-2 at 400/220 kV Arambag
		400 kV Transfer Bus at 400/220 kV Arambag
27	765/400 kV Jharsuguda (400 kV Side)	400 kV Main Bus-1 at 765/400 kV Jharsuguda
		400 kV Main Bus-2 at 765/400 kV Jharsuguda
		400 kV Main Bus-3 at 765/400 kV Jharsuguda
		400 kV Main Bus-4 at 765/400 kV Jharsuguda
28	400/220 kV Jamsedpur (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Jamsedpur
		400 kV Main Bus-2 at 400/220 kV Jamsedpur
29	400/220 kV Daltonganj (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Daltonganj
		400 kV Main Bus-2 at 400/220 kV Daltonganj
30	400/220 kV Koderma (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Koderma
		400 kV Main Bus-2 at 400/220 kV Koderma
31	400/220 kV Ranchi (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Ranchi
		400 kV Main Bus-2 at 400/220 kV Ranchi
32	400/220 kV Bidhannagar (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Bidhannagar
		400 kV Main Bus-2 at 400/220 kV Bidhannagar
		400 kV Transfer Bus at 400/220 kV Bidhannagar
33	400/220 kV DSTPS (400 kV Side)	400 kV Main Bus-1 at 400/220 kV DSTPS
		400 kV Main Bus-2 at 400/220 kV DSTPS
34	400/220 kV Farakka (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Farakka
		400 kV Main Bus-2 at 400/220 kV Farakka
35	400 kV Maithon Right Bank(400 kV Side)	400 kV Main Bus-1 at 400 kV Maithon Right Bank
		400 kV Main Bus-2 at 400 kV Maithon Right Bank
36	400/220 kV Alipurdwar(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Alipurdwar
		400 kV Main Bus-2 at 400/220 kV Alipurdwar
37	400/132 kV Banka (400 kV Side)	400 kV Main Bus-1 at 400/132 kV Banka
		400 kV Main Bus-2 at 400/132 kV Banka
38	400/132 kV Barh (400 kV Side)	400 kV Main Bus-1 at 400/132 kV Barh
		400 kV Main Bus-2 at 400/132 kV Barh
39	400/220 kV Biharsariff (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Biharsariff
		400 kV Main Bus-2 at 400/220 kV Biharsariff
40	400/220 kV Darbhanga (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Darbhanga
		400 kV Main Bus-2 at 400/220 kV Darbhanga
41	400/220 kV Durgapur (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Durgapur
		400 kV Main Bus-2 at 400/220 kV Durgapur
42	765/400/220 kV Gaya (400 kV Side)	400 kV Main Bus-1 at 765/400/220 kV Gaya
		400 kV Main Bus-2 at 765/400/220 kV Gaya
43	400/132 kV Kahalgaon (400 kV Side)	400 kV Main Bus-1 at 400/132 kV Kahalgaon
		400 kV Main Bus-2 at 400/132 kV Kahalgaon
44	400/220 kV Bokaro A (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Bokaro A
		400 kV Main Bus-2 at 400/220 kV Bokaro A
45	400kV BRBCL(400 kV Side)	400 kV Main Bus-1 at 400kV BRBCL

Sl No	Name of Substation	Name of Buses
		400 kV Main Bus-2 at 400kV BRBCL
46	400kV Dikchu(400 kV Side)	400 kV Main Bus-1 at 400kV Dikchu
		400 kV Main Bus-2 at 400kV Dikchu
47	400 kV Haldia(400 kV Side)	400 kV Main Bus-1 at 400 kV Haldia
		400 kV Main Bus-2 at 400 kV Haldia
48	400 kV IB TPS Stage-2(400 kV Side)	400 kV Main Bus-1 at 400 kV IB TPS Stage-2
		400 kV Main Bus-2 at 400 kV IB TPS Stage-2
49	400 kV Indbhara(400 kV Side)	400 kV Main Bus-1 at 400 kV Indbharat
		400 kV Main Bus-2 at 400 kV Indbharat
50	400/220 kV Indravati(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Indravati
		400 kV Main Bus-2 at 400/220 kV Indravati
51	400/220 kV Jeerat(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Jeerat
		400 kV Main Bus-2 at 400/220 kV Jeerat
		400 kV Transfer Bus at 400/220 kV Jeerat
52	400/220 kV JSPL(400 kV Side)	400 kV Main Bus-1 at 400/220 kV JSPL
		400 kV Main Bus-2 at 400/220 kV JSPL
53	400/220 kV Kharagpur (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Kharagpur
		400 kV Main Bus-2 at 400/220 kV Kharagpur
		400 kV Transfer Bus at 400/220 kV Kharagpur
54	400/220 kV Kishanganj (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Kishanganj
		400 kV Main Bus-2 at 400/220 kV Kishanganj
55	400/220 kV Kolagha(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Kolaghat
		400 kV Main Bus-2 at 400/220 kV Kolaghat
56	400/132 kV Lakhisarai (400 kV Side)	400 kV Main Bus-1 at 400/132 kV Lakhisarai
		400 kV Main Bus-2 at 400/132 kV Lakhisarai
57	400 kV Mejia B TPS(400 kV Side)	400 kV Main Bus-1 at 400 kV Mejia B TPS
		400 kV Main Bus-2 at 400 kV Mejia B TPS
58	400/220 kV Mendasal (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Mendasal
		400 kV Main Bus-2 at 400/220 kV Mendasal
59	400/220 kV Meramandali (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Meramandali
		400 kV Main Bus-2 at 400/220 kV Meramandali
60	400/132 kV Motihari(400 kV Side)	400 kV Main Bus-1 at 400/132 kV Motihari
		400 kV Main Bus-2 at 400/132 kV Motihari
61	400/220 kV Muzaffarpur (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Muzaffarpur
		400 kV Main Bus-2 at 400/220 kV Muzaffarpur
62	400 kV Nabinagar STPS(400 kV Side)	400 kV Main Bus-1 at 400 kV Nabinagar STPS
		400 kV Main Bus-2 at 400 kV Nabinagar STPS
63	400/220 kV New Chanditala(400 kV Side)	400 kV Main Bus-1 at 400/220 kV New Chanditala
		400 kV Main Bus-2 at 400/220 kV New Chanditala
64	400/220 kV New Duburi (400 kV Side)	400 kV Main Bus-1 at 400/220 kV New Duburi

Sl No	Name of Substation	Name of Buses
		400 kV Main Bus-2 at 400/220 kV New Duburi
65	400/220 kV New Purnea(400 kV Side)	400 kV Main Bus-1 at 400/220 kV New Purnea
		400 kV Main Bus-2 at 400/220 kV New Purnea
66	400/220 kV Patna(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Patna
		400 kV Main Bus-2 at 400/220 kV Patna
67	400 kV PPSP(400 kV Side)	400 kV Main Bus-1 at 400 kV PPSP
		400 kV Main Bus-2 at 400 kV PPSP
68	400 kV Raghunathpur(400 kV Side)	400 kV Main Bus-1 at 400 kV Raghunathpur
		400 kV Main Bus-2 at 400 kV Raghunathpur
69	400/220 kV Rangpo (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Rangpo
		400 kV Main Bus-2 at 400/220 kV Rangpo
70	400/220 kV Sagardighi TPS (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Sagardighi TPS
		400 kV Main Bus-2 at 400/220 kV Sagardighi TPS
71	400 kV Talcher HVDC Sustation AC Side(400 kV Side)	400 kV Main Bus-1 at 400 kV Talcher HVDC Sustation AC Side
		400 kV Main Bus-2 at 400 kV Talcher HVDC Sustation AC Side
72	765/400/220 kV Sasaram (400 kV Side)	400 kV Main Bus-1 at 765/400/220 kV Sasaram
		400 kV Main Bus-2 at 765/400/220 kV Sasaram
73	400/132 kV TISCO (400 kV Side)	400 kV Main Bus-1 at 400/132 kV TISCO
		400 kV Main Bus-2 at 400/132 kV TISCO
74	400 kV Teesta-III(400 kV Side)	400 kV Main Bus-1 at 400 kV Teesta-III
		400 kV Main Bus-2 at 400 kV Teesta-III
75	400 kV Teesta-V(400 kV Side)	400 kV Main Bus-1 at 400 kV Teesta-V
		400 kV Main Bus-2 at 400 kV Teesta-V
76	400/220 kV Sterlite(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Sterlite
		400 kV Main Bus-2 at 400/220 kV Sterlite
77	400/220 kV Talcher St-1(400 kV Side)	400 kV Main Bus-1 at 400/220 kV Talcher St-1
		400 kV Main Bus-2 at 400/220 kV Talcher St-1
		400 kV Main Bus-1 at 400/220 kV Talcher St-2
		400 kV Main Bus-2 at 400/220 kV Talcher St-2
78	400/220 kV Talcher St-2(400 kV Side)	400 kV Main Bus-3 at 400/220 kV Talcher St-2
		400 kV Main Bus-4 at 400/220 kV Talcher St-2
79	765/400 kV Mednipur (400 kV Side)	400 kV Main Bus-1 at 765/400 kV Mednipur
		400 kV Main Bus-2 at 765/400 kV Mednipur
80	400/220 kV Sitamarhi (400 kV Side)	400 kV Main Bus-1 at 400/220 kV Sitamarhi
		400 kV Main Bus-2 at 400/220 kV Sitamarhi

10.3 220 kV Buses

Sl No	Name of Substation	Name of Buses
1	400/220 kV Kishanganj (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Kishanganj
		220 kV Main Bus-2 at 400/220 kV Kishanganj
2	400/220 kV Patna (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Patna
		220 kV Main Bus-2 at 400/220 kV Patna
		220 kV Transfer Bus at 400/220 kV Patna
3	220/132 kV Purnea (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Purnea
		220 kV Main Bus-2 at 220/132 kV Purnea
		220 kV Transfer Bus at 220/132 kV Purnea
4	400/220 kV Ranchi (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Ranchi
		220 kV Main Bus-2 at 400/220 kV Ranchi
		220 kV Transfer Bus at 400/220 kV Ranchi
5	400/220 kV Alipudwar	220 kV Main Bus-1 at 400/220 kV Alipudwar
		220 kV Main Bus-2 at 400/220 kV Alipudwar
6	220/132 Alipudwar WB (220 kV Side)	220 kV Main Bus-1 at 220/132 Alipudwar WB
		220 kV Main Bus-2 at 220/132 Alipudwar WB
		220 kV Transfer Bus at 220/132 Alipudwar WB
7	220/132 kV Arah (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Arah
		220 kV Main Bus-2 at 220/132 kV Arah
		220 kV Transfer Bus at 220/132 kV Arah
8	220/132 kV Atri (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Atri
		220 kV Main Bus-2 at 220/132 kV Atri
		220 kV Transfer Bus at 220/132 kV Atri
9	220/132 kV Balasore(220kV Side)	220 kV Main Bus-1 at 220/132 kV Balasore
		220 kV Main Bus-2 at 220/132 kV Balasore
		220 kV Transfer Bus at 220/132 kV Balasore
10	400/220 kV Baripada (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Baripada
		220 kV Main Bus-2 at 400/220 kV Baripada
		220 kV Transfer Bus at 400/220 kV Baripada
11	220/132 kV Begusarai	220 kV Main Bus-1 at 220/132 kV Begusarai
		220 kV Main Bus-2 at 220/132 kV Begusarai
		220 kV Transfer Bus at 220/132 kV Begusarai
12	400/220 kV Binaguri (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Binaguri
		220 kV Main Bus-2 at 400/220 kV Binaguri
		220 kV Transfer Bus at 400/220 kV Binaguri
13	220/132 kV Birpara (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Birpara
		220 kV Main Bus-2 at 220/132 kV Birpara
		220 kV Transfer Bus at 220/132 kV Birpara
14	220/132 kV Bodhgaya (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bodhgaya
		220 kV Main Bus-2 at 220/132 kV Bodhgaya
		220 kV Transfer Bus at 220/132 kV Bodhgaya
15	400/220 kV Bolangir (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Bolangir
		220 kV Main Bus-2 at 400/220 kV Bolangir

Sl No	Name of Substation	Name of Buses
		220 kV Transfer Bus at 400/220 kV Bolangir
16	400/220 kV Chaibasa (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Chaibasa
		220 kV Main Bus-2 at 400/220 kV Chaibasa
		220 kV Transfer Bus at 400/220 kV Chaibasa
17	220/132 kV Chaibasa New (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chaibasa New
		220 kV Main Bus-2 at 220/132 kV Chaibasa New
		220 kV Transfer Bus at 220/132 kV Chaibasa New
18	220/132 kV Chandil (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandil
		220 kV Main Bus-2 at 220/132 kV Chandil
		220 kV Transfer Bus at 220/132 kV Chandil
19	220 kV Chukha	220 kV Main Bus-1 at 220 kV Chukha
		220 kV Main Bus-2 at 220 kV Chukha
		220 kV Transfer Bus at 220 kV Chukha
20	220/132 kV Dalkola WB (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Dalkola WB
		220 kV Main Bus-2 at 220/132 kV Dalkola WB
		220 kV Transfer Bus at 220/132 kV Dalkola WB
21	220 kV Dalkola	220 kV Main Bus-1 at 220 kV Dalkola
		220 kV Main Bus-2 at 220 kV Dalkola
		220 kV Transfer Bus at 220 kV Dalkola
22	400/220 kV Daltonganj (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Daltonganj
		220 kV Main Bus-2 at 400/220 kV Daltonganj
		220 kV Transfer Bus at 400/220 kV Daltonganj
23	220/132 kV Dehri (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Dehri
		220 kV Main Bus-2 at 220/132 kV Dehri
		220 kV Transfer Bus at 220/132 kV Dehri
24	220 kV Dhanbad	220 kV Main Bus-1 at 220/132 kV Dhanbad
		220 kV Main Bus-2 at 220/132 kV Dhanbad
		220 kV Transfer Bus at 220/132 kV Dhanbad
25	220/132 kV Dumka (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Dumka
		220 kV Main Bus-2 at 220/132 kV Dumka
		220 kV Transfer Bus at 220/132 kV Dumka
26	220 kV EMSS	220 kV Main Bus-1 at 220 kV EMSS
		220 kV Main Bus-2 at 220 kV EMSS
		220 kV Transfer Bus at 220 kV EMSS
27	400/220 kV Farakka (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Farakka
		220 kV Main Bus-2 at 400/220 kV Farakka
		220 kV Transfer Bus at 400/220 kV Farakka
28	220/132 kV Fatuah (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Fatuah
		220 kV Main Bus-2 at 220/132 kV Fatuah
		220 kV Transfer Bus at 220/132 kV Fatuah
29	765/400/220 kV Gaya (220 kV Side)	220 kV Main Bus-1 at 765/400/220 kV Gaya
		220 kV Main Bus-2 at 765/400/220 kV Gaya
		220 kV Transfer Bus at 765/400/220 kV Gaya

Sl No	Name of Substation	Name of Buses
30	220/132 kV Gazol (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Gazol
		220 kV Main Bus-2 at 220/132 kV Gazol
		220 kV Transfer Bus at 220/132 kV Gazol
31	220/132 kV Kizirsarai (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kizirsarai
		220 kV Main Bus-2 at 220/132 kV Kizirsarai
		220 kV Transfer Bus at 220/132 kV Kizirsarai
32	220/132 kV Hatia (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Hatia
		220 kV Main Bus-2 at 220/132 kV Hatia
		220 kV Transfer Bus at 220/132 kV Hatia
33	220/132 kV Hazipur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Hazipur
		220 kV Main Bus-2 at 220/132 kV Hazipur
		220 kV Transfer Bus at 220/132 kV Hazipur
34	400/220 kV Jeerat (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Jeerat
		220 kV Main Bus-2 at 400/220 kV Jeerat
		220 kV Transfer Bus at 400/220 kV Jeerat
35	220/132 kV Jeynagar(220 kV Side)	220 kV Main Bus-1 at 220/132 kV Jeynagar
		220 kV Main Bus-2 at 220/132 kV Jeynagar
		220 kV Transfer Bus at 220/132 kV Jeynagar
36	400/220 kV Jeypore (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Jeypore
		220 kV Main Bus-2 at 400/220 kV Jeypore
		220 kV Transfer Bus at 400/220 kV Jeypore
37	220 kV Jorthang	220 kV Main Bus-1 at 220 kV Jorthang
		220 kV Main Bus-2 at 220 kV Jorthang
38	400/220 kV Keonjhar (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Keonjhar
		220 kV Main Bus-2 at 400/220 kV Keonjhar
		220 kV Transfer Bus at 400/220 kV Keonjhar
39	220/132 kV Keonjhar Odisha (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Keonjhar
		220 kV Main Bus-2 at 220/132 kV Keonjhar
		220 kV Transfer Bus at 220/132 kV Keonjhar
40	220/132 kV Katapalli	220 kV Main Bus-1 at 220/132 kV Katapalli
		220 kV Main Bus-2 at 220/132 kV Katapalli
		220 kV Transfer Bus at 220/132 kV Katapalli
41	220/132 kV New Khagaria (220 kV Side)	220 kV Main Bus-1 at 220/132 kV New Khagaria
		220 kV Main Bus-2 at 220/132 kV New Khagaria
		220 kV Transfer Bus at 220/132 kV New Khagaria
42	220/131 kV Khagaul (220 kV Side)	220 kV Main Bus-1 at 220/131 kV Khagaul
		220 kV Main Bus-2 at 220/131 kV Khagaul
		220 kV Transfer Bus at 220/131 kV Khagaul
43	220/132 kV Kishanganj Bihar(220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kishanganj Bihar
		220 kV Main Bus-2 at 220/132 kV Kishanganj Bihar
		220 kV Transfer Bus at 220/132 kV Kishanganj Bihar
44	220/132 kV Kalyaneswari (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kalyaneswari
		220 kV Main Bus-2 at 220/132 kV Kalyaneswari

Sl No	Name of Substation	Name of Buses
		220 kV Transfer Bus at 220/132 kV Kalyaneswari
45	220/132 kV Lalmatia (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Lalmatia
		220 kV Main Bus-2 at 220/132 kV Lalmatia
		220 kV Transfer Bus at 220/132 kV Lalmatia
46	220/132 kV Madehpura (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Madehpura
		220 kV Main Bus-2 at 400/220 kV Madehpura
		220 kV Transfer Bus at 400/220 kV Madehpura
47	400/220 kV Maithon (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Maithon
		220 kV Main Bus-2 at 400/220 kV Maithon
		220 kV Transfer Bus at 400/220 kV Maithon
48	400/220 kV Malabase (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Malabase
		220 kV Main Bus-2 at 400/220 kV Malabase
		220 kV Transfer Bus at 400/220 kV Malabase
49	400/220 kV Malda (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Malda
		220 kV Main Bus-2 at 400/220 kV Malda
		220 kV Transfer Bus at 400/220 kV Malda
50	400/220 kV Meramandali (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Meramandali
		220 kV Main Bus-2 at 400/220 kV Meramandali
		220 kV Transfer Bus at 400/220 kV Meramandali
51	400/220 kV Muzzafarpur (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Muzzafarpur
		220 kV Main Bus-2 at 400/220 kV Muzzafarpur
		220 kV Transfer Bus at 400/220 kV Muzzafarpur
52	400/220 kV New Purnea (220 kV Side)	220 kV Main Bus-1 at 400/220 kV New Purnea
		220 kV Main Bus-2 at 400/220 kV New Purnea
		220 kV Transfer Bus at 400/220 kV New Purnea
53	220/132 kV New town (220 kV Side)	220 kV Main Bus-1 at 220/132 kV New town
		220 kV Main Bus-2 at 220/132 kV New town
		220 kV Transfer Bus at 220/132 kV New town
54	220 kV New Melli	220 kV Main Bus-1 at 220 kV New Melli
		220 kV Main Bus-2 at 220 kV New Melli
55	220/132 kV Siliguri (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Siliguri
		220 kV Main Bus-2 at 220/132 kV Siliguri
		220 kV Transfer Bus at 220/132 kV Siliguri
56	220/132 kV NJP WB (220 kV Side)	220 kV Main Bus-1 at 220/132 kV NJP WB
		220 kV Main Bus-2 at 220/132 kV NJP WB
		220 kV Transfer Bus at 220/132 kV NJP WB
57	400/220 kV Pandiabilli (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Pandiabilli
		220 kV Main Bus-2 at 400/220 kV Pandiabilli
		220 kV Transfer Bus at 400/220 kV Pandiabilli
58	220/132 kV Parulia DVC (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Parulia DVC
		220 kV Main Bus-2 at 220/132 kV Parulia DVC
		220 kV Transfer Bus at 220/132 kV Parulia DVC
59	400/220 kV Durgapur (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Durgapur

Sl No	Name of Substation	Name of Buses
		220 kV Main Bus-2 at 400/220 kV Durgapur
		220 kV Transfer Bus at 400/220 kV Durgapur
60	220/132 kV Puri (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Puri
		220 kV Main Bus-2 at 220/132 kV Puri
		220 kV Transfer Bus at 220/132 kV Puri
61	220/132 kV Nadokar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Nadokar
		220 kV Main Bus-2 at 220/132 kV Nadokar
		220 kV Transfer Bus at 220/132 kV Nadokar
62	400/220 kV Sasaram (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Sasaram
		220 kV Main Bus-2 at 400/220 kV Sasaram
		220 kV Transfer Bus at 400/220 kV Sasaram
63	400/220 kV Rajarhat (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Rajarhat
		220 kV Main Bus-2 at 400/220 kV Rajarhat
		220 kV Transfer Bus at 400/220 kV Rajarhat
64	220/132 kV Ramchandrapur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Ramchandrapur
		220 kV Main Bus-2 at 220/132 kV Ramchandrapur
		220 kV Transfer Bus at 220/132 kV Ramchandrapur
65	400/220 kV Rangpo (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Rangpo
		220 kV Main Bus-2 at 400/220 kV Rangpo
66	220 kV Rengali Odisha	220 kV Main Bus-1 at 220 kV Rengali Odisha
		220 kV Main Bus-2 at 220 kV Rengali Odisha
		220 kV Transfer Bus at 220 kV Rengali Odisha
67	400/220 kV Rengali (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Rengali
		220 kV Main Bus-2 at 400/220 kV Rengali
		220 kV Transfer Bus at 400/220 kV Rengali
68	220 kV Rengali Power House	220 kV Main Bus-1 at 220 kV Rengali Power House
		220 kV Main Bus-2 at 220 kV Rengali Power House
		220 kV Transfer Bus at 220 kV Rengali Power House
69	400/220 kV Rourkela (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Rourkela
		220 kV Main Bus-2 at 400/220 kV Rourkela
		220 kV Transfer Bus at 400/220 kV Rourkela
70	220/132 kV Sahapuri (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Sahapuri
		220 kV Main Bus-2 at 220/132 kV Sahapuri
		220 kV Transfer Bus at 220/132 kV Sahapuri
71	220 kV Salakati	220 kV Main Bus-1 at 220 kV Salakati
		220 kV Main Bus-2 at 220 kV Salakati
		220 kV Transfer Bus at 220 kV Salakati
72	220/132 kV Sipara (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Sipara
		220 kV Main Bus-2 at 220/132 kV Sipara
		220 kV Transfer Bus at 220/132 kV Sipara
73	220/132 kV Sonnegar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Sonnegar
		220 kV Main Bus-2 at 220/132 kV Sonnegar
		220 kV Transfer Bus at 220/132 kV Sonnegar

Sl No	Name of Substation	Name of Buses
74	220/132 kV Subhasgram WB (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Subhasgram WB
		220 kV Main Bus-2 at 220/132 kV Subhasgram WB
		220 kV Transfer Bus at 220/132 kV Subhasgram WB
75	400/220 kV Subhasgram (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Subhasgram
		220 kV Main Bus-2 at 400/220 kV Subhasgram
		220 kV Transfer Bus at 400/220 kV Subhasgram
76	220/132 kV Tarkera (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Tarkera
		220 kV Main Bus-2 at 220/132 kV Tarkera
		220 kV Transfer Bus at 220/132 kV Tarkera
77	220 kV Tasheding	220 kV Main Bus-1 at 220 kV Tasheding
		220 kV Main Bus-2 at 220 kV Tasheding
78	400/220 kV Talcher STPS (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Talcher STPS
		220 kV Main Bus-2 at 400/220 kV Talcher STPS
		220 kV Transfer Bus at 400/220 kV Talcher STPS
79	220/132 Talcher TPS (220 kV Side)	220 kV Main Bus-1 at 220/132 Talcher TPS
		220 kV Main Bus-2 at 220/132 Talcher TPS
		220 kV Transfer Bus at 220/132 Talcher TPS
80	220/132 kV Bhanjnagar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bhanjnagar
		220 kV Main Bus-2 at 220/132 kV Bhanjnagar
		220 kV Transfer Bus at 220/132 kV Bhanjnagar
81	220/132 kV Bidanasi (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bidanasi
		220 kV Main Bus-2 at 220/132 kV Bidanasi
		220 kV Transfer Bus at 220/132 kV Bidanasi
82	220/132 kV Budhipadar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Budhipadar
		220 kV Main Bus-2 at 220/132 kV Budhipadar
		220 kV Transfer Bus at 220/132 kV Budhipadar
83	220/132 kV Chandaka (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandaka
		220 kV Main Bus-2 at 220/132 kV Chandaka
		220 kV Transfer Bus at 220/132 kV Chandaka
84	220/132 kV Dharampur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Dharampur
		220 kV Main Bus-2 at 220/132 kV Dharampur
		220 kV Transfer Bus at 220/132 kV Dharampur
85	220/132 kV Domjur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Domjur
		220 kV Main Bus-2 at 220/132 kV Domjur
		220 kV Transfer Bus at 220/132 kV Domjur
86	220/132 kV Duburi(old) (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Duburi
		220 kV Main Bus-2 at 220/132 kV Duburi
		220 kV Transfer Bus at 220/132 kV Duburi
87	220/132 kV Lakhikantpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Lakhikantpur
		220 kV Main Bus-2 at 220/132 kV Lakhikantpur
		220 kV Transfer Bus at 220/132 kV Lakhikantpur
88	220/132 kV Laxmipur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Laxmipur
		220 kV Main Bus-2 at 220/132 kV Laxmipur

Sl No	Name of Substation	Name of Buses
		220 kV Transfer Bus at 220/132 kV Laxmipur
89	220/132 kV Midnapore (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Midnapore
		220 kV Main Bus-2 at 220/132 kV Midnapore
		220 kV Transfer Bus at 220/132 kV Midnapore
90	220/132 kV Narendrapur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Narendrapur
		220 kV Main Bus-2 at 220/132 kV Narendrapur
		220 kV Transfer Bus at 220/132 kV Narendrapur
91	220/132 kV Nayagarh (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Nayagarh
		220 kV Main Bus-2 at 220/132 kV Nayagarh
		220 kV Transfer Bus at 220/132 kV Nayagarh
92	220/132 kV Rishra (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Rishra
		220 kV Main Bus-2 at 220/132 kV Rishra
		220 kV Transfer Bus at 220/132 kV Rishra
93	400/220 kV Arambagh (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Arambagh
		220 kV Main Bus-2 at 400/220 kV Arambagh
		220 kV Transfer Bus at 400/220 kV Arambagh
94	400/220 kV Bakreswar (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Bakreswar
		220 kV Main Bus-2 at 400/220 kV Bakreswar
		220 kV Transfer Bus at 400/220 kV Bakreswar
95	220/132 kV Balimela (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Balimela
		220 kV Main Bus-2 at 220/132 kV Balimela
		220 kV Transfer Bus at 220/132 kV Balimela
96	220/132 kV Barasat (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Barasat
		220 kV Main Bus-2 at 220/132 kV Barasat
		220 kV Transfer Bus at 220/132 kV Barasat
97	220/132 kV Barjora (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Barjora
		220 kV Main Bus-2 at 220/132 kV Barjora
		220 kV Transfer Bus at 220/132 kV Barjora
98	220/132 kV Barkot (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Barkot
		220 kV Main Bus-2 at 220/132 kV Barkot
		220 kV Transfer Bus at 220/132 kV Barkot
99	220/132 kV Begusarai (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Begusarai
		220 kV Main Bus-2 at 220/132 kV Begusarai
		220 kV Transfer Bus at 220/132 kV Begusarai
100	220/132 kV Bhanjnagar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bhanjnagar
		220 kV Main Bus-2 at 220/132 kV Bhanjnagar
		220 kV Transfer Bus at 220/132 kV Bhanjnagar
101	400/220 kV Bidhannagar (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Bidhannagar
		220 kV Main Bus-2 at 400/220 kV Bidhannagar
		220 kV Transfer Bus at 400/220 kV Bidhannagar
102	220/132 kV Bihar shariff (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bihar shariff
		220 kV Main Bus-2 at 220/132 kV Bihar shariff
		220 kV Transfer Bus at 220/132 kV Bihar shariff

Sl No	Name of Substation	Name of Buses
103	220/132 kV Bishnupur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bishnupur
		220 kV Main Bus-2 at 220/132 kV Bishnupur
		220 kV Transfer Bus at 220/132 kV Bishnupur
104	220/132 kV Bodhagya (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bodhagya
		220 kV Main Bus-2 at 220/132 kV Bodhagya
		220 kV Transfer Bus at 220/132 kV Bodhagya
105	220/132 kV Bokaro (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bokaro
		220 kV Main Bus-2 at 220/132 kV Bokaro
		220 kV Transfer Bus at 220/132 kV Bokaro
106	220/132 kV Budhipadar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Budhipadar
		220 kV Main Bus-2 at 220/132 kV Budhipadar
		220 kV Transfer Bus at 220/132 kV Budhipadar
107	220/132 kV Burnpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Burnpur
		220 kV Main Bus-2 at 220/132 kV Burnpur
		220 kV Transfer Bus at 220/132 kV Burnpur
108	220/132 kV Chaibasa New(J) (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chaibasa New
		220 kV Main Bus-2 at 220/132 kV Chaibasa New
		220 kV Transfer Bus at 220/132 kV Chaibasa New
109	220/132 kV Chandiposh (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandiposh
		220 kV Main Bus-2 at 220/132 kV Chandiposh
		220 kV Transfer Bus at 220/132 kV Chandiposh
110	220/132 kV Chandrapura TPS B (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandrapura TPS B
		220 kV Main Bus-2 at 220/132 kV Chandrapura TPS B
		220 kV Transfer Bus at 220/132 kV Chandrapura TPS B
111	220/132 kV Waria (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Waria
		220 kV Main Bus-2 at 220/132 kV Waria
		220 kV Transfer Bus at 220/132 kV Waria
112	220/132 kV Uihep (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Uihep
		220 kV Main Bus-2 at 220/132 kV Uihep
		220 kV Transfer Bus at 220/132 kV Uihep
113	220/132 kV U. Kolab (220 kV Side)	220 kV Main Bus-1 at 220/132 kV U. Kolab
		220 kV Main Bus-2 at 220/132 kV U. Kolab
		220 kV Transfer Bus at 220/132 kV U. Kolab
114	220/132 kV Theruvali (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Theruvali
		220 kV Main Bus-2 at 220/132 kV Theruvali
		220 kV Transfer Bus at 220/132 kV Theruvali
115	220/132 kV Rengali (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Rengali
		220 kV Main Bus-2 at 220/132 kV Rengali
		220 kV Transfer Bus at 220/132 kV Rengali
116	220/132 kV Sadaipur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Sadaipur
		220 kV Main Bus-2 at 220/132 kV Sadaipur
		220 kV Transfer Bus at 220/132 kV Sadaipur
117	220/132 kV Sagardighi (220 kV	220 kV Main Bus-1 at 220/132 kV Sagardighi

Sl No	Name of Substation	Name of Buses
	Side)	220 kV Main Bus-2 at 220/132 kV Sagardighi
		220 kV Transfer Bus at 220/132 kV Sagardighi
118	220/132 kV Santaldih (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Santaldih
		220 kV Main Bus-2 at 220/132 kV Santaldih
		220 kV Transfer Bus at 220/132 kV Santaldih
119	220/132 kV Satgachia (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Satgachia
		220 kV Main Bus-2 at 220/132 kV Satgachia
		220 kV Transfer Bus at 220/132 kV Satgachia
120	220/132 kV Patratu TPS (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Patratu TPS
		220 kV Main Bus-2 at 220/132 kV Patratu TPS
		220 kV Transfer Bus at 220/132 kV Patratu TPS
121	220/132 kV Ramgarh (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Ramgarh
		220 kV Main Bus-2 at 220/132 kV Ramgarh
		220 kV Transfer Bus at 220/132 kV Ramgarh
122	400/220 kV Meramandali (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Meramandali
		220 kV Main Bus-2 at 400/220 kV Meramandali
		220 kV Transfer Bus at 400/220 kV Meramandali
123	220/132 kV Mejia (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Mejia
		220 kV Main Bus-2 at 220/132 kV Mejia
		220 kV Transfer Bus at 220/132 kV Mejia
124	400/220 kV Mendhasal (220 kV Side)	220 kV Main Bus-1 at 400/220 kV Mendhasal
		220 kV Main Bus-2 at 400/220 kV Mendhasal
		220 kV Transfer Bus at 400/220 kV Mendhasal
125	220/132 kV Kolaghat TPS (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kolaghat TPS
		220 kV Main Bus-2 at 220/132 kV Kolaghat TPS
		220 kV Transfer Bus at 220/132 kV Kolaghat TPS
126	220/132 kV Kasba (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kasba
		220 kV Main Bus-2 at 220/132 kV Kasba
		220 kV Transfer Bus at 220/132 kV Kasba
127	220/132 kV Katapalli (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Katapalli
		220 kV Main Bus-2 at 220/132 kV Katapalli
		220 kV Transfer Bus at 220/132 kV Katapalli
128	220/132 kV Kharagpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kharagpur
		220 kV Main Bus-2 at 220/132 kV Kharagpur
		220 kV Transfer Bus at 220/132 kV Kharagpur
129	220/132 kV Krishnanagar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Krishnanagar
		220 kV Main Bus-2 at 220/132 kV Krishnanagar
		220 kV Transfer Bus at 220/132 kV Krishnanagar
130	220/132 kV Kalyaneshwari (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Kalyaneshwari
		220 kV Main Bus-2 at 220/132 kV Kalyaneshwari
		220 kV Transfer Bus at 220/132 kV Kalyaneshwari
131	220/132 kV Gokarno (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Gokarno
		220 kV Main Bus-2 at 220/132 kV Gokarno

Sl No	Name of Substation	Name of Buses
		220 kV Transfer Bus at 220/132 kV Gokarno
132	220/132 kV Gopalganj (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Gopalganj
		220 kV Main Bus-2 at 220/132 kV Gopalganj
		220 kV Transfer Bus at 220/132 kV Gopalganj
1333	220/132 kV Govindpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Govindpur
		220 kV Main Bus-2 at 220/132 kV Govindpur
		220 kV Transfer Bus at 220/132 kV Govindpur
134	220 kV IBTPS-1	220 kV Main Bus-1 at 220 kV IBTPS-1
		220 kV Main Bus-2 at 220 kV IBTPS-1
		220 kV Transfer Bus at 220 kV IBTPS-1
135	220/132 kV Jamshedpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Jamshedpur
		220 kV Main Bus-2 at 220/132 kV Jamshedpur
		220 kV Transfer Bus at 220/132 kV Jamshedpur
136	220/132 kV Jayanagar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Jayanagar
		220 kV Main Bus-2 at 220/132 kV Jayanagar
		220 kV Transfer Bus at 220/132 kV Jayanagar
137	220/132 kV Giridih (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Giridih
		220 kV Main Bus-2 at 220/132 kV Giridih
		220 kV Transfer Bus at 220/132 kV Giridih
138	220/132 kV Howrah (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Howrah
		220 kV Main Bus-2 at 220/132 kV Howrah
		220 kV Transfer Bus at 220/132 kV Howrah
139	220/132 kV Dharampur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Dharampur
		220 kV Main Bus-2 at 220/132 kV Dharampur
		220 kV Transfer Bus at 220/132 kV Dharampur
140	220/132 kV DPL (220 kV Side)	220 kV Main Bus-1 at 220/132 kV DPL
		220 kV Main Bus-2 at 220/132 kV DPL
		220 kV Transfer Bus at 220/132 kV DPL
141	220/132 kV Darbhanga (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Darbhanga
		220 kV Main Bus-2 at 220/132 kV Darbhanga
		220 kV Transfer Bus at 220/132 kV Darbhanga
142	220/132 kV Ctps A (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Ctps A
		220 kV Main Bus-2 at 220/132 kV Ctps A
		220 kV Transfer Bus at 220/132 kV Ctps A
143	220/132 kV Tarkera (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Tarkera
		220 kV Main Bus-2 at 220/132 kV Tarkera
		220 kV Transfer Bus at 220/132 kV Tarkera
144	220/132 kV Bishnupur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bishnupur
		220 kV Main Bus-2 at 220/132 kV Bishnupur
		220 kV Transfer Bus at 220/132 kV Bishnupur
145	220/132 kV Bodhagya (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bodhagya
		220 kV Main Bus-2 at 220/132 kV Bodhagya
		220 kV Transfer Bus at 220/132 kV Bodhagya

Sl No	Name of Substation	Name of Buses
146	220/132 kV Bokaro (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Bokaro
		220 kV Main Bus-2 at 220/132 kV Bokaro
		220 kV Transfer Bus at 220/132 kV Bokaro
147	220/132 kV Budhipadar (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Budhipadar
		220 kV Main Bus-2 at 220/132 kV Budhipadar
		220 kV Transfer Bus at 220/132 kV Budhipadar
148	220/132 kV Burnpur (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Burnpur
		220 kV Main Bus-2 at 220/132 kV Burnpur
		220 kV Transfer Bus at 220/132 kV Burnpur
149	220/132 kV Chandiposh (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandiposh
		220 kV Main Bus-2 at 220/132 kV Chandiposh
		220 kV Transfer Bus at 220/132 kV Chandiposh
150	220/132 kV Chandrapura TPS B (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chandrapura TPS B
		220 kV Main Bus-2 at 220/132 kV Chandrapura TPS B
		220 kV Transfer Bus at 220/132 kV Chandrapura TPS B
151	220/132 kV Chaibasa New(J) (220 kV Side)	220 kV Main Bus-1 at 220/132 kV Chaibasa New(J)
		220 kV Main Bus-2 at 220/132 kV Chaibasa New(J)
		220 kV Transfer Bus at 220/132 kV Chaibasa New(J)
152	400/220/132 kV Sitamarhi (220 kV Side)	220 kV Main Bus-1 at 400/220/132 kV Sitamarhi
		220 kV Main Bus-2 at 400/220/132 kV Sitamarhi
		220 kV Transfer Bus at 400/220/132 kV Sitamarhi

10.4 132 kV Buses

Sl No	Name of Substation	Name of Buses
1	132 kV Jamaui	132 kV Main Bus-1 at 132 kV Jamaui
		132 kV Transfer Bus at 132 kV Jamaui
2	132 kV Melli	132 kV Main Bus-1 at 132 kV Melli
		132 kV Transfer Bus at 132 kV Melli
3	132 kV Njp	132 kV Main Bus-1 at 132 kV Njp
		132 kV Transfer Bus at 132 kV Njp
4	132 kV Rihand	132 kV Main Bus-1 at 132 kV Rihand
		132 kV Transfer Bus at 132 kV Rihand
5	132 kV Arha	132 kV Main Bus-1 at 132 kV Arha
		132 kV Transfer Bus at 132 kV Arha
6	132 kV Bangiriposi	132 kV Main Bus-1 at 132 kV Bangiriposi
		132 kV Transfer Bus at 132 kV Bangiriposi
7	132 kV Banka	132 kV Main Bus-1 at 132 kV Banka
		132 kV Transfer Bus at 132 kV Banka
8	132 kV Barhi	132 kV Main Bus-1 at 132 kV Barhi
		132 kV Transfer Bus at 132 kV Barhi
9	132 kV Baripada	132 kV Main Bus-1 at 132 kV Baripada
		132 kV Transfer Bus at 132 kV Baripada

Sl No	Name of Substation	Name of Buses
10	132 kV Bethia(B)	132 kV Main Bus-1 at 132 kV Bethia(B)
		132 kV Transfer Bus at 132 kV Bethia(B)
11	132 kV Bhograi	132 kV Main Bus-1 at 132 kV Bhograi
		132 kV Transfer Bus at 132 kV Bhograi
12	132 kV Birpara(PG)	132 kV Main Bus-1 at 132 kV Birpara(PG)
		132 kV Transfer Bus at 132 kV Birpara(PG)
13	132 kV Birpara(WB)	132 kV Main Bus-1 at 132 kV Birpara(WB)
		132 kV Transfer Bus at 132 kV Birpara(WB)
14	132 kV Chandauli	132 kV Main Bus-1 at 132 kV Chandauli
		132 kV Transfer Bus at 132 kV Chandauli
15	132 kV Chandil	132 kV Main Bus-1 at 132 kV Chandil
		132 kV Transfer Bus at 132 kV Chandil
16	132 kV Chujachen	132 kV Main Bus-1 at 132 kV Chujachen
		132 kV Transfer Bus at 132 kV Chujachen
17	132 kV Daltonganj	132 kV Main Bus-1 at 132 kV Daltonganj
		132 kV Transfer Bus at 132 kV Daltonganj
18	132 kV Daltonganj (PG)	132 kV Main Bus-1 at 132 kV Daltonganj (PG)
		132 kV Transfer Bus at 132 kV Daltonganj (PG)
19	132 kV Dumraon	132 kV Main Bus-1 at 132 kV Dumraon
		132 kV Transfer Bus at 132 kV Dumraon
20	132 kV Gangtok	132 kV Main Bus-1 at 132 kV Gangtok
		132 kV Transfer Bus at 132 kV Gangtok
21	132 kV Garwa	132 kV Main Bus-1 at 132 kV Garwa
		132 kV Transfer Bus at 132 kV Garwa
22	132 kV Jagdishpur	132 kV Main Bus-1 at 132 kV Jagdishpur
		132 kV Transfer Bus at 132 kV Jagdishpur
23	132 kV Jaleswr	132 kV Main Bus-1 at 132 kV Jaleswr
		132 kV Transfer Bus at 132 kV Jaleswr
24	132 kV Jamtara	132 kV Main Bus-1 at 132 kV Jamtara
		132 kV Transfer Bus at 132 kV Jamtara
25	132 kV Japla	132 kV Main Bus-1 at 132 kV Japla
		132 kV Transfer Bus at 132 kV Japla
26	132 kV Joda	132 kV Main Bus-1 at 132 kV Joda
		132 kV Transfer Bus at 132 kV Joda
27	132 kV Kahalgaon	132 kV Main Bus-1 at 132 kV Kahalgaon
		132 kV Transfer Bus at 132 kV Kahalgaon
28	132 kV Karmanasa	132 kV Main Bus-1 at 132 kV Karmanasa
		132 kV Transfer Bus at 132 kV Karmanasa
29	132 kV Kendposi	132 kV Main Bus-1 at 132 kV Kendposi
		132 kV Transfer Bus at 132 kV Kendposi
30	132 kV Kharagpur(Dvc)	132 kV Main Bus-1 at 132 kV Kharagpur(Dvc)
		132 kV Transfer Bus at 132 kV Kharagpur(Dvc)
31	132 kV Kharagpur(WB)	132 kV Main Bus-1 at 132 kV Kharagpur(WB)

Sl No	Name of Substation	Name of Buses
		132 kV Transfer Bus at 132 kV Kharagpur(WB)
32	132 kV Khudra	132 kV Main Bus-1 at 132 kV Khudra
		132 kV Transfer Bus at 132 kV Khudra
33	132 kV Kisanganj	132 kV Main Bus-1 at 132 kV Kisanganj
		132 kV Transfer Bus at 132 kV Kisanganj
34	132 kV Kolaghat(Dvc)	132 kV Main Bus-1 at 132 kV Kolaghat(Dvc)
		132 kV Transfer Bus at 132 kV Kolaghat(Dvc)
35	132 kV Kolaghat(WB)	132 kV Main Bus-1 at 132 kV Kolaghat(WB)
		132 kV Transfer Bus at 132 kV Kolaghat(WB)
36	132 kV Kurseong	132 kV Main Bus-1 at 132 kV Kurseong
		132 kV Transfer Bus at 132 kV Kurseong
37	132 kV Lakhisarai	132 kV Main Bus-1 at 132 kV Lakhisarai
		132 kV Transfer Bus at 132 kV Lakhisarai
38	132 kV Lalmatia	132 kV Main Bus-1 at 132 kV Lalmatia
		132 kV Transfer Bus at 132 kV Lalmatia
39	132 kV Maithon	132 kV Main Bus-1 at 132 kV Maithon
		132 kV Transfer Bus at 132 kV Maithon
40	132 kV Malda(PG)	132 kV Main Bus-1 at 132 kV Malda(PG)
		132 kV Transfer Bus at 132 kV Malda(PG)
41	132 kV Malda(WB)	132 kV Main Bus-1 at 132 kV Malda(WB)
		132 kV Transfer Bus at 132 kV Malda(WB)
42	132 kV Manique	132 kV Main Bus-1 at 132 kV Manique
		132 kV Transfer Bus at 132 kV Manique
43	132 kV Melli	132 kV Main Bus-1 at 132 kV Melli
		132 kV Transfer Bus at 132 kV Melli
44	132 kV Mohania	132 kV Main Bus-1 at 132 kV Mohania
		132 kV Transfer Bus at 132 kV Mohania
45	132 kV Motihari(B)	132 kV Main Bus-1 at 132 kV Motihari(B)
		132 kV Transfer Bus at 132 kV Motihari(B)
46	132 kV Motihari(DMTCL)	132 kV Main Bus-1 at 132 kV Motihari(DMTCL)
		132 kV Transfer Bus at 132 kV Motihari(DMTCL)
47	132 kV Nbu	132 kV Main Bus-1 at 132 kV Nbu
		132 kV Transfer Bus at 132 kV Nbu
48	132 kV Pataratu(Dvc)	132 kV Main Bus-1 at 132 kV Pataratu(Dvc)
		132 kV Transfer Bus at 132 kV Pataratu(Dvc)
49	132 kV Patratu	132 kV Main Bus-1 at 132 kV Patratu
		132 kV Transfer Bus at 132 kV Patratu
50	132 kV Patratu(Jharkahnd)	132 kV Main Bus-1 at 132 kV Patratu(Jharkahnd)
		132 kV Transfer Bus at 132 kV Patratu(Jharkahnd)
51	132 kV Purnea	132 kV Main Bus-1 at 132 kV Purnea
		132 kV Transfer Bus at 132 kV Purnea

Sl No	Name of Substation	Name of Buses
52	132 kV Purnea(PG)	132 kV Main Bus-1 at 132 kV Purnea(PG)
		132 kV Transfer Bus at 132 kV Purnea(PG)
53	132 kV Pusuali	132 kV Main Bus-1 at 132 kV Pusuali
		132 kV Transfer Bus at 132 kV Pusuali
54	132 kV Rajgir	132 kV Main Bus-1 at 132 kV Rajgir
		132 kV Transfer Bus at 132 kV Rajgir
55	132 kV Rammam	132 kV Main Bus-1 at 132 kV Rammam
		132 kV Transfer Bus at 132 kV Rammam
56	132 kV Rangit	132 kV Main Bus-1 at 132 kV Rangit
		132 kV Transfer Bus at 132 kV Rangit
57	132 kV Rangpo	132 kV Main Bus-1 at 132 kV Rangpo
		132 kV Main Bus-2 at 132 kV Rangpo
58	132 kV Raxaul(B)	132 kV Main Bus-1 at 132 kV Raxaul(B)
		132 kV Transfer Bus at 132 kV Raxaul(B)
59	132 kV Rihand	132 kV Main Bus-1 at 132 kV Rihand
		132 kV Transfer Bus at 132 kV Rihand
60	132 kV Sabour	132 kV Main Bus-1 at 132 kV Sabour
		132 kV Transfer Bus at 132 kV Sabour
61	132 kV Sagbari	132 kV Main Bus-1 at 132 kV Sagbari
		132 kV Transfer Bus at 132 kV Sagbari
62	132 kV Sahupuri	132 kV Main Bus-1 at 132 kV Sahupuri
		132 kV Transfer Bus at 132 kV Sahupuri
63	132 kV Siliguri(PG)	132 kV Main Bus-1 at 132 kV Siliguri(PG)
		132 kV Transfer Bus at 132 kV Siliguri(PG)
64	132 kV Sonenagar	132 kV Main Bus-1 at 132 kV Sonenagar
		132 kV Transfer Bus at 132 kV Sonenagar
65	132 kV Sultangunj	132 kV Main Bus-1 at 132 kV Sultangunj
		132 kV Transfer Bus at 132 kV Sultangunj
66	132 kV Sitamarhi	132 kV Main Bus-1 at 132 kV Sitamarhi
		132 kV Transfer Bus at 132 kV Sitamarhi

11 List of important bays

11.1 765 kV bays

Sl No	Name of Substation	Name of Bay
1	765 /400 kV Sasaram (765 kV Side)	765 kV Main Bay of Fathepur with line reactor
2		765 kV Main Bay of 765/400 kV 1500 MVA ICT
3		765 kV Main Bay of 330 MVAr Bus Reactor
4		765 kV Tie Bay of Fathepur and765/400 kV 1500 MVA ICT
5	765/400 kV Gaya (765 kV Side)	765 kV Main Bay of Varanasi-2 with Line Reactor
6		765 kV Main Bay of Varanasi-1 With Line Reactor
7		765 kV Main Bay of Balia With Line Reactor
8		765 kV Main Bay of 240 MVAr Bus Reactor-2
9		765 kV Main Bay of 240 MVAr Bus Reactor-1
10		765 kV Main Bay of 765/400 kV 1500 MVA ICT -1
11		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 2
12		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 3
13		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 4
14		765 kV Tie Bay of Varanasi-2 with Line reactor and Future
15		765 kV Tie Bay of Varanasi-1 with line reactor and ICT-4
16		765 kV Tie Bay of Balia with line reactor and ICT-3
17		765 kV Tie Bay of Bus Reactor-2 and ICT-2
18		765 kV Tie Bay of Bus Reactor-1 and ICT-1
19	765/400 kV New Ranchi (765 kV Side)	765 kV Main Bay of Future-1
20		765 kV Main Bay of Future-2
21		765 kV Main Bay of Future-3

Sl No	Name of Substation	Name of Bay
22		765 kV Main Bay of Future-4
23		765 kV Main Bay of Future-5
24		765 kV Main Bay of Future-6
25		765 kV Main Bay of 240 MVAr Bus Rector-1
26		765 kV Main Bay of 240 MVAr Bus Rector-2
27		765 kV Main Bay of Dharamjaygarh-1
28		765 kV Main Bay of Mednipur-2
29		765 kV Main Bay of Mednipur-1
30		765 kV Main Bay of Dharamjaygarh-2
31		765 kV Main Bay of 765/400 kV 1500 MVA ICT -1
32		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 2
33		765 kV Tie Bay of Future-1 and Mednipur-2
34		765 kV Tie Bay of Future-2 and Mednipur-1
35		765 kV Tie Bay of Dharamjaygarh-2 and Future-3
36		765 kV Tie Bay of Bus Rector-1 and Future-4
37		765 kV Tie Bay of Bus Rector-2 and Future-5
38		765 kV Tie Bay of Dharamjaygarh-1 and ICT-2
39		765 kV Tie Bay of ICT-1 and Future-6
40	765/400 kV Jharsuguda (765 kV Side)	765 kV Main Bay of 240 MVAr Bus Rector-1
41		765 kV Main Bay of 240 MVAr Bus Rector-2
42		765 kV Main Bay of Angul-1 with line reactor
43		765 kV Main Bay of Angul-2 with line reactor
44		765 kV Main Bay of Angul-3 with line reactor
45		765 kV Main Bay of Angul-4 with line reactor
46		765 kV Main Bay of Darlipalli-1
47		765 kV Main Bay of Darlipalli-2
48		765 kV Main Bay of Future-1

Sl No	Name of Substation	Name of Bay
49		765 kV Main Bay of Future-2
50		765 kV Bus Sectionalizer Bay-1
51		765 kV Bus Sectionalizer Bay-2
52		765 kV Main Bay of 765/400 kV 1500 MVA ICT -1
53		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 2
54		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 3
55		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 4
56		765 kV Main Bay of Raipur-1 with line reactor
57		765 kV Main Bay of Raipur-2 with line reactor
58		765 kV Main Bay of Dharamjaygarh-1
59		765 kV Main Bay of Dharamjaygarh-2
60		765 kV Main Bay of Dharamjaygarh-3
61		765 kV Main Bay of Dharamjaygarh-4
62		765 kV Tie Bay of Bus Reactor-1 and ICT-1
63		765 kV Tie Bay of Bus Reactor-2 and ICT-2
64		765 kV Tie Bay of Raipur-2 with line reactor and Angul-4 with line reactor
65		765 kV Tie Bay of Raipur-1 with line reactor and Angul-3 with line reactor
66		765 kV Tie Bay of Dharamjaygarh-3 and Angul-2 with line reactor
67		765 kV Tie Bay of Angul-1 with line reactor and Dharamjaygah-4
68		765 kV Tie Bay of Dharamjaygarh-1 and Darlipalli STPP-1
69		765 kV Tie Bay of Dharamjaygarh-2 and Darlipalli STPP-2
70		765 kV Tie Bay of Future-1 and ICT-3
71		765 kV Tie Bay of Future-2 and ICT-4
72	765 kV Darlipalli	765 kV Bus Sectionalizer Bay-1
73		765 kV Bus Sectionalizer Bay-2
74		765 kV Main Bay of GT-1
75		765 kV Main Bay of GT-2

Sl No	Name of Substation	Name of Bay
76		765 kV Main Bay of Future-1
77		765 kV Main Bay of Future-2
78		765 kV Main Bay of Future-3
79		765 kV Main Bay of Future-4
80		765 kV Main Bay of Jharsuguda-1
81		765 kV Main Bay of Jharsuguda-2
82		765 kV Main Bay of 765/132 kV 255 MVA Tic Transformer-1
83		765 kV Main Bay of 765/132 kV 255 MVA Tic Transformer-2
84		765 kV Main Bay of Future-5
85		765 kV Main Bay of Bus Reactor-1
86		765 kV Tie Bay of Future-4 and Future-5
87		765 kV Tie Bay of Future-3 and Tic Transformer-2
88		765 kV Tie Bay of Jharsuguda-1 and Tic Transformer-1
89		765 kV Tie Bay of Jharsuguda-2 and GT-2
90		765 kV Tie Bay of Bus Reactor-1 and GT-1
91		765 kV Tie Bay of Future-1 and Future-2
92	765/400 kV Angul (765 kV Side)	765 kV Main Bay of Srikakulum-1
93		765 kV Main Bay of Srikakulum-2
94		765 kV Main Bay of Jharsuguda-1
95		765 kV Main Bay of Jharsuguda-2
96		765 kV Main Bay of Jharsuguda-3
97		765 kV Main Bay of Jharsuguda-4
98		765 kV Main Bay of 765/400 kV 1500 MVA ICT -1
99		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 2
100		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 3
101		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 4
102		765 kV Main Bay of 330 MVAr Bus Reactor-1

Sl No	Name of Substation	Name of Bay
103		765 kV Main Bay of 330 MVAr Bus Reactor-2
104		765 kV Tie Bay of Srikakulum-1 and Future-1(shorted)
105		765 kV Tie Bay of Srikakulum-2 and Future-2(shorted)
106		765 kV Tie Bay of Jharsuguda-3 and Future-3(shorted)
107		765 kV Tie Bay of Jharsuguda-4 and Future-4(shorted)
108		765 kV Main Bay of Future-1
109		765 kV Main Bay of Future-2
110		765 kV Main Bay of Future-3
111		765 kV Main Bay of Future-4
112		765 kV Tie Bay of Bus Reactor-2 and ICT-4
113		765 kV Tie Bay of Bus Reactor-1 and ICT-3
114		765 kV Tie Bay of Jharsuguda-1 and ICT-2
115		765 kV Tie Bay of Jharsuguda-2 and ICT-1
116	765/400 kV Mednipur (765 kV Side)	765 kV Main Bay of New Ranchi-1
117		765 kV Main Bay of New Ranchi-2
118		765 kV Main Bay of New Jeerat-1
119		765 kV Main Bay of New Jeerat-2
120		765 kV Main Bay of 765/400 kV 1500 MVA ICT -1
121		765 kV Main Bay of 765/400 kV 1500 MVA ICT - 2
122		765 kV Main Bay of Future-1
123		765 kV Main Bay of Future-2
124		765 kV Main Bay of Future ICT-1
125		765 kV Main Bay of Future ICT-2
126		765 kV Main Bay of Bus Reactor-1
127		765 kV Main Bay of Bus Reactor-2
128		765 kV Tie Bay of Bus Reactor-1 and New Ranchi-1
129		765 kV Tie Bay of Bus Reactor-2 and New Ranchi-2

Sl No	Name of Substation	Name of Bay
130		765 kV Tie Bay of Jeerat-2 and ICT-1
131		765 kV Tie Bay of Jeerat-1 and ICT-2
132		765 kV Tie Bay of Future-1 and Future ICT-1
133		765 kV Tie Bay of Future-2 and Future ICT-2

11.2 400 kV bays

Sl No	Name of Substation	Name of Bay
1	765/400 kV Angul (400 kV Side)	400 kV Main Bay of JITPL 1
2		400 kV Tie Bay of JITPL 1 And GMR 2
3		400 kV Main Bay of GMR 2
4		400 kV Main Bay of JITPL 2
5		400 kV Tie Bay of JITPL 2 And GMR 1
6		400 kV Main Bay of GMR 1
7		400 kV Main Bay of 765/400 kV, 1500 MVA ICT 4
8		400 kV Tie Bay of ICT 4 and Future 1
9		400 kV Main Bay of Bus Reactor 1 (125 MVAr)
10		400 kV Tie Bay of Bus Reactor 1 and Monet-2
11		400 kV Main Bay of 765/400 kV, 1500 MVA ICT 3
12		400 kV Tie Bay of ICT 3 and Monet-1
13		400 kV Main Bay of Bus Reactor 2 (125 MVAr)

Sl No	Name of Substation	Name of Bay
14		400 kV Tie Bay of Bus Reactor 2 And Meramundali 2
15		400 kV Main Bay of 765/400 kV, 1500 MVA ICT 2
16		400 kV Tie Bay of ICT 2 and Talcher
17		400 kV Main Bay of Bus Reactor 3 (125 MVAr)
18		400 kV Tie Bay of Bus Reactor 3 And Meramundali 1
19		400 kV Main Bay of 765/400 kV, 1500 MVA ICT 1
20		400 kV Tie Bay of ICT 1 and Bolangir
21		400 kV Main Bay of Meramundali 2
22		400 kV Main Bay of Talcher
23		400 kV Main Bay of Meramundali 1
24		400 kV Main Bay of Bolangir
25	400/220 kV Baripada (400 kV Side)	400 kV Main Bay of ICT 1 (400/220 kV, 500 MVA)
26		400 kV Main Bay of Future 1
27		400 kV Tie Bay of ICT 1 And Keonjhar
28		400 kV Main Bay of Keonjhar with Line Reactor
29		400 kV Main Bay of ICT 2 (400/220 kV, 315 MVA)
30		400 kV Tie Bay of ICT 2 And Kharagpur
31		400 kV Main Bay of Kharagpur
32		400 kV Main Bay of New Dubri with Line Reactor
33		400 kV Tie Bay of New Dubri And Jamshedpur
34		400 kV Main Bay of Jamshedpur
35		400 kV Main Bay of Pandiabili
36		400 kV Tie Bay of Pandiabili And Tisco
37		400 kV Main Bay of Tisco
38		400 kV Main Bay of ICT 3 (400/220 kV, 315 MVA)

Sl No	Name of Substation	Name of Bay
39		400 kV Tie Bay of ICT 3 And 125 MVAr Bus Reactor 1
40		400 kV Main Bay of Bus Reactor 1 (125 MVAr)
41		400 kV Tie Bay of Future-1 and Bus Reactor 2
42		400 kV Main Bay of Bus Reactor 2 (125 MVAr)
43	400/220 kV Bolangir (400 kV Side)	400 kV Main Bay of Jeypore with Line Reactor (50 MVAr)
44		400 kV Tie Bay of Jeypore And ICT 2
45		400 kV Main Bay of ICT 2 (400/220 kV, 315 MVA)
46		400 kV Main Bay of Meramundali/ Angul with Line Reactor (50 MVAr)
47		400 kV Main Bay of Future 2
48		400 kV Tie Bay of Meramundali/Angul and ICT 1
49		400 kV Main Bay of ICT 1 (400/220 kV, 315 MVA)
50		400 kV Main Bay of Future-1
51		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
52		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
53		400 kV Tie Bay of Bus Reactor-2 and Future-2
54		400 kV Tie Bay of Bus Reactor-1 and Future-1
55	400 kV Indravati	400 kV Main Bay of Bus Reactor (125 MVAr)
56		400 kV Tie Bay of Bus Reactor and Upper Indravati HEP
57		400 kV Main Bay of Upper Indravati HEP
58		400 kV Main Bay of Jeypore
59		400 kV Tie Bay of Rengali And Jeypore
60		400 kV Main Bay of Rengali with Line Reactor (50 MVAr)
61	400/220 kV Jeypore (400 kV Side)	400 kV Main Bay of Bolangir with Line Reactor (80 MVAr) and FSC
62		400 kV Tie Bay of Bolangir And Gazuwaka 2 with FSC
63		400 kV Main Bay of Gazuwaka 2 with FSC

Sl No	Name of Substation	Name of Bay
64		400 kV Main Bay of Gazuwaka 1 with FSC
65		400 kV Tie Bay of Indravati 1 And Gazuwaka 1 with FSC
66		400 kV Main Bay of ICT 2 (400/220/33 kV, 315 MVA)
67		400 kV Main Bay of ICT 1 (400/220/33 kV, 315 MVA)
68		400 kV Main Bay of Indravati
69		400 kV Main Bay of Future-1
70		400 kV Tie Bay of ICT 2 And Bus Reactor 1
71		400 kV Main Bay of Bus Reactor 1 (63 MVAr)
72		400 kV Main Bay of Bus Reactor 2 (125 MVAr)
73		400 kV Tie Bay of ICT 1 And Bus Reactor 2.
74		400 kV Main Bay of Coupling Transformer (400/28 kV , 500 MVA)
75		400 kV Tie Bay of Coupling Transformer and Future-1
76	400/220 kV Keonjhar (400 kV Side)	400 kV Main Bay of Baripada
77		400 kV Tie Bay of Baripada And Bus Reactor 1
78		400 kV Main Bay of r Bus Reactor 1 (80 MVA)
79		400 kV Main Bay of Rengali
80		400 kV Tie Bay of Rengali And ICT 1
81		400 kV Main of ICT 1 (400/220 kV, 315 MVA)
82		400 kV Main of ICT 2 (400/220 kV, 315 MVA)
83		400 kV Tie Bay of ICT 2 And Future
84		400 kV Main Bay of Bus Reactor 2 (125 MVAr)
85		400 kV Tie Bay of 125 MVAr Bus Reactor 2 And Future
86		400 kV Main Bay of Future-1
87		400 kV Main Bay of Future-2
88		400 kV Main Bay of Future-3

Sl No	Name of Substation	Name of Bay
89		400 kV Main Bay of Future-4
90		400 kV Main Bay of Future-5
91		400 kV Main Bay of Future-6
92		400 kV Main Bay of Future-7
93		400 kV Main Bay of Future-8
94		400 kV Main Bay of Future-9
95		400 kV Main Bay of Future-10
96		400 kV Main Bay of Future-11
97		400 kV Main Bay of Future-12
98		400 kV Main Bay of Future-13
99		400 kV Main Bay of Future-14
100		400 kV Tie Bay of Future -1 And Future -2
101		400 kV Tie Bay of Future -3 And Future -4
102		400 kV Tie Bay of Future -5 And Future -6
103		400 kV Tie Bay of Future -7 And Future -8
104		400 kV Tie Bay of Future -9 And Future -10
105		400 kV Tie Bay of Future -11 And Future -12
106	400/220 kV Lapanga (400 kV Side)	400 kV Main Bay of Future 1
107		400 kV Tie Bay of Future 1 And IBTPP ST II -2
108		400 kV Main Bay of IBTPP ST II -2
109		400 kV Main Bay of IBTPP ST II -1
110		400 kV Tie Bay of IBTPP ST II -1 And Meramundali 1
111		400 kV Main Bay of Meramundali 1 with Line Reactor (63 MVAr)
112		400 kV Main Bay of Meramundali 2 with Line Reactor (63 MVAr)
113		400 kV Tie Bay Meramundali 2 And Staerlite TPP - 2

Sl No	Name of Substation	Name of Bay
114		400 kV Main Bay of Sterlite TPP- 2
115		400 kV Main Bay of Sterlite TPP -1
116		400 kV Tie Bay of SterliteTPP-1 And Future 8
117		400 kV Main Bay of Future 8
118		400 kV Main Bay of Future 11
119		400 kV Tie Bay of Future 11 And ICT 1
120		400 kV Main Bay of ICT 1 (400/220 kV, 315 MVA)
121		400 kV Main Bay of ICT 2 (400/220 kV, 315 MVA)
122		400 kV Main Bay of Future 9
123		400 kV Main Bay of Future 10
124		400 kV Tie Bay of Future 9 And Future 10
125		400 kV Tie Bay of ICT 2 And Future 12
126		400 kV Main Bay of Future 12
127	400/220 kV Pandiabilli (400 kV Side)	400 kV Main Bay of Baripada with Line Reactor (63 MVAr)
128		400 kV Tie Bay of Baripada Andn 80 MVAr Bus Reactor 1
129		400 kV Main Bay of 80 MVAr Bus Reactor 1
130		400 kV Main of ICT 1 (400/220 kV, 500 MVA)
131		400 kV Tie Bay of 400/220 kV ICT 1 And New Dubri
132		400 kV Main Bay of New Dubri with Line Reactor (63 MVAr)
133		400 kV Main Bay of Mendhasal 2
134		400 kV Tie Bay of Mendhasal 2 And ICT 2
135		400 kV Main of ICT 2 (400/220 kV, 500 MVA)
136		400 kV Main Bay of Mendhasal 1
137		400 kV Tie Bay of Mendhasal 1 And Future for ICT 3
138		400 kV Main Bay of Future for ICT 3

Sl No	Name of Substation	Name of Bay
139	400/220 kV Rourkela (400 kV Side)	400 kV Main Bay of Future-1
140		400 kV Tie Bay of Talcher-1 And Future-1
141		400 kV Main Bay of Talcher-1
142		400 kV Main Bay of Talcher-2
143		400 kV Tie Bay of Talcher-2 And Chaibasa-2 with Line Reactor
144		400 kV Main Bay of Chaibasa-2 with Line Reactor(50 MVAr)
145		400 kV Main Bay of STATCOM (300 MVAr)
146		400 kV Tie Bay of STATCOM And Future -2
147		400 kV Main Bay of Future -2
148		400 kV Main Bay of Future -3
149		400 kV Tie Bay of (ICT-2 & ICT-4) And Future 3
150		400 kV Main Bay of ICT-2 & ICT -4 (400 kV, 2 x 315 MVA)
151		400 kV Main Bay of Chaibasa-1
152		400 kV Tie Bay of Jharsuguda--1 with Line Reactor And Chaibasa-1
153		400 kV Main Bay of Jharsuguda--1 with Line Reactor(50 MVAr)
154		400 kV Main Bay of Jharsuguda--3 with Line Reactor(63 MVAr)
155		400 kV Tie Bay of Jharsuguda--3 with Line Reactor And Ranchi-2
156		400 kV Main Bay of Ranchi-2
157		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
158		400 kV Tie Bay of Bus Reactor -1 And ICT-1 & ICT 3
159		400 kV Main Bay of ICT-1 & ICT -3 (400 kV, 2 x 315 MVA)
160		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
161		400 kV Tie Bay of Bus Reactor -2 And Jharsuguda--4
162		400 kV Main Bay of Jharsuguda--4
163		400 kV Main Bay of Ranchi-1

Sl No	Name of Substation	Name of Bay
164		400 kV Tie Bay of Ranchi-1 And Jharsuguda--2
165		400 kV Main Bay of Jharsuguda-2
166	400/220 kV Rengali (400 kV Side)	400 kV Main Bay of Keonjhar
167		400 kV Tie Bay of Keonjhar And Talcher 2
168		400 kV Main Bay of Talcher 2
169		400 kV Main Bay of Talcher 1
170		400 kV Tie Bay of Talcher 1 & Future-2
171		400 kV Main Bay of ICT 1 (400/220 kV, 315 MVA)
172		400 kV Tie Bay of ICT-1 And ICT-2
173		400 kV Main Bay of ICT 2 (400/220 kV, 315 MVA)
174		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
175		400 kV Tie Bay of Indravati with FSC and Line Reactor And Bus Reactor-1
176		400 kV Main Bay of Indravati with FSC and Line Reactor (63 MVAr)
177		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
178		400 kV Tie Bay of Bus Reactor -2 And Future -1
179		400 kV Main Bay of Future -1
180	400/220 kV Chaibasa (400 kV Side)	400 kV Main Bay of Bus Reactor -1 (80 MVAr)
181		400kV Main Bay of Future for ICT-3
182		400 kV Main Bay of ICT 1 (400/220 kV, 315 MVA)
183		400 kV Main Bay of ICT 2 (400/220 kV, 315 MVA)
184		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
185		400kV Main Bay of Future
186		400kV Main Bay of Rourkela-2
187		400kV Main Bay of Jamshedpur-2
188		400kV Main Bay of Rourkela-1

Sl No	Name of Substation	Name of Bay
189		400kV Main Bay of Jamshedpur-1
190		400kV Main Bay of Kharagpur-1 with Line Reactor (63 MVAr)
191		400kV Main Bay of Kharagpur-2 with Line Reactor (63 MVAr)
192		400kV Tie Bay Rourkela-2 & Bus Reactor -1
193		400kV Tie Bay Jamshedpur-2 & ICT-3
194		400kV Tie Bay Rourkela-1 & ICT-2
195		400kV Tie Bay Jamshedpur-1 & ICT-1
196		400kV Tie Bay Kharagpur-1 & Bus Reactor -2
197		400kV Tie Bay Kharagpur-2 & Future
198	400 kV Chandwa	400 kV Main Bay of New Ranchi 1
199		400 kV Main Bay of New Ranchi 2
200		400 kV May Bay of Gaya 1
201		400 kV May Bay of Gaya 2
202		400kV Main Bay of Bus Reactor -2 (125 MVAr)
203		400kV Main Bay of Bus Reactor -1 (125 MVAr)
204		400 kV Main Bay of Future 1 for Essar -2
205		400 kV Main Bay of Future-2 for Essar -1
206		400 kV Main Bay of Future-3 for CPL -2
207		400 kV Main Bay of Future-4 for CPL -1
208		400 kV Main Bay of Future-5 for Karanpura -1
209		400 kV Main Bay of Future-6 for Karanpura -2
210		400 kV Main Bay of Future 7
211		400 kV Main Bay of Future 8
212		400 kV Main Bay of Future 9
213		400 kV Main Bay of Future 10

Sl No	Name of Substation	Name of Bay
214		400 kV Main Bay of Future 11
215		400 kV Main Bay of Future 12
216		400 kV Main Bay of Future 13
217		400 kV Main Bay of Future 14
218		400 kV Main Bay of Future 15
219		400 kV Main Bay of Future 16
220		400 kV Bus Coupler Bay
221	765/400 kV New Ranchi (400 kV Side)	400kV Main Bay of Ranchi-1
222		400kV Main Bay of Ranchi-2
223		400kV Main Bay of Ranchi-3
224		400kV Main Bay of Ranchi-4
225		400kV Main Bay of Patratu-I
226		400kV Main Bay of Patratu-II
227		400kV Main Bay of Chandwa-1
228		400kV Main Bay of Chandwa-2
229		400kV Main Bay of Bus Reactor -2 (125 MVAr)
230		400kV Main Bay of Bus Reactor -1 (125 MVAr)
231		400kV Main Bay of ICT-1 (765/400 kV, 1500 MVA)
232		400kV Main Bay of ICT-2 (765/400 kV, 1500 MVA)
233		400kV Main Bay of STATCOM
234		400kV Main Bay of New PPSP-1 with line Reactor (50 MVAr)
235		400kV Main Bay of New PPSP-2 with line Reactor (50 MVAr)
236		400kV Tie Bay of Ranchi-1 & Bus Reactor -2
237		400kV Tie Bay of Ranchi-2 & ICT-2
238		400kV Tie Bay of Ranchi-3 & Bus Reactor -1

Sl No	Name of Substation	Name of Bay
239		400kV Tie Bay of Ranchi-4 & ICT-1
240		400kV Tie Bay of STATCOM & Future 4
241		400kV Tie Bay of Patratu-I & New PPSP -1
242		400kV Tie Bay of Patratu-2 & New PPSP -2
243		400kV Tie Bay of Chandwa-1 & Future -3
244		400kV Tie Bay of Chandwa-1 & Future -2
245		400kV Main Bay of Future-1 for ICT
246		400kV Main Bay of Future-2
247		400kV Main Bay of Future-3
248		400kV Main Bay of Future-4
249		400kV Tie Bay of Future-1 for ICT and Future-5
250	400/220 kV Bakreswar TPS (400 kV Side)	400 kV Main Bay of 400 Arambag with Line Reactor(63 MVAr)
251		400 kV Main Bay of Jeerat
252		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
253		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
254		400 kV Main Bay of Unit-1
255		400 kV Main Bay of Unit-2
256		400kV Main Bay of Bus Reactor -1 (50 MVAr)
257		400 kV Transfer Bus Coupler
258		400 kV Bus Coupler Bay
259	400 kV Bherampore	400 kV Main Bay of Sagardighi-II
260		400 kV Main Bay of Farakka-II
261		400 kV Tie Bay of Sagardighi-II And Farakka-II
262		400 kV Main Bay of Sagardighi-I
263		400 kV Main Bay of Farakka-I

Sl No	Name of Substation	Name of Bay
264		400 kV Tie Bay of Sagardighi-I And Farakka-I
265		400 kV Main Bay of Bheramara-I
266		400kV Main Bay of Bus Reactor -2 (125 MVAr)
267		400 kV Tie Bay of Bheramara-I And Bus Reactor-2
268		400 kV Main Bay of Bheramara-II
269		400kV Main Bay of Bus Reactor -1 (80 MVAr)
270		400 kV Tie Bay of Bheramara-II And Bus Reactor-1
271		400 kV Main Bay of Bheramara-3
272		400 kV Main Bay of Bheramara-4
273		400kV Main Bay of Future-1
274		400kV Main Bay of Future-2
275		400kV Tie Bay of Bheramara-4 & Future -2
276		400kV Tie Bay of Bheramara-1 & Future -3
277	400/220 kV Binaguri (400 kV Side)	400 kV Main Bay of Alipurduar-4
278		400 kV Main Bay of Alipurduar-3
279		400 kV Tie Bay of Alipurduar-3 & 4
280		400 kV Main Bay of New Purnea-II
281		400 kV Main Bay of Alipurduar-2 with line reactor (80 MVAr)
282		400 kV Tie Bay of New Purnea-II And Alipurduar-II with Line Reactor
283		400 kV Main Bay of New Purnea-I
284		400 kV Main Bay of Alipurduar-I
285		400 kV Tie Bay of New Purnea-I And Alipurduar-I
286		400 kV Main Bay of Kishanganj-II
287		400kV Main Bay of Bus Reactor -2 (125 MVAr)
288		400 kV Tie Bay of Kishanganj-II And Bus Reactor -2

Sl No	Name of Substation	Name of Bay
289		400 kV Main Bay of Kishanganj-I
290		400kV Main Bay of Bus Reactor -1 (125 MVAr)
291		400 kV Tie Bay of Kishanganj-I And Bus Reactor -1
292		400 kV Main Bay of Rangpo-II
293		400 kV Main Bay of Bongaigaon-II
294		400 kV Tie Bay of Rangpo-II & Bongaigaon-II
295		400 kV Main Bay of Rangpo-I
296		400 kV Main Bay of Bongaigaon-I
297		400 kV Tie Bay of Rangpo-I & Bongaigaon-I
298		400 kV Main Bay of Tala-I with Line Reactor (63 MVAr)
299		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
300		400 kV Tie Bay of Tala-I & ICT-I
301		400 kV Main Bay of Tala-II with Line Reactor-2(63 MVAr)
302		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
303		400 kV Tie Bay of Tala-II & ICT-II
304		400 kV Main Bay of Tala-IV with Line Reactor-2(63 MVAr)
305		400 kV Main Bay of Malbase
306		400 kV Tie Bay of Tala-IV & Malbase
307		400 kV Main Bay of Future for ICT 3
308	400/220 kV Gokarno (400 kV Side)	400 kV Main Bay of New Purnea
309		400 kV Main Bay of Rajarhat
310		400 kV Main Bay of Sagardighi-I
311		400 kV Main Bay of Sagardighi-II
312		400 kV Main Bay of Chanditala-I
313		400 kV Main Bay of Chanditala-II

Sl No	Name of Substation	Name of Bay
314		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
315		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
316		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
317		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
318		400kV Main Bay of Future-1
319		400kV Main Bay of Future-2
320		400kV Main Bay of Future-3
321		400kV Main Bay of Future-4
322		400 kV Bus Coupler Bay
323		400 kV Transfer Bus Coupler Bay
324	400/220 kV Maithon (400 kV Side)	400 kV Main Bay of Kahalgaon-I with Line Reactor (50 MVAr)
325		400 kV Main Bay of Maithon RB-II (MPL2)
326		400 kV Tie Bay of Kahalgaon-I And Maithon RB-II
327		400 kV Main Bay of Majia B TPP-III
328		400 kV Main Bay of Raghunathpur TPS
329		400 kV Tie Bay of Mejia B TPP-III And Gaya-2
330		400 kV Main Bay of Maithon RB-I (MPL-1)
331		400 kV Main Bay of Durgapur-I
332		400 kV Tie Bay of Maithon RB-I And Durgapur-I
333		400 kV Main Bay of Ranchi -1
334		400 kV Main Bay of Durgapur-II
335		400 kV Tie Bay of Ranchi-1 And Durgapur-II
336		400 kV Bus Sectionalizer Bay Between Bus1 And Bus3
337		400 kV Bus Sectionalizer Bay Between Bus2 And Bus4
338		400 kV Main Bay of ICT-2 (400/220 KV, 500 MVA)

Sl No	Name of Substation	Name of Bay
339		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
340		400 kV Tie Bay of 400/220 kV ICT-II And 125 MVAr B/R-I
341		400 kV Main Bay of ICT-3 (400/220 KV, 500 MVA)
342		400 kV Main Bay of Gaya-II with Line Reactor (50 MVAr)
343		400 kV Tie Bay of ICT-III And Gaya-II
344		400 kV Main Bay of ICT-1 (400/220 KV, 500 MVA)
345		400 kV Main Bay of Majia B TPP-II
346		400 kV Tie Bay of ICT-I And Majia B TPP-II
347		400 kV Main Bay of Gaya-I with Line Reactor (50 MVAr)
348		400 kV Main Bay of Kahalgaon-II with Line Reactor (50 MVAr)
349		400 kV Tie Bay of Gaya-I And Kahalgaon-II
350		400 kV Main Bay of Majia B TPP-I
351		400 kV Main Bay of Jamshedpur
352		400 kV Tie Bay of Majia B TPP-I And Jamshedpur
353		400 kV Main Bay of Future-1
354		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
355		400 kV Tie Bay of Future -1 And Bus Reactor -2
356	400/220 kV Malda (400 kV Side)	400 kV Main Bay of Farakka STPP-I
357		400 kV Main Bay of Farakka STPP-II
358		400 kV Main Bay of New Purnea-I
359		400 kV Main Bay of New Purnea-II
360		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
361		400 kV Main Bay of ICT-5 (400/220 KV, 315 MVA)
362		400 kV Transfer Bus Coupler
363		400 kV Bus Coupler Bay

Sl No	Name of Substation	Name of Bay
364	400 kV New PPSP	400 kV Main Bay of Ranchi-II
365		400 kV Main Bay of Arambag-I
366		400 kV Tie Bay of Ranchi-II And Arambag-I
367		400 kV Main Bay of Ranchi-I
368		400 kV Main Bay of Arambag-II
369		400 kV Tie Bay of Ranchi-I And Arambag-II
370		400 kV Main Bay of Spare
371		400 kV Main Bay of PPSP-II
372		400 kV Tie Bay of Spare And PPSP-II
373		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
374		400 kV Main Bay of PPSP-I
375		400 kV Tie Bay of Bus Reactor -1 And PPSP-I
376		400kV Main Bay of Future-1
377		400kV Main Bay of Future-2
378		400kV Main Bay of Future-3
379		400kV Main Bay of Future-4
380		400 kV Tie Bay of Future-1 And Future-2
381		400 kV Tie Bay of Future-3 And Future-4
382	400/220 kV Rajarhat (400 kV Side)	400 kV Main Bay of Gokarno with Line Reactor (80 MVAr)
383		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
384		400 kV Tie Bay of Gokarno And Bus Reactor -2
385		400 kV Main Bay of Jeerat
386		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
387		400 kV Tie Bay of Jeerat And Bus Reactor-1
388		400 kV Main Bay of Farakka with Line Reactor (80 MVAr)

Sl No	Name of Substation	Name of Bay
389		400 kV Main Bay of ICT-2 (400/220 KV, 500 MVA)
390		400 kV Tie Bay of Farakka And ICT-2
391		400 kV Main Bay of Subhasgram
392		400 kV Main Bay of ICT-1 (400/220 KV, 500 MVA)
393		400 kV Tie Bay of Subhasgram And ICT-1
394		400 kV Main Bay of future for ICT-3
395		400kV Main Bay of Future-1
396		400 kV Tie Bay of Future-1 And ICT-3
397		400kV Main Bay of Future-2
398		400kV Main Bay of Future-3 (for New Chanditala)
399		400 kV Tie Bay of Future-2 And Future-3
400		400kV Main Bay of Future-5 (for New Chanditala)
401		400 kV Tie Bay of Future-4 And Future-5
402	400/220 kV Subhasgram (400 kV Side)	400 kV Main Bay of Haldia-I
403		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
404		400 kV Tie Bay of Haldia-I And 125 MVAr B/R
405		400 kV Main Bay of Haldia-II
406		400 kV Main Bay of ICT-5 (400/220 KV, 500 MVA)
407		400 kV Tie Bay of Haldia-I And ICT-5
408		400 kV Main Bay of ICT-4 (400/220 KV, 315 MVA)
409		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
410		400 kV Main Bay of Rajarhat
411		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
412		400 kV Tie Bay of Rajarhat And ICT-2
413		400 kV Main Bay of Sagardighi

Sl No	Name of Substation	Name of Bay
414		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
415		400 kV Tie Bay of Sagardighi with Line Reactor And ICT-1
416		400 kV Main Bay of New Jeerat-1
417		400 kV Main Bay of New Jeerat-2
418		400 kV Tie Bay of New Jeerat-1 And ICT-4
419		400 kV Tie Bay of New Jeerat-2 And ICT-3
420	400 kV GMR	400 kV Main Bay of Angul-1
421		400 kV Tie Bay of Angul-1 And Unit-1
422		400 kV Main Bay of Unit-1
423		400 kV Main Bay of Angul-2
424		400 kV Tie Bay of Angul-2 And Unit-2
425		400 kV Main Bay of Unit-2
426		400 kV Bus Sectionalizer Bay Between Bus1 And Bus3
427		400 kV Bus Sectionalizer Bay Between Bus2 And Bus4
428		400 kV Main Bay of Meramundali
429		400 kV Tie Bay of Meramundali And Unit-3
430		400 kV Main Bay of Unit-3
431		400 kV Main Bay of Bus Reactor (Future-1)
432		400 kV Main Bay of Bus Reactor (Future-2)
433		400 kV Tie Bay of Future-1 And Future-2
434		400 kV Main Bay of Line (Future-3)
435		400 kV Main Bay of Unit 4 (Future-4)
436		400 kV Tie Bay of Future-3 And Future-4
437	400 kV JITPL	400 kV Main Bay of Angul 1
438		400 kV Tie Bay of Angul 1 And Unit 1

Sl No	Name of Substation	Name of Bay
439		400 kV Main Bay of Unit 1
440		400 kV Main Bay of Angul 2
441		400 kV Tie Bay Angul 2 And 50 MVAr Bus Reactor 2
442		400 kV Main Bay of Bus Reactor -1 (50 MVAr)
443		400 kV Main Bay of Bus Reactor -2 (50 MVAr)
444		400 kV Tie Bay of Bus Reactor 1
445		400 kV Main Bay of Unit 2
446		400 kV Tie Bay of Unit 2
447		400 kV Main Bay of Future-1 (for line)
448		400 kV Main Bay of Future-2 (for line)
449	400 kV Adhunik	400 kV Main Bay of Jamsedpur 1
450		400 kV Tie Bay of Jamsedpur1 And Jamsedpur-2
451		400 kV Main Bay of Jamsedpur 2
452		400 kV Main Bay of Unit -1
453		400 kV Tie Bay of Unit -1 and Unit-2
454		400 kV Main Bay of Unit -2
455	400/220 kV Arambag (400 kV Side)	400 kV Main Bay of ICT-4 (400/220 KV, 315 MVA)
456		400 kV Main Bay of New Chanditala
457		400 kV Main Bay of Kolaghat
458		400 kV Transfer Bus Coupler
459		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
460		400 kV Main Bay of Bus Reactor -1 (50 MVAr)
461		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
462		400 kV Bus Coupler Bay
463		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)

Sl No	Name of Substation	Name of Bay
464		400 kV Main Bay New PPSP-1
465		400 kV Main Bay New PPSP-2
466		400 kV Main Bay of Bakreswar TPS
467	765/400 kV Jharsuguda (400 kV Side)	400 kV Main Bay of Raigarh-II
468		400 kV Tie Bay of Raigarh-II and ICT-I
469		400 kV Main Bay of ICT-I (765/400 kV 1500MVA)
470		400 kV Main Bay of Rourkela-II
471		400 kV Tie Bay of Rourkela-II and Future -II
472		400 kV Main Bay of ICT-II (765/400 kV 1500MVA)
473		400 kV Main Bay of Raigarh-I
474		400 kV Tie Bay of Raigarh-I and ICT-II
475		400 kV Main Bay of Rourkela-I
476		400 kV Tie Bay of Rourkela-I and Future-I
477		400 kV Main Bay of Future-I
478		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
479		400 kV Tie Bay of Bus Reactor-1 and Sterlite-I
480		400 kV Main Bay of Sterlite-I
481		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
482		400 kV Tie Bay of Bus Reactor -II and Sterlite-II
483		400 kV Main Bay of Sterlite-II
484		400 kV Main Bay of Sterlite-III
485		400 kV Tie Bay of Sterlite-III and IBEUL-I
486		400 kV Main Bay of IBEUL-I
487		400 kV Main Bay of Sterlite-IV
488		400 kV Tie Bay of Sterlite-IV and IBEUL-II

Sl No	Name of Substation	Name of Bay
489		400 kV Main Bay of IBEUL-II
490		400 kV Bus-sectionalizer Bay of Bus-I and Bus-III
491		400 kV Bus-sectionalizer Bay of Bus-II and Bus-IV
492		400 kV Main Bay of Rourkela-IV
493		400 kV Tie Bay of Rourkela-IV and Raigarh-IV
494		400 kV Main Bay of Raigarh-IV
495		400 kV Main Bay of Rourkela-III
496		400 kV Tie Bay of Rourkela-III and Raigarh-III
497		400 kV Main Bay of Raigarh-III
498		400 kV Main Bay of OPGC-I
499		400 kV Tie Bay of OPGC-I and ICT-IV
500		400 kV Main Bay of ICT-III (765/400 kV 1500MVA)
501		400 kV Main Bay of ICT-IV (765/400 kV 1500MVA)
502		400 kV Tie Bay of OPGC-II and ICT-III
503		400 kV Main Bay of OPGC-II
504	400/220 kV Jamsedpur (400 kV Side)	400 kV Main Bay of Durgapur
505		400 kV Main Bay of Mejia B
506		400 kV Tie Bay of Durgapur and Mejia B
507		400 kV Main Bay of Maithon B
508		400 kV Main Bay of Chaibasa-1
509		400 kV Tie Bay of Mainthon B and Chaibasa 1
510		400 kV Main Bay of Chaibasa 2
511		400 kV Main Bay of DSTPS 1
512		400 kV Tie Bay of Chaibasa 2 and DSTPS 1
513		400 kV Main Bay of DSTPS 2

Sl No	Name of Substation	Name of Bay
514		400 kV Main Bay of Baripada
515		400 kV Tie Bay of DSTPS 2 and Baripada
516		400 kV Main Bay of TISCO
517		400 kV Tie of TISCO and Future - IV
518		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
519		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
520		400 kV Tie Bay ICT-2 and Bus Reactor-2
521		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
522		400 kV Main Bay of Bus Reactor -1 and 3 (50 + 125 MVAr)
523		400 kV Tie Bay ICT-1 and Bus Reactor -1 and 3
524		400 kV Main Bay of APNRL 1
525		400 kV Tie of APNRL 1 and Future-2
526		400 kV Main Bay of APNRL 2
527		400 kV Tie of APNRL 2 and Future-3
528		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
529		400 kV Tie Bay of ICT-3 and Future-III
530		400 kV Main Bay of Future-1
531		400 kV Main Bay of Future-2
532		400 kV Main Bay of Future-3
533		400 kV Main Bay of Future-4
534	400/220 kV Daltonganj (400 kV Side)	400 kV Main Bay of Sasaram 1 with Line Reactor (50 MVAr)
535		400 kV Tie Bay of Sasaram 1 with line reactor and ICT-1
536		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
537		400 kV Main Bay of Sasaram 2
538		400 kV Tie Bay of Sasaram 2 and Bus Reactor

Sl No	Name of Substation	Name of Bay
539		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
540		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
541		400 kV Tie Bay of ICT-2 and Future-4
542		400 kV Main Bay of Future-13
543		400 kV Main Bay of Future-1
544		400 kV Main Bay of Future-3 for ICT-3
545		400 kV Main Bay of Future-4
546		400 kV Main Bay of Future-16
547		400 kV Main Bay of Future-19
548		400 kV Main Bay of Future-22
549		400 kV Main Bay of Future-25
550		400 kV Main Bay of Future-28
551		400 kV Main Bay of Future-15
552		400 kV Main Bay of Future-18
553		400 kV Main Bay of Future-21
554		400 kV Main Bay of Future-24
555		400 kV Main Bay of Future-27
556		400 kV Main Bay of Future-30
557		400 kV Tie Bay of Future-13 and Future-15
558		400 kV Tie Bay of Future-16 and Future-18
559		400 kV Tie Bay of Future-19 and Future-21
560		400 kV Tie Bay of Future-22 and Future-24
561		400 kV Tie Bay of Future-25 and Future-27
562		400 kV Tie Bay of Future-28 and Future-30
563	400/220 kV Koderma	400 kV 400kV Main Bay of Unit-1

Sl No	Name of Substation	Name of Bay
564	(400 kV Side)	400kV Main Bay of Station Transformer -1 (90 MVA, 400/11.5 kV)
565		400kV Main Bay of Station Transformer -2 (90 MVA, 400/11.5 kV)
566		400kV Main Bay of Unit-2
567		400kV Main Bay of Future -2 for ST-3
568		400kV Main Bay of Future-1 for Unit-3
569		400kV Main Bay of Future-4 for ST-4
570		400kV Main Bay of Future-3 for Unit-4
571		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
572		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
573		400 kV Main Bay of Bus Reactor -1 (50 MVAr)
574		400kV Main Bay of Gaya -1
575		400kV Main Bay of Gaya -2
576		400kV Main Bay of Biharsarrif -1
577		400kV Main Bay of Biharsarrif -2
578		400kV Main Bay of Bokaro-1
579		400kV Main Bay of Bokaro-2
580		400 kV Main Bay of Bus Reactor -2 (50 MVAr)
581		400kV Tie Bay of Unit-1 & Station Tranformer-1
582		400kV Tie Bay of Unit-2 & Station Tranformer-2
583		400kV Tie Bay of Unit-3 & Station Tranformer-3
584		400kV Tie Bay of Unit-4 & Station Tranformer-4
585		400kV Tie Bay of ICT-1 & ICT-2
586		400kV Tie Bay of Bus Reactor-1 & Gaya PG-1
587	400/220 kV Ranchi (400 kV Side)	400 kV Main Bay of New Ranchi-1
588		400 kV Main Bay of New Ranchi-2

Sl No	Name of Substation	Name of Bay
589		400 kV Main Bay of New Ranchi-3
590		400 kV Main Bay of New Ranchi-4
591		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
592		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
593		400 kV Main Bay of Raghunathpur-1
594		400 kV Main Bay of Raghunathpur-2
595		400 kV Main Bay of Raghunathpur-3
596		400 kV Main Bay of MPL-1 with line reactor (50 MVAr)
597		400 kV Main Bay of MPL-2 with line reactor (50 MVAr)
598		400 kV Main Bay of Maithon-1
599		400 kV Main Bay of Sipat-1 with line reactor (80 MVAr) and FSC
600		400 kV Main Bay of Sipat-2 with line reactor (80 MVAr) and FSC
601		400 kV Main Bay of Rourkela-1
602		400 kV Main Bay of Rourkela-2
603		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
604		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
605		400 kV Main Bay of Future-1
606		400 kV Main Bay of Future-2 (for Chitrapur-I)
607		400 kV Main Bay of Future-3 (for Chitrapur-2)
608		400 kV Main Bay of Future-6 for ICT
609		400 kV Main Bay of Future-4 for Tenughat-1
610		400 kV Main Bay of Future-5 for Tenughat-1
611		400 kV Tie Bay of New Ranchi-1 and Future-1
612		400 kV Tie Bay of New Ranchi-3 and Bus Reactor-1
613		400 kV Tie Bay of New Ranchi-2 and Future-2

Sl No	Name of Substation	Name of Bay
614		400 kV Tie Bay of New Ranchi-1 and Future-1
615		400 kV Tie Bay of Sipat-2 and Future-4
616		400 kV Tie Bay of Sipat-1 and Future-5
617		400 kV Tie Bay of Raghunathpur-3 and Bus Reactor-2
618		400 kV Tie Bay of Raghunathpur-2 and Rourkela-1
619		400 kV Tie Bay of MPL-2 and Rourkela-2
620		400 kV Tie Bay of MPL-1 and ICT-3
621		400 kV Tie Bay of Raghunathpur-1 and ICT-2
622		400 kV Tie Bay of Maihton-1 and ICT-1
623	400/220 kV Bidhannagar (400 kV Side)	400 kV Main Bay of Chanditala S/C
624		400 kV Main Bay of PPSP I
625		400 kV Main Bay of PPSP II
626		400 kV Main Bay of Durhapur I
627		400 kV Main Bay of Durhapur II
628		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
629		400 kV Main Bay of Bus Reactor -1 (50 MVAr)
630		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
631		400 kV Bus Couplar Bay
632		400 kV Transfer Bus Couplar Bay
633	400/220 kV DSTPS (400 kV Side)	400 kV Main Bay of Raghunathpur TPP-I
634		400 kV Main Bay of Raghunathpur TPP-II
635		400 kV Main Bay of Jamshedpur I
636		400 kV Main Bay of Jamshedpur II
637		400 kV Tie Bay of Raghunathpur I and Raghunathpur II
638		400 kV Tie Bay of Jamshedpur I and Jamshedpur II

Sl No	Name of Substation	Name of Bay
639		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
640		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
641		400 kV Tie Bay of ICT-1 And ICT-2
642		400 kV Main Bay of Unit-1
643		400 kV Main Bay of Unit-2
644		400kV Main Bay of Station Transformer -1 (90 MVA, 400/11.5 kV)
645		400kV Main Bay of Station Transformer -2 (90 MVA, 400/11.5 kV)
646		400 kV Tie Bay of Unit-1 and Station Transformer-1
647		400 kV Tie Bay of Unit-2 and Station Transformer-2
648	400 kV Maithon Right Bank (400 kV Side)	400 kV Main Bay of Maihton-2
649		400 kV Main Bay of Ranchi-2 with Line Reactor (50 MVAr)
650		400 kV Main Bay of Ranchi-1 with Line Reactor (50 MVAr)
651		400 kV Main Bay of Maihton-1
652		400 kV Main Bay of Station Transformer -2(80 MVA)
653		400 kV Main Bay of Unit-2
654		400 kV Main Bay of Station Transformer -1(80 MVA)
655		400 kV Main Bay of Unit-1
656		400 kV Main Bay of Bus Reactor-2 (50 MVAr)
657		400 kV Main Bay of Bus Reactor-1 (50 MVAr)
658		400kV Tie Bay of Station Transformer -2 and Ranchi-2
659		400kV Tie Bay of Unit-2 and Ranchi-1
660		400kV Tie Bay of Maithon-2 AND Station Transformer -1
661		400kV Tie Bay of Unit-1 AND Maithon-I
662		400kV Tie Bay of Bus Reactor-2 and Bus Reactor-1
663	400/220 kV	400 kV Main Bay of Future-11 for filter Bank

Sl No	Name of Substation	Name of Bay
664	Alipurdwar(400 kV Side)	400 kV Main Bay of Bus Reactor-1 (125 MVAr)
665		400 kV Main Bay of Filter 3
666		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
667		400 kV Main Bay of Filter 1
668		400 kV Main Bay of Filter 2
669		400 kV Main Bay of Punatsangchu 1
670		400 kV Main Bay of Punatsangchu 2
671		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
672		400 kV Main Bay of Future-1 for ICT
673		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
674		400 kV Main Bay of Binaguri-3
675		400 kV Main Bay of Binaguri-4
676		400 kV Main Bay of Jigmeling-1
677		400 kV Main Bay of Binaguri-1
678		400 kV Main Bay of Future-2
679		400 kV Main Bay of Binaguri-2
680		400 kV Main Bay of Bongaigaon-2
681		400 kV Main Bay of Bongaigaon-1
682		400 kV Main Bay of Future-3
683		400 kV Bus 2A and Bus 2B Coupler
684		400 kV Bus 1A and Bus 1B Coupler
685		400 kV Tie Bay of Future-19 and Bus Reactor-1
686		400 kV Tie Bay of Filter 3 and Bus Reactor-2
687		400 kV Tie Bay of Filter 1 and Filter 2
688		400 kV Tie Bay of Punastsangchu 1 & Punastsangchu 2

Sl No	Name of Substation	Name of Bay
689		400 kV Tie Bay of ICT-2 and Future-1
690		400 kV Tie Bay of ICT-1 and Binaguri-3
691		400 kV Tie Bay of Binaguri-4 and Jigmiling-1
692		400 kV Tie Bay of Future-2 and Jigmiling-2
693		400 kV Tie Bay of Binaguri-2 and Bongaigaon-2
694		400 kV Tie Bay of Bongaigaon-1 and Future-4
695		400 kV Main Bay of Jigmeling-2
696		400 kV Main Bay of Future-4
697		400 kV Main Bay of Future-5
698		400 kV Main Bay of Future-6
699		400 kV Main Bay of Future-7
700		400 kV Main Bay of Future-8
701		400 kV Main Bay of Future-9
702		400 kV Main Bay of Future-10
703		400 kV Main Bay of Future-13
704		400 kV Main Bay of Future-15
705		400 kV Main Bay of Future-18
706		400 kV Main Bay of Future-16
707		400 kV Main Bay of Future-12 for Filter Bank
708		400 kV Main Bay of Future-14 for Converter Transformer
709		400 kV Main Bay of Converter Transformer-2
710		400 kV Main Bay of Converter Transformer-1
711		400 kV Main Bay of Future-17 for Converter Transformer
712		400 kV Main Bay of Future-19 for Filter Bank
713		400 kV Main Bay of Future-21 for Filter Bank

Sl No	Name of Substation	Name of Bay
714		400 kV Tie Bay of Future-3 and Binaguri-1
715		400 kV Tie Bay of Future-5 and Future-6
716		400 kV Tie Bay of Future-7 and Future-8
717		400 kV Tie Bay of Future-9 and Future-10
718		400 kV Tie Bay of Future-11 and Future-12
719		400 kV Tie Bay of Future-13 and Future-14
720		400 kV Tie Bay of Future-15 and Converter Transformer-2
721		400 kV Tie Bay of Future-6 and Converter Transformer-1
722		400 kV Tie Bay of Future-17 and Future-18
723	400/132 kV Banka (400 kV Side)	400 kV Main Bay of Biharshariff-1
724		400 kV Main Bay of Biharshariff-2
725		400 kV Main Bay of Kahalgaon STPP-1
726		400 kV Main Bay of Kahalgaon STPP-2
727		400 kV Main Bay of Future -1
728		400 kV Main Bay of ICT-1 (400/132 KV, 200 MVA)
729		400 kV Main Bay of ICT-2 (400/132 KV, 200 MVA)
730		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
731		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
732		400 kV Main Bay of ICT-3 (400/132 KV, 315 MVA)
733		400 kV Tie Bay of Biharshariff-1 and ICT-1
734		400 kV Tie Bay of Biharshariff-2 and ICT-2
735		400 kV Tie Bay of Bus Reactor-1 and Kahalgaon STPP-1
736		400 kV Tie Bay of Bus Reactor-2 and Kahalgaon STPP-2
737		400 kV Tie Bay of Future-I and ICT-3
738	400/132 kV Barh (	400 kV Main Bay of ICT-3 (400/132 KV, 200 MVA)

Sl No	Name of Substation	Name of Bay
739	400 kV Side)	400 kV Main Bay of Patna-3
740		400 kV Main Bay of Patna-4
741		400 kV Main Bay of Bus-1 and Bus-3 Coupler
742		400 kV Main Bay of Bus-2 and Bus-4 Coupler
743		400 kV Main Bay of Motihari-1 with Line Reactor (63 MVAr)
744		400 kV Main Bay of Motihari-2 with Line Reactor (63 MVAr)
745		400 kV Main Bay of Kahalgaon STPP-2
746		400 kV Main Bay of Kahalgaon STPP-1
747		400 kV Main Bay of Patna-1
748		400 kV Main Bay of Patna-2
749		400 kV Main Bay of ICT-1 (400/132 KV, 200 MVA)
750		400 kV Main Bay of Unit-1
751		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
752		400 kV Main Bay of Unit-2
753		400 kV Main Bay of ICT-2 (400/132 KV, 200 MVA)
754		400 kV Main Bay of Unit-3
755		400 kV Main Bay of Unit-4
756		400 kV Main Bay of Unit-5
757		400 kV Tie Bay of ICT-3 & Future-1
758		400 kV Tie Bay of Patna-3 & Future-7
759		400 kV Tie Bay of Patna-4 & Futuer-6
760		400 kV Tie Bay of Motihari-1 with Line Rector and Future-5
761		400 kV Tie Bay of Motihari-2 with Line Reactor and Kahalgaon STPP-2
762		400 kV Tie Bay of Kahalgaon STPP-1 and Patna-1
763		400 kV Tie Bay of Patna-2

Sl No	Name of Substation	Name of Bay
764		400 kV Tie Bay of ICT-1 and Unit-1
765		400 kV Tie Bay of Bus Reacor -1 and Unit-2
766		400 kV Tie Bay of ICT-2 and Unit-3
767		400 kV Tie Bay of Unit-5 and Future-2
768		400 kV Tie Bay of Unit-4 and Future-3
769		400 kV Main Bay of Future-1
770		400 kV Main Bay of Future-2
771		400 kV Main Bay of Future-3
772		400 kV Main Bay of Future-4
773		400 kV Main Bay of Future-5
774		400 kV Main Bay of Future-6
775		400 kV Main Bay of Future-7
776	400/220 kV Biharsariff (400 kV Side)	400 kV Main Bay of Future-1
777		400 kV Main Bay of Varanasi-1 with Line Reactor(50 MVAr)
778		400 kV Main Bay of Varanasi-2 with Line Reactor(50 MVAr)
779		400 kV Main Bay of Future -2
780		400 kV Main Bay of Banka-II
781		400 kV Main Bay of Banka-I
782		400 kV Main Bay of Bus Reactor-1 & Bus Reactor 4 (50MVAr + 125 MVAr)
783		400 kV Main Bay of Sasaram-1 with Line Reactor(50 MVAr)
784		400 kV Main Bay of Lakhisarai-2 with Line Reactor (50 MVAr)
785		400 kV Main Bay of Future-III for Tenughat
786		400 kV Main Bay of Sasaram-2
787		400 kV Main Bay of Balia-2
788		400 kV Main Bay of Balia-1

Sl No	Name of Substation	Name of Bay
789		400 kV Main Bay of Purnea-2 with line reactor (80 MVAr)
790		400 kV Main Bay of Purnea-1 with line reactor (80 MVAr)
791		400 kV Main Bay of Future - 4
792		400 kV Bus-3 and Bus-1 Coupler Bay
793		400 kV Bus-4 and Bus-2 Coupler Bay
794		400 kV Main Bay of Future - 5
795		400 kV Main Bay of Koderma-1
796		400 kV Main Bay of Koderma-2
797		400 kV Main Bay of ICT-4 (400/132 KV, 500 MVA)
798		400 kV Main Bay of Bus Reactor -3 (125 MVAr)
799		400 kV Main Bay of ICT-2 (400/132 KV, 315 MVA)
800		400 kV Main Bay of ICT-1 (400/132 KV, 315 MVA)
801		400 kV Main Bay of Lakhisarai-1
802		400 kV Main Bay of Bus Reactor -2 (80 MVAr)
803		400 kV Main Bay of ICT-3 (400/132 KV, 315 MVA)
804		400 kV Main Bay of Muzaffarpur-2
805		400 kV Main Bay of Muzaffarpur-1
806		400 kV Tie Bay of Future and Varanasi-1 with Line Reactor
807		400 kV Tie Bay of Varansai-2 and Future-2
808		400 kV Tie Bay of Banka-2 and Banka-1
809		400 kV Tie Bay of Bus Reactor-1&4 and Sasaram-1
810		400 kV Tie Bay of Lakhisarai-2 with line reactor and Future-3
811		400 kV Tie Bay of Sasaram-2 and Balia-2
812		400 kV Tie Bay of Balia-1 and Purnea-2 with Line Reactor-
813		400 kV Tie Bay of Purnea-1 with Line Reactor and Future - 4

Sl No	Name of Substation	Name of Bay
814		400 kV Tie Bay of Future-4 and Koderma-1
815		400 kV Tie Bay of Koderma-2 and ICT-4
816		400 kV Tie Bay of Bus Reactor-3 and ICT-2
817		400 kV Tie Bay of ICT-1 and Lakhisarai-1
818		400 kV Tie Bay of Bus Reactor-2 and ICT-3
819		400 kV Tie Bay of Muzaffarpur-2 and Muzaffarpur-1
820	400/220 kV Darbhanga (400 kV Side)	400 kV Main Bay of ICT-1 (400/220 KV, 500 MVA)
821		400 kV Main Bay of Muzaffarpur-1
822		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
823		400 kV Main Bay of Muzaffarpur-2
824		400 kV Main Bay of ICT-1 (400/220 KV, 500 MVA)
825		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
826		400 kV Main Bay of Kishanganj-1
827		400 kV Main Bay of Kishanganj-2
828		400 kV Tie Bay of ICT-1 and Muzaffarpur-1
829		400 kV Tie Bay of Bus Reactor-1 and Muzaffarpur-2
830		400 kV Tie Bay of ICT-2 and Bus Reactor-2
831		400 kV Tie Bay of Kishanganj-1 and Kishanganj-2
832		400 kV Main Bay of Future-2 for ICT-1
833		400 kV Main Bay of Future-1
834		400 kV Main Bay of Bus Reactor -4 (80 MVAr)
835		400 kV Main Bay of Bus Reactor -3 (80 MVAr)
836		400 kV Tie Bay of Bus Reactor-3 and Bus Reactor-4
837		400 kV Main Bay of Sitamarhi-1
838		400 kV Main Bay of Sitamarhi-2

Sl No	Name of Substation	Name of Bay
839		400 kV Tie Bay of Sitamarhi-1 and Sitamarhi-2
840		400 kV Tie Bay of Future-7 and Future-1
841	400/220 kV Durgapur (400 kV Side)	400 kV Main Bay of Bus Reactor -3 (125 MVAr)
842		400 kV Main Bay of Future-1
843		400 kV Main Bay of Future-2
844		400 kV Main Bay of Maithon-2
845		400 kV Main Bay of Maithon-1
846		400 kV Main Bay of Farakka STPP-2
847		400 kV Main Bay of Farakka STPP-1
848		400 kV Main Bay of Sagardighi TPP-2
849		400 kV Main Bay of Sagardighi TPP-1
850		400 kV Main Bay of Future-3
851		400 kV Bus-3 and Bus-1 Coupler Bay
852		400 kV Bus-4 and Bus-2 Coupler Bay
853		400 kV Main Bay of ICT-3 (400/220 KV, 315 MVA)
854		400 kV Main Bay of Bus Reactor -1 and Bus Reactor-2 (50 MVAr+125MVAr)
855		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
856		400 kV Main Bay of Future-4
857		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
858		400 kV Main Bay of Bidhannagar-1
859		400 kV Main Bay of Bus Reactor -4 (125 MVAr)
860		400 kV Main Bay of Bidhannagar-2
861		400 kV Main Bay of Jamsedpur-1
862		400 kV Main Bay of Future-5
863		400 kV Tie Bay of Bus Reactor - 3 and Future-1

Sl No	Name of Substation	Name of Bay
864		400 kV Tie Bay of Future-2 and Maithon-2
865		400 kV Tie Bay of Maithon-1 and Farakka STPP-2
866		400 kV Tie Bay of Farakka STPP-1 and Sagardighi TPP-2
867		400 kV Tie Bay of Sagardighi TPP-1 and Future-3
868		400 kV Tie Bay of ICT-3 and Bus Reactor -4
869		400 kV Tie Bay of ICT-2 and Future-5
870		400 kV Tie Bay of ICT-1 and Bidhannagar-1
871		400 kV Tie Bay of Bus Reactor-1& Bus Reactor-2 and Bidhannagar-2
872		400 kV Tie Bay of Jamsedpur-1 and Future-4
873	400/220 kV Farakka (400 kV Side)	400 kV Main Bay of Purnea
874		400 kV Main Bay of Rajarhat with Line Reactor(80 MVAr)
875		400 kV Main Bay of Kahalgaon STPP-4 (Bus-1)
876		400 kV Main Bay of Kahalgaon STPP-3
877		400 kV Main Bay of Behrampur-1
878		400 kV Main Bay of Behrampur-2 with Liner Reactor(50 MVAr)
879		400 kV Main Bay of Kahalgaon STPP-1
880		400 kV Main Bay of Kahalgaon STPP-2
881		400 kV Main Bay of Durgapur-2
882		400 kV Main Bay of Durgapur-1
883		400 kV Main Bay of Sagardighi TPP-2
884		400 kV Main Bay of Sagardighi TPP-1
885		400 kV Main Bay of Future-1
886		400 kV Main Bay of ICT-1 (400/220 KV, 315 MVA)
887		400 kV Main Bay of Malda-1
888		400 kV Main Bay of Malda-2 (Bus-2)

Sl No	Name of Substation	Name of Bay
889		400 kV Main Bay of Malda-2 (Bus-1)
890		400 kV Main Bay of Unit-6 (Bus-1)
891		400 kV Main Bay of Unit-5
892		400 kV Main Bay of Tic Transformer-3(100MVA)
893		400 kV Main Bay of Unit-4 (Bus-2)
894		400 kV Main Bay of Unit-4 (Bus-1)
895		400 kV Main Bay of Tic Transformer-1(100MVA)
896		400 kV Main Bay of Unit-1
897		400 kV Main Bay of Tic Transformer-2(100MVA)
898		400 kV Main Bay of Unit-2
899		400 kV Main Bay of Unit-3
900		400 kV Main Bay of Bus Reactor -1 (50 MVAr)
901		400 kV Tie Bay of Purnea and Rajarhat with Line Reactor
902		400 kV Main Bay of Kahalgaon STPP-4 (Bus-2)
903		400 kV Tie Bay of Kahalgaon STPP-3 and Behrampur-1
904		400 kV Tie Bay of Behrampur-2 and Kahalgon STPP-1
905		400 kV Tie Bay of Kahalgaon STPP-2 and Durgapur-2
906		400 kV Tie Bay of Durgapur-1 with Line Reactor and Sagardighi TPP-2
907		400 kV Tie Bay of Sagardighi TPP-1 and Future -1
908		400 kV Tie Bay of ICT-1 and Malda-1
909		400 kV Main Bay of Unit-6 (Bus-2)
910		400 kV Tie Bay of Unit-5 and Tic Transformer-3
911		400 kV Tie Bay of Tic Transformer-1 and Unit-1
912		400 kV Tie Bay of Tic Transformer-2 and Unit-2
913		400 kV Tie Bay of Unit-3 and Bus Reactor-1

Sl No	Name of Substation	Name of Bay
914		400 kV Tie Bay of Unit-6 and Future-4
915	765/400/220 kV Gaya (400 kV Side)	400 kV Main Bay of ICT-3 (400/220 KV, 500 MVA)
916		400 kV Main Bay of ICT-2 (400/220 KV, 315 MVA)
917		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
918		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
919		400 kV Main Bay of ICT-1 (400/220 KV, 500 MVA)
920		400 kV Main Bay of ICT-4 (765/400 KV, 1500 MVA)
921		400 kV Main Bay of ICT-3 (765/400 KV, 1500 MVA)
922		400 kV Main Bay of ICT-2 (765/400 KV, 1500 MVA)
923		400 kV Main Bay of ICT-1 (765/400 KV, 1500 MVA)
924		400 kV Main Bay of Future-1 for North Karanpura -2
925		400 kV Main Bay of Future-2 for North Karanpura -1
926		400 kV Main Bay of Chandauti-1
927		400 kV Main Bay of Chandauti-2
928		400 kV Main Bay of Chandawa-2
929		400 kV Main Bay of Chandawa-1
930		400 kV Main Bay of Maithon-2 with Line Reactor (50 MVAr)
931		400 kV Main Bay of Maithon-1 with Line Reactor (50 MVAr)
932		400 kV Main Bay of Koderma-1
933		400 kV Main Bay of Koderma-2
934		400 kV Tie Bay of Koderma-2 and 765 kV ICT-1
935		400 kV Tie Bay of Koderma-1 and 765 kV ICT-2
936		400 kV Tie Bay of Maithon-1 and 765 kV ICT-3
937		400 kV Tie Bay of Maithon-2 and 765 kV ICT-4
938		400 kV Tie Bay of Chandawa-1 and Future -1

Sl No	Name of Substation	Name of Bay
939		400 kV Tie Bay of Chandawa-2 and ICT-1
940		400 kV Tie Bay of Chandauti-2 and Bus Reactor-1
941		400 kV Tie Bay of Chandauti-1 and Bus Reactor-2
942		400 kV Tie Bay of Future-2 and ICT-2
943		400 kV Tie Bay of Future-1 and ICT-3
944	400/132 kV Kahalgaon (400 kV Side)	400 kV Main Bay of ICT-1 (400/132 kV 200 MVA)
945		400 kV Main Bay of Unit-1
946		400 kV Main Bay of Bus Reactor-1 (50 MVAr)
947		400 kV Main Bay of Unit-2
948		400 kV Main Bay of Unit-3
949		400 kV Main Bay of Unit-4 (Bus-1)
950		400 kV Main Bay of Unit-4 (Bus-2)
951		400 kV Main Bay of Unit-5 (Bus-3)
952		400 kV Main Bay of Unit-5 (Bus-4)
953		400 kV Main Bay of Unit-6 (Bus-3)
954		400 kV Main Bay of Unit-6 (Bus-4)
955		400 kV Main Bay of Bus Reactor-2 (50 MVAr)
956		400 kV Main Bay of Unit-7
957		400 kV Main Bay of ICT-3 (Bus -3) (400/132 kV 200 MVA)
958		400 kV Main Bay of ICT-3 (Bus -4) (400/132 kV 200 MVA)
959		400 kV Main Bay of ICT-4 (Bus -3) (400/132 kV 200 MVA)
960		400 kV Main Bay of ICT-4 (Bus -4) (400/132 kV 200 MVA)
961		400 kV Main Bay of ICT-2 (400/132 kV 200 MVA)
962		400 kV Main Bay of Lakhisarai-1
963		400 kV Main Bay of Lakhisarai-2

Sl No	Name of Substation	Name of Bay
964		400 kV Main Bay of Maithon-2
965		400 kV Main Bay of Maithon-1
966		400 kV Main Bay of Farakka STPP-2
967		400 kV Main Bay of Farakka STPP-1
968		400 kV Main Bay of Barh STPP-1
969		400 kV Main Bay of Barh STPP-2
970		400 kV Main Bay of Banka-1
971		400 kV Main Bay of Banka-2
972		400 kV Main Bay of Future-1
973		400 kV Bus-1 and Bus-3 Coupler
974		400 kV Bus-2 and Bus-4 Coupler
975		400 kV Tie Bay of ICT-1 and Unit-1
976		400 kV Tie Bay of ICT-2 and Lakhisarai-1
977		400 kV Tie Bay of Lakhisarai-2 and Future
978		400 kV Tie Bay of Banka-2 and Future-2
979		400 kV Tie Bay of Maithon-1 and Farakka STPP-2
980		400 kV Tie Bay of Farakka STPP-1 and Barh STPP-1
981		400 kV Tie Bay of Barh STPP-2 and Banka-1
982		400 kV Tie Bay of Banka-2 and Future-2
983		400 kV Tie Bay of Unit-7 and Bus Reactor-2
984		400 kV Tie Bay of Unit-3 and Future-3
985		400 kV Tie Bay of Unit-2 and Bus Reactor-1
986		400 kV Main Bay of Future-2
987		400 kV Main Bay of Future-3
988		400 kV Main Bay of Future-4

Sl No	Name of Substation	Name of Bay
989		400 kV Main Bay of Farakka STPP-3
990		400 kV Main Bay of Farakka STPP-4
991		400 kV Tie Bay of Farakka STPP-4 and Maithon-2
992	400/220 kV Bokaro A (400 kV Side)	400 kV Main Bay of Koderma-1
993		400 kV Main Bay of Koderma-2
994		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
995		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
996		400 kV Main Bay of Station Service Transformer-1 (400/11 kV 70 MVA)
997		400 kV Main Bay of Station Service Transformer-2 (400/11 kV 70 MVA)
998		400 kV Main Bay of Unit-1
999		400 kV Spare Bay of Unit-1
1000		400 kV Bus 1 and Bus 2 Coupler
1001		400 kV Main Bay of Future-1
1002	400kV BRBCL	400 kV Main Bay of Bus Reactor-1 (50 MVAr)
1003		400 kV Main Bay of Sasaram-1
1004		400 kV Main Bay of Sasaram-2
1005		400 kV Main Bay of Future-1 for NPGC
1006		400 kV Main Bay of Future-2 for NPGC
1007		400 kV Main Bay of Future-3 for ICT
1008		400 kV Main Bay of Unit-1
1009		400 kV Main Bay of Unit-2
1010		400 kV Main Bay of Unit-3
1011		400 kV Main Bay of Unit-4
1012		400 kV Main Bay of ICT-1 (400/132 kV 200 MVA)
1013		400 kV Main Bay of ICT-2 (400/132 kV 200 MVA)

Sl No	Name of Substation	Name of Bay
1014		400 kV Tie Bay of Bus Reactor-1 and Sasaram-1
1015		400 kV Tie Bay of Future-1 and Sasarm-2
1016		400 kV Tie Bay of Future-2 and Future-3
1017		400 kV Tie Bay of Unit-4 and Unit-3
1018		400 kV Tie Bay of Unit-2 and ICT-2
1019		400 kV Tie Bay of Unit-1 and ICT-1
1020	400kV Dikchu	400 kV Main Bay of Teesta III
1021		400 kV Main Bay of Rangpo
1022		400 kV Main Bay of ICT-1 (Bus -1) (400/132 kV 200 MVA)
1023		400 kV Main Bay of ICT-1 (Bus -2) (400/132 kV 200 MVA)
1024		400 kV Tie Bay of Teesta III and Rangpo
1025	400 kV Haldia	400 kV Main Bay of Subhasgram-1
1026		400 kV Main Bay of Subhasgram-2
1027		400 kV Main Bay of Station Transformer-1
1028		400 kV Main Bay of Station Transformer-2
1029		400 kV Main Bay of Unit-1
1030		400 kV Main Bay of Unit-2
1031		400 kV Bus 1 and Bus 2 Coupler
1032		400 kV Transfer Bus Coupler
1033	400 kV IB TPS Stage-2	400 kV Main Bay of Lapanga-1
1034		400 kV Main Bay of Lapanga-2
1035		400 kV Main Bay of Jharsuguda-1
1036		400 kV Main Bay of Jharsuguda-2
1037		400 kV Main Bay of Unit-3 (Bus 1A) (400/21 KV)
1038		400 kV Main Bay of Unit-4 (400/21 KV)

Sl No	Name of Substation	Name of Bay
1039		400 kV Main Bay of Auxillary Transformer-1(RAT)(50 MVA)
1040		400 kV Bus 1A and Bus 1B Coupler
1041		400 kV Bus 2A and Bus 2B Coupler
1042		400 kV Tie Bay of Lapanga-1 and Lapanga-2
1043		400 kV Main Bay of Unit-3 (Bus 1B) (400/21 KV)
1044		400 kV Tie Bay of Jharsuguda-1 and Jharsuguda-2
1045		400 kV Tie Bay of Unit-4 and RAT
1046	400/220 kV Indravati (400 kV Side)	400 kV Main Bay of ICT-1
1047		400 kV Tie Bay of ICT-1 and ICT-2
1048		400 kV Main Bay of ICT-2
1049		400 kV Main Bay of Indravati(PG)
1050		400 kV Tie Bay of Indravati(PG)
1051	400/220 kV Jeerat (400 kV Side)	400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1052		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1053		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1054		400 kV Main Bay of ICT-4 (400/220 kV 315 MVA)
1055		400 kV Main Bay of Rajarhat
1056		400 kV Main Bay of New Chanditala
1057		400 kV Main Bay of Bakreswar with Line Reactor(50 MVAr)
1058		400 kV Main Bay of Sagardighi TPP-1
1059		400 kV Main Bay of New Jeerat-1
1060		400 kV Main Bay of New Jeerat-2
1061		400 kV Bus-1 and Bus-2 Coupler
1062		400 kV Transfer Bus Coupler
1063		400 kV Main Bay of Bus Reactor-1 (50 MVAr) and Bus Reactor -2 (50 MVAr)

Sl No	Name of Substation	Name of Bay
1064		400 kV Main Bay of Subhasgram
1065		400 kv Main Bay of Sagardighi TPP-II
1066	400/220 kV JSPL	400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1067		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1068		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1069		400 kV Main Bay of ICT-4 (400/220 kV 315 MVA)
1070		400 kV Main Bay of Power Transformer -1
1071		400 kV Main Bay of Power Transformer -2
1072		400 kV Main Bay of Meramandali-1
1073		400 kV Main Bay of Meramandali-2
1074		400 kV Tie Bay of Meramandal-1 and Meramandali-2
1075		400 kV Tie Bay of ICT-1 and ICT-2
1076		400 kV Tie Bay of ICT-3 and ICT-4
1077		400 kV Tie Bay of Power Transformer -1 and Power Transformer -2
1078	400/220 kV Kharagpur (400 kV Side)	400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1079		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1080		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1081		400 kV Main Bay of Chaibasa-1
1082		400 kV Main Bay of Chaibasa-2
1083		400 kV Main Bay of Kolaghat TPP-1
1084		400 kV Main Bay of Kolaghat TPP-2
1085		400 kV Main Bay of Mednipur-1
1086		400 kV Main Bay of Mednipur-2
1087		400 kV Main Bay of Baripada
1088		400 kV Bus-1 and Bus-2 Coupler

Sl No	Name of Substation	Name of Bay
1089		400 kV Transfer Bus Coupler
1090		400 kV Main Bay of Bus Reactor-1 (80 MVAr)
1091	400/220 kV Kishanganj (400 kV Side)	400 kV Main Bay of Futuer-1
1092		400 kV Main Bay of Futuer-2
1093		400 kV Main Bay of Darbhanga-1 with Line Reactor (80 MVAr)
1094		400 kV Main Bay of Darbhanga-2 with Line Reactor (80 MVAr)
1095		400 kV Main Bay of Binaguri-1
1096		400 kV Main Bay of Binaguri-2
1097		400 kV Main Bay of Purnea-1
1098		400 kV Main Bay of Purnea-2
1099		400 kV Main Bay of Patna-1 with Line Reactor (80 MVAr)
1100		400 kV Main Bay of Patna-2 with Line Reactor (80 MVAr)
1101		400 kV Main Bay of Teesta III with Line Reactor (63 MVAr)
1102		400 kV Main Bay of Rangpo with Line Reactor (63 MVAr)
1103		400 kV Main Bay of STATCOM-1 (400/28 kV, 2 x 100 MVAR VSC, 2 x 125 MVAr MSR)
1104		400 kV Main Bay of Bus Reactor-1 (125 MVAr)
1105		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1106		400 kV Main Bay of ICT-1 (400/220 kV 500 MVA)
1107		400 kV Main Bay of ICT-2 (400/220 kV 500 MVA)
1108		400 kV Main Bay of Future-3 for ICT
1109		400 kV Tie Bay of Bus Reactor-1 and ICT-1
1110		400 kV Tie Bay of Rangpo and ICT-2
1111		400 kV Tie Bay of Patna-1 and Future-3
1112		400 kV Tie Bay of STATCOM and Teesta III with Line Reactor
1113		400 kV Tie Bay of Bus Reactor-2 and Patna-2

Sl No	Name of Substation	Name of Bay
1114		400 kV Tie Bay of Purnea-2 and Purnea-1
1115		400 kV Tie Bay of Binaguri-1 and Binaguri-2
1116		400 kV Tie Bay of Future-1 and Darbhanga-1 with Line Reactor
1117		400 kV Tie Bay of Future-2 and Darbhanga-2 with Line Reactor
1118	400/220 kV Kolaghat(400 kV side)	400 kV Main Bay of Unit-4
1119		400 kV Main Bay of Unit-5
1120		400 kV Main Bay of Unit-6
1121		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1122		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1123		400 kV Main Bay of Kharagpur-1
1124		400 kV Main Bay of Kharagpur-2
1125		400 kV Main Bay of New Chanditala
1126		400 kV Main Bay of Arambag
1127		400 kV Bus-1 and Bus-2 Coupler
1128		400 kV Transfer Bus Coupler
1129	400/132 kV Lakhisarai (400 kV Side)	400 kV Main Bay of Kahalgaon STPP-1
1130		400 kV Main Bay of Kahalgaon STPP-2
1131		400 kV Main Bay of Bihar Shariff-1
1132		400 kV Main Bay of Bihar Shariff-2
1133		400 kV Main Bay of ICT-1 (400/132 kV 200 MVA)
1134		400 kV Main Bay of ICT-2 (400/132 kV 200 MVA)
1135		400 kV Main Bay of ICT-3 (400/132 kV 315 MVA)
1136		400 kV Main Bay of Bus Reactor-1 (80 MVAr)
1137		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1138		400 kV Tie Bay of ICT-3 and Kahalgaon STPP-2

Sl No	Name of Substation	Name of Bay
1139		400 kV Tie Bay of Bus Reactor-1 and Kahalgaon STPP-1
1140		400 kV Tie Bay of Bihar Shariff-1 and ICT-1
1141		400 kV Tie Bay of Bihar Shariff-2 and ICT-2
1142		400 kV Tie Bay of Bus Reactor-2 and Future-6
1143		400 kV Main Bay of Future-1
1144		400 kV Main Bay of Future-2
1145		400 kV Main Bay of Future-3
1146		400 kV Main Bay of Future-4
1147		400 kV Main Bay of Future-5
1148		400 kV Main Bay of Future-6
1149		400 kV Main Bay of Future-7
1150		400 kV Main Bay of Future-8
1151		400 kV Main Bay of Future-9
1152		400 kV Main Bay of Future-10
1153		400 kV Main Bay of Future-11
1154		400 kV Main Bay of Future-9
1155		400 kV Tie Bay of Future-1 And Future-7
1156		400 kV Tie Bay of Future-2 And Future-8
1157		400 kV Tie Bay of Future-3 And Future-9
1158		400 kV Tie Bay of Future-4 And Future-10
1159		400 kV Tie Bay of Future-5 And Future-11
1160		400 kV Tie Bay of Future-1 And Future-7
1161	400 kV Mejia B TPS	400 kV Main Bay of Maithon-1
1162		400 kV Main Bay of Maithon-2
1163		400 kV Main Bay of Maithon-3

Sl No	Name of Substation	Name of Bay
1164		400 kV Main Bay of Jamsedpur
1165		400 kV Main Bay of Unit-7
1166		400 kV Main Bay of Unit-8
1167		400 kV Main Bay of Station Transformer-1 (400/11 kV 90 MVA)
1168		400 kV Main Bay of Station Transformer-2 (400/11 kV 90 MVA)
1169		400 kV Bus-1 and Bus-2 Coupler
1170		400 kV Transfer Bus Coupler
1171	400/220 kV Mendasal (400 kV side)	400 kV Main Bay of Meramandali-1
1172		400 kV Main Bay of Meramandali-2
1173		400 kV Main Bay of Pandiabili-1
1174		400 kV Main Bay of Pandiabili-2
1175		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1176		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1177		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1178		400 kV Main Bay of Future-8
1179		400 kV Tie Bay of Meramandali-1 and ICT-1
1180		400 kV Tie Bay of Meramandali-2 and ICT-2
1181		400 kV Tie Bay of Pandaiabili-1 and Pandiabili-2
1182		400 kV Tie Bay of Future-7 and ICT-3
1183		400 kV Main Bay of Future-1
1184		400 kV Main Bay of Future-2
1185		400 kV Main Bay of Future-3
1186		400 kV Main Bay of Future-4
1187		400 kV Main Bay of Future-5
1188		400 kV Main Bay of Future-6

Sl No	Name of Substation	Name of Bay
1189		400 kV Tie Bay of Future-1 And Future-2
1190		400 kV Tie Bay of Future-3 And Future-4
1191		400 kV Tie Bay of Future-5 And Future-6
1192	400/220 kV Meramandali (400 kV Side)	400 kV Main Bay of Mendhasal-1
1193		400 kV Main Bay of Mendhasal-2
1194		400 kV Main Bay of Talcher STPP-1
1195		400 kV Main Bay of Talcher STPP-2
1196		400 kV Main Bay of New Duburi-1 (Bus-1)
1197		400 kV Main Bay of New Duburi-2
1198		400 kV Main Bay of JSPL-1
1199		400 kV Main Bay of JSPL-2
1200		400 kV Main Bay of Lapanga-1 with Line Reactor (50 MVAr)
1201		400 kV Main Bay of Lapanga-2 with Line Reactor (50 MVAr)
1202		400 kV Main Bay of Bolangir with Line Reactor (80 MVAr) LILO at Angul
1203		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1204		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1205		400 kV Main Bay of GMR
1206		400 kV Tie Bay of New Duburi-1 and Mendasal-2
1207		400 kV Tie Bay of New Duburi-2 and Mendasal-1
1208		400 kV Tie Bay of ICT-1 & Future-1
1209		400 kV Tie Bay of ICT-2 & Future-2
1210		400 kV Tie Bay of Talcher STPP-1 and JSPL-1
1211		400 kV Tie Bay of GMR and JSPL-2
1212		400 kV Tie Bay of Talcher STPP-2 and Lapanga-1
1213		400 kV Tie Bay of Bolangir and Lapanga-2

Sl No	Name of Substation	Name of Bay
1214	400/132 kV Motihari (400 kV Side)	400 kV Main Bay of Barh-1 with Line Reactor (80 MVAr)
1215		400 kV Main Bay of Barh-2 with Line Reactor (80 MVAr)
1216		400 kV Main Bay of Gorakhpur-1 with Line Reactor (50 MVAr)
1217		400 kV Main Bay of Gorakhpur-2 with Line Reactor (50 MVAr)
1218		400 kV Main Bay of ICT-1 (400/132 kV 200 MVA)
1219		400 kV Main Bay of ICT-2 (400/132 kV 200 MVA)
1220		400 kV Main Bay of ICT-3 (400/132 kV 315 MVA)
1221		400 kV Main Bay of Bus Reactor-1 (125 MVAr)
1222		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1223		400 kV Tie Bay of Barh-1 and Bus Reactor-2
1224		400 kV Tie Bay of Barh-2 and Bus Reactor-1
1225		400 kV Tie Bay of Gorakhpur-1 and ICT-1
1226		400 kV Tie Bay of Gorakhpur-2 and ICT-2
1227		400 kV Tie Bay of Sitamarhi-2 and Future-3
1228		400 kV Tie Bay of Sitamarhi-1 and Future-4
1229		400 kV Main Bay of Sitamarhi-I
1230		400 kV Main Bay of Sitamarhi-II
1231		400 kV Main Bay of Future-4
1232		400 kV Main Bay of Future-5 (for ICT)
1233		400 kV Main Bay of Future-3 (Bus-1)
1234		400 kV Main Bay of Future-3 (Bus-2)
1235	400/220 kV Muzaffarpur (400 kV Side)	400 kV Main Bay of Gorakhpur-1 with Line Reactor (63 MVAr)
1236		400 kV Main Bay of Gorakhpur-2 with Line Reactor (50 MVAr)
1237		400 kV Main Bay of Biharshariff-1
1238		400 kV Main Bay of Biharshariff-2

Sl No	Name of Substation	Name of Bay
1239		400 kV Main Bay of Dhalkebar-1
1240		400 kV Main Bay of Dhalkebar-2
1241		400 kV Main Bay of New Purnea-1 with Line Reactor (63 MVAr)
1242		400 kV Main Bay of New Purnea-2 with Line Reactor (63 MVAr)
1243		400 kV Main Bay of Darbhanga-1
1244		400 kV Main Bay of Darbhanga-2
1245		400 kV Main Bay of Bus Reactor-1 (125 MVAr)
1246		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1247		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1248		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1249		400 kV Main Bay of ICT-3 (400/220 kV 500 MVA)
1250		400 kV Tie Bay of Bus Reactor-1 and ICT-1
1251		400 kV Tie Bay of Dhalkebar-2 and ICT-2
1252		400 kV Tie Bay of Dhalkebar-1 and ICT-3
1253		400 kV Tie Bay of Gorakhpur-1 and New Purnea-1
1254		400 kV Tie Bay of Gorakhpur-2 and New Purnea-2
1255		400 kV Tie Bay of Biharshariff-1 and Future-2
1256		400 kV Tie Bay of Biharshariff-2 and Future-1
1257		400 kV Tie Bay of Darbhanga-2 and Bus Reactor-2
1258		400 kV Tie Bay of Darbhanga-1 and Future-3
1259		400 kV Main Bay of Future-1 for Gorakhpur
1260		400 kV Main Bay of Future-2 for Gorakhpur
1261		400 kV Main Bay of Future-3
1262		400 kV Main Bay of Future-4
1263		400 kV Main Bay of Future-5

Sl No	Name of Substation	Name of Bay
1264		400 kV Tie Bay of Future-4 and Future-5
1265	400 kV Nabinagar STPS (NPGC)	400 kV Main Bay of Transformer-I (400/132 kV, 200 MVA)
1266		400 kV Main Bay of Transformer-2 (400/132 kV, 200 MVA)
1267		400 kV Main Bay of Unit-1 (660 MW)
1268		400 kV Main Bay of Unit-2
1269		400 kV Main Bay of Unit-3
1270		400 kV Main Bay of Chandauti-1
1271		400 kV Main Bay of Chandauti-2
1272		400 kV Main Bay of Patna-1
1273		400 kV Main Bay of Patna-2 (Bus-1)
1274		400 kV Main Bay of BRBCL-1 (Bus-1)
1275		400 kV Main Bay of BRBCL-2 (Bus-1)
1276		400 kV Tie Bay of Unit-1 and Chandauti-2
1277		400 kV Tie Bay of Unit-2 and Bus Reactor-1
1278		400 kV Tie Bay of Unit-3 and Transformer-1
1279		400 kV Tie Bay of Transformer-2 and Future-3
1280		400 kV Main Bay of Future-4 for ICT
1281		400 kV Main Bay of Patna-2 (Bus-2)
1282		400 kV Main Bay of BRBCL-1 (Bus-2)
1283		400 kV Main Bay of BRBCL-2 (Bus-2)
1284		400 kV Main Bay of Future-1
1285		400 kV Main Bay of Future-2
1286		400 kV Tie Bay of Future-1 and Future-2
1287		400 kV Tie Bay of Patna-1 and Chandauti-2
1288		400 kV Tie Bay of Future-3

Sl No	Name of Substation	Name of Bay
1289	400/220 kV New Chanditala(400 kV Side)	400 kV Main Bay of Mednipore-1
1290		400 kV Main Bay of Mednipore-2
1291		400 kV Main Bay of Kolaghat TPS
1292		400 kV Main Bay of Arambag
1293		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1294		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1295		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1296		400 kV Main Bay of Gokarno-1
1297		400 kV Main Bay of Gokarno-2
1298		400 kV Main Bay of Bidhannagar
1299		400 kV Main Bay of Jeerat
1300		400 kV Main Bay of Bus Reactor (80 MVAr)
1301		400 kV Bus-1 and Bus-2 Coupler
1302		400 kV Transfer Bus Coupler
1303		400 kV Main Bay of Future-1
1304		400 kV Main Bay of Future-2
1305		400 kV Main Bay of Future-3
1306		400 kV Main Bay of Future-4
1307	400/220 kV New Duburi (400 kV Side)	400 kV Main Bay of Meramandali-1
1308		400 kV Main Bay of Meramandali-2
1309		400 kV Main Bay of Pandiabili
1310		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1311		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1312		400 kV Main Bay of Tata Power-1 (Kalinganagar)
1313		400 kV Main Bay of Tata Power-2 (Kalinganagar)

Sl No	Name of Substation	Name of Bay
1314		400 kV Main Bay of Baripada (Kuchie)
1315		400 kV Main Bay of Bus Reactor-1 (80 MVAr)
1316		400 kV Tie Bay of Pandiabili and Future-1
1317		400 kV Tie Bay of Bus Reactor-1 and Baripada
1318		400 kV Tie Bay of Meramandali-1 and ICT-1
1319		400 kV Tie Bay of Meramandali-2 and ICT-2
1320		400 kV Tie Bay of Tata Power-1 and Tata Power-2
1321		400 kV Main Bay of Future-1
1322	400/220 kV New Purnea(400 kV Side)	400 kV Main Bay of Binaguri-1 with Line Reactor (63 MVAr)
1323		400 kV Main Bay of Binaguri-2
1324		400 kV Main Bay of Muzaffarpur-1 with Line Reactor (63 MVAr)
1325		400 kV Main Bay of Muzaffarpur-2 with Line Reactor (63 MVAr)
1326		400 kV Main Bay of Biharshariff-1
1327		400 kV Main Bay of Biharshariff-2
1328		400 kV Main Bay of Malda-1
1329		400 kV Main Bay of Malda-2
1330		400 kV Main Bay of Bus Reactor-1 (125 MVAr)
1331		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1332		400 kV Main Bay of ICT-1 (400/220 kV 500 MVA)
1333		400 kV Main Bay of ICT-2 (400/220 kV 500 MVA)
1334		400 kV Main Bay of Kishanganj-1 with Line Reactor (63 MVAr)
1335		400 kV Main Bay of Kishanganj-2
1336		400 kV Main Bay of Farakka with Line Reactor (80 MVAr)
1337		400 kV Main Bay of Gokarno with Line Reactor (80 MVAr)
1338		400 kV Tie Bay of Binaguri-1 and ICT-2

Sl No	Name of Substation	Name of Bay
1339		400 kV Tie Bay of Binaguri-2 and ICT-1
1340		400 kV Tie Bay of Kishanganj-1 and Muzaffarpur-2
1341		400 kV Tie Bay of Kishanganj-2 and Muzaffarpur-1
1342		400 kV Tie Bay of Malda-1 and Bus Reactor-2
1343		400 kV Tie Bay of Malda-2 and Bus Reactor-1
1344		400 kV Tie Bay of Farakka and Biharshariff-2
1345		400 kV Tie Bay of Gokarno and Biharshariff-1
1346	400/220 kV Patna (400 kV Side)	400 kV Main Bay of Balia-1
1347		400 kV Main Bay of Balia-2
1348		400 kV Main Bay of Balia-3
1349		400 kV Main Bay of Balia-4
1350		400 kV Main Bay of Barh-1 with Line Reactor (80 MVAr)
1351		400 kV Main Bay of Barh-2 with Line Reactor (80 MVAr)
1352		400 kV Main Bay of Barh-3
1353		400 kV Main Bay of Barh-4
1354		400 kV Main Bay of Kishanganj-1 with Line Reactor (63 MVAr)
1355		400 kV Main Bay of Kishanganj-2 with Line Reactor (63 MVAr)
1356		400 kV Main Bay of NPGC-1 with Line Reactor (80 MVAr)
1357		400 kV Main Bay of NPGC-2 with Line Reactor (80 MVAr)
1358		400 kV Main Bay of ICT-1 (400/220 kV 500 MVA)
1359		400 kV Main Bay of ICT-2 (400/220 kV 500 MVA)
1360		400 kV Main Bay of ICT-3 (400/220 kV 500 MVA)
1361		400 kV Tie Bay of Barh-2 and Balia-1
1362		400 kV Tie Bay of Barh-1 and Balia-2
1363		400 kV Tie Bay of Barh-3 and Balia-3

Sl No	Name of Substation	Name of Bay
1364		400 kV Tie Bay of Barh-4 and Balia-4
1365		400 kV Tie Bay of NPGC-1 and ICT-1
1366		400 kV Tie Bay of NPGC-2 and ICT-2
1367		400 kV Tie Bay of Kishanganj-2 and Bus Reactor-2
1368		400 kV Tie Bay of Kishanganj-1 and ICT-3
1369	400 kV PPSP	400 kV Main Bay of Unit-1
1370		400 kV Main Bay of Unit-2
1371		400 kV Main Bay of Unit-3
1372		400 kV Main Bay of Unit-4
1373		400 kV Main Bay of Bidhannagar-1 (Durgapur WB)
1374		400 kV Main Bay of Bidhannagar-2 (Durgapur WB)
1375		400 kV Main Bay of New PPSP-1
1376		400 kV Main Bay of New PPSP-2
1377		400 kV Bus-1 and Bus-2 Coupler
1378	400 kV Raghunathpur	400 kV Main Bay of Ranchi-1
1379		400 kV Main Bay of Ranchi-2 with Line Reactor (50 MVAr)
1380		400 kV Main Bay of Ranchi-3 with Line Reactor (50 MVAr)
1381		400 kV Main Bay of DSTPS-1
1382		400 kV Main Bay of DSTPS-2
1383		400 kV Main Bay of Maithon
1384		400 kV Main Bay of Unit-1
1385		400 kV Main Bay of Unit-2
1386		400 kV Main Bay of Station Transformer-1 (400/11 kV 90 MVA)
1387		400 kV Main Bay of Station Transformer-2 (400/11 kV 90 MVA)
1388		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)

Sl No	Name of Substation	Name of Bay
1389		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1390		400 kV Main Bay of Bus Reactor-1 (50 MVAr)
1391		400 kV Main Bay of Bus Reactor-2 (50 MVAr)
1392		400 kV Tie Bay of Maithon and Ranchi-1
1393		400 kV Tie Bay of Ranchi-2 and Ranchi-3
1394		400 kV Tie Bay of DSTPS-1 and DSTPS-2
1395		400 kV Tie Bay of ICT-1 and ICT-2
1396		400 kV Tie Bay of Unit-1 and Bus Reactor -2
1397		400 kV Tie Bay of Station Transformer-1 and Station Transformer-2
1398		400 kV Main Bay of Future-1
1399		400 kV Main Bay of Future-2
1400		400 kV Main Bay of Future-3
1401		400 kV Main Bay of Future-4
1402		400 kV Tie Bay of Future-1 And Future-2
1403		400 kV Tie Bay of Future-3 And Future-4
1406	400/220 kV Rangpo (400 kV Side)	400 kV Main Bay of Binaguri-1
1407		400 kV Main Bay of Binaguri-2
1408		400 kV Main Bay of Teesta V -1
1409		400 kV Main Bay of Teesta V -2
1410		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1411		400 kV Main Bay of ICT-2 (400/220 kV 315 MVA)
1412		400 kV Main Bay of ICT-3 (400/220 kV 315 MVA)
1413		400 kV Main Bay of ICT-4 (400/220 kV 315 MVA)
1414		400 kV Main Bay of ICT-5 (400/220 kV 315 MVA)
1415		400 kV Main Bay of Dikchu

Sl No	Name of Substation	Name of Bay
1416		400 kV Main Bay of Kishanganj -1
1417		400 kV Main Bay of Bus Reactor -1 (80 MVAr)
1418		400 kV Main Bay of Bus Reactor -2 (80 MVAr)
1419		400 kV Bus-1 and Bus-2 Coupler
1420		400 kV Main Bay of Future for Teesta-III -1
1421		400 kV Main Bay of Future for Kishanganj -1
1422	400/220 kV Sagardighi TPS (400 kV Side)	400 kV Main Bay of Unit-1 (300 MW)
1423		400 kV Main Bay of Unit-2 (300 MW)
1424		400 kV Main Bay of Unit-3 (500 MW)
1425		400 kV Main Bay of Unit-4 (500 MW)
1426		400 kV Main Bay of Gokarno-1
1427		400 kV Main Bay of Gokarno-2
1428		400 kV Main Bay of Behrampur-1
1429		400 kV Main Bay of Behrampur-2
1430		400 kV Main Bay of Durgapur-1
1431		400 kV Main Bay of Durgapur-2
1432		400 kV Main Bay of Jeerat
1433		400 kV Main Bay of Subhasgram
1434		400 kV Main Bay of ICT-1 (400/220 kV 315 MVA)
1435		400 kV Main Bay of Future-3 for ICT-2
1436		400 kV Main Bay of Station Transformer-3 (400/11 kV 80 MVA)
1437		400 kV Main Bay of Station Transformer-4 (400/11 kV 80 MVA)
1438		400 kV Main Bay of Future-2
1439		400 kV Main Bay of Farakka-1
1440		400 kV Main Bay of Farakka-2

Sl No	Name of Substation	Name of Bay
1441		400 kV Tie Bay of Future-1 and Jeerat
1442		400 kV Tie Bay of Farakka-2 and Behrampur-1
1443		400 kV Tie Bay of Gokarno-1 and Behrampur-2
1444		400 kV Tie Bay of Gokarno-2 and Durgapur-1
1445		400 kV Tie Bay of Future-2 and Durgapur-2
1446		400 kV Tie Bay of Subhasgram and Farakka-1
1447		400 kV Tie Bay of ICT-1 and Future-3
1448		400 kV Tie Bay of Unit-1 and Unit-2
1449		400 kV Tie Bay of Unit-4 and Station Transformer-4
1450		400 kV Tie Bay of Unit-3 and Station Transformer-3
1451		400 kV Main Bay of Future-1
1452		400 kV Main Bay of Future-4 for Unit
1453		400 kV Main Bay of Future-5 for Station Transformer
1454		400 kV Main Bay of Future-6
1455		400 kV Main Bay of Future-7
1456		400 kV Main Bay of Future-8
1457		400 kV Main Bay of Future-9
1458		400 kV Tie Bay of Future-4 and Future-5
1459		400 kV Tie Bay of Future-6 and Future-7
1460		400 kV Tie Bay of Future-8 and Future-9
1461	400 kV Talcher HVDC Sustation AC Side	400 kV Main Bay of Pole I
1462		400 kV Tie Bay of Pole I & AC filter Bank II
1463		400 kV Main Bay of AC Filter Bank II
1464		400 kV Main Bay of Pole II (Converter Transformer-II)
1465		400 kV Tie Bay of Pole II & AC Fileter Bank III

Sl No	Name of Substation	Name of Bay
1466		400 kV Main Bay of AC Filter Bank III
1467		400 kV Main Bay of AC Filter Bank I (Bus I)
1468		400 kV Main Bay of AC Filter Bank I (Bus II)
1469		400 kV Bus-1 and Bus-3 Coupler
1470		400 kV Bus-2 and Bus-4 Coupler
1471		400 kV Main Bay of Talcher STPS-1
1472		400 kV Main Bay of Talcher STPS-2
1473		400 kV Main Bay of Talcher STPS-3
1474		400 kV Main Bay of Talcher STPS-4
1475	765/400/220 kV Sasaram (400 kV Side)	400 kV Main Bay of ICT-1 (765/400 kV 1500 MVA)
1476		400 kV Main Bay of Daltonganj-1
1477		400 kV Main Bay of Daltonganj-2
1478		400 kV Main Bay of Biharshariff-1 with Line Reactor (50 MVAr)
1479		400 kV Main Bay of Biharshariff-2 with Line Reactor (50 MVAr)
1480		400 kV Main Bay of BRBCL-1
1481		400 kV Main Bay of BRBCL-2
1482		400 kV Main Bay of Varanasi North Bus with Line Reactor (63 MVAr) (Bus-II)
1483		400 kV Main Bay of Allahabad North Bus with Line Reactor (63 MVAr) (Bus-II)
1484		400 kV AC bypass of North Bus-1 and East Bus-1
1485		
1486		400 kV Main Bay of HVDC Pole (Converter Transformer)
1487		400 kV Main Bay of Fiter Bank East Bus
1488		400 kV Main Bay of Fiter Bank North Bus
1489		400 kV Main Bay of Varanasi North Bus with Line Reactor (63 MVAr) (Bus-I)
1490		400 kV Main Bay of Allahabad North Bus with Line Reactor (63 MVAr) (Bus-I)

Sl No	Name of Substation	Name of Bay
1491		400 kV Main Bay of ICT-1 (400/220 kV 500 MVA)
1492		400 kV Main Bay of ICT-2 (400/220 kV 500 MVA)
1493		400 kV Main Bay of Bus Reactor-1 (125 MVAr)
1494		400 kV Main Bay of Bus Reactor-2 (125 MVAr)
1495		400 kV Main Bay of Future-1
1496		400 kV Main Bay of Future-2
1497		400 kV Tie Bay of Daltonganj-1 and ICT-1
1498		400 kV Tie Bay of Biharshariff-1 and ICT-2
1499		400 kV Tie Bay of Biharshariff-2 and Bus Reactor-1
1500		400 kV Tie Bay of Future-1 and Bus Reactor-2
1501		400 kV Tie Bay of Future-2 and BRBCL-1
1502		400 kV Tie Bay of Daltonganj-2 and BRBCL-2
1503	400/132 kV TISCO (400 kV Side)	400 kV Main Bay of Baripada
1504		400 kV Main Bay of ICT-1 (400/132 kV 500 MVA)
1505		400 kV Main Bay of ICT-2 (400/132 kV 500 MVA)
1506		400 kV Main Bay of Jamsedpur
1507		400 kV Tie Bay of Baripada and ICT-1
1508		400 kV Tie Bay of Jamsedpur and ICT-2
1509	400 kV Teesta-III	400 kV Main Bay of Unit-1
1510		400 kV Main Bay of Unit-2
1511		400 kV Main Bay of Unit-3
1512		400 kV Main Bay of Unit-4
1513		400 kV Main Bay of Unit-5
1514		400 kV Main Bay of Unit-6
1515		400 kV Bus 1 and Bus 2 Coupler

Sl No	Name of Substation	Name of Bay
1516		400 kV Main Bay of Dikchu (Line-2)
1517		400 kV Main Bay of Kishanganj (Line-1)
1518	400 kV Teesta-V	400 kV Main Bay of Unit-1
1519		400 kV Main Bay of Unit-2
1520		400 kV Main Bay of Unit-3
1521		400 kV Bus 1 and Bus 2 Coupler
1522		400 kV Main Bay of Rangpo-1 (Line-2)
1523		400 kV Main Bay of Rangpo-2 (Line-1)
1524	400/220 kV Sterlite (400 kV Side)	400 kV Main Bay of Jharsuguda-1
1525		400 kV Main Bay of Jharsuguda-2
1526		400 kV Main Bay of Lapanga-1
1527		400 kV Main Bay of Lapanga-2
1528		400 kV Main Bay of Unit-1
1529		400 kV Main Bay of Unit-2
1530		400 kV Main Bay of Unit-3
1531		400 kV Main Bay of Unit-4
1532		400 kV Main Bay of Smelter-1
1533		400 kV Main Bay of Smelter-2
1534		400 kV Main Bay of Smelter-3
1535		400 kV Main Bay of ICT-1 (400/132 kV 315 MVA)
1536		400 kV Main Bay of ICT-2 (400/132 kV 315 MVA)
1537		400 kV Main Bay of Station Transformer-1(400/11 kV)
1538		400 kV Main Bay of Station Transformer-2(400/11 kV)
1539		400 kV Tie Bay of Jharsuguda-1 and Jharsuguda-2
1540		400 kV Tie Bay of Lapanga-1 and Lapanga-2

Sl No	Name of Substation	Name of Bay
1541		400 kV Bus 1 and Bus 3 Coupler (Bus Sectionalizer)
1542		400 kV Bus 2 and Bus 4 Coupler (Bus Sectionalizer)
1543		400 kV Tie Bay of Unit-4 and Smelter-3
1544		400 kV Tie Bay of Unit-3 and Smelter-2
1545		400 kV Tie Bay of Station Transformer-1 and Station Transformer-2
1546		400 kV Main Bay of Line-1
1547		400 kV Main Bay of Line-2
1548		400 kV Main Bay of Line-4
1549		400 kV Main Bay of Line-5
1550		400 kV Main Bay of Line-6
1551		400 kV Tie Bay of Unit-3 and Line-5
1552		400 kV Tie Bay of Unit-4 and Line-6
1553	400/220 kV Talcher St-1 (400 kV Side)	400 kV Main Bay of Rourkela-1
1554		400 kV Main Bay of Rourkela-2
1555		400 kV Main Bay of Rengali-1
1556		400 kV Main Bay of Rengali-2
1557		400 kV Main Bay of Meramandali-1
1558		400 kV Main Bay of Meramandali-2 (Bus-1)
1559		400 kV Main Bay of ICT-1 (400/132 kV 315 MVA)
1560		400 kV Main Bay of ICT-2 (400/132 kV 315 MVA)
1561		400 kV Main Bay of Unit-1 (Bus-I)
1562		400 kV Main Bay of Unit-2(Bus-I)
1563		400 kV Main Bay of Unit-2(Bus-II)
1564		400 kV Bus-1 and Bus-3 Coupler (Bus Sectionalizer) (Between St-I and St-II)
1565		400 kV Bus-2 and Bus-4 Coupler (Bus Sectionalizer) (Between St-I and St-II)

Sl No	Name of Substation	Name of Bay
1566		400 kV Tie Bay of ICT-2 and Rourkela-1
1567		400 kV Tie Bay of ICT-1 and Future-1
1568		400 kV Tie Bay of Rourkela-2 and Rengali-1
1569		400 kV Main Bay of Unit-1 (Bus-II)
1570		400 kV Tie Bay of Rengali-2 and Meramandali-1
1571		400 kV Main Bay of Meramandali-2 (Bus-II)
1572	400/220 kV Talcher St-2	400 kV Bus-1 and Bus-3 Coupler (Bus Sectionalizer) (Between St-I and St-II)
1573		400 kV Bus-2 and Bus-4 Coupler (Bus Sectionalizer) (Between St-I and St-II)
1574		400 kV Main Bay of Unit-3
1575		400 kV Main Bay of Unit-4 (Bus-III)
1576		400 kV Main Bay of Unit-4 (Bus-IV)
1577		400 kV Main Bay of Unit-5 (Bus-V)
1578		400 kV Main Bay of Unit-5 (Bus-VI)
1579		400 kV Main Bay of Unit-6
1580		400 kV Main Bay of Talcher HVDC-1
1581		400 kV Main Bay of Talcher HVDC-2
1582		400 kV Main Bay of Talcher HVDC-3
1583		400 kV Main Bay of Talcher HVDC-4
1584		400 kV Bus 3 and Bus 5 Coupler (Bus Sectionalizer)
1585		400 kV Bus 4 and Bus 6 Coupler (Bus Sectionalizer)
1586		400 kV Main Bay of Station Transformer-2 (400/11.5 kV)
1587		400 kV Main Bay of Station Transformer-3 (400/11.5 kV)
1588		400 kV Tie Bay of Unit-4 and Station Transformer-2
1589		400 kV Tie Bay of Unit-6 and Station Transformer-3
1590	400/220 kV Sitamarhi	400 kV Main Bay of Motihari-1

Sl No	Name of Substation	Name of Bay
1591	400 kV Side	400 kV Main Bay of Motihari-2
1592		400 kV Main Bay of Darbhanga-1
1593		400 kV Main Bay of Darbhanga-2
1594		400 kV Main Bay of ICT-1 (400/220 kV 500 MVA)
1595		400 kV Main Bay of ICT-2 (400/220 kV 500 MVA)
1596		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
1597		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
1598		400 kV Tie Bay of Darbhanga-1 and Bus Reactor-1
1599		400 kV Tie Bay of Darbhanga-2 and ICT-2
1600		400 kV Tie Bay of Motihari-1 and Bus Reactor-2
1601		400 kV Tie Bay of Motihari-2 and Bus Reactor-1
1602	765/400 kV Mednipur (400 kV Side)	400 kV Main Bay of New Chanditala-1
1603		400 kV Main Bay of New Chanditala-2
1604		400 kV Main Bay of Kharagpur-1
1605		400 kV Main Bay of Kharagpur-2
1606		400 kV Main Bay of ICT-1 (765/400 kV 1500 MVA)
1607		400 kV Main Bay of ICT-2 (765/400 kV 1500 MVA)
1608		400 kV Main Bay of Bus Reactor -1 (125 MVAr)
1609		400 kV Main Bay of Bus Reactor -2 (125 MVAr)
1610		400 kV Tie Bay of Kharagpur-1 and Bus Reactor-2
1611		400 kV Tie Bay of New Chanditala-2 and Bus Reactor-1
1612		400 kV Tie Bay of New Chanditala-1 and ICT-2
1613		400 kV Tie Bay of Kharagpur-2 and ICT-1

11.3 220 kV bays

Sl No	Name of Substation	Name of Bay
1	400/220 kV Kishanganj (220 kV Side)	220 kV Main Bay of Kishangnaj Bihar - 1
2		220 kV Main Bay of Kishangnaj Bihar - 2
3		220 kV Main Bay of Kishangnaj Bihar - 3
4		220 kV Main Bay of Kishangnaj Bihar - 4
5		220 kV Main Bay of NJP - 1
6		220 kV Main Bay of NJP - 2
7		220 kV Main Bay of Dalkola - 1
8		220 kV Main Bay of Dalkola - 2
9		220 kV Main Bay of Kishanganj 400/220 kV ICT - 1
10		220 kV Main Bay of Kishanganj 400/220 kV ICT - 2
11		220 kV Transfer Bus Coupler Bay
12		220 kV Bus Coupler Bay
13	400/220 kV Patna (220 kV Side)	220 kV Main Bay of Khagual - 1
14		220 kV Main Bay of Khagual - 2
15		220 kV Main Bay of Khagual - 3
16		220 kV Main Bay of Sipara - 1
17		220 kV Main Bay of Sipara - 2
18		220 kV Main Bay of Sipara - 3
19		220 kV Main Bay of Patna - 1
20		220 kV Main Bay of Patna 400/220 kV ICT - 1
21		220 kV Main Bay of Patna 400/220 kV ICT - 2
22		220 kV Main Bay of Patna 400/220 kV ICT - 3
23		220 kV Bus Coupler Bay
24		220 kV Transfer Bus Coupler Bay
25	220/132 kV Purnea (220 kV Side)	220 kV Main Bay of Dalkola - 1
26		220 kV Main Bay of Dalkola - 2
27		220 kV Main Bay of Purnea - 1
28		220 kV Main Bay of Purnea - 2
29		220 kV Main Bay of Purnea 220/132 kV ATR - 1
30		220 kV Bus Coupler Bay
31		220 kV Transfer Bus Coupler Bay
32		220 kV Main Bay of Purnea 220/132 kV ATR - 2
33		220 kV Main Bay of Purnea 220/132 kV ATR - 3
34	400/220 kV Ranchi (220 kV Side)	220 kV Main Bay of Ranchi - 1
35		220 kV Main Bay of Ranchi - 1
36		220 kV Main Bay of Ranchi - 2
37		220 kV Main Bay of Ranchi - 3
38		220 kV Main Bay of Ranchi 400/220 kV ICT - 1
39		220 kV Bus Coupler Bay
40		220 kV Transfer Bus Coupler Bay
41		220 kV Main Bay of Ranchi 400/220 kV ICT - 2
42	400/220 kV Alipudwar	220 kV Main Bay of Salakatia - 1
43		220 kV Main Bay of Salakatia - 2

Sl No	Name of Substation	Name of Bay
44		220 kV Main Bay of Alipurdwar WB - 1
45		221 kV Main Bay of Alipurdwar WB - 1
46		220 kV Main Bay of Alipurdwar - 1
47		220 kV Main Bay of Alipurdwar - 2
48		220 kV Main Bay of Alipudwar 400/220 kV ICT - 1
49		220 kV Transfer Bus Coupler Bay
50		220 kV Bus Coupler Bay
51		220 kV Main Bay of Alipudwar 400/220 kV ICT - 2
52	220/132 Alipudwar WB (220 kV Side)	220 kV Main Bay of Alipurdwar - 1
53		220 kV Bus Coupler Bay
54		220 kV Main Bay of Alipurdwar - 2
55	220/132 kV Arah (220 kV Side)	220 kV Main Bay of Khagual - 1
56		220 kV Main Bay of Khagual - 2
57		220 kV Main Bay of Pusauli - 1
58		220 kV Main Bay of Pusauli - 2
59		220 kV Main Bay of Arah 220/132 kV ATR - 1
60		220 kV Main Bay of Arah 220/132 kV ATR - 2
61		220 kV Bus Coupler Bay
62		220 kV Transfer Bus Coupler Bay
63		220 kV Main Bay of Arah 220/132 kV ATR - 3
64	220/132 kV Atri (220 kV Side)	220 kV Bus Coupler Bay
65		220 kV Transfer Bus Coupler Bay
66		220 kV Main Bay of Atri - 1
67		220 kV Main Bay of Atri - 2
68	220/132 kV Balasore(220kV Side)	220 kV Bus Coupler Bay
69		220 kV Transfer Bus Coupler Bay
70		220 kV Main Bay of Baripada - 1
71		220 kV Main Bay of Baripada - 2
72	400/220 kV Baripada (220 kV Side)	220 kV Bus Coupler Bay
73		220 kV Transfer Bus Coupler Bay
74		220 kV Main Bay of Balasore - 1
75		220 kV Main Bay of Balasore - 2
76		220 kV Main Bay of Baripada 220/132 kV ATR - 1
77		220 kV Main Bay of Baripada 220/132 kV ATR - 2
78		220 kV Main Bay of Baripada 400/220 kV ICT - 1
79		220 kV Main Bay of Baripada 400/220 kV ICT - 2
80		220 kV Main Bay of Baripada 400/220 kV ICT - 3
81	220/132 kV Begusarai	220 kV Bus Coupler Bay
82		220 kV Transfer Bus Coupler Bay
83		220 kV Main Bay of New Purnea - 1
84		220 kV Main Bay of New Purnea - 2
85	400/220 kV Binaguri (220 kV Side)	220 kV Bus Coupler Bay
86		220 kV Transfer Bus Coupler Bay
87		220 kV Main Bay of Birpara - 1
88		220 kV Main Bay of Birpara - 2

Sl No	Name of Substation	Name of Bay
89		220 kV Main Bay of Siliguri - 1
90		220 kV Main Bay of Siliguri - 2
91		220 kV Main Bay of NJP(WB) Bus - 1 extension
92		220 kV Main Bay of NJP(WB) Bus - 2 extension
93		220 kV Main Bay of Binaguri 400/220 kV ICT - 1
94		220 kV Main Bay of Binaguri 400/220 kV ICT - 2
95	220/132 kV Birpara (220 kV Side)	220 kV Bus Coupler Bay
96		220 kV Transfer Bus Coupler Bay
97		220 kV Main Bay of Binaguri - 1
98		220 kV Main Bay of Binaguri - 2
99		220 kV Main Bay of Alipurdwar - 1
100		220 kV Main Bay of Alipurdwar - 2
101		220 kV Main Bay of Chukhan - 1
102		220 kV Main Bay of Chukhan - 2
103		220 kV Main Bay of Malabase - 1
104		220 kV Main Bay of Birpara 220/132 kV ATR - 1
105		220 kV Main Bay of Birpara 220/132 kV ATR - 2
106	220/132 kV Bodhgaya (220 kV Side)	220 kV Bus Coupler Bay
107		220 kV Transfer Bus Coupler Bay
108		220 kV Main Bay of Gaya - 1
109		220 kV Main Bay of Gaya - 2
110	400/220 kV Bolangir (220 kV Side)	220 kV Bus Coupler Bay
111		220 kV Transfer Bus Coupler Bay
112		220 kV Main Bay of New Bolangir - 1
113		220 kV Main Bay of New Bolangir - 2
114		220 kV Main Bay of Bolangir - 1
115		220 kV Main Bay of Bolangir 400/220 kV ICT - 1
116		220 kV Main Bay of Bolangir 400/220 kV ICT - 2
117	400/220 kV Chaibasa (220 kV Side)	220 kV Bus Coupler Bay
118		220 kV Transfer Bus Coupler Bay
119		220 kV Main Bay of New Chaibasa Jharkahnd - 1
120		220 kV Main Bay of New Chaibasa Jharkahnd - 2
121		220 kV Bus Coupler Bay
122		220 kV Transfer Bus Coupler Bay
123		220 kV Main Bay of Chaibasa 400/220 kV ICT - 1
124		220 kV Main Bay of Chaibasa 400/220 kV ICT - 2
125	220/132 kV Chaibasa New (220 kV Side)	220 kV Main Bay of Chaibasa - 1
126		220 kV Bus Coupler Bay
127		220 kV Transfer Bus Coupler Bay
128		220 kV Main Bay of Chaibasa - 2
129	220/132 kV Chandil (220 kV Side)	220 kV Main Bay of Ranchi - 1
130	220 kV Chukha	220 kV Main Bay of Birpara - 1
131		220 kV Main Bay of Birpara - 2
132		220 kV Bus Coupler Bay

Sl No	Name of Substation	Name of Bay
133		220 kV Transfer Bus Coupler Bay
134	220/132 kV Dalkola WB (220 kV Side)	220 kV Main Bay of Dalkola - 1
135		220 kV Bus Coupler Bay
136		220 kV Transfer Bus Coupler Bay
137		220 kV Main Bay of Dalkola - 2
138	220 kV Dalkola	220 kV Main Bay of Dalkola WB - 1
139		220 kV Main Bay of Dalkola WB- 1
140		220 kV Main Bay of Kishanganj - 1
141		220 kV Main Bay of Kishanganj - 1
142		220 kV Main Bay of Purnea-1
143		220 kV Main Bay of Purnea-2
144		220 kV Transfer Bus Bay
145		220 kV Bus Coupler Bay
146		220 kV Main Bay of Gazol-1
147		220 kV Main Bay of Gazol-2
148		220 kV Bus Coupler Bay
149		220 kV Transfer Bus Coupler Bay
150	400/220 kV Daltonganj (220 kV Side)	220 kV Main Bay of New Garhwa - 1
151		220 kV Bus Coupler Bay
152		220 kV Transfer Bus Coupler Bay
153		220 kV Main Bay of New Garhwa - 2
154		220 kV Main Bay of Daltonganj 220/132 kV ATR - 1
155		220 kV Main Bay of Daltonganj 220/132 kV ATR - 2
156		220 kV Main Bay of Daltangnj 400/220 kV ICT - 1
157		220 kV Main Bay of Daltangnj 400/220 kV ICT - 2
158	220/132 kV Dehri (220 kV Side)	220 kV Main Bay of Sasaram - 1
159		220 kV Bus Coupler Bay
160		220 kV Transfer Bus Coupler Bay
161		220 kV Main Bay of Gaya - 1
162		220 kV Main Bay of Gaya - 2
163	220 kV Dhanbad	220 kV Main Bay of Maithon - 1
164		220 kV Bus Coupler Bay
165		220 kV Transfer Bus Coupler Bay
166		220 kV Main bay of Giridih - 1
167		220 kV Main bay of Giridih - 2
168		220 kV Main bay of Ctps A - 1
169		220 kV Main bay of Ctps B - 2
170		220 kV Main Bay of Maithon - 2
171	220/132 kV Dumka (220 kV Side)	220 kV Main Bay of Maithon - 1
172		220 kV Bus Coupler Bay
173		220 kV Main bay of Govindpur - 1
174		220 kV Main bay of Govindpur - 2
175		220 kV Transfer Bus Coupler Bay
176		220 kV Main Bay of Maithon - 2
177	220 kV EMSS	220 kV Bus Coupler Bay

Sl No	Name of Substation	Name of Bay
178		220 kV Transfer Bus Coupler Bay
179		220 kV Main Bay of Subhasgram - 1
180		220 kV Main Bay of Subhasgram - 2
181	400/220 kV Farakka (220 kV Side)	220 kV Bus Coupler Bay
182		220 kV Transfer Bus Coupler Bay
183		220 kV Main Bay of Farakka - 1
184		220 kV Main Bay of Farakka 400/220 kV ICT - 1
185	220/132 kV Fatuah (220 kV Side)	220 kV Bus Coupler Bay
186		220 kV Transfer Bus Coupler Bay
187		220 kV Main bay of Biharshariff - 1
188		220 kV Main bay of Biharshariff - 2
189		220 kV Main Bay of Patna - 1
190	765/400/220 kV Gaya (220 kV Side)	220 kV Main Bay of Sonenagar - 1
191		220 kV Main Bay of Sonenagar - 2
192		220 kV Main Bay of Khizirsarai - 1
193		220 kV Main Bay of Khizirsarai - 2
194		220 kV Main Bay of Dehri - 1
195		220 kV Main Bay of Dehri - 2
196		220 kV Main Bay of BodhGaya - 1
197		220 kV Main Bay of BodhGaya - 2
198		220 kV Bus Coupler Bay
199		220 kV Transfer Bus Coupler Bay
200		220 kV Main Bay of Gaya 400/220 kV ICT - 1
201		220 kV Main Bay of Gaya 400/220 kV ICT - 2
202		220 kV Main Bay of Gaya 400/220 kV ICT - 3
203	220/132 kV Gazol (220 kV Side)	220 kV Main Bay of Malda - 1
204		220 kV Bus Coupler Bay
205		220 kV Transfer Bus Coupler Bay
206		220 kV Main Bay of Malda - 2
207		220 kV Main Bay of Dalkola - 1
208		220 kV Main Bay of Dalkola - 2
209	220/132 kV Kizirsarai (220 kV Side)	220 kV Main Bay of Gaya - 1
210		220 kV Bus Coupler Bay
211		220 kV Main Bay of Gaya - 2
212	220/132 kV Hatia (220 kV Side)	220 kV Main Bay of Ranchi - 1
213		220 kV Bus Coupler Bay
214		220 kV Transfer Bus Coupler Bay
215		220 kV Main bay of Patratu TPS - 1
216		220 kV Main bay of Patratu TPS - 2
217		220 kV Main Bay of Ranchi - 2
218		220 kV Main Bay of Ranchi - 3
219	220/132 kV Hazipur (220 kV Side)	220 kV Main Bay of Muzaffarpur - 1
220		220 kV Bus Coupler Bay
221		220 kV Transfer Bus Coupler Bay
222		220 kV Main Bay of Muzaffarpur - 2

Sl No	Name of Substation	Name of Bay
223	400/220 kV Jeerat (220 kV Side)	220 kV Main Bay of Rajarhat - 1
224		220 kV Bus Coupler Bay
225		220 kV Transfer Bus Coupler Bay
226		220 kV Main Bay of Jeerat 400/220 kV ICT - 1
227		220 kV Main Bay of Jeerat 400/220 kV ICT - 2
228		220 kV Main Bay of Jeerat 400/220 kV ICT - 3
229		220 kV Main Bay of Jeerat 400/220 kV ICT - 4
230		220 kV Main bay of Dharampur - 1
231		220 kV Main bay of Dharampur - 2
232		220 kV Main bay of Barasat - 1
233		220 kV Main bay of Barasat - 2
234		220 kV Main bay of Newtown - 1
235		220 kV Main bay of Newtown - 2
236		220 kV Main Bay of Rajarhat - 2
237	220/132 kV Jeynagar(220 kV Side)	220 kV Main Bay of Jeypur - 1
238		220 kV Bus Coupler Bay
239		220 kV Transfer Bus Coupler Bay
240		220 kV Main Bay of Jeypur - 2
241	400/220 kV Jeypore (220 kV Side)	220 kV Main Bay of Jeynagar - 1
242		220 kV Main Bay of Jeynagar - 2
243		220 kV Bus Coupler Bay
244		220 kV Transfer Bus Coupler Bay
245		220 kV Main Bay of Jeypore 400/220 kV ICT - 1
246		220 kV Main Bay of Jeypore 400/220 kV ICT - 2
247	220 kV Jorthang	220 kV Main Bay of Jorthang - 1
248		220 kV Main Bay of Jorthang - 2
249		220 kV Bus Coupler Bay
250	400/220 kV Keonjhar (220 kV Side)	220 kV Main Bay of Keonjhar Odisha - 1
251		220 kV Main Bay of Keonjhar Odisha - 2
252		220 kV Transfer Bus Coupler Bay
253		220 kV Main Bay of Bolangir - 1
254		220 kV Main Bay of Keonjhar 400/220 kV ICT - 1
255		220 kV Main Bay of Keonjhar 400/220 kV ICT - 2
256	220/132 kV Keonjhar (220 kV Side)	220 kV Main Bay of Keonjhar - 1
257		220 kV Bus Coupler Bay
258		220 kV Transfer Bus Coupler Bay
259		220 kV Main Bay of Keonjhar - 2
260	220/132 kV Katapalli	220 kV Main Bay of Bolangir - 1
261		220 kV Bus Coupler Bay
262		220 kV Transfer Bus Coupler Bay
263		220 kV Main Bay of Bolangir - 1
264		220 kV Main Bay of Bolangir - 1
265	220/132 kV New Khagaria (220 kV Side)	220 kV Transfer Bus Coupler Bay
266		220 kV Main Bay of Bolangir - 1
267		220 kV Main Bay of New Khagaria - 1

Sl No	Name of Substation	Name of Bay
268	220/131 kV Khagaul (220 kV Side)	220 kV Main Bay of Arah - 1
269		220 kV Main Bay of Arah - 2
270		220 kV Main Bay of Patna - 1
271		220 kV Main Bay of Patna - 2
272		220 kV Bus Coupler Bay
273		220 kV Transfer Bus Coupler Bay
274		220 kV Main Bay of Patna - 3
275	220/132 kV Kishanganj Bihar(220 kV Side)	220 kV Main Bay of Kishangnaj Bihar - 1
276		220 kV Main Bay of Kishangnaj Bihar - 2
277		220 kV Main Bay of Kishangnaj Bihar - 3
278		220 kV Bus Coupler Bay
279		220 kV Main Bay of Kishangnaj Bihar - 4
280	220/132 kV Kalyaneswari (220 kV Side)	220 kV Main Bay of Maithon - 1
281		220 kV Bus Coupler Bay
282		220 kV Transfer Bus Coupler Bay
283		220 kV Main Bay of Maithon - 2
284	220/132 kV Lalmatia (220 kV Side)	220 kV Bus Coupler Bay
285		220 kV Transfer Bus Coupler Bay
286		220 kV Main Bay of Farakka - 1
287	220/132 kV Madehpura (220 kV Side)	220 kV Main Bay of Purnea - 1
288		220 kV Bus Coupler Bay
289		220 kV Transfer Bus Coupler Bay
290		220 kV Main Bay of Purnea - 2
291	400/220 kV Maithon (220 kV Side)	220 kV Main Bay of Kalyaneswari - 1
292		220 kV Bus Coupler Bay
293		220 kV Transfer Bus Coupler Bay
294		220 kV Main Bay of Kalyaneswari - 2
295		220 kV Main Bay of Dhanbad - 1
296		220 kV Main Bay of Dhanbad - 2
297		220 kV Main Bay of Dumka - 1
298		220 kV Main Bay of Dumka - 2
299		220 kV Main Bay of Maithon 400/220 kV ICT - 1
300		220 kV Main Bay of Maithon 400/220 kV ICT - 2
301		220 kV Main Bay of Maithon 400/220 kV ICT - 3
302	400/220 kV Malabase (220 kV Side)	220 kV Bus Coupler Bay
303		220 kV Transfer Bus Coupler Bay
304		220 kV Main Bay of Malabase - 1
305	400/220 kV Malda (220 kV Side)	220 kV Main Bay of Gazole - 1
306		220 kV Bus Coupler Bay
307		220 kV Transfer Bus Coupler Bay
308		220 kV Main Bay of Gazole - 2
309		220 kV Main Bay of Malda 220/132 kV ATR - 1
310		220 kV Main Bay of Malda 220/132 kV ATR - 2
311		220 kV Main Bay of Malda 220/132 kV ATR - 3
312		220 kV Main Bay of Malda 400/220 kV ICT - 1

Sl No	Name of Substation	Name of Bay
313		220 kV Main Bay of Malda 400/220 kV ICT - 2
314	400/220 kV Meramandali (220 kV Side)	220 kV Main Bay of Talcher Super - 1
315		220 kV Main Bay of Talcher Super - 2
316	400/220 kV Muzzafarpur (220 kV Side)	220 kV Main Bay of Hazipur - 1
317		220 kV Bus Coupler Bay
318		220 kV Transfer Bus Coupler Bay
319		220 kV Main Bay of Hazipur - 2
320		220 kV Main Bay of KBUNL - 1
321		220 kV Main Bay of KBUNL - 2
322		220 kV Main Bay of Spare - 1
323		220 kV Main Bay of Spare - 2
324		220 kV Main Bay of Muzzafarpur 400/220 kV ICT - 1
325		220 kV Main Bay of Muzzafarpur 400/220 kV ICT - 2
326		220 kV Main Bay of Muzzafarpur 400/220 kV ICT - 3
327	400/220 kV New Purnea (220 kV Side)	220 kV Main Bay of Purnea - 1
328		220 kV Main Bay of Purnea - 2
329		220 kV Main Bay of Madehpura - 1
330		220 kV Main Bay of Madehpura - 2
331		220 kV Main Bay of New Khagaria - 1
332		220 kV Bus Coupler Bay
333		220 kV Transfer Bus Coupler Bay
334		220 kV Main Bay of Begusarai - 1
335		220 kV Main Bay of New Purnea 400/220 kV ICT - 1
336		220 kV Main Bay of New Purnea 400/220 kV ICT - 2
337	220/132 kV New town (220 kV Side)	220 kV Main Bay of Rajarhat - 1
338		220 kV Bus Coupler Bay
339		220 kV Transfer Bus Coupler Bay
340		220 kV Main Bay of Rajarhat - 2
341	220 kV New Melli	220 kV Main Bay of Jorthang - 1
342		220 kV Main Bay of Jorthang - 2
343		220 kV Main Bay of Taseding - 1
344		220 kV Main Bay of Rangpo - 1
345	220/132 kV Siliguri (220 kV Side)	220 kV Main Bay of Binaguri - 1
346		220 kV Bus Coupler Bay
347		220 kV Transfer Bus Coupler Bay
348		220 kV Main Bay of Binaguri - 2
349		220 kV Main Bay of Kishanganj - 1
350		220 kV Main Bay of Kishanganj - 2
351		220 kV Main Bay of NJP 220/132 kV ATR - 1
352		220 kV Main Bay of NJP 220/132 kV ATR - 2
353	220/132 kV NJP WB (220 kV Side)	220 kV Main Bay of Binaguri Bus - 1 Extension
354		220 kV Bus Coupler Bay
355		220 kV Transfer Bus Coupler Bay
356		220 kV Main Bay of Binaguri Bus - 2 Extension
357	400/220 kV Pandiabilli	220 kV Main Bay of Atri - 1

Sl No	Name of Substation	Name of Bay
358	(220 kV Side)	220 kV Main Bay of Atri - 2
359		220 kV Main Bay of Puri - 1
360		220 kV Main Bay of Puri - 2
361		220 kV Bus Coupler Bay
362		220 kV Transfer Bus Coupler Bay
363		220 kV Main Bay of Pandiabili 400/220 kV ICT - 1
364		220 kV Main Bay of Pandiabili 400/220 kV ICT - 2
365	220/132 kV Parulia DVC (220 kV Side)	220 kV Main Bay of Durgapur - 1
366		220 kV Main Bay of Durgapur - 2
367	400/220 kV Durgapur (220 kV Side)	220 kV Main Bay of Parulia - 1
368		220 kV Main Bay of Parulia - 2
369		220 kV Bus Coupler Bay
370		220 kV Transfer Bus Coupler Bay
371		220 kV Main Bay of Durgapur 400/220 kV ICT - 1
372		220 kV Main Bay of Durgapur 400/220 kV ICT - 2
373		220 kV Main Bay of Durgapur 400/220 kV ICT - 3
374	220/132 kV Puri (220 kV Side)	220 kV Bus Coupler Bay
375		220 kV Transfer Bus Coupler Bay
376		220 kV Main Bay of Pandiabilli - 1
377		220 kV Main Bay of Pandiabilli - 2
378	220/132 kV Nadokar (220 kV Side)	220 kV Main Bay of Sasaram - 1
379		220 kV Bus Coupler Bay
380		220 kV Transfer Bus Coupler Bay
381		220 kV Main Bay of Sasaram - 2
382		220 kV Main Bay of Arah - 1
383		220 kV Main Bay of Arah - 2
384	400/220 kV Sasaram (220 kV Side)	220 kV Main Bay of Nadokar - 1
385		220 kV Bus Coupler Bay
386		220 kV Transfer Bus Coupler Bay
387		220 kV Main Bay of Nadokar - 2
388		220 kV Main Bay of Sahapuri - 1
389		220 kV Main Bay of Dehri - 1
390		220 kV Main Bay of Sasaram 400/220 kV ICT - 1
391		220 kV Main Bay of Sasaram 400/220 kV ICT - 2
392	400/220 kV Rajarhat (220 kV Side)	220 kV Main Bay of New Town AA-III - 1
393		220 kV Main Bay of New Town AA-III - 2
394		220 kV Main Bay of Jeerat - 1
395		220 kV Bus Coupler Bay
396		220 kV Main Bay of Jeerat - 2
397		220 kV Main Bay of Rajarhat 400/220 kV ICT - 1
398		220 kV Main Bay of Rajarhat 400/220 kV ICT - 3
399	220/132 kV Ramchandrapur (220 kV Side)	220 kV Main Bay of Jamsedpur 400/220 kV ICT - 1
400		220 kV Main Bay of Jamsedpur 400/220 kV ICT - 2
401		220 kV Bus Coupler Bay
402		220 kV Transfer Bus Coupler Bay

Sl No	Name of Substation	Name of Bay
403		220 kV Main Bay of Jamsedpur 400/220 kV ICT - 3
404		220 kV Main Bay of Joda - 1
405	400/220 kV Rangpo (220 kV Side)	220 kV Main Bay of New Melli - 1
406		220 kV Main Bay of Taseding - 1
407		220 kV Main Bay of Rangpo 220/132 kV ATR - 1
408		220 kV Main Bay of Rangpo 220/132 kV ATR - 2
409		220 kV Main Bay of Rangpo 220/132 kV ATR - 3
410		220 kV Main Bay of Rangpo 400/220 kV ICT - 1
411		220 kV Main Bay of Rangpo 400/220 kV ICT - 2
412		220 kV Main Bay of Rangpo 400/220 kV ICT - 3
413		220 kV Main Bay of Rangpo 400/220 kV ICT - 4
414		220 kV Main Bay of Rangpo 400/220 kV ICT - 5
415	220 kV Rengali Odisha	220 kV Main Bay of Rengali - 1
416		220 kV Bus Coupler Bay
417		220 kV Transfer Bus Coupler Bay
418		220 kV Main Bay of Rengali - 2
419	400/220 kV Rengali (220 kV Side)	220 kV Main Bay of Rengali Odisha - 1
420		220 kV Bus Coupler Bay
421		220 kV Transfer Bus Coupler Bay
422		220 kV Main Bay of Rengali Odisha - 2
423		220 kV Main Bay of Rengali 400/220 kV ICT - 1
424		220 kV Main Bay of Rengali 400/220 kV ICT - 2
425	220 kV Rengali Power House	220 kV Bus Coupler Bay
426		220 kV Transfer Bus Coupler Bay
427		220 kV Main Bay of Talcher Super - 1
428	400/220 kV Rourkela (220 kV Side)	220 kV Main Bay of Tarkera - 1
429		220 kV Main Bay of Tarkera - 2
430		220 kV Bus Coupler Bay
431		220 kV Transfer Bus Coupler Bay
432		220 kV Main Bay of Rourkela 400/220 kV ICT - 1
433		220 kV Main Bay of Rourkela 400/220 kV ICT - 2
434	220/132 kV Sahapuri (220 kV Side)	220 kV Main Bay of Sasaram - 1
435	220 kV Salakati	220 kV Main Bay of Salakatia - 1
436		220 kV Bus Coupler Bay
437		220 kV Transfer Bus Coupler Bay
438		220 kV Main Bay of Salakatia - 2
439	220/132 kV Sipara (220 kV Side)	220 kV Main Bay of Patna - 1
440		220 kV Bus Coupler Bay
441		220 kV Transfer Bus Coupler Bay
442		220 kV Main Bay of Patna - 2
443		220 kV Main Bay of Patna - 3
444	220/132 kV Sonnegar (220 kV Side)	220 kV Main Bay of Gaya - 1
445		220 kV Bus Coupler Bay
446		220 kV Transfer Bus Coupler Bay

Sl No	Name of Substation	Name of Bay
447		220 kV Main Bay of Gaya - 2
448	220/132 kV Subhasgram WB (220 kV Side)	220 kV Main Bay of Subhasgram - 1
449		220 kV Bus Coupler Bay
450		220 kV Transfer Bus Coupler Bay
451		220 kV Main Bay of Subhasgram - 2
452	400/220 kV Subhasgram (220 kV Side)	220 kV Main Bay of New Town - 1
453		220 kV Main Bay of East Metro Politan - 1
454		220 kV Main Bay of East Metro Politan - 2
455		220 kV Main Bay of Subhasgram WB - 1
456		220 kV Main Bay of Subhasgram WB - 2
457		220 kV Main Bay of Bantala - 1
458		220 kV Main Bay of Subshagram 400/220 kV ICT - 1
459		220 kV Main Bay of Subshagram 400/220 kV ICT - 2
460		220 kV Main Bay of Subshagram 400/220 kV ICT - 3
461		220 kV Bus Coupler Bay
462		220 kV Transfer Bus Coupler Bay
463		220 kV Main Bay of Subshagram 400/220 kV ICT - 4
464		220 kV Main Bay of Subshagram 400/220 kV ICT - 5
465	220/132 kV Tarkera (220 kV Side)	220 kV Main Bay of Rourkela - 1
466		220 kV Bus Coupler Bay
467		220 kV Transfer Bus Coupler Bay
468		220 kV Main Bay of Rourkela - 2
469	220 kV Tasheding	220 kV Main Bay of Rangpo - 1
470		220 kV Main Bay of New Melli - 1
471	400/220 kV Talcher STPS (220 kV Side)	220 kV Main Bay of Meramandali - 1
472		220 kV Bus Coupler Bay
473		220 kV Transfer Bus Coupler Bay
474		220 kV Main Bay of Meramandali - 2
475		220 kV Main Bay of Rengali Power House - 1
476		220 kV Main Bay of Tacher - 2
477		220 kV Main Bay of Talcher STPS 400/220 kV ICT - 1
478		220 kV Main Bay of Talcher STPS 400/220 kV ICT - 2
479	220/132 Talcher TPS (220 kV Side)	220 kV Bus Coupler Bay
480		220 kV Transfer Bus Coupler Bay
481		220 kV Main Bay of Talcher Super - 1
482	220/132 kV Bhanjnagar (220 kV Side)	220 kV Main bay of Meramundali - 1
483		220 kV Main bay of Meramundali - 2
484		220 kV Main bay of Nayagarh - 1
485		220 kV Main bay of Theruvalli - 1
486		220 kV Main bay of Theruvalli - 2
487	220/132 kV Bidanasi (220 kV Side)	220 kV Main bay of Meramundali - 1
488		220 kV Main bay of Meramundali - 2
489	220/132 kV Budhipadar (220 kV Side)	220 kV Main bay of IBTPS - 1
490		220 kV Main bay of IBTPS - 2
491		220 kV Main bay of IBTPS - 3

Sl No	Name of Substation	Name of Bay
492		220 kV Main bay of IBTPS - 4
493		220 kV Main bay of Korba-1
494		220 kV Main bay of Korba-2
495		220 kV Main bay of Raipur
496	220/132 kV Chandaka (220 kV Side)	220 kV Main bay of Mendhasal - 1
497		220 kV Main bay of Mendhasal - 2
498	220/132 kV Dharampur (220 kV Side)	220 kV Main bay of Jeerat - 1
499		220 kV Main bay of Jeerat - 2
500	220/132 kV Domjur (220 kV Side)	220 kV Main bay of Arambagh - 1
501		220 kV Main bay of Arambagh - 2
502	220/132 kV Duburi(old) (220 kV Side)	220 kV Main bay of Meramundali - 1
503		220 kV Main bay of Meramundali - 2
504	220/132 kV Lakhikantpur (220 kV Side)	220 kV Main bay of Subhasgram (WB) - 1
505		220 kV Main bay of Subhasgram (WB) - 2
506	220/132 kV Laxmipur (220 kV Side)	220 kV Main bay of Jayanagar - 1
507		220 kV Main bay of Jayanagar - 2
508		220 kV Main bay of Theruvalli - 1
509		220 kV Main bay of Theruvalli - 2
510	220/132 kV Midnapore (220 kV Side)	220 kV Main bay of Arambagh - 1
511		220 kV Main bay of Arambagh - 2
512		220 kV Main bay of Kharagpur - 1
513		220 kV Main bay of Kharagpur - 2
514	220/132 kV Narendrapur (220 kV Side)	220 kV Main bay of Mendhasal - 1
515		220 kV Main bay of Theruvalli - 1
516		220 kV Main bay of Theruvalli - 2
517	220/132 kV Nayagarh (220 kV Side)	220 kV Main bay of Mendhasal - 1
518	220/132 kV Rishra (220 kV Side)	220 kV Main bay of Arambagh - 1
519		220 kV Main bay of Dharampur - 1
520		220 kV Main bay of Dharampur - 2
521	400/220 kV Arambagh (220 kV Side)	220 kV Main bay of Domjur - 1
522		220 kV Main bay of Domjur - 2
523		220 kV Main bay of Midnapore - 1
524		220 kV Main bay of Midnapore - 2
525		220 kV Main bay of Rishra - 1
526		220 kV Main bay of N.Bishnupur - 1
527		220 kV Main bay of N.Bishnupur - 2
528		220 kV Main Bay of 400/220 kV ICT - 1
529		220 kV Main Bay of 400/220 kV ICT - 2
530		220 kV Main Bay of 400/220 kV ICT - 3
531		220 kV Main Bay of 400/220 kV ICT - 4
532	400/220 kV Bakreswar (220 kV Side)	220 kV Main bay of Sadaipur - 1
533		220 kV Main bay of Sadaipur - 2
534		220 kV Main bay of Bidhannagar - 1
535		220 kV Main bay of Bidhannagar - 2

Sl No	Name of Substation	Name of Bay
536		220 kV Main bay of Satgachia - 1
537		220 kV Main Bay of 400/220 kV ICT - 1
538		220 kV Main Bay of 400/220 kV ICT - 2
539		220 kV Main bay of Satgachia - 2
540	220/132 kV Balimela (220 kV Side)	220 kV Main bay of Jeynagar - 1
541		220 kV Main bay of Jeynagar - 2
542		220 kV Main bay of Jeynagar - 3
543	220/132 kV Barasat (220 kV Side)	220 kV Main bay of Kasba - 1
544		220 kV Main bay of Kasba - 2
545		220 kV Main bay of Jeerat - 1
546		220 kV Main bay of Jeerat - 2
547	220/132 kV Barjora (220 kV Side)	220 kV Main bay of Mejia - 1
548		220 kV Main bay of Mejia - 2
549	220/132 kV Barkot (220 kV Side)	220 kV Main bay of Rengali - 1
550		220 kV Main bay of Tarkera - 1
551	220/132 kV Begusarai (220 kV Side)	220 kV Main bay of Biharshariff - 1
552		220 kV Main bay of Biharshariff - 2
553		220 kV Main bay of MTPS - 1
554		220 kV Main bay of MTPS - 2
555	220/132 kV Bhanjnagar (220 kV Side)	220 kV Main bay of Mendhasal - 1
556	400/220 kV Bidhannagar (220 kV Side)	220 kV Main bay of Bakreswar - 1
557		220 kV Main bay of Bakreswar - 2
558		220 kV Main bay of DPL - 1
559		220 kV Main bay of DPL - 2
560		220 kV Main Bay of 400/220 kV ICT - 1
561		220 kV Main Bay of 400/220 kV ICT - 2
562		220 kV Main bay of Santaldih - 1
563	220/132 kV Biharshariff (220 kV Side)	220 kV Main bay of Begusarai - 1
564		220 kV Main bay of Begusarai - 2
565		220 kV Main bay of Bodhagya - 1
566		220 kV Main bay of Bodhagya - 2
567		220 kV Main bay of Fatuah - 1
568		220 kV Main bay of Fatuah - 2
569	220/132 kV Bishnupur (220 kV Side)	220 kV Main bay of Santaldih - 1
570		220 kV Main bay of Santaldih - 2
571	220/132 kV Bodhagya (220 kV Side)	220 kV Main bay of Biharshariff - 1
572		220 kV Main bay of Biharshariff - 2
573	220/132 kV Bokaro (220 kV Side)	220 kV Main bay of Chandrapura TPS B - 1
574		220 kV Main bay of Chandrapura TPS B - 2
575		220 kV Main bay of Jamshedpur - 1
576		220 kV Main bay of Jamshedpur - 2
577		220 kV Main bay of Ramgarh - 1
578		220 kV Main bay of Ramgarh - 2
579	220/132 kV Budhipadar	220 kV Main bay of Katapalli - 1

Sl No	Name of Substation	Name of Bay
580	(220 kV Side)	220 kV Main bay of Katapalli - 2
581		220 kV Main bay of Tarkera - 1
582		220 kV Main bay of Tarkera - 2
583	220/132 kV Burnpur (220 kV Side)	220 kV Main bay of Mejia - 1
584		220 kV Main bay of Kalyaneshwari - 1
585	220/132 kV Chaibasa New(J) (220 kV Side)	220 kV Main bay of Ramchandrapur - 1
586		220 kV Main bay of Ramchandrapur - 2
587	220/132 kV Chandiposh (220 kV Side)	220 kV Main bay of Rengali - 1
588		220 kV Main bay of Tarkera - 1
589	220/132 kV Chandrapura TPS B (220 kV Side)	220 kV Main bay of Bokaro - 1
590		220 kV Main bay of Bokaro - 2
591	220/132 kV Waria (220 kV Side)	220 kV Main bay of Mejia - 1
592		220 kV Main bay of Mejia - 2
593		220 kV Main bay of Parulia - 1
594		220 kV Main bay of Parulia - 2
595	220/132 kV Uihep (220 kV Side)	220 kV Main bay of Theruvali - 1
596		220 kV Main bay of Theruvali - 2
597		220 kV Main bay of Theruvali - 3
598		220 kV Main bay of Theruvali - 4
599	220/132 kV U. Kolab (220 kV Side)	220 kV Main bay of Jayanagar - 1
600		220 kV Main bay of Jayanagar - 2
601		220 kV Main bay of Theruvali - 1
602		220 kV Main bay of Jeyanagar - 1
603		220 kV Main bay of Jeyanagar - 2
604	220/132 kV Theruvali (220 kV Side)	220 kV Main bay of U. Kolab - 1
605		220 kV Main bay of Uihep - 1
606		220 kV Main bay of Uihep - 2
607		220 kV Main bay of Uihep - 3
608		220 kV Main bay of Uihep - 4
609		220 kV Main bay of Bhanjnagar - 1
610		220 kV Main bay of Bhanjnagar - 2
611		220 kV Main bay of Laxmipur - 1
612		220 kV Main bay of Laxmipur - 2
613		220 kV Main bay of Narendrapur - 1
614		220 kV Main bay of Narendrapur - 2
615	220/132 kV Tarkera (220 kV Side)	220 kV Main bay of Barkot - 1
616		220 kV Main bay of Budhipadar - 1
617		220 kV Main bay of Budhipadar - 2
618		220 kV Main bay of Chandiposh - 1
619	220/132 kV Rengali (220 kV Side)	220 kV Main bay of Barkot - 1
620		220 kV Main bay of Chandiposh - 1
621	220/132 kV Sadaipur (220 kV Side)	220 kV Main bay of Gokarno - 1
622		220 kV Main bay of Gokarno - 2
623		220 kV Main bay of Bakreswar - 1
624		220 kV Main bay of Bakreswar - 2

Sl No	Name of Substation	Name of Bay
625	220/132 kV Sagardighi (220 kV Side)	220 kV Main bay of Gokarno - 1
626		220 kV Main bay of Gokarno - 2
627	220/132 kV Santaldih (220 kV Side)	220 kV Main bay of Bidhannagr - 1
628		220 kV Main bay of Bishnupur - 1
629		220 kV Main bay of Bishnupur - 2
630	220/132 kV Satgachia (220 kV Side)	220 kV Main bay of Bakreswar - 1
631		220 kV Main bay of Bakreswar - 2
632		220 kV Main bay of Krishnanagar - 1
633		220 kV Main bay of Krishnanagar - 2
634	220/132 kV Patratu TPS (220 kV Side)	220 kV Main bay of Hatia - 1
635		220 kV Main bay of Hatia - 2
636		220 kV Main bay of Tenughat - 1
637	220/132 kV Ramgarh (220 kV Side)	220 kV Main bay of Bokaro - 1
638		220 kV Main bay of Bokaro - 2
639	400/220 kV Meramandali (220 kV Side)	220 kV Main bay of NALCO - 1
640		220 kV Main bay of NALCO - 2
641		220 kV Main bay of Talcher - 1
642		220 kV Main bay of Bhanjnagar - 1
643		220 kV Main bay of Bhanjnagar - 2
644		220 kV Main bay of Bidanasi - 1
645		220 kV Main bay of Bidanasi - 2
646		220 kV Main Bay of 400/220 kV ICT - 1
647		220 kV Main Bay of 400/220 kV ICT - 2
648		220 kV Main bay of Duburi(old) - 1
649		220 kV Main bay of Duburi(old) - 2
650	220/132 kV Mejia (220 kV Side)	220 kV Main bay of Barjora - 1
651		220 kV Main bay of Barjora - 2
652		220 kV Main bay of Muchipara - 1
653		220 kV Main bay of Muchipara - 2
654		220 kV Main bay of Burnpur - 1
655		220 kV Main bay of Kalyaneshwari - 1
656		220 kV Main bay of Kalyaneshwari - 2
657		220 kV Main bay of Kalyaneshwari - 3
658		220 kV Main bay of Waria - 1
659		220 kV Main bay of Waria - 2
660	400/220 kV Mendhasal (220 kV Side)	220 kV Main bay of Chandaka - 1
661		220 kV Main bay of Chandaka - 2
662		220 kV Main bay of Narendrapur - 1
663		220 kV Main bay of Nayagarh - 1
664		220 kV Main Bay of 400/220 kV ICT - 1
665		220 kV Main Bay of 400/220 kV ICT - 2
666		220 kV Main bay of Bhanjnagar - 1
667	220/132 kV Kolaghat TPS (220 kV Side)	220 kV Main bay of Howrah - 1
668		220 kV Main bay of Howrah - 2
669	220/132 kV Kasba (220 kV	220 kV Main bay of EM bypass - 1

Sl No	Name of Substation	Name of Bay
670	Side)	220 kV Main bay of Subhasgram(Wb) - 1
671		220 kV Main bay of Subhasgram(Wb) - 2
672		220 kV Main bay of Barasat - 1
673		220 kV Main bay of Barasat - 2
674	220/132 kV Katapalli (220 kV Side)	220 kV Main bay of Budhipadar - 1
675		220 kV Main bay of Budhipadar - 2
676	220/132 kV Kharagpur (220 kV Side)	220 kV Main bay of Midnapore - 1
677		220 kV Main bay of Midnapore - 2
678	220/132 kV Krishnanagar (220 kV Side)	220 kV Main bay of Gokarno - 1
679		220 kV Main bay of Gokarno - 2
680		220 kV Main bay of Satgachia - 1
681		220 kV Main bay of Satgachia - 2
682	220/132 kV Kalyaneshwari (220 kV Side)	220 kV Main bay of Burnpur - 1
683		220 kV Main bay of Mejia - 1
684		220 kV Main bay of Mejia - 2
685		220 kV Main bay of Mejia - 3
686	220/132 kV Gokarno (220 kV Side)	220 kV Main bay of Krishnanagar - 1
687		220 kV Main bay of Krishnanagar - 2
688		220 kV Main bay of Sagardighi - 1
689		220 kV Main bay of Sagardighi - 2
690		220 kV Main bay of Sadaipur - 1
691		220 kV Main bay of Sadaipur - 2
692	220/132 kV Gopalganj (220 kV Side)	220 kV Main bay of MTPS - 1
693		220 kV Main bay of MTPS - 2
694	220/132 kV Govindpur (220 kV Side)	220 kV Main bay of Dumka New - 1
695		220 kV Main bay of Dumka New - 2
696	220/132 kV Bishnupur (220 kV Side)	220 kV Main bay of Santaldih - 1
697		220 kV Main bay of Santaldih - 2
698	220/132 kV Bodhagya (220 kV Side)	220 kV Main bay of Biharshariff - 1
699		220 kV Main bay of Biharshariff - 2
700	220/132 kV Bokaro (220 kV Side)	220 kV Main bay of Chandrapura TPS B - 1
701		220 kV Main bay of Chandrapura TPS B - 2
702		220 kV Main bay of Jamshedpur - 1
703		220 kV Main bay of Jamshedpur - 2
704		220 kV Main bay of Ramgarh - 1
705		220 kV Main bay of Ramgarh - 2
706	220/132 kV Budhipadar (220 kV Side)	220 kV Main bay of Katapalli - 1
707		220 kV Main bay of Katapalli - 2
708		220 kV Main bay of Tarkera - 1
709		220 kV Main bay of Tarkera - 2
710	220/132 kV Burnpur (220 kV Side)	220 kV Main bay of Mejia - 1
711		220 kV Main bay of Kalyaneshwari - 1
712	220 kV IBTPS-1	220 kV Main bay of Budhipadar - 1
713		220 kV Main bay of Budhipadar - 2
714		220 kV Main bay of Budhipadar - 3

Sl No	Name of Substation	Name of Bay
715		220 kV Main bay of Budhipadar - 4
716	220/132 kV Jamshedpur (220 kV Side)	220 kV Main bay of Bokaro - 1
717		220 kV Main bay of Bokaro - 2
718	220/132 kV Jayanagar (220 kV Side)	220 kV Main bay of U. Kolab - 1
719		220 kV Main bay of U. Kolab - 2
720		220 kV Main bay of Laxmipur - 1
721		220 kV Main bay of Laxmipur - 2
722	220/132 kV Giridih (220 kV Side)	220 kV Main bay of Dhanbad - 1
723		220 kV Main bay of Dhanbad - 2
724	220/132 kV Howrah (220 kV Side)	220 kV Main bay of Domjur- 1
725		220 kV Main bay of Domjur- - 2
726	220/132 kV Dharampur (220 kV Side)	220 kV Main bay of Rishra - 1
727		220 kV Main bay of Rishra - 2
728	220/132 kV DPL (220 kV Side)	220 kV Main bay of Bidhannagar - 1
729		220 kV Main bay of Bidhannagar - 2
730	220/132 kV Darbhanga (220 kV Side)	220 kV Main bay of MTPS - 1
731		220 kV Main bay of MTPS - 2
732	220/132 kV Chandiposh (220 kV Side)	220 kV Main bay of Rengali - 1
733		220 kV Main bay of Tarkera - 1
734	220/132 kV Chandrapura TPS B (220 kV Side)	220 kV Main bay of Bokaro - 1
735		220 kV Main bay of Bokaro - 2
736	220/132 kV Ctps A (220 kV Side)	220 kV Main bay of Dhanbad - 1
737		220 kV Main bay of Dhanbad - 2
738	220/132 kV Chaibasa New(J) (220 kV Side)	220 kV Main bay of Ramchandrapur - 1
739		220 kV Main bay of Ramchandrapur - 2
740	400/220/132 kV Sitamarhi (220 kV Side)	220 kV Main Bay of Sitamarhi 400/220 kV ICT - 1
741		220 kV Main Bay of Sitamarhi 400/220 kV ICT - 2
742		220 kV Main Bay of Sitamarhi 220/132 kV ICT - 1
743		220 kV Main Bay of Sitamarhi 220/132 kV ICT - 2
744		220 kV Main Bay of Motipur-1
745		220 kV Main Bay of Motipur-2
746		220 kV Main Bay of Raxaul-1
747		220 kV Main Bay of Raxaul-2
748		220 kV Bus Coupler Bay
749		220 kV Transfer Bus Coupler Bay

11.4 132 kV bays

Sl No	Name of Substation	Name of Bay
1	132 kV Jamaui	132 kV Main Bay of Lakhisarai
2		132 kV Main Bay of Lakhisarai
3	132 kV Melli	132 kV Main Bay of Rangpo
4	132 kV Njp	132 kV Main Bay of Siliguri(Pg)
5	132 kV Rihand	132 kV Main Bay of Sonenagar
6	132 kV Arha	132 kV Main Bay of Jagdishpur
7		132 kV Main Bay of Arrah
8		132 kV Main Bay of Arrah
9		132 kV Main Bay of Dumraon
10	132 kV Bangiriposi	132 kV Main Bay of Baripada
11	132 kV Banka	132 kV Main Bay of Sultangunj
12		132 kV Main Bay of Sultangunj
13		132 kV Main Bay of Sabour
14		132 kV Main Bay of Sabour
15		132 kV Main Bay of Banka
16		132 kV Main Bay of Banka
17		132 kV Main Bay of Banka
18		132 kV Main Bay of Banka
19	132 kV Barhi	132 kV Main Bay of Rajgir
20		132 kV Main Bay of B'Shariff
21	132 kV Baripada	132 kV Main Bay of Bangiriposi
22		132 kV Main Bay of Baripada
23		132 kV Main Bay of Baripada
24		132 kV Main Bay of Bhograi
25		132 kV Main Bay of Jaleswr
26	132 kV Bethia(B)	132 kV Main Bay of Motihari(Dmtcl)
27		132 kV Main Bay of Motihari(Dmtcl)
28	132 kV Bhograi	132 kV Main Bay of Baripda
29	132 kV Birpara(PG)	132 kV Main Bay of Birpara(Wb)
30		132 kV Main Bay of Birpara(Wb)
31	132 kV Birpara(WB)	132 kV Main Bay of Birpara(Pg)
32		132 kV Main Bay of Birpara(Pg)
33	132 kV Chandauli	132 kV Main Bay of Karmanasa
34	132 kV Chandil	132 kV Main Bay of Manique
35		132 kV Main Bay of Manique
36	132 kV Chujachen	132 kV Main Bay of Rangpo
37		132 kV Main Bay of Rangpo
38	132 kV Daltonganj	132 kV Main Bay of Daltonganj (Pg)
39		132 kV Main Bay of Daltonganj (Pg)
40	132 kV Daltonganj (PG)	132 kV Main Bay of Daltonganj

41		132 kV Main Bay of Daltonganj
42	132 kV Dumraon	132 kV Main Bay of Arrah
43	132 kV Gangtok	132 kV Main Bay of Rangpo
44		132 kV Main Bay of Rangpo
45	132 kV Garwa	132 kV Main Bay of Rihand
46	132 kV Jagdishpur	132 kV Main Bay of Arha
47	132 kV Jaleswr	132 kV Main Bay of Baripda
48	132 kV Jamtara	132 kV Main Bay of Maithon
49	132 kV Japla	132 kV Main Bay of Sonenagar
50	132 kV Joda	132 kV Main Bay of Kendposi
51	132 kV Kahalgaon	132 kV Main Bay of Kahalgaon
52		132 kV Main Bay of Sabour
53		132 kV Main Bay of Lalmatia
54		132 kV Main Bay of Kahalgaon
55	132 kV Karmanasa	132 kV Main Bay of Sahupuri
56		132 kV Main Bay of Chandauli
57	132 kV Kendposi	132 kV Main Bay of Joda
58	132 kV Kharagpur(Dvc)	132 kV Main Bay of Kharagpur(Wb)
59	132 kV Kharagpur(WB)	132 kV Main Bay of Kharagpur(Dvc)
60	132 kV Khudra	132 kV Main Bay of Pusuali
61	132 kV Kisanganj	132 kV Main Bay of Purnea(Pg)
62	132 kV Kolaghat(Dvc)	132 kV Main Bay of Kolaghat(Wb)
63	132 kV Kolaghat(WB)	132 kV Main Bay of Kolaghat(Dvc)
64	132 kV Kurseong	132 kV Main Bay of Rangit
65		132 kV Main Bay of Siliguri(PG)
66	132 kV Lakhisarai	132 kV Main Bay of Jamaui
67		132 kV Main Bay of Jamaui
68	132 kV Lalmatia	132 kV Main Bay of Sabour
69		132 kV Main Bay of Kahalgaon
70	132 kV Maithon	132 kV Main Bay of Jamtara
71	132 kV Malda(PG)	132 kV Main Bay of Malda(Wb)
72		132 kV Main Bay of Malda(Wb)
73	132 kV Malda(WB)	132 kV Main Bay of Malda(Pg)
74		132 kV Main Bay of Malda(Pg)
75	132 kV Manique	132 kV Main Bay of Chandil
76	132 kV Manique	132 kV Main Bay of Chandil
77	132 kV Melli	132 kV Main Bay of Siliguri(Pg)
78	132 kV Mohania	132 kV Main Bay of Pusuali
79	132 kV Motihari(B)	132 kV Main Bay of Motihari(Dmtcl)
80	132 kV Motihari(B)	132 kV Main Bay of Motihari(Dmtcl)
81	132 kV Motihari(DMTCL)	132 kV Main Bay of Motihari(B)
82		132 kV Main Bay of Motihari(B)
83		132 kV Main Bay of Bethia(B)
84		132 kV Main Bay of Bethia(B)
85		132 kV Main Bay of Raxaul(B)

86		132 kV Main Bay of Raxaul(B)
87	132 kV Nbu	132 kV Main Bay of Siliguri(Pg)
88	132 kV Pataratu(Dvc)	132 kV Main Bay of Patratu(Jharkahnd)
89		132 kV Main Bay of Patratu(Jharkahnd)
90	132 kV Patratu	132 kV Main Bay of Patratu
91		132 kV Main Bay of Patratu
92	132 kV Patratu(Jharkahnd)	132 kV Main Bay of Pataratu(Dvc)
93		132 kV Main Bay of Pataratu(Dvc)
94	132 kV Purnea	132 kV Main Bay of Purnea(Pg)
95		132 kV Main Bay of Purnea(Pg)
96		132 kV Main Bay of Purnea(Pg)
97	132 kV Purnea(PG)	132 kV Main Bay of Kisanganj
98		132 kV Main Bay of Purnea
99		132 kV Main Bay of Purnea
100		132 kV Main Bay of Purnea
101	132 kV Pusuali	132 kV Main Bay of Khudra
102		132 kV Main Bay of Mohania
103	132 kV Rajgir	132 kV Main Bay of Barhi
104	132 kV Rammam	132 kV Main Bay of Rangit
105	132 kV Rangit	132 kV Main Bay of Rammam
106		132 kV Main Bay of Rangpo
107		132 kV Main Bay of Kurseong
108		132 kV Main Bay of Sagbari
109		132 kV Main Bay of Sagbari
110	132 kV Rangpo	132 kV Main Bay of Chujachen
111		132 kV Main Bay of Chujachen
112		132 kV Main Bay of Melli
113		132 kV Main Bay of Gangtok
114		132 kV Main Bay of Gangtok
115		132 kV Main Bay of Rangit
116	132 kV Raxaul(B)	132 kV Main Bay of Motihari(Dmtcl)
117		132 kV Main Bay of Motihari(Dmtcl)
118	132 kV Rihand	132 kV Main Bay of Garwa
119	132 kV Sabour	132 kV Main Bay of Lalmatia
120		132 kV Main Bay of Kahalgaon
121		132 kV Main Bay of Banka
122		132 kV Main Bay of Banka
123	132 kV Sagbari	132 kV Main Bay of Rangit
124		132 kV Main Bay of Rangit
125	132 kV Sahupuri	132 kV Main Bay of Karmanasa
126	132 kV Siliguri(PG)	132 kV Main Bay of Nbu
127		132 kV Main Bay of Njp
128		132 kV Main Bay of Kurseong
129		132 kV Main Bay of Melli
130	132 kV Sonenagar	132 kV Main Bay of Japla

131		132 kV Main Bay of Rihand
132	132 kV Sultangunj	132 kV Main Bay of Banka
133		132 kV Main Bay of Banka
134	132 kV Sitamarhi	132 kV Main Bay of Pupri-1
135		132 kV Main Bay of Pupri-2
136		132 kV Main Bay of Runnisaidpur-1
137		132 kV Main Bay of Runnisaidpur-2
138		132 kV Main Bay of 220/132 kV ICT-1
139		132 kV Main Bay of 220/132 kV ICT-2
140		132 kV Bus Coupler Bay

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POWER SYSTEM DEVELOPMENT FUND

Status of the Projects in Eastern Region

Sl No	State	Entity	Name of the scheme	Grant Approved	Grant sanctioned on	1st Installment grant released on	Completion Schedule	Completion schedule w.r.t date of 1st instalment	Grant aviled so far	Under process of release	Total awards amount of placed of till date	Latest status
1	Bihar	BSPTCL	Renovation and Upgradation of protection system of substations. (18)	64.22	11-May-15	16-May-16	24	16-May-18	56.04		69.195	90% grant availed on award cost.
2			Installation of Capacitor bank in 20 Nos of Grid Sub Station. (74)	18.88	5-Sep-16	26-Mar-19	24	26-Mar-21	16.99		20.98	
			Total	**83.10**					**73.03**		**90.175**	
5	Jharkhand	JUSNL	Renovation & Upradation of protection system of Jharkhnad. (161)	138.13	15-Nov-17	28-Mar-19	16	28-Jul-20	114.68	1.01	145.674	90% grant availed on award cost. Project closure is expected by Q-2 of 2021-22.
6			Reliable Communication & data acquisition system upto 132kV Substations ER. (177)	22.36	24-May-19		24					Price bid has been opened. Tender on awarding stage.
			Total	**160.49**					**114.68**		**145.674**	
7	Odisha	OPTCL	Renovation and Upgradation of protection system of substaions. (08)	162.50	11-May-15	22-Mar-16	24	22-Mar-18	46.04		60.261	Project Completed on Dec-20. Request for release of final 10 % fund has been placed.
8			Implementation of OPGW based reliable communication at 132 kv and above substations. (128)	25.61	15-Nov-17	29-Mar-19	36	29-Mar-22	7.68		51.22	30% grant availed on award cost.
9			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)	27.23	27-Jul-18	1-Apr-19	18	1-Oct-20	2.72			10% grant availed
10			Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)	2.93	24-May-19	19-Feb-20	10	19-Dec-20	0.29			
11			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)	36.63	24-May-19	13-Feb-20	18	13-Aug-21	3.66			
12		OHPCL	Renovation and Upgradation of protection and control system of OHPC. (109)	22.35	22-May-17	25-May-18	24	25-May-20	10.96		17.983	90% grant availed on award cost.
			Total	**277.25**					**71.35**		**129.464**	
14		WBSETCL	Installation of switchable reactor & shunt capacitor for voltage improvement. (88)	43.37	22-May-17	22-Jun-18	19	22-Jan-20	33.07		40.83	90% grant availed on award cost.
15			Renovation & Modernisation of Transmission System. (87)	70.13	22-May-17	25-Jun-18	25	25-Jul-20	63.12		93.51	
16			Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid. (210)	71.74	24-May-19	23-Oct-19	19	23-May-21	15.38		45.621	30% grant availed on award cost.
17			Project for establishment of reliable communication and data acquisition at different substation at WBSWTCL. (222)	31.19	24-May-19	23-Oct-19	25	23-Nov-21	3.12			10% grant availed
18			Implementation of Integated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal. (197)	10.08	20-Mar-20		12					10% grant not yet requested
19		WBPDCL	Renovation and Modernization of 220/ 132 kV STPS switch yard and implementation of Substaion Automation System. (72)	23.48	5-Sep-16	18-May-17	18	18-Nov-18	21.13		26.09	Target date for completion of project is May-21 subject to availbaility of shutdown. Request for release for final 10 % grant has been placed.
21			Renovation and Modernization of switchyard and related protection system of different power stations (BTPS, BKTPS and KTPS) of WBPDCL (155)	45.16	27-Jul-18	27-Mar-19	12	27-Mar-20	12.02		41.68	30% grant availed on award cost.
			Total	**295.15**					**147.84**		**247.729**	

POWER SYSTEM DEVELOPMENT FUND

Status of the Projects in Eastern Region

Sl No	State	Entity	Name of the scheme	Grant Approved	Grant sanctioned on	1st Installment grant released on	Completion Schedule	Completion schedule w.r.t date of 1st instalment	Grant aviled so far	Under process of release	Total awards amount of placed of till date	Latest status
22	DVC	DVC	Renovation and Upgradation of the protection and control system of Ramgarh Sub Station. (81)	25.96	2-Jan-17	31-May-17	24	31-May-19	22.95	2.57	28.603	90% grant availed on award cost.
23			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)	140.50	16-May-17	14-Dec-17	24	14-Dec-19	102.34	3.29	126.87	
			Total	**166.46**					**125.29**		**155.473**	
24	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)	10.00	24-May-19		18		3.00		20	30% grant availed on award cost
				10.00					**3.00**		**20.00**	
26	ERPC	ERPC	Creation and Maintenance of web based protection database management. (67)	20.00	17-Mar-16	28-Jun-16	18	28-Dec-17	14.83		16.48	Project Completed
27			Study Programme on power trading at NORD POOL Academy for Power System Engineers of Eastern Region. (122)	5.46	27-Jul-18	27-Mar-19	13	27-Apr-20	4.61		5.37	
28			Traning Program for Power system Engineers of various constituents of Eastern Region. (117)	0.61	27-Jul-18	11-Apr-19	24	11-Apr-21	0.54		0.60888	90% grant availed on award cost.
			Total	**26.07**					**19.98**		**22.45888**	
			GrandTotal	**1,018.53**					**555.17**		**810.97**	

पावर सिस्टम ऑपरेशन करपोरेशन लिमिटेड
(भारत सरकार का उद्यम)
POWER SYSTEM OPERATION CORPORATION LIMITED
(A Government of India Enterprise)
Eastern Regional Load Despatch Centre: 14, Golf Club Road, Tollygunge, Kolkata-700 033.
CIN: U40105DL2009GOI188682
फ़ोन: 033- 24235755, 24174049 फैक्स : 033-24235809/5029 Website:www.erldc.org, Email ID- erldc@posoco.in

Date: 17-05-2021

Report on primary frequency response observed in the generating units of Eastern Region for April 2021 (April 2021 के लिए पूर्वी क्षेत्र के विधुत इकाइयों पर प्राथमिक आवृत्ति प्रतिक्रिया पर रिपोर्ट)

Frequency response characteristics (FRC) have been analyzed pan India for one event of sudden frequency change that occurred in the month of April 2021. The details of this event and the overall response of the Eastern region have been summarized in Table 1.

Table 1: Summary of the events and Frequency Response Characteristic (FRC) of the Eastern Region for the events

Event	Frequency Change	Power Number (ΔMW/Δf)	ER FRC
Event 1: On 08th April 2021 at 03:31:34 hrs, around 1045 MW generation loss occurred at Bhadla in NR.	**49.994Hz to 49.903 Hz**. Later stabilized at 49.95 Hz	**11484**	**14 %**

Summary of the analysis of these events are given below:

1. **In spite of repeated reminders, generation end data (generation output in MW and frequency/speed measured at generator end) and FRCs are yet to be received from few regional generating stations (ISGS and IPP) and SLDCs respectively**. List of such regional generating stations/SLDCs are shown below **(as per status on 16th May2021)**.
    a. NTPC Farakka
    b. NTPC Kahalgaon
    c. NTPC Talcher
    d. NTPC Barh
    e. NTPC Darlipalli
    f. BRBCL
    g. JITPL
    h. Bihar SLDC
    i. Jharkhand SLDC
    j. WB SLDC
2. Based on data received from regional generating stations & SLDCs and SCADA data archived at ERLDC, regional generating stations' and state control areas' performance have been analyzed and summarized in **table 2.**

3. Based on data received from state generating stations & SLDCs, the performance of state generating stations has been analyzed and summarized in **table 3.**

Table 2: performance of regional generating stations and state control areas for the events in April 2021*

Generating Station/ SLDC	Response observed
NTPC Farakka	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
NTPC Kahalgaon	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
NTPC Talcher	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
NTPC Barh	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
NTPC Darlipalli	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
BRBCL	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
NPGC Nabinagar	**Non-Satisfactory**
GMR	Unit 1 satisfactory; Unit 2 Non satisfactory
JITPL	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
MPL	**Non-Satisfactory;** Both the units were being run in VWO due to poor vaccum
Adhunik	**Non-Satisfactory**
Teesta V HEP	Unit not in service
Teesta III HEP	Unit not in service
Dikchu HEP	Unit not in service
Bihar SLDC	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
Jharkhand SLDC	**Satisfactory (As per FRC calculated based on ERLDC SCADA data)**
DVC SLDC	**Non-Satisfactory**
GRIDCO SLDC	**Non-Satisfactory**
WB SLDC	**Non-Satisfactory (As per FRC calculated based on ERLDC SCADA data)**

***Response of the generating stations are shown in Annexure 1**

Table 3: performance of state generating stations for the events in April 2021 (Based on data received from SLDC/generating stations) **

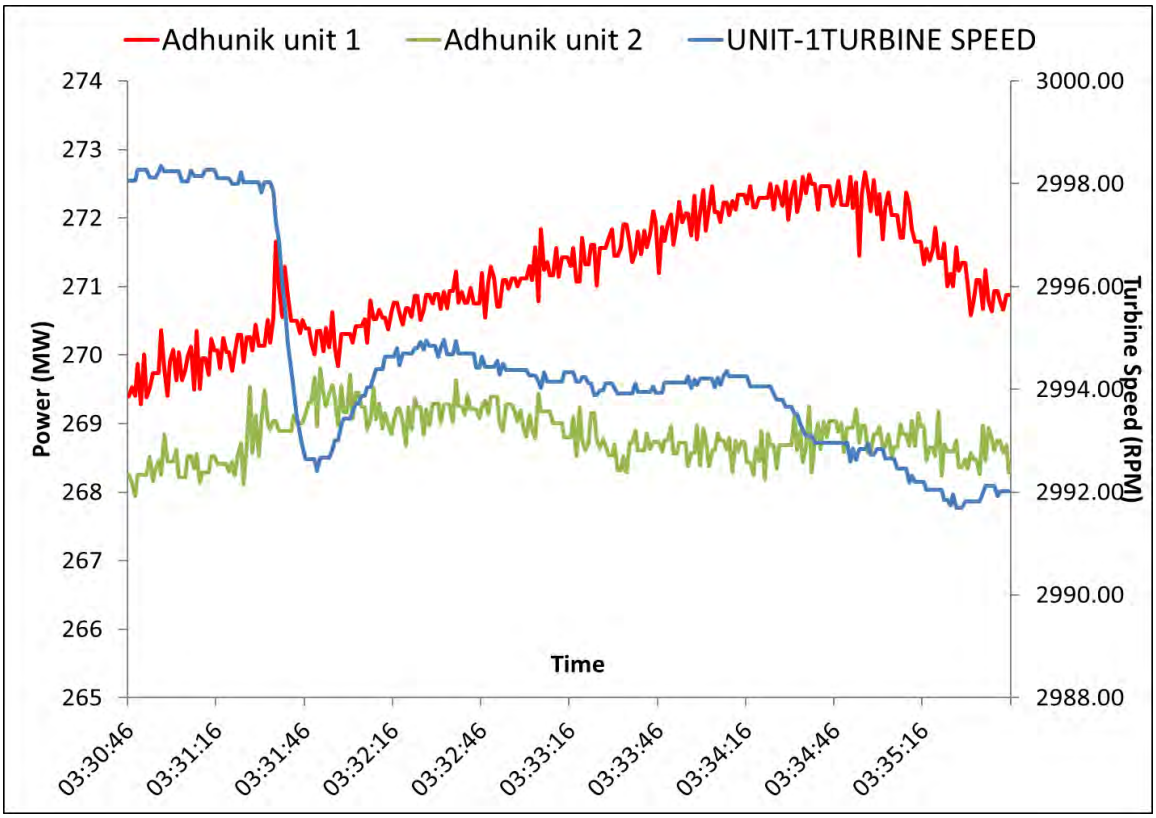
Generating Station	Response observed
HEL	**Satisfactory;**
BBGS	**Non-Satisfactory for unit 1 and 3**; Both units were being run at more than installed capacity. Satisfactory for unit 2.
GMR unit 3	Satisfactory
Koderma, RTPS, DSTPS	**Non-Satisfactory**

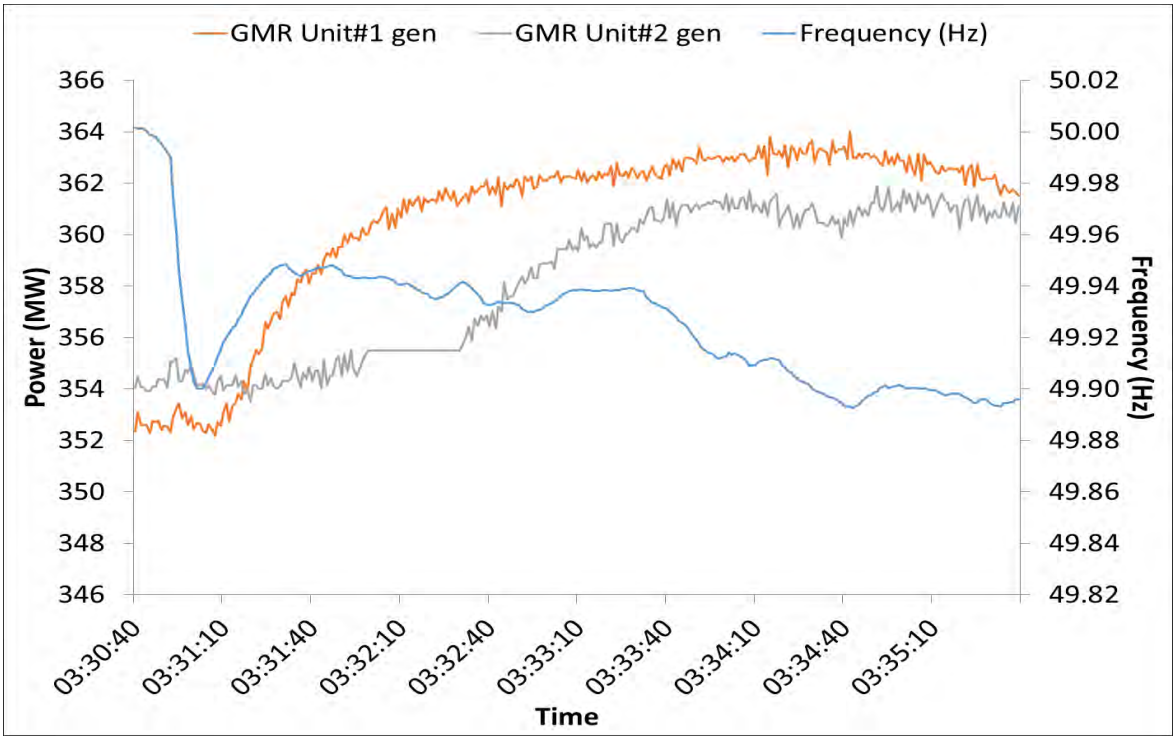
****Response of these generating stations are shown in Annexure 2**

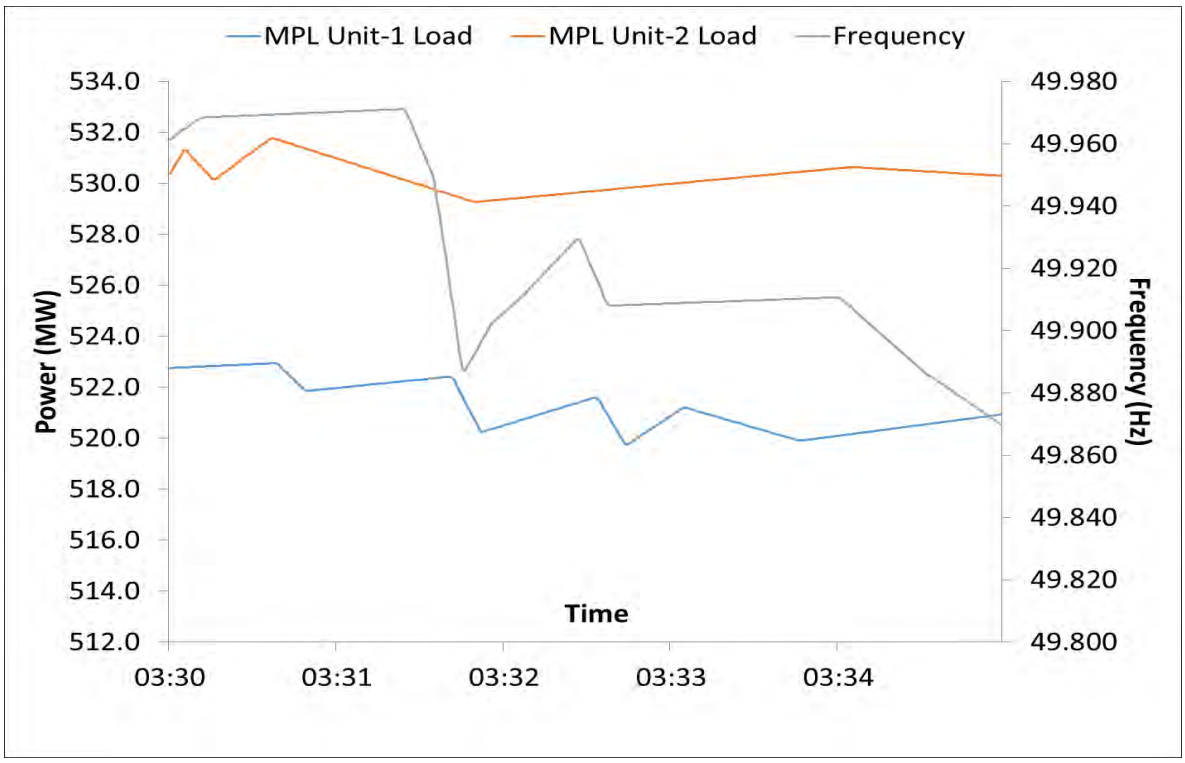
Remarks on the primary frequency response observed at generating stations (प्राथमिक आवृत्ति प्रतिक्रिया पर टिप्पणियां देखी गईं):

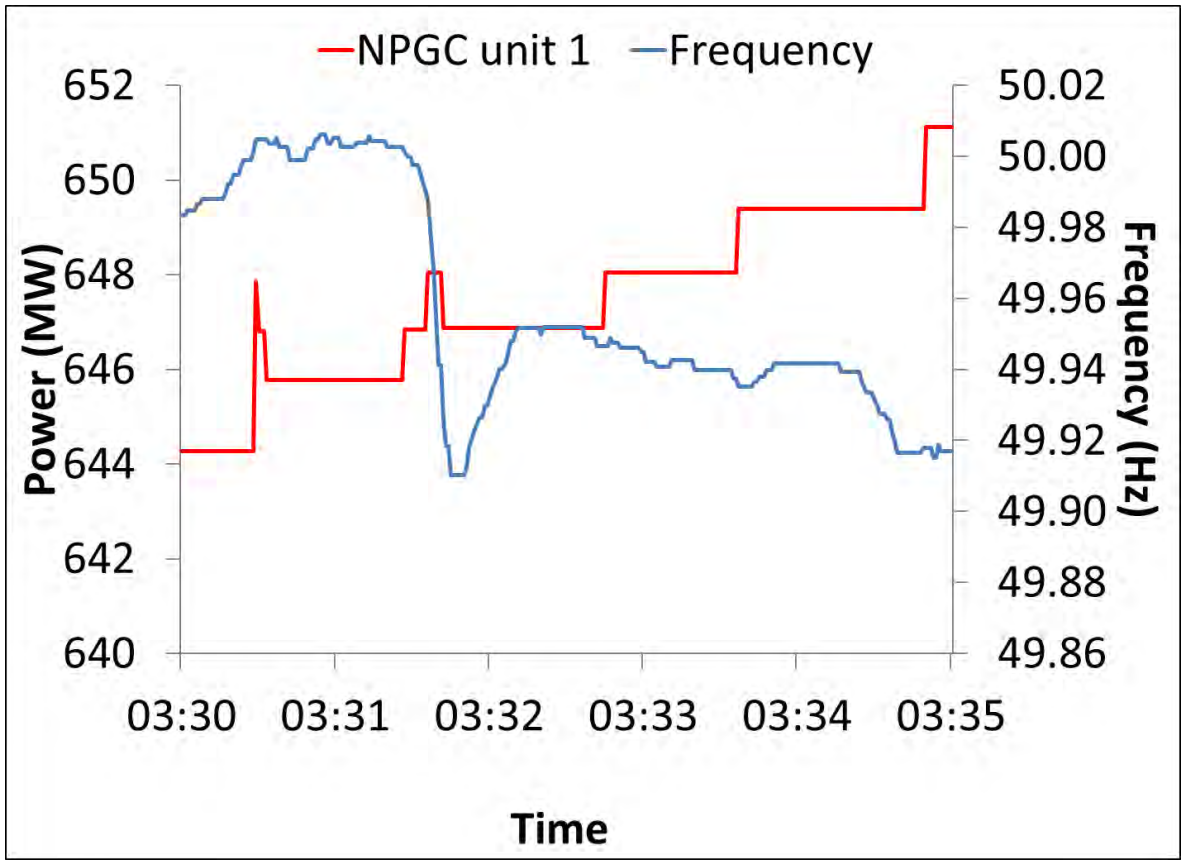
- **MPL**: Unit 2 was being run at Valve wide open (VWO) condition. So no response has been observed in case of unit 2. As per section 5.2 (h) of IEGC, generating units are not to be run in VWO condition. **In compliance of IEGC, it is advised to avoid running unit in VWO condition**.
- **HEL**: Response did not sustain for more than 90 seconds. Governor may be tuned for providing sustained response for at least 3-5 minutes.

Annexure 1: Variation of generation of regional generating units during frequency change (plotted based on data shared by generating station)

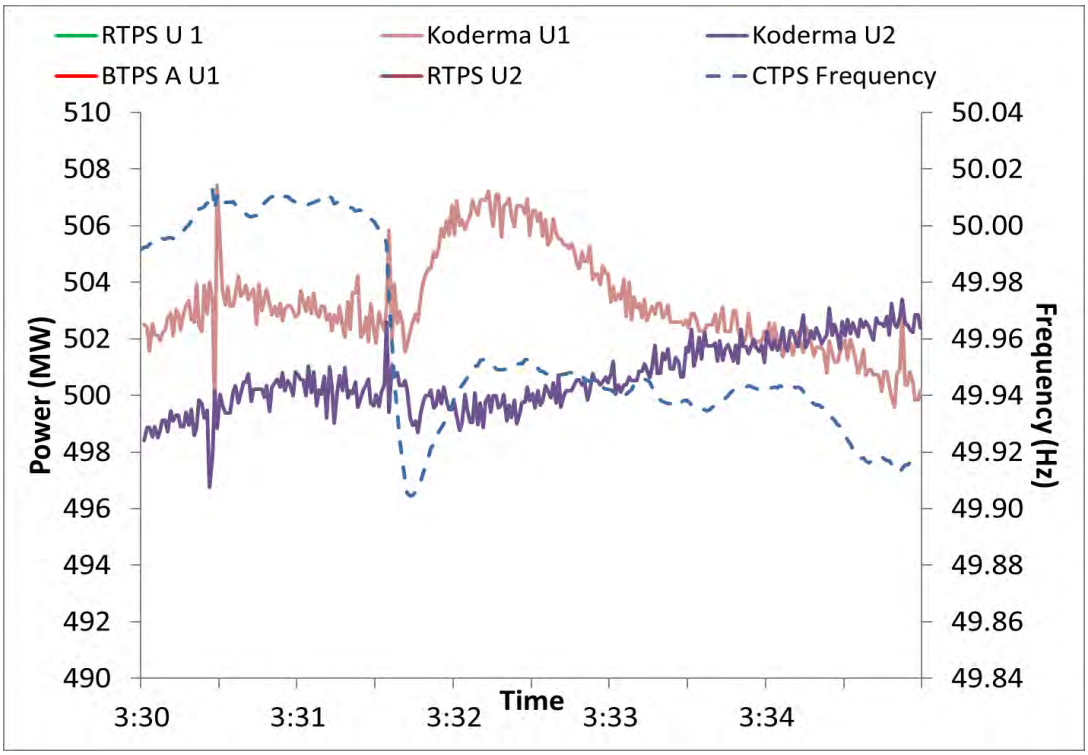


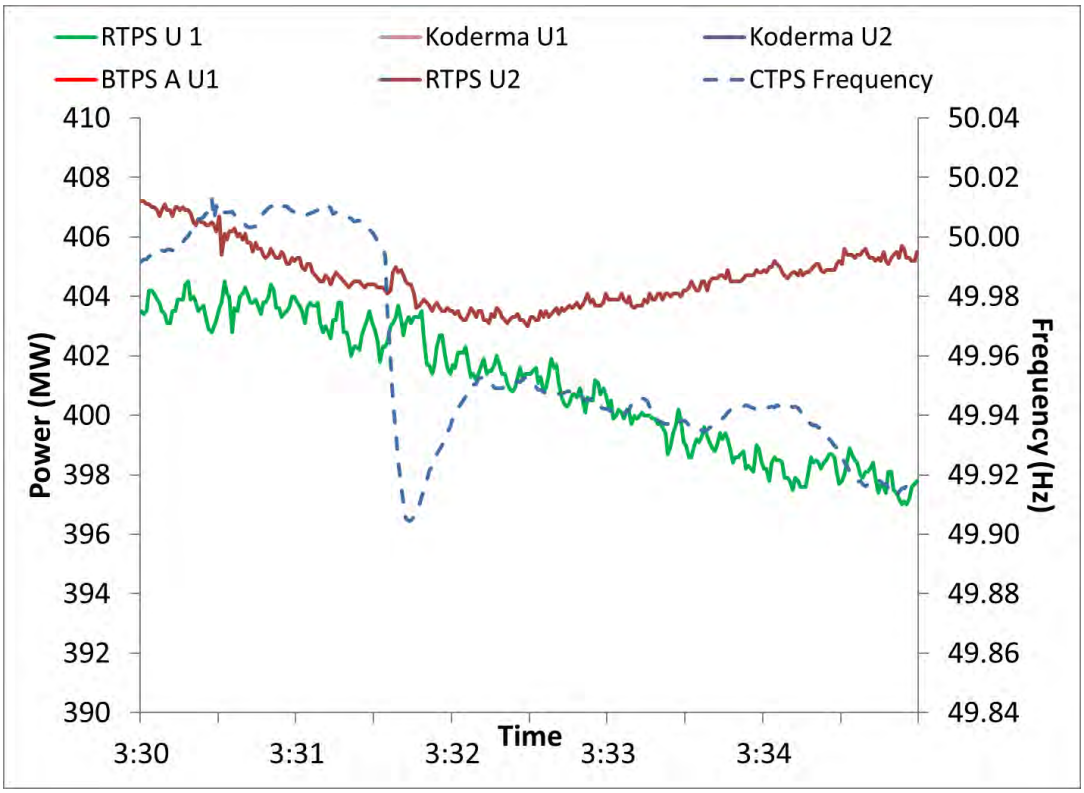


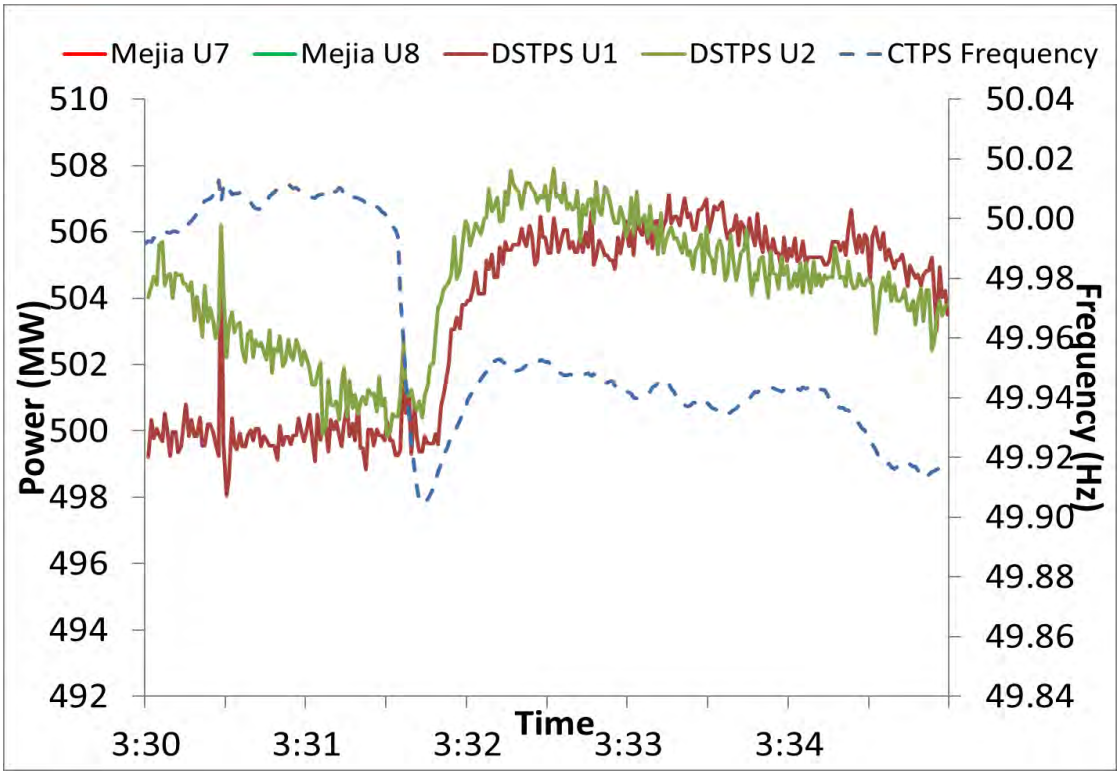

MPL Unit-1 Load
MPL Unit-2 Load
Frequency
534.0
532.0
530.0
528.0
526.0
524.0
522.0
520.0
518.0
516.0
514.0
512.0
Power (MW)
49.980
49.960
49.940
49.920
49.900
49.880
49.860
49.840
49.820
49.800
Frequency (Hz)
Time
03:30
03:31
03:32
03:33
03:34

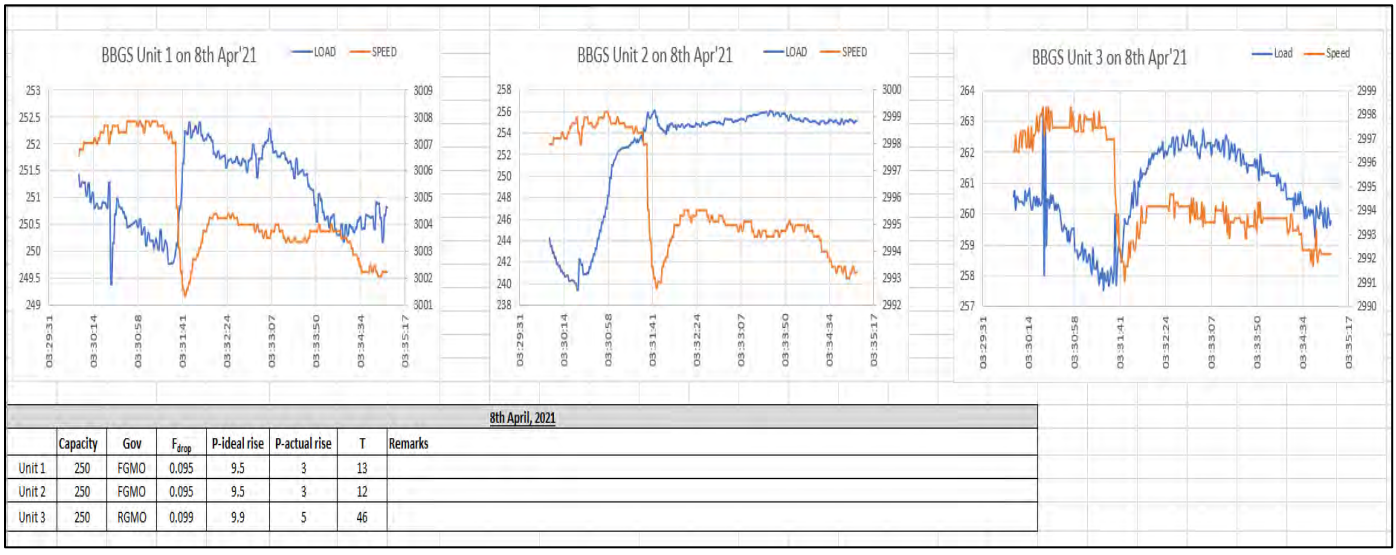

NPGC unit 1
Frequency
652
650
648
646
644
642
640
Power (MW)
50.02
50.00
49.98
49.96
49.94
49.92
49.90
49.88
49.86
Frequency (Hz)
03:30
03:31
03:32
03:33
03:34
03:35
Time

Annexure 2: Variation of generation of state generating stations during frequency change (plotted based on data shared by generating station)

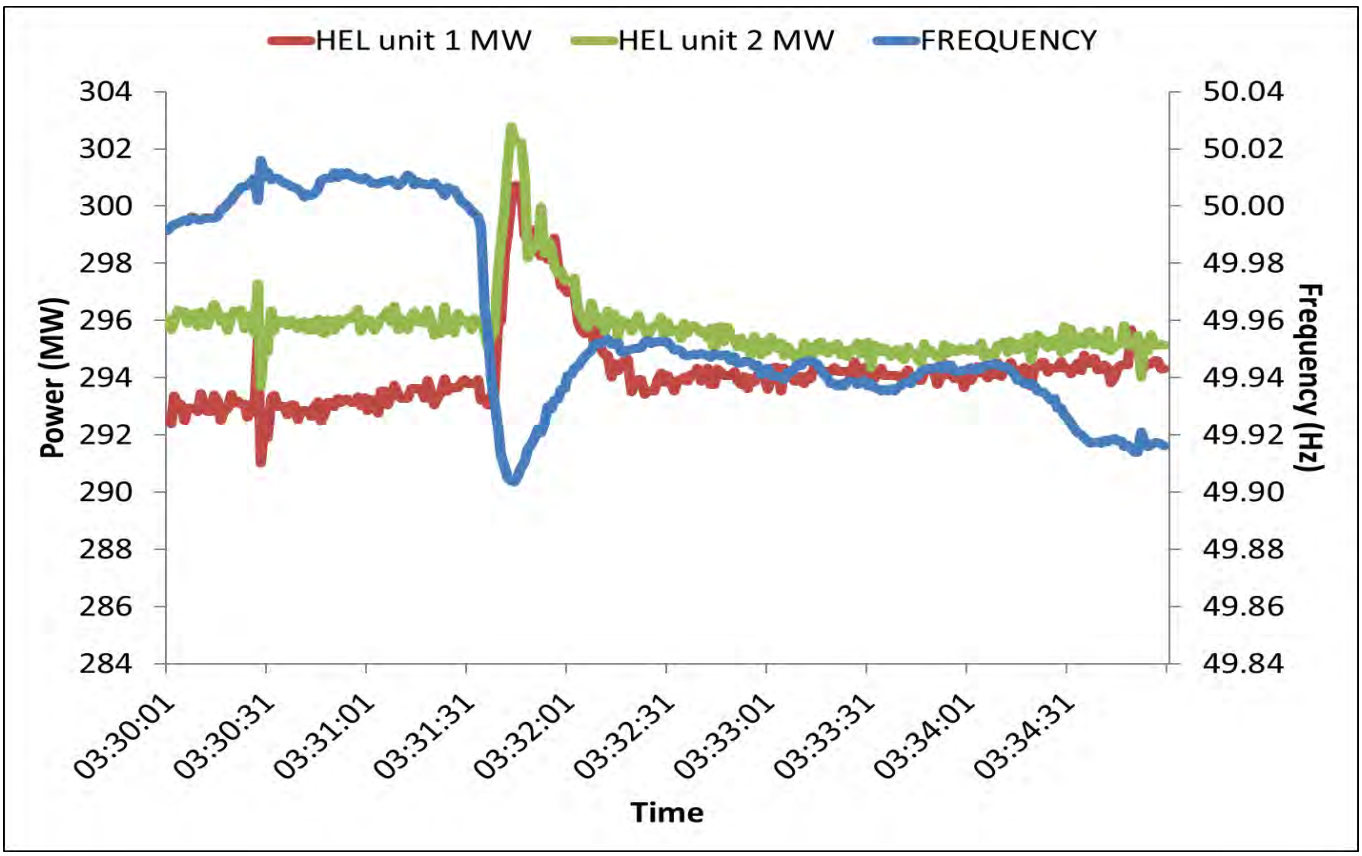








8th April, 2021							
	Capacity	Gov	F_{drop}	P-ideal rise	P-actual rise	T	Remarks
Unit 1	250	FGMO	0.095	9.5	3	13	
Unit 2	250	FGMO	0.095	9.5	3	12	
Unit 3	250	RGMO	0.099	9.9	5	46	


HEL unit 1 MW
HEL unit 2 MW
FREQUENCY
304
302
300
298
296
294
292
290
288
286
284
50.04
50.02
50.00
49.98
49.96
49.94
49.92
49.90
49.88
49.86
49.84
Power (MW)
Frequency (Hz)
03:30:01
03:30:31
03:31:01
03:31:31
03:32:01
03:32:31
03:33:01
03:33:31
03:34:01
03:34:31
Time

Annexure 3: FRC shared by DVC SLDC

Frequency Response Characteristic Calculation in Eastern Region			
	On the event of generation loss at Tutikorin on 08th April 2021 at 03:31 Hrs		
S No	Pariculars	Dimension	DVC Interchange
1	Actual Net Interchange before the Event (03:31:30)	MW	-2312
2	Actual Net Interchange before the Event (03:33:50)	MW	-2370
3	Change in Net Interchange (2 - 1)	MW	-58.9
4	Generation Loss (+) / Load Throw off (-) during the Event	MW	0.0
5	Control Area Response (3 - 4)	MW	-58.9
6	Frequency before the Event	HZ	50.01
7	Frequency after the Event	HZ	49.94
8a	Change in Frequency (7 - 6)	HZ	-0.063
8	Effective change in Frequency considering RGMO *	HZ	-0.063
9	Frequency Response Characteristic (5 / 8)	MW/HZ	938
10	Net System Demand met before the Event	MW	3100
11	Internal Generation before the Event (10 - 1)	MW	5412
12	Ideal load response assuming 4% per Hz (0.04*Row 10)	MW/Hz	124.0
13	Ideal generator response assuming 5% droop…….40% per Hz (40% of Row 11)	MW/Hz	2164.6
14	Composite ideal response (12 + 13)	MW/Hz	2288.6
15	Percentage of ideal response {(9/14)x100}	%	41.0%

Annexure 4: FRC shared by GRIDCO SLDC

Frequency Response Characteristic Calculation in GRIDCO control area

S No	Paricular	Dimension	Balimela	Burla	Rengali	Indravati	Upper Kolab	IBTPS	GKEL #3	VAL IPP #2	IBTPS Stage 2	GRIDCO Interchange
1	Actual Net Interchange before the Event (03:31:34)	MW	-272	0	0	-249	-21	-322	-330	-328	-357	-186
2	Actual Net Interchange after the Event (03:32:08)	MW	-274	0	0	-252	-21	-323	-334	-328	-356	-209
3	Change in Net Interchange (2 - 1)	MW	-1.3	0.0	0.0	-2.5	-0.1	-0.8	-3.4	0.0	0.7	-23.1
4	Generation Loss (+) / Load Throw off (-) during the Event	MW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Control Area Response (3 - 4)	MW	-1.3	0.0	0.0	-2.5	-0.1	-0.8	-3.4	0.0	0.7	-23.1
6	Frequency before the Event	HZ	49.99	49.99	49.99	49.99	49.99	49.99	49.99	49.99	49.99	49.99
7	Frequency after the Event	HZ	49.95	49.95	49.95	49.95	49.95	49.95	49.95	49.95	49.95	49.95
8a	Change in Frequency (7 - 6)	HZ	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.043
8	Effective change in Frequency considering RGMO *	HZ	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.043
9	Frequency Response Characteristic (5 / 8)	MW/HZ	31	0	0	59	3	19	79	0	-17	540
10	Net System Demand met before the Event	MW	0	0	0	0	0	0	0	0	0	4485
11	Internal Generation before the Event (10 - 1)	MW	272	0	0	249	21	322	330	328	357	4671
12	Ideal load response assuming 4% per Hz (0.04*Row 10)	MW/Hz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	179.4
13	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 11)	MW/Hz	108.9	0.0	0.0	99.8	8.2	128.9	132.1	131.2	142.9	1868.4
14	Composite ideal response (12 + 13)	MW/Hz	108.9	0.0	0.0	99.8	8.2	128.9	132.1	131.2	142.9	2047.8
15	Percentage of ideal response {(9/14)x100}	%	28.6%	0.0%	0.0%	59.1%	31.4%	14.9%	59.5%	0.0%	-11.8%	26.4%

Annexure-C3

Date of PFR testing scheduled /completed for generating stations in ER

Sr. No	Station	Generating Unit	Test schedule	Remarks
1	TALCHER STAGE 2	3	Unit 3 - 5: 23-11-2020 to 28-11-2020	Testing for unit 6 yet to be conducted
2		4		
3		5		
4		6		
5	Farakka	2	01-02-2021 to 10-01-2021	Testing completed
6		3		
7		4		
8		5		
9		6		
10	Kahalgaon	1	23-02-2021 to 02-03-2021	Scheduled
11		5		
12		6		
13		7		
14	Barh	4	18-02-2021 to 21-02-2021	Scheduled
15		5		
16	Teesta V	1	07-01-2021 - 08-01-2021	Testing completed
17	Teesta III	1	30-01-2021 - 10-02-2021	Testing completed
18		2		
19		3		
20		4		
21		5		
22		6		
23	Dikchu	1	Unit#1: 6th & 7th April' 21 Unit#2: 8th & 9th April' 21	Scheduled
24		2		
25	MPL	1	11th – 20th March 2021	Scheduled
26		2		

Power Plant	Unit No	PSS tuned (Yes/No)	PSS in Service (Yes/No)	Last PSS Tuning Date	Whether Done in Last 3 Years	Whether Next to be planned	Planned Next PSS Tuning
West Bengal							
Kolaghat-WBPDCL	1	No	Yes	Long Back	No	Yes	Under retirement
Kolaghat-WBPDCL	2	No	Yes	Long Back	No	Yes	Under retirement
Kolaghat-WBPDCL	3	No	Yes	Long Back	No	Yes	When Unit will be on Bar
Sagardighi-WBPDCL	2	No	No	Long Back	No	Yes	When Unit will be on Bar
Bakreshwar-WBPDCL	2	Yes	Yes	2019	Yes	Yes	Retuning to be done as from plot response is not good
Bakreshwar-WBPDCL	3	Yes	Yes	2019	Yes	Yes	Retuning to be done as from plot response is not good
Bakreshwar-WBPDCL	4	Yes	Yes	2019	Yes	Yes	Retuning to be done as from plot response is not good
Bakreshwar-WBPDCL	5	Yes	Yes	2019	Yes	Yes	Retuning to be done as from plot response is not good
DPL	7	No	No	N.A	No	Yes	Planned in March 2021
DPL	8	No	Yes	No	No Detail	Yes	To be updated by WBPDCL/DPL
PPSP	1	No	Yes	2009	No	Yes	To be updated by WBSEDCL
PPSP	2	No	Yes	2009	No	Yes	To be updated by WBSEDCL
PPSP	3	No	Yes	2009	No	Yes	To be updated by WBSEDCL
PPSP	4	No	Yes	2009	No	Yes	To be updated by WBSEDCL
TLDP III	4 x 33			No Detail	No Detail	Yes	To be updated by WBSEDCL
TLDP IV	4 X 44			No Detail	No Detail	Yes	To be updated by WBSEDCL
CESC							
Budge Budge-CESC	1	Yes	Yes	2015	No	Yes	2021-22
Budge Budge-CESC	2	Yes	Yes	2015	No	Yes	2021-22
DVC							
Bokaro B 210 MW	3				No Detail	Yes	Unit Is out of Service
Mejia-DVC	4	Yes	Yes	2009	No	Yes	Jun-21
Raghunathpur-DVC	1	No	No		No Detail	Yes	Will be done after AOH
Raghunathpur-DVC	2	No	No		No Detail	Yes	Jun-21
Koderma-DVC	1	Yes	Yes	2013	No	Yes	Sep-21
Waria	4	Yes	Yes	2008	No	Yes	Unit Is out of Service
ISGS							
Kahalgaon NTPC	1	Yes	Yes	2017	Yes	Yes	Apr-21
Kahalgaon NTPC	2	Yes	Yes	2018	Yes	Yes	April 2021 (During AOH)
Kahalgaon NTPC	3	Yes	Yes	2016	Yes	Yes	Jul-21
Kahalgaon NTPC	4	Yes	Yes	2015	No	Yes	Mar-21
Kahalgaon NTPC	6	Yes	Yes	2009	No	Yes	Mar-21
Talcher Stage 2	3	Yes	Yes	2016	Yes	Yes	July 2021 (As per SRPC decision)

Talcher Stage 2	4	Yes	Yes	No Details	No Details	Yes	July 2021 (As per SRPC decision)
Talcher Stage 2	5	Yes	Yes	No Details	No Details	Yes	July 2021 (As per SRPC decision)
Talcher Stage 2	6	Yes	Yes	2016	Yes	Yes	July 2021 (As per SRPC decision)
Barh NTPC	4			2015		Yes	In Next AOH
Barh NTPC	5			During Unit commissioning		Yes	June 2021 (AOH)
Teesta V	1	Yes	Yes	2008	No	Yes	Jun-21
Teesta V	2	Yes	Yes	2008	No	Yes	Jun-21
Teesta V	3	Yes	Yes	2008	No	Yes	Jun-21
BRBCL	1	No	Yes	Vendor to Do	No	Yes	Jun-21
BRBCL	2	Yes	Yes	2019	Yes	Yes	Jun-21
BRBCL	3	No	Yes	Vendor to Do	No	Yes	Jun-21
KBUNL	1	Yes	Yes	2014	No	Yes	2021-22
KBUNL	2	Yes	Yes	2014	No	Yes	2021-22
KBUNL	3	Yes	Yes	Not Available	No	Yes	2021-22
KBUNL	4	Yes	Yes	Not Available	No	Yes	2021-22
Rangit	3 x 20			Not Available	No	Yes	To be updated by NHPC
IPP							
Jorethang	1	Yes	Yes	2015	No	Yes	Apr-21
Jorethang	2	Yes	Yes	2015	No	Yes	Apr-21
ADHUNIK	1	Yes	YES	2013	No	Yes	Mar-21
ADHUNIK	2	Yes	YES	2013	No	Yes	Mar-21
JITPL	1	Yes	Yes	2016	Yes	Yes	Jul-21
JITPL	2	Yes	Yes	2016	Yes	Yes	Jul-21
GMR	1	Yes	Yes	2013	No	Yes	May-21
GMR	2	Yes	Yes	2013	No	Yes	May-21
GMR	3	Yes	Yes	2013	No	Yes	May-21
Orissa							
IB TPS	1	Yes	Yes	2011	No	Yes	Mar'2021
IB TPS	2	Yes	Yes	2012	No	Yes	Mar'2021
Upper Indravati	1	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	2	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	3	Yes	No	2000	No	Yes	To be updated by OHPC
Upper Indravati	4	Yes	No	2001	No	Yes	To be updated by OHPC
Balimela	1 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	2 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	3 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	4 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	5 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	6 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	7 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC

Balimela	8 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Upper Kolab	1	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	2	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	3	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	4	Yes	Yes	2007	No	Yes	To be updated by OHPC
Rengali	1	Yes	Yes	Not tuned	No	Yes	To be updated by OHPC
Rengali	2	Yes	Yes	Not tuned	No	Yes	To be updated by OHPC
Rengali	3	Yes	Yes	Not tuned	No	Yes	To be updated by OHPC
Rengali	4	Yes	Yes	Not tuned	No	Yes	To be updated by OHPC
Rengali	5	No	Yes	Not tuned	No	Yes	To be updated by OHPC
Sterlite	4 X 600			No detail		Yes	To be updated by SLDC Orissa
Jharkhand							
Tenughat	1	Yes	Yes	2017	Yes	Yes	No report has been submitted. So tuning to be planned
Tenughat	2	Yes	Yes	2017	Yes	Yes	No report has been submitted. So tuning to be planned
Subarnrekha	2 X 65					Yes	To be updated
Bihar							
BTPS	6 (110)					Yes	To be updated by BSPGCL
BTPS	7 (110)					Yes	To be updated by BSPGCL
BTPS	8					Yes	To be updated by BSPGCL
BTPS	9					Yes	To be updated by BSPGCL
Bhutan							
Tala	1	No	Yes			Yes	To be updated by BPC
Tala	2	No	Yes			Yes	To be updated by BPC
Tala	3	No	Yes			Yes	To be updated by BPC
Tala	4	No	Yes			Yes	To be updated by BPC
Tala	5	No	Yes			Yes	To be updated by BPC
Tala	6	No	Yes			Yes	To be updated by BPC
Chukha	1	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	2	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	3	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	4	No	Yes	2005	No	Yes	To be updated by BPC
Mangdechu	1	No	Yes			Yes	To be updated by BPC
Mangdechu	2	No	Yes			Yes	To be updated by BPC
Mangdechu	3	No	Yes			Yes	To be updated by BPC
Mangdechu	4	No	Yes			Yes	To be updated by BPC

SL.NO	P A R T I C U LA R S	PEAK DEMAND IN MW	ENERGY IN MU
1	**BIHAR**		
i)	NET MAX DEMAND	6300	3710
ii)	NET POWER AVAILABILITY- Own	525	186
iii)	Central Sector+Bi-Lateral	5640	2952
iv)	SURPLUS(+)/DEFICIT(-)	135	-391
2	**JHARKHAND**		
i)	NET MAXIMUM DEMAND	1700	878
ii)	NET POWER AVAILABILITY- Own Source	389	182
iii)	Central Sector+Bi-Lateral+IPP	1081	644
iv)	SURPLUS(+)/DEFICIT(-)	-230	-53
3	**DVC**		
i)	NET MAXIMUM DEMAND	3200	2010
ii)	NET POWER AVAILABILITY- Own Source	5227	2910
iii)	Central Sector+MPL	393	259
iv)	Bi- lateral export by DVC	2258	1626
v)	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	162	-467
4	**ODISHA**		
i)	NET MAXIMUM DEMAND(OWN)	4500	2707
ii)	NET MAXIMUM DEMAND(In Case,600 MW CPP Drawal)	5100	2779
ii)	NET POWER AVAILABILITY- Own Source	3475	2115
iii)	Central Sector	1350	914
iv)	SURPLUS(+)/DEFICIT(-) (OWN)	325	322
v)	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-275	250
5	**WEST BENGAL**		
5.1	**WBSEDCL**		
i)	NET MAXIMUM DEMAND	7495	4380
ii)	IPCL DEMAND	130	84
iii)	TOTAL WBSEDCL Requirement (incl.B'Desh+Sikkim+IPCL)	7635	4471
iv)	NET POWER AVAILABILITY- Own Source	4907	2169
v)	Central Sector+Bi-lateral+IPP&CPP+TLDP	2585	1471
vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
vii)	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-143	-831
5.2	**CESC**		
i)	NET MAXIMUM DEMAND	2280	1090
ii)	NET POWER AVAILABILITY- Own Source	770	531
iii)	FROM OTHER SOURCE (INCL. IPP/CPP-29-30 MU/M)	970	176
iv)	IMPORT FROM HEL	540	383
v)	TOTAL AVAILABILITY OF CESC	2280	1090
vi)	SURPLUS(+)/DEFICIT(-)	0	0
6	**WEST BENGAL (WBSEDCL+DPL+CESC)**		
	(excluding DVC's supply to WBSEDCL's command area)		
i)	NET MAXIMUM DEMAND	9905	5554
ii)	NET POWER AVAILABILITY- Own Source	5677	2700
iii)	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	4095	2030
iv)	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXP.	-133	-824
v)	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXP.	-143	-831
7	**SIKKIM**		
i)	NET MAXIMUM DEMAND	102	47
ii)	NET POWER AVAILABILITY- Own Source	8	1
	- Central Sector	184	117
iii)	SURPLUS(+)/DEFICIT(-)	90	71
8	**EASTERN REGION**		
i)	**NET MAXIMUM DEMAND**	**24958**	**14906**
ii)	**NET MAXIMUM DEMAND (In Case, 600 MW CPP Drawal of Odisha)**	**25558**	**14978**
iii)	**BILATERAL EXPORT BY DVC**	**2258**	**1626**
iv)	**EXPORT BY WBSEDCL TO SIKKIM**	**10**	**7**
v)	**EXPORT TO B'DESH & NEPAL OTHER THAN DVC**	**642**	**545**
v)	**NET TOTAL POWER AVAILABILITY OF ER**	**28043**	**15010**
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
vi)	**SURPLUS(+)/DEFICIT(-) OF ER**	**175**	**-2074**
vii)	**SURPLUS(+)/DEFICIT(-) OF ER (In Case, 600 MW CPP Drawal of Odisha)**	**-425**	**-2146**
	AFTER EXPORT (v = iv - i -ii - iii)		