



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

संख्या: NRPC/OPR/106/01/2021/1345-1386

दिनांक: 18.02.2021

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 180^{वीं} बैठक की खण्ड-अ में लिए गए निर्णयों का सार |

Subject: Gist of decisions taken in the Part-A of 180th OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 180^{वीं} बैठक दिनांक 16.02.2021 को 11:00 बजे से आयोजित की गयी। उक्त बैठक की खण्ड-अ में लिए गए निर्णयों का सार **अनुलग्नक-अ** में संलग्न है।

180th meeting of the Operation Co-ordination Sub-Committee of NRPC was held on 16.02.2021 from 11:00 hrs. Gist of the decisions taken in Part-A of this meeting is enclosed in **Annexure-A**.

संलग्नक: यथोपरि

अधीक्षण अभियंता (प्रचालन)

सेवा में,

प्रचालन समन्वय उप-समिति के सभी सदस्य

Gist of decisions taken in the Part-A of 180th OCC Meeting

Agenda No. 1: Confirmation of Minutes

OCC confirmed the minutes of 179th OCC meeting held on 18.01.2021 and 19.01.2021.

However, it was highlighted that in Agenda 28 in Part B of minutes of 176th OCC meeting, FY was inadvertently mentioned as 2020-21 and the members of OCC acknowledged the footnote of 'NR Average Energy consumption' table which may be corrected as:

"It is evident from the data that June-July-August may be considered as high demand season for NR for FY 2021-22 as per decision of OCC."

Agenda No. 2.1: Supply Position (Provisional) for January 2021

Reasons submitted by states for significant deviation of actual demand from anticipated figures during the month of January 2021 are as under:

- **Chandigarh**

-4.7% variation in actual and anticipated energy requirement (MU) was observed. However, reason for the same could not be ascertained as no representative from UT of Chandigarh was present in the meeting.

- **J&K and Ladakh**

19.7% variation in actual and anticipated energy requirement (MU) and 14.7% variation in actual and anticipated peak demand (MW) was observed. However, reason for the same could not be ascertained as no representative from the UTs of J&K and Ladakh was present in the meeting.

Punjab

5.9% variation in actual and anticipated energy requirement (MU) was observed while 8.7% variation in actual and anticipated peak demand (MW) was seen. This was explained as a consequence of lifting of almost all restrictions that were imposed to limit the spread of Covid-19 and normalization of commercial/Industrial activities in the state of Punjab. In addition, there was also a rise in agricultural consumption due to negligible rainfall in the month of January 2021.

- **Delhi**

-1.3% variation in actual and anticipated energy requirement (MU) was observed while -3.4% variations in actual and anticipated demand (MW) was observed, which was within permissible limits. However, Delhi intimated that the deviation was due to relative warmer weather in January w.r.t. same period in previous years in Delhi region.

- **Himachal Pradesh**

7.1% variation in actual and anticipated energy requirement (MU) was observed while 7.6% variation in actual and anticipated demand (MW) was observed. HP explained the deviation as a consequence of drier weather in January w.r.t. same period in previous years and increase in commercial and domestic demands as well as influx of tourists.

- **Uttar Pradesh**

10.4% variation in actual and anticipated energy requirement (MU) was observed while 11.7% variation in actual and anticipated demand (MW) was noted. UP explained the deviation due to 4.8% energy requirement growth in UP, policy/directive of ensuring day-hour supply in rural areas and picking up of agricultural load. He also added that there was almost negligible rain during this month.

- **Uttarakhand**

4.7% variation in actual and anticipated energy requirement (MU) was observed while 8.3% variation in actual and anticipated demand (MW) was also noted. However, reason for the same could not be ascertained as no representative from Uttarakhand was present in the meeting.

OCC expressed concern about non-participation of official from some of the states and UTs in the meeting and requested all the utilities to participate in the meeting.

Agenda No. 2.2: Power Supply Position of NCR

The Sub-Committee was informed that the NCR Planning Board (NCRPB) is closely monitoring the power supply position of National Capital Region. Monthly power supply position for NCR till the month of January, 2021 was enclosed in the Agenda and same was discussed in the meeting.

In the 179th OCC meeting, Haryana had stated that due to DISCOM constraint, some unjustified deviations were reflected in the plot and the same would be addressed. Haryana has successfully reconciled the deviation of availability and demand in energy as well as peak demand.

No significant deviation in any of the states was observed.

Agenda No. 3: Maintenance Programme of Generating units and Transmission Lines

- The maintenance programme of generating units and transmission lines for the month of March was deliberated in the meeting on 15.02.2021.
- It was reiterated that the planned outage requests shall be uploaded on the portal by 5th of every month and the window for submission of request shall be closed thereafter.

Agenda No. 4.1: Anticipated Power Supply Position in Northern Region for March 2021

The updated anticipated Power Supply Position for March 2021 is as below:

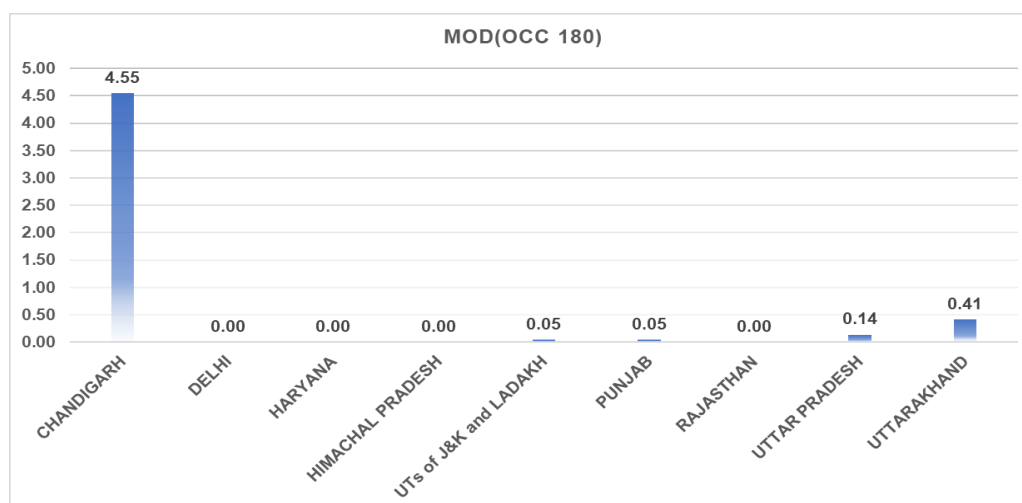
State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
CHANDIGARH	Availability	80	240	No revision submitted
	Requirement	110	230	
	Surplus / Shortfall	-30	10	
	% Surplus / Shortfall	-27.3%	4.3%	
DELHI	Availability	3596	5132	15-Feb-21
	Requirement	2000	4000	
	Surplus / Shortfall	1596	1132	
	% Surplus / Shortfall	79.8%	28.3%	
HARYANA	Availability	5430	10670	No revision submitted
	Requirement	3830	6800	
	Surplus / Shortfall	1600	3870	
	% Surplus / Shortfall	41.8%	56.9%	
HIMACHAL PRADESH	Availability	929	1795	10-Feb-21
	Requirement	930	1800	
	Surplus / Shortfall	-1	-5	
	% Surplus / Shortfall	-0.1%	-0.3%	
J&K and LADAKH	Availability	1300	3160	No revision submitted
	Requirement	1600	2810	
	Surplus / Shortfall	-300	350	
	% Surplus / Shortfall	-18.8%	12.5%	
PUNJAB	Availability	6150	9740	15-Feb-21
	Requirement	3800	7010	
	Surplus / Shortfall	2350	2730	
	% Surplus / Shortfall	61.8%	38.9%	
RAJASTHAN	Availability	9240	14360	16-Feb-21
	Requirement	7720	13700	
	Surplus / Shortfall	1520	660	
	% Surplus / Shortfall	19.7%	4.8%	
UTTAR PRADESH	Availability	9765	18000	08-Feb-21
	Requirement	9455	18000	
	Surplus / Shortfall	310	0	
	% Surplus / Shortfall	3.3%	0.0%	
UTTARAKHAND	Availability	1000	1990	No revision submitted
	Requirement	1070	2000	
	Surplus / Shortfall	-70	-10	
	% Surplus / Shortfall	-6.5%	-0.5%	
NORTHERN REGION	Availability	37490	61300	
	Requirement	30515	53100	
	Surplus / Shortfall	6975	8200	
	% Surplus / Shortfall	22.9%	15.4%	

In case of Delhi, Haryana, Rajasthan, Punjab and UP, no shortfall was noted.

No representative from Uttarakhand and UTs of J&K, Ladakh and Chandigarh was present to explain how they are planning to mitigate the shortfall in terms of energy requirement. OCC expressed concern over non-participation of aforesaid members during the meeting.

Agenda No. 5: Information about variable charges of all generating units in the Region

- Members were informed about the average delay in submission of data of variable charges details on MERIT order portal during 20/01/2021 to 10/02/2021. The average delay is given below:



- In general, all states have an average delay below 0.5 days. However, delay for UT of Chandigarh has increased (approximately 3-4 days). In order to address this issue, a letter dated 08.02.2021 has again been sent to higher management of UT of Chandigarh. The matter is also being pursued by CEA independently.
- All SLDCs were requested for timely submission of information on MERIT Portal.

Agenda No. 6: Submission of breakup of Energy Consumption by the states

- The updated status on the submission of energy consumption breakup is presented below:

State / UT	From	To
Delhi	Apr-2018	Dec-2020
Haryana	Apr-2018	Dec-2020
Himachal Pradesh	Apr-2018	Dec-2020
Punjab	Apr-2018	Oct-2020
Rajasthan	Apr-2018	Dec-2020
Uttar Pradesh	Apr-2018	Dec-2020

- All states were requested to submit the energy breakup information monthly.
- OCC expressed concern that the state of Uttarakhand and UTs of J&K and Ladakh and Chandigarh have not yet furnished any information on the subject

despite repeated reminders and again requested to submit the same at the earliest.

Agenda No. 7: System Study for Capacitor requirement in NR for the year 2019-20

- In the 45th TCC/48th NRPC meeting, it was decided that the study report for 2019-20 along with the guidelines for finding the capacitor requirement at 11/33 kV level in NR would be submitted by CPRI. In this meeting, CPRI representative had stated that as there were diversified network configurations at the level of DISCOMs, the guidelines to be provided would be generalized and may also include some empirical formula along with examples which may guide the DISCOMs for finding out the capacitor requirement.
- Based on the above deliberation, CPRI has submitted the report (enclosed in the agenda of 177th OCC meeting) of the study which was circulated with all the SLDCs and STUs vide e-mail dated 02.11.2020 for submission of comments before the OCC meeting.
- In the 177th OCC meeting, representatives of Punjab, Rajasthan, Delhi and Haryana had highlighted that capacitors considered in the study were far less than already installed. Hence, it was decided that states shall first analyse the PSSE file considered by CPRI in their study and bring out the locations wherein capacitors are already installed in the network, but are not modelled. States were requested to submit their comments on the findings of the report.
- Some difficulties were observed in providing this data in desired form to CPRI, leading to further delay in the activity. To facilitate the process, separate formats wereshared with Punjab, Haryana, Uttarakhand, Rajasthan and Delhi on 07.01.2021 listing those specific buses where the states were required to provide the differential MVAR values.
- The data received subsequently, was forwarded to CPRI for carrying out study and submission of report. CPRI has shared an interim report on 14.02.2021 in which the commutative import of reactive power from the other region is 909 MVar.

FROM AREA	TO AREA	Base case	
		P (MW)	Q (MVar)
UP (1005)	ER_ISTS_BIH (2051)	-34.8	24.4
AURAIYA (1152)	MP(3014)	16	1
NR_ISTS (1050)	GUJARAT (3013)	-2006	-991
NR_ISTS_RAJ (1022)	GUJARAT (3013)	162	-33
RAJASTHAN (1003)	MP(3014)	39.5	18.8
RAJASTHAN (1003)	WR_ISTS_MP (3035)	-1354	487
NR_ISTS_UP (1024)	WR_ISTS_MP (3035)	-2729	261
NR_ISTS_UP (1024)	NER-ISTS(5001)	-902	-366
UP (1005)	JHARKHAND (2002)	63	-29.4
RAJASTHAN (1003)	WR_ISTS_GUJ (3037)	-264	-262
UP (1005)	WR_ISTS_MP (3035)	-3363	450.5

FROM AREA	TO AREA	Base case	
		P (MW)	Q (MVAr)
UP (1005)	WR_ISTS_MP (3035)	-3363	450.5
NR_ISTS_UP (1024)	ER_ISTS_WB (2055)	-541	-134
NR_ISTS_HAR (1021)	WR_ISTS_CHAT (3038)	-2500	-1128
RAPS-C (1156)	WR_ISTS_MP (3035)	-108	110
TANAKPUR (1205)	FAR-WEST NEP (8600)	28	-10
NR_ISTS_UP (1024)	ER_ISTS_BIH (2051)	-2609	1630
TOTAL		-16090	-909.3

- The total recommended capacitor banks required for NR is approx. 352 MVAr.

State	Existing Capacitor Bank as per base case file dated on 11.07.2018 (operational)		Recommended Capacitor Banks (MVAr)	Total Compensation (MVAr)
	Switched Shunt (MVAr)	Fixed Shunt (MVAr)		
Punjab	3187.86	301.27	137	3626.13
Haryana	4575.17	0	0	4575.17
Rajasthan	4096.07	0	0	4096.07
Delhi	968.1(20% taken)	0	0	968.1
Uttarpradesh	6020.46	0	0	6020.46
Uttarakhand	155	0	0	155
Himachal Pradesh	853.12 (293.6)*	122.2	0	975.12
Jammu & Kashmir	20	0	215	235
Total	19316.26	423.2	352	14051.88

* Only 293.6 MVAr of switched shunt among 853.12 MVAr is enabled in HP.

- Detailed report will be shared with the states and UTs of NR as soon as the same is received from CPRI.

Agenda No. 8: Automatic Demand Management System

- In the past OCC meetings, it was decided to hold separate meetings with the representatives of SLDC/SEB/DISCOMs of NR for expediting the implementation of ADMS which is mandated in clause 5.4.2 (d) of IEGC and deliberate on the issues involved in its execution.
- As decided in the 176th OCC meeting, the nominations for matter specific meeting has been received from HVPN, UHBVN/DHBVN, PSPCL, RVPN (SLDC & Automation), UPPTCL, KESCO (DISCOM-UP), NPCL (DISCOM-UP).
- In compliance to decision taken in 179th OCC meeting, first meeting on ADMS implementation roadmap was held with the officers of Haryana on 05.02.2021. In the meeting, various issues and apprehensions on ADMS were discussed along with vital aspects like addressing the commercial issues, basic architecture for scheme and funding possibilities for the scheme. It was also decided that Haryana DISCOMs would have separate meeting with SLDC Haryana for discussing the future roadmap.

- Further, members were informed that second meeting on ADMS implementation roadmap has been scheduled with the representatives of Himachal Pradesh on 19.02.2021.

Agenda No. 9: Follow-up of issues from various OCC Meetings - Status update

- Updated status is attached as *Annexure-A.I.*

Agenda No.10: Agenda of Grid voltage fluctuations at NTPC Anta & Bhadla Solar (Agenda by NTPC)

- Representative of NTPC intimated that the issue of grid voltage fluctuations at Anta GPS was discussed in 178th OCC meeting. However, this issue is still persisting. He also explained the 220kV side grid voltage trends at NTPC Anta station of 8 days (from 29.01.2021 to 05.02.2021) wherein it was mentioned that during night hours, maximum voltage reached up to 236 kV level and while day hours, minimum side voltage reached up to 198 kV.
- He further added that this fluctuation is causing Station LV side supply trip on Undervoltage protection causing power supply failure of critical drives in low grid voltage condition, while in high grid voltage condition, voltage stress on C&I equipment increases resulted in failure of power supply of cards, solenoids etc. Matter has also been communicated to NRLDC & SLDC (Jaipur) for corrective action so as to maintain voltage within permissible limits.
- Further, representative of NTPC stated that the issue of 132 kV grid voltage fluctuations has also been persisting at NTPC Bhadla Solar Project, resulting in fluctuation in 33 kV LV side voltage. He intimated that during day time, voltage at LV side is low, near around 29 kV. This results in limited loading of the 63 MVA Power Transformers at Bhadla, which causes restriction in renewal energy generation from plot.
- NTPC also added that due to low voltage levels during day time, more current flows through the windings of power transformers for injection of same power to grid hence larger amount of heat losses are being generated.
- NTPC Bhadla informed that they are operating their converters at upf. NRLDC suggested that as voltage is the outcome of control at local level, attempts shall be made to maintain their bus voltage. For this, inverter mode operation may be opted in such cases or sufficient capacitor banks may be installed.
- Representative of NRLDC informed that Rajasthan does not have sufficient capacitor bank to control voltage within specified limits. As the capacitor requirement study report is based on 2019 load profile, Rajasthan may need to undertake an independent study for the same considering the current load profile and compute and install additional capacitor banks to maintain the voltage profile.
- Representative of NRPC Sectt. stated that in 178th OCC meeting, Rajasthan had stated that they were in the process of connecting Kota (Thermal) with Kota (PG) which could address and rectify the voltage fluctuation issue and enquired about

status of the same. Representative of Rajasthan informed that they could not connect the same due to high generation in the pocket; however, the same may be connected during the next month when the generation is likely to be low.

- OCC opined that commissioning of Capacitor to take care the voltage dip issues would take longer time. Load staggering may be explored by Rajasthan as an interim measure. UP SLDC mentioned that voltage fall issue has been addressed by them by feeder groupings at bus level and staggering the load. Rajasthan SLDC was advised to discuss the action plan undertaken by UP within a week's time and then intimate the action plan in the next OCC meeting. Further, all solar developers were advised to operate in voltage control mode.
- OCC also suggested Rajasthan SLDC to study and plan their reactive power management considering their proposed policy changes as envisaged.

Agenda No.11: Bus Voltages and Reactor operation at APRL, Kawai (Agenda by APRL)

- Adani Power Rajasthan Ltd. (APRL) have requested deliberation on the matter of reactor operation and associated voltage control.
- He stated that 1320 MW, APRL, Kawai Power plant is connected to 400 kV double circuit lines to Anta and single circuit line to Chhabra.02 nos. reactors of 63 MVAR each are installed on 400 kV Bus. It has been observed that Reactor operations are comparatively frequent and are kept on even when voltages are under control (less than 406 kV).
- Overview of Bus voltages considering around 380 days of data (36,342 time-blocks) till Dec'20 (Annexure shared in Agenda) indicates the following (data derived from Energy meters of 0.2 class accuracy):
 - For more than 56% of the time, voltages are more than 406kV
 - Around 43% of the time, voltages are less than 406kV
 - Bus Reactors are kept on for 74% time even when voltages are less than 406 kV (32% of the total time blocks) and 76% of time when voltages are less than 400 kV (11% of total time blocks).
 - 2521 blocks – both reactors were off, though voltages were more than 410kV
 - 937 blocks – Both Reactors were off though Voltages were more than 412kV
- The observations of APRL are as mentioned below:
 - Reactors are kept on even during low voltage conditions; keeping the Bus voltage lower.
 - Reactive Power from ARPL's units is being pumped on the bus keeping the reactors on; thereby generating MVAR to be consumed by the Bus Reactors
 - Around 60 MVAR of reactive power is consumed in each Generator Transformer itself; thereby curtailing over voltages, if any.

- APRL was informed that the forum has taken note of the agenda. APRL Kawai was advised to share their study with Rajasthan SLDC. Further, reactive power generation (with / without reactor) as per capability curve of Kawai generator to be shared by APRL with Rajasthan SLDC and NRLDC. APRL agreed for the same.

Table Agenda 1: Utilization of 132 kV Ambala Road-II - Bhagwanpur & 132 kV Gagalheri-Bhagwanpur (DC) Line upto location No. 39 by UPPTCL through shorting of both line at location No. 51 (Agenda by UPPTCL)

- UPPTCL vide their email dt. 15.02.2021, have submitted the above agenda for deliberation. UPPTCL representative informed that originally 132kV Saharanpur-Roorkee (Bhagwanpur) double circuit line was interstate line and being maintained by UPPTCL. The location No. 1 to 38 of line is geographically situated in Uttarakhand.
- He further intimated that later on PTCUL started utilizing these lines by shorting both line at Loc. No. 37 and opening the Jumpers towards Saharanpur. This was done without any prior intimation to UP. Presently UPPTCL is maintaining the line upto loc. No. 42 and jumper towards Uttarakhand in open condition at Loc. No.42.
- There was an interstate metering system at 132 kV Sub Station Ambala Road-II and Gagalheri which were taken out by PGCIL on dated 18.12.2020 as per NRLDC instruction.
- As of now, this transmission line, while being geographically situated in UP from Loc. No. 39 to 62 (132 kV S/s Gagalheri) and being maintained by UPPTCL, is not used by UPPTCL.
- 132 kV Ambala Road-II - Bhagwanpur and 132 kV Gagalheri - Bhagwanpur line may be utilized from location No. 62 to 51 for second source of 132 kV Ambala Road-II by shorting through jumper at Loc. No.51.
- UPPTCL have proposed the shorting of jumpers at Loc. No. 51 for 132 KV Ambala Road II-Bhagwanpur and 132 KV Gagalheri-Bhagwanpur transmission line in order to utilize the (DC) as second source of supply for 132 KV Ambala Road-II (UPPTCL).
- NRPC Sectt. enquired that whether prior approval from the appropriate authority was taken for the removal of jumper at T. No. 42 as well shorting at T.No.37 or not. Representatives of UPPTCL and PTCUL could not respond to the same.
- OCC advised that matters pertaining to conversion of ISTS into non-ISTS, consent and intimation to all concerned must be ensured. Further, in regard to UPPTCL's proposal, it was suggested that suitable safety clearances as per statutory requirement shall be obtained from the appropriate authority. Further, UPPTCL and PTCUL was requested to discuss and address the matter bilaterally before taking any further course of action.

Follow up issues from previous OCC meetings

Annexure-A.I

1	Sub-stations likely to be commissioned by next two years.	All the concerned states had been requested in past OCC meetings to submit the details of the downstream network associated specially with POWERGRID substations along with the action plan of their proposed / approved networks.	Status details of downstream networks mentioned in Annexure-A. I. I of Agenda.																				
2	Progress of installing new capacitors and repair of defective capacitors	Information regarding installation of new capacitors and repair of defective capacitors is to be submitted to NRPC Secretariat.	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="951 667 1477 958"> <tr><td>CHANDIGARH</td><td>Sep-2019</td></tr> <tr><td>DELHI</td><td>Feb-2021</td></tr> <tr><td>HARYANA</td><td>Aug-2020</td></tr> <tr><td>HP</td><td>Jul-2020</td></tr> <tr><td>J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>PUNJAB</td><td>Nov-2020</td></tr> <tr><td>RAJASTHAN</td><td>Jan-2021</td></tr> <tr><td>UP</td><td>Dec-2020</td></tr> <tr><td>UTTARAKHAND</td><td>Feb-2017</td></tr> </table> <p>All States/UTs are requested to furnish updated status on monthly basis.</p>	CHANDIGARH	Sep-2019	DELHI	Feb-2021	HARYANA	Aug-2020	HP	Jul-2020	J&K and LADAKH	Not Available	PUNJAB	Nov-2020	RAJASTHAN	Jan-2021	UP	Dec-2020	UTTARAKHAND	Feb-2017		
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UTTARAKHAND	Feb-2017																						
3	Healthiness of defence mechanism: Self-certification	Report of mock exercise for healthiness of UFRs carried out by utilities themselves on quarterly basis is to be submitted to NRPC Secretariat and NRLDC. All utilities were advised to certify specifically, in the report that "All the UFRs are checked and found functional".	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="951 1167 1477 1491"> <tr><td>CHANDIGARH</td><td>Not Available</td></tr> <tr><td>DELHI</td><td>Feb-2021</td></tr> <tr><td>HARYANA</td><td>Dec-2020</td></tr> <tr><td>HP</td><td>Dec-2020</td></tr> <tr><td>J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>PUNJAB</td><td>Dec-2020</td></tr> <tr><td>RAJASTHAN</td><td>Dec-2020</td></tr> <tr><td>UP</td><td>Dec-2020</td></tr> <tr><td>UTTARAKHAND</td><td>Jun-2020</td></tr> <tr><td>BBMB</td><td>Dec-2020</td></tr> </table> <p>All States/UTs are requested to furnish updated status on monthly basis.</p>	CHANDIGARH	Not Available	DELHI	Feb-2021	HARYANA	Dec-2020	HP	Dec-2020	J&K and LADAKH	Not Available	PUNJAB	Dec-2020	RAJASTHAN	Dec-2020	UP	Dec-2020	UTTARAKHAND	Jun-2020	BBMB	Dec-2020
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4	Status of FGD installation vis-à-vis installation plan at identified TPS	List of FGDs to be installed in NR was finalized in the 36th TCC (special) meeting dt. 14.09.2017. All SLDCs were regularly requested since 144th OCC meeting to take up with the concerned generators where FGD was required to be installed. Further, progress of FGD installation work on monthly basis is monitored in OCC meetings.	<p>Status of the information submission (month) from states / utilities is as under:</p> <table border="1" data-bbox="951 1704 1477 1868"> <tr><td>HARYANA</td><td>Feb-2021</td></tr> <tr><td>PUNJAB</td><td>Feb-2021</td></tr> <tr><td>RAJASTHAN</td><td>Feb-2021</td></tr> <tr><td>UP</td><td>Jan-2021</td></tr> <tr><td>NTPC</td><td>Jan-2021</td></tr> </table> <p>All States/utilities are requested to furnish updated status of FGD installation progress on monthly basis.</p>	HARYANA	Feb-2021	PUNJAB	Feb-2021	RAJASTHAN	Feb-2021	UP	Jan-2021	NTPC	Jan-2021										
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NTPC	Jan-2021																						

Reactive compensation at 220 kV/ 400 kV level at 15 substations				
5	State / Utility	Substation	Reactor	Status
i	POWERGRID	Kurukshetra	500 MVar TCR	Anticipated commissioning: Jan-Mar' 2021
ii	DTL	Peeragarhi	1x50 MVar at 220 kV	Purchase Order awarded on 29th Sept.2020 with completion period of 12 months
iii	DTL	Harsh Vihar	2x50 MVar at 220 kV	Purchase Order awarded on 29th Sept.2020 with completion period of 12 months
iv	DTL	Mundka	1x125 MVar at 400 kV & 1x25 MVar at 220 kV	Bid opened on 21st Sept.2020. Bid under technical evaluation.
v	DTL	Bamnauli	2x25 MVar at 220 kV	Bid opened on 21st Sept.2020. Bid under technical evaluation.
vi	DTL	Indraprastha	2x25 MVar at 220 kV	Bid opened on 21st Sept.2020. Bid under technical evaluation.
vii	DTL	Electric Lane	1x50 MVar at 220 kV	Bid opened on 21st Sept.2020. Bid under technical evaluation.
viii	PUNJAB	Dhuri	1x125 MVar at 400 kV & 1x25 MVar at 220 kV	Retendering to be done for 400kV reactors. Technical bids for 220kV reactors opened on 14.01.2021.
ix	PUNJAB	Nakodar	1x25 MVar at 220 kV	Technical bids opened on 14.01.2021.
x	PTCUL	Kashipur	1x125 MVar at 400 kV	Already submitted to PSDF. On hold due to policy decision
xi	RAJASTHAN	Akal	1x25 MVar	Work order placed on 08.02.2021. Work is scheduled to be completed by Nov' 21
xii	RAJASTHAN	Bikaner	1x25 MVar	Work order placed on 08.02.2021. Work is scheduled to be completed by Nov' 21
xiii	RAJASTHAN	Suratgarh	1x25 MVar	Work order placed on 08.02.2021. Work is scheduled to be completed by Nov' 21
xiv	RAJASTHAN	Barmer & others	13x25 MVar	Agreement signed on dt. 22.06.2020. Case has been sent to POSOCO for 1st instalment on dt. 23.12.2020.
xv	RAJASTHAN	Jodhpur	1x125 MVar	Agreement signed on dt. 22.06.2020. Case has been sent to POSOCO for 1st instalment on dt. 23.12.2020.

Sl. No.	Substation	Downstream network bays	Commissioning status of ICTs / Bays	Planned 220 kV system	Revised Target	Remarks
1	400/220kV, 3x315 MVA Samba	2 nos. bays utilized under ISTS. Balance 4 nos. to be utilized	Commissioning of ICT 1st & 2nd - Mar'13 3rd - Oct'16	LILO of 220 kV Bishnha – Hiranagar D/c line. Original schedule - Nov'2019	Not Available	Information not submitted
			Commissioning of Bays Mar'13	220 kV D/c Samba (PG) – Samba (JKPDD) approved in 1st NRSCT.	Not Available	Information not submitted
2	400/220kV, 2x315 MVA New Wanpoh	6 Nos. of 220 kV bays to be utilized	Commissioning of ICT Jul'14	220 kV New Wanpoh -Mirbazar D/c line	Not Available	Information not submitted
			Commissioning of Bays Jul'14	220 kV Alusteng - New Wanpoh Line	Not Available	Information not submitted
3	400/220 kV, 2x315 MVA Dehradun	4 bays to be utilised.	Commissioning of ICT Commissioning of Bays Jan'17	220 kV Dehradun-Jhajra line	Nov'21	No further update.
4	Shahjahanpur, 2x315 MVA 400/220 kV	4 Nos. of 220 kV bays to be utilized	Commissioning of ICT	Shahjhanpur-Azimpur D/C line	Jan'21	179th OCC
			Commissioning of Bays Jun/Sep'14	LILO of 220kV Shahjahanpur - Sitapur at Shahjahanpur PG	Jun'21	179th OCC
5	Hamirpur 400/220 kV 2x 315 MVA S/s (Augmentation by 3x105 MVA ICT)	2 nos. bays utilized under ISTS. Balance 6 nos to be utilized	Commissioning of ICT 1st -Dec'13 2nd - Mar'14 3rd - Mar'19 Commissioning of Bays 4 bays - Dec'13 2 bays - Mar'14 2 bays - Mar'19	220 kV D/C Hamirpur-Dehan line. Original schedule: Dec' 2020	Jun'21	180th OCC
6	Sikar 400/220kV, 1x 315 MVA S/s	2 Nos. of 220 kV bays	Commissioned (date not available)	Not available	Mar'21	Work order for utilization of 2 No. of bays placed on dt. 13.04.2020 to M/s A to Z Ltd. Works start on dt. 4.12.2020. S/S-16/32 completed.
7	Bhiwani 400/220kV S/s	6 nos. of 220kV bays	Commissioned (date not available)	220kV Bhiwani (PG) - Isherwal (HVPNL) D/c line	Jun'21	Execution delayed due to impact of COVID19. Expected by March 2021.

Sl. No.	Substation	Downstream network bays	Commissioning status of ICTs / Bays	Planned 220 kV system	Revised Target	Remarks
8	400/220kV Tughlakabad GIS	10Nos. of 220kV bays	Commissioned (date not available)	RK Puram – Tughlakabad (UG Cable) 220kv D/c line	Mar'23	Tender opened. Under Bid evaluation.
				Masjid Mor – Tughlakabad 220kv D/c line	Dec'21	Tender opened. Under Bid evaluation.
9	400/220kV Kala Amb GIS (TBCB)	6 Nos. of 220kV bays	Commissioned in Jul'2017	220kV D/c line from Kala Amb 400/220kV S/s to 220/132kV Kala Amb S/s	Dec'21	Details for utilizing remaining 4 bays is not available