

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

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दिनांक: 24.12.2021

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 190<sup>वी</sup> बैठक के खण्ड-अ मे लिए गए निर्णयों का सार।

Subject: Gist of decisions taken in the Part-A of 190th OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप- समिति की 190<sup>वी</sup> बैठक दिनांक 21.12.2021 को आयोजित की गयी। उक्त बैठक की खण्ड-अ मे लिए गए निर्णयों का सार **अनुलग्नक – अ** के रूप मे संलग्न है।

190<sup>th</sup> meeting of the Operation Co-ordination Sub-Committee of NRPC was held on 21.12.2021. The Gist of the decisions taken in Part-A of this meeting is enclosed as **Annexure-A**.

(सौमित्र मजूमदार) अधीक्षण अभियंता (प्रचालन)

सेवा में, प्रचालन समन्वय उप- समिति के सभी सदस्य।

#### Gist of decisions taken in the Part-A of 190th OCC Meeting

#### Agenda No. 1: Confirmation of Minutes

Minutes of 189<sup>th</sup> OCC meeting was issued on 03.12.2021. OCC confirmed the minutes.

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

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

#### Delhi

1950 MUs was anticipated energy consumption for Nov'2021. However, the actual energy consumption met for Nov'2021 was 1819.037 MUs. The variation between actual and anticipated energy consumption is (-) 6.7 %.

Energy consumption for Nov'2019 was 1899 MUs. Similarly, energy consumption for Nov-2020 was 1783 MUs.

Projection for Nov'2021 was made considering the energy consumption of pre-Covid time i.e., Nov'2019 keeping in view that situation may improve in coming days leading to increase in power demand. However, due to comparatively cold weather condition during Nov'2021, demand did not pick up.

#### Haryana

The anticipation in Energy requirement in respect of Haryana for the month of Nov'2021 came on the lower side as agriculture consumption was less.

#### Punjab

Actual maximum demand was more as compared to anticipated maximum demand because of long dry spell in the state of Punjab during month of Nov'2021.

#### Rajasthan

The energy consumption decreased by 8.8% with respect to anticipated energy requirement due to less increment in agriculture load during first fortnight in the month of Nov'2021 and peak demand was 14,253 MW on 17.11.2021 for Nov'2021 which 5.6% more with respect to anticipated peak demand due to two block supply in day hours to agriculture consumer in phasing manner.

#### Himachal Pradesh

The anticipation in energy requirement in respect of Himachal Pradesh for the month of Nov'2021 came on the higher side due to dry weather and early winter.

#### Uttar Pradesh

Actual peak demand and availability in terms of MW is less than anticipated due to less demand during Diwali festival.

#### Agenda No. 2.2: Power Supply Position for October 2021

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Representative of Rajasthan explained the methodology adopted by Rajasthan for calculating hourly load shedding and mentioned that feeder-wise MW shortfall in each hourly block is computed by dividing MU of the disconnected feeder by duration of disconnection during that block. It was also mentioned that duration of feeder disconnection in some of the hourly blocks was incorrectly considered in the initial computation due to which 5033MW was reported as maximum shortfall in the state on 7<sup>th</sup> October.

Rajasthan SLDC was advised to share the computation sheet of hourly feeder-wise MW shortfall along with Power Supply Position data to NRPC Sectt on monthly basis.

#### Agenda No. 2.3: 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 November 2021 was enclosed in the agenda and same was discussed in the meeting.

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 January 2022 was deliberated in the meeting on 20.12.2021.
- Following shutdown requests were also discussed in the OCC meeting:

Element Name	Owner	Daily/ Cont.	Reason	Requested From	Requested To	Decision of OCC
500 MW RIHAND- III STPS - UNIT 1	NTPC	С	Boiler+Nox Modification +FGD+LPT+ TG vibration issue	05-Jan-2022 00:00	19-Feb-2022 23:59	UP has given consent. S/d is approved from 13.01.2022 for 45 days

#### Agenda No. 4.1: Anticipated Power Supply Position in Northern Region for January 2022

The updated anticipated Power Supply Position for January 2022 is as below:

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision	
	Availability	100	230	Revision not	
CHANDICADII	Requirement	130	280		
CHANDIGARH	Surplus / Shortfall	Surplus / Shortfall -30 -50		submitted	
	% Surplus / Shortfall	-23.1%	-17.9%		

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision	
	Availability	3559	5300		
	Requirement	2350	5300	_	
DELHI	Surplus / Shortfall	1209	0	20-Dec-21	
	% Surplus / Shortfall	51.4%	0.0%		
	Availability	4870	10860		
	Requirement	4090	7627	24 Dec 24	
HARYANA	Surplus / Shortfall	780	3233	21-Dec-21	
	% Surplus / Shortfall	19.1%	42.4%		
	Availability	996	1975		
HIMACHAL	Requirement	995	1980	14 Dec 21	
PRADESH	Surplus / Shortfall	1	-5	14-Dec-21	
	% Surplus / Shortfall	0.1%	-0.3%		
	Availability	980	3610		
1017 11 4 D 4 17 1	Requirement	2090	2920	Revision not	
J&K and LADAKH	Surplus / Shortfall	-1110	690	submitted	
	% Surplus / Shortfall	-53.1%	23.6%		
	Availability	4780	9100		
	Requirement	4024	7368	20-Dec-21	
PUNJAB	Surplus / Shortfall	756	1732	20-Dec-21	
	% Surplus / Shortfall	18.8%	23.5%		
	Availability	8510	18870		
RAJASTHAN	Requirement	8480	15500	20 Doc 21	
RAJASTHAN	Surplus / Shortfall	30	3370	20-Dec-21	
	% Surplus / Shortfall	0.4%	21.7%		
	Availability	9610	19500		
UTTAR	Requirement	9920	19500		
PRADESH	Surplus / Shortfall	-310	0	15-Dec-21	
	% Surplus / Shortfall	-3.1%	0.0%		
	Availability	1246	2242		
	Requirement	1271	2350	10 Dec 21	
UTTARAKHAND	Surplus / Shortfall	-25	-108	10-Dec-21	
	% Surplus / Shortfall	-2.0%	-4.6%		
	Availability	34651	67200		
NORTHERN REGION	Requirement	33350	58900		
TLOIOIV	Surplus / Shortfall	1301	8300		

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
% Surplus / Shortfall		3.9%	14.1%	

#### Agenda No. 5: 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	То
Delhi	Apr-2018	Sep-2021
Haryana	Apr-2018	Oct-2021
Himachal Pradesh	Apr-2018	Nov-2021
Punjab	Apr-2018	Jul-2021
Rajasthan	Apr-2018	Oct-2021
Uttar Pradesh	Apr-2018	Oct-2021

 OCC forum again raised expressed concern on non-submission of energy breakup data by Uttarakhand, UTs of J&K & Ladakh, and Chandigarh despite repeated reminders.

#### Agenda No. 6: System Study for Capacitor requirement in NR for the year 2019-20

- OCC forum was intimated that NRPC in its 48th meeting 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. Accordingly, CPRI have submitted the system study report on 24.02.2021 and thereafter same was shared with the constituent states. The recommended capacitor compensation, additionally required as per the report is 352MVAr. The report has brought out the additional requirement of 137MVar and 215MVar compensation for Punjab and J&K respectively. Moreover, empirical relationship for capacitor requirement against voltage profile at 11 kV, based on two configurations has been worked out in the report.
- In the 45<sup>th</sup> TCC / 48<sup>th</sup> NRPC meeting, it was decided after the submission of report for 2019-20 and the guidelines, the same would be studied by the same sub-group who had earlier recommended for guidelines and foreclosure of the contract. Based on Committee's recommendations, NRPC Sectt. can process the pending bills of Rs. 14 lakhs (Rs. 2 + 12 Lakhs), excluding taxes along with foreclosure of the contract. Accordingly, submitted report needs to be examined by the Committee.
- In 181st OCC, forum decided that sub-group comprising of following officers would study the report and submit the recommendation report within two weeks:
- NRPC Sectt. asked comments/observations on the CPRI report from all the states via email. Comment from Delhi was received. Rajasthan, HP, Punjab, Haryana had submitted NIL comment. Comment from rest of the members was not received.
- In the 182<sup>nd</sup> OCC meeting, forum decided that a video-conferencing meeting may be held by members of sub-group to finalize the comments latest by 30th April, 2021 and compiled comments may be sent to CPRI for necessary correction in the report.

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- The meeting of sub-group was held on 03.05.21. In the meeting, sub-group members decided to get PSSE file from CPRI for better understanding, which was later shared with them.
- In 183<sup>rd</sup> OCC meeting, NRPC representative requested for any other comments on the CPRI report, if remaining, from any of the members. Sub-group committee member from Rajasthan stated that since the CPRI report is for the year 2019-20, old data needs to be collected and then values in the CPRI report would be checked. It was further intimated that around 2-3 days' time would be required for this task. Raiasthan representative was requested to send their observation/comments via e-mail to NRPC Sectt. at the earliest. Forum decided that after receiving observations/comments from Rajasthan, the compiled observations/comments may be sent to CPRI so that necessary corrections may be done in the draft report.
- In 184<sup>th</sup> OCC, forum was apprised that compiled comments were mailed to CPRI vide email dated 28th May'21 with a request to submit the corrected report within two weeks' time.
- CPRI vide email dated 31st May'21 communicated that majority of comments are on the modeling of base case PSSE file. Since the file is given by NRPC and CPRI has not modeled it so they are not in position to make any comment on the accuracy & modeling of file.
- In 185<sup>th</sup> OCC, NRPC representative stated that CPRI has submitted on 28<sup>th</sup> June 2021 its point-wise reply on the observations of sub-group along with updated report. OCC forum decided that a video-conferencing meeting may be held within sub-group members and CPRI for further discussion on reply of CPRI.
- In 186th OCC, NRPC representative apprised the forum that in line with decisions of 185<sup>th</sup> OCC, a meeting was held on 06.08.2021 under the chairmanship of MS, NRPC through Video Conferencing. It was attended by members of the sub-group, CPRI representatives, and officials from NRPC Sectt & NRLDC.
- It was also stated that in the meeting dt. 06.08.2021, comments of the sub-group on the latest version of CPRI report were deliberated in detail. After weighing the merits of the original & revisions of the report, following were decided:
  - First Report submitted by CPRI in September, 2020 shall be considered as the reference report. CPRI confirmed that the base-case of 11.07.2018 at 00:45 hrs. received from NRPC Sectt has been used for preparing September, 2020 report.
  - Comments from all utilities and NRLDC on September 2020 report must be submitted to NRPC Sectt, latest by 24.08.2021.
  - NRPC Sectt, after examination, shall share with CPRI the compiled comments of the utilities and NRLDC, latest by 31.08.2021.
  - Thereafter, CPRI shall submit its reply on the compiled comments sent by NRPC Sectt, latest by 15.09.2021.
- It was further intimated that base case file (11.07.2018 00:45 hrs) and CPRI September 2020 report has been e-mailed to all sub-group members on 10.08.2021 requesting to submit comments/observations thereon latest by 24.08.2021.

In the meeting (187<sup>th</sup> OCC), forum was apprised that although last date for submission of comments was 24.08.2021, NRPC Sectt. received comments from Himachal Pradesh, Punjab, Rajasthan, Delhi, and NRLDC vide mails dtd. 24.08.2021, 25.08.2021, 26.08.2021, 31.08.2021, and 03.09.2021 respectively. As the received comments were also on the base-case data, a meeting was held on 06.09.2021 among officers of NRPC Sectt, NRLDC and above four states for discussing comments before sending to CPRI. After detailed discussions, following were decided:

#### A. Himachal Pradesh:

- a) It was apprised by NRLDC that generation data of micro IPPs has not been modelled by them in base-case due to their small quantity. Further, Capacitor at Baddi needs to be removed from base-case.
- b) HP was requested to submit within 3 days data regarding (11.07.2018 00:45 HRS):
  - i. Generation break-up along with details of micro IPPs.
  - ii. Capacitors at 132 kV level
  - iii. Nodes of major voltage profile mismatch
  - iv. Load factor of state (current scenario if data of past is not available)
- c) It was decided that after getting above data from HP, base-case will be tuned by NRLDC before sending to CPRI.

#### B. Punjab:

- a) All switched reactors/capacitors to be converted into fixed & net shunt capacitor value in the base-case to be corrected as per Punjab's comment.
- b) Punjab was requested to submit low voltage nodes (11.07.2018 00:45 HRS) within 3 days.
- c) Based on data from Punjab, initial tuning to be done by NRLDC for Q values of generators. CPRI may be required to do further tuning.

#### C. Rajasthan:

- a) Except low voltage points, power factor needs to be upgraded in the base-case.
- b) Rajasthan representative confirmed that most of the capacitors were off during the time for which modelling is done, so lumped capacitor at 132kV needs to be deleted.
- c) Rajasthan was requested to submit
  - i. List of bus-wise capacitors and their status (OFF/ON condition) on 11.07.2018 00:45 HRS.
  - ii. Voltage profile of generator buses.

#### D. Delhi:

- a) Delhi was requested to submit voltage profile of generator buses.
- It was decided that after receiving data from above four states, NRLDC will tune the base case initially and will also ensure that regional generators shall not absorb reactive

power in the base-case and then base case will be sent to CPRI along with compiled comments.

- In 188<sup>th</sup> OCC, it was apprised that CPRI vide e-mail dtd. 23.09.2021, requested to send comments at the earliest.
- NRPC Sectt. vide e-mail dtd. 23.09.2021 apprised the CPRI that as per decisions of meeting dtd. 06.09.2021, tuning of base-case file is being done by NRLDC so that no new issue arises in future.
- CPRI vide e-mail dtd. 24.09.2021 has requested that any change in loading & generation profile will be a new base case and this will be a fresh study for new base case. It will require an extensive time and efforts. CPRI has requested to ensure that load/generation profile in tuned PSSE should be same as was given to CPRI for PSSE base 11.7.2018 at 00.45.
- In view of CPRI's request, NRLDC was requested vide e-mail dtd. 24.09.2021 to halt tuning of base-case till further discussion.
- A meeting was held between NRPC Sectt. and NRLDC on 04.10.2021, wherein it was decided that without incorporating corrective comments of states, the report is not acceptable w.r.t drawing any conclusion on requirement of capacitor. Later, NRLDC representative informed that tuned base-case will be submitted by 28.10.2021.
- Tuned base-case has been received from NRLDC vide mail dtd 10.11.2021.
- In 189<sup>th</sup> OCC, NRPC representative apprised that tuned base-case received from NRLDC is under examination in NRPC Sectt. After examination, the same will be sent to CPRI for correction in the report along with the comments submitted by states.
- In the meeting (190<sup>th</sup> OCC), NRPC representative informed that tuned base-case along with comments of states has been sent to CPRI vide mail dated 30.11.2021 for correction in the report.

#### Agenda No. 7: Automatic Demand Management System

- Forum was informed that as decided in the 175<sup>th</sup> OCC meeting, to conduct separate meeting with states, nominations are pending from PuVVNL, PVVNL, MVVNL, DVVNL, UPPTCL, UPCL, PTCUL, SLDC Uttarakhand, and J&K. They were requested on 01.03.2021 to submit nominations for the meeting.
- Meetings on ADMS implementation road map have been held with the officers of Haryana, Himachal Pradesh, Punjab and UP on 05.02.2021, 19.02.2021, 05.03.2021, and 14.07.2021 respectively. In these meetings, 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.
- As per the request of states for DPR of any state that has got PSDF support for ADMS, website link of PSDF Sectt. has been shared with Haryana, Himachal Pradesh, Punjab and Uttar Pradesh for accessing DPR. SLDCs were also requested to expedite the submission of pending nominations.
- In 186<sup>th</sup> OCC, In-charge, NRLDC stated that as per IEGC, implementation of ADMS is mandatory. It helps in reducing DSM charges also. States must take it seriously.

- MS, NRPC stated that non-implementation of ADMS by states is indistinguishably non-adherence to directions of CERC. He enquired from NRLDC whether POSOCO has made any communication with CERC regarding non-adherence of its deadline i.e. 31.06.2016. NRLDC representative stated that he would look into and inform in next meeting.
- NRPC representative added that initial deadline for ADMS implementation was 1<sup>st</sup> January 2011 as per para 5.4.2 (d) of IEGC. Later, CERC has taken suo-motu cognizance of non-implementation of ADMS by states and given 31.06.2016 as deadline vide its order dtd. 31.12.2015 in petition no. 5/SM/2014. Implementation deadline given by the statutory and regulatory body need to complied by concerned SLDC / SEB / distribution licensee as per regulation no. 5.4.2 (a) & (b) of IEGC. Moreover, hand holding process for project proposal preparation in respect of four NR states has already been done by NRPC.
- Forum decided that NRLDC may file a report to CERC based on compiled status of ADMS implementation in states of Northern Region.
- In the 187<sup>th</sup> OCC, NRLDC representative quoted the texts of CERC order dtd. 31.12.2015 in petition no. 5/SM/2014. He apprised the status of ADMS implementation till 2015. Further, he requested the states to update the status so that NRLDC may file petition in CERC on the basis of compiled status.
- In the 188<sup>th</sup> OCC, NRLDC informed that it has not received comments from states in this
  matter. Accordingly, all SLDC/DISCOMs are requested to furnish the latest status of
  ADMS implementation in their respective control areas latest by 31<sup>st</sup> October 2021 to
  NRLDC. Status as received till 31.10.2021 would be reported to CERC by NRLDC.
- In the 189<sup>th</sup> OCC, NRLDC informed that status of ADMS has been sent to CERC twice in the past (same is recorded in MoM of 127<sup>th</sup> OCC).
- NRLDC representative also informed that CERC will be apprised about the latest status
  of ADMS as per the updated information available with them.
- In the meeting (190<sup>th</sup> OCC), NRLDC representative informed that vide letter dated 09.12.2021 (enclosed as *Annexure-A.0*), CERC has been apprised about the latest status of ADMS as per the updated information available with them.

#### Agenda No. 8: Follow-up of issues from various OCC Meetings - Status update

Updated status is enclosed as Annexure-A.I.

#### Agenda No. 9. NR Islanding scheme

- Based on the decisions taken in the meeting taken by Hon'ble Minister of State (IC) for Power and New & Renewable Energy on 28.12.2020, Islanding Schemes for NR have been continuously reviewed/discussed in various forums.
- In 187<sup>th</sup> OCC, it was decided that states shall submit MIS report before every OCC meeting so that same may be discussed. Format was circulated vide agenda of 187<sup>th</sup> OCC.

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- It was also highlighted that MoP has agreed for PSDF funding for implementation of islanding schemes and states were requested to prepare and submit DPR for the same.
   Further, a sample DPR on implementation of Islanding scheme for PSDF funding has been already circulated vide email dated 07.10.2021 and requested to expedite the preparation of DPR.
- Utilities were requested to refer and submit SOP for every Islanding scheme in their control area.
- A meeting was also held by Honorable Cabinet Minister (Power, New & Renewable Energy) on 07.10.2021 wherein emphasis was given on PSDF funding for Islanding schemes and DPR submission for the same. MoM has been issued and copy of the same is enclosed as Annexure-A.II of 189<sup>th</sup> OCC agenda.
- In the 189<sup>th</sup> OCC, MS, NRPC expressed concern regarding apathy of states in implementation of Islanding Schemes. He stated that all SLDCs shall intimate the names of Islands for which system study from CPRI is required along with justification for the same by 30th Nov, 2021. He also set timeline of 30th Nov, 2021 for Delhi to submit SOP data. He stated that communication may be sent to RAPS for submission of SOP data at the earliest.
- In the meeting (190<sup>th</sup> OCC), NRPC representative informed that SOP data in respect of Delhi and RAPS have been received.
- UPSLDC vide letter dated 01.12.2021 has submitted the names of islands for which system study from CPRI is required. UPSLDC has highlighted, inter-alia, that involvement of long length 765kV line and high number of buses necessitates them to go for system study by CPRI. It has mentioned that SLDC/STU has no expertise in such studies and before doing any investment on the project, proper study is must for successful implementation and operation of Islands.
- HPSLDC vide letter dtd. 18.12.2021 has intimated that a meeting was held on 26.11.2021 between HPSLDC and HPSEBL wherein a team of officers from HPSLDC and HPSEBL has been formed to carry out transient study of all islands within a month.
- UPSLDC representative informed that CPRI has asked for some additional details and technical commercial offer would be provided to them by CPRI by 15<sup>th</sup> Jan 22.
- NRLDC representative informed that report received from Rajasthan regarding the Jodhpur-Barmer-Rajwest islanding scheme is in order and Rajasthan SLDC can proceed ahead. Further, NRLDC submitted that they use PSSE software for system study but Rajasthan has submitted details of Islands in MI Power Software, therefore, they are not able to access the file.
- Rajasthan SLDC representative informed that they have given the details in the hard copy of the load and generation to be considered for islanding scheme, and based on that have requested NRLDC to simulate it in PSSE software for validation. NRLDC representative agreed to the request of the Rajasthan SLDC.
- Uttarakhand SLDC representative informed that hydro stations near Dehradun are peaking stations and the proposed Dehradun islanding scheme appears to be infeasible. NRPC representative informed that some schemes in NR have been

proposed by considering Hydro stations and Dehradun islanding scheme was proposed by the state SLDC itself in view of all factors. Thus, Uttarakhand SLDC shall immediately conduct study on the proposed Islanding Scheme having Khodri & Chibro units and provide status on the feasibility of scheme with supporting data so that same may be communicated to the Ministry.

#### Agenda No.10. Coal Supply Position of Thermal Plants in Northern Region

• In the meeting, NRPC representative apprised the forum about the coal stock position of generating stations in northern region during current month (till 10<sup>th</sup> December 2021).

## Agenda No.11. Frequent tripping of 765 kV Bara-Mainpuri line at Mainpuri end and Commissioning of 2nd ICT at PPGCL Switchyard (Agenda by PPGCL)

- Prayagraj Power Generation Corporation Ltd (PPGCL) vide its email dated 10.12.2021 submitted that PPGCL, Bara is operating 3X660 MW Super-critical units at Prayagraj (UP). Its 90% power is tied-up with U.P. DISCOMs and 10% is available for merchant sale. The generated power is evacuated through one 765kV Bara-Mainpuri line and two 400kV Bara-Meja lines. Due to evacuation constraint, since 2<sup>nd</sup> 765kV line is not yet commissioned, SPS protection is in place. UPPTCL is also in the process of installing 2<sup>nd</sup> ICT at PPGCL Switch yard.
- UP representative informed that the concerned company for installing the 2<sup>nd</sup> ICT at PPGCL switchyard is undergoing insolvency proceeding and hence the work is pending.
- NRLDC representative suggested that PPGCL can take up the matter with CEA as it monitors the progress of these lines.

## Agenda No. 12. CEA Inspection of transmission lines diversion works under regulation 43(4) of CEA (Measures relating to Safety and Electric Supply) Regulations (Additional Agenda)

- POWERGRID representative informed the forum that massive diversion works of 765 kV & 400kV Transmission Lines are being carried out by POWERGRID on request of various utilities like NHAI, DFCCIL, NCRTC, UPEIDA etc. These projects of National Importance are to be completed in scheduled time manner.
- Diversion works of 400kV Single Circuit and Double circuit are generally completed within 10 days and 15 days respectively and online application for CEA inspection is filed on completion of diversion works in all respect. The inspection by Electrical Inspector is carried out within 4-5 days after filing of application due to their busy schedule. Subsequently, final charging clearance is given within 3-4 days after inspection on compliance of minor observations which takes 1-2 days.
- POWERGRID representative mentioned that restoration of Transmission Line is getting delayed by 7-8 days due to CEA inspection, compliance of inspection reports and final charging clearance by CEA after completion of diversion works which is resulting threat to reliability of National Grid as well as safety of Transmission Line assets. Recently approximate I.6 km ACSR Moose conductor has been theft in span of tower nos. 52-54 of 400kV S/C Bhiwadi-Gurugram TL which was under shut down for diversion work

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resulting partial damage to the tower, which was taken additional 02 days for restoration.

- In view of above, POWERGRID requested that provisional CEA clearance for energization of Transmission Line after completion of diversion works may be issued immediately based on self-certification by POWERGRID. However, the final CEA clearance can be issued later based on site inspection, compliances etc. as the case may be.
- MS, NRPC stated that CEA is the appropriate body to decide on the provisional clearance for energization of Transmission Line after completion of diversion works. In this regard letter may be written to Member Power System, CEA to apprise him about the opinion of OCC forum of NR. Further, Member GO&D, CEA may be apprised about the opinion of OCC forum of NR and his guidance on deemed availability for the matters related to diversion works for national highways would be sought.

## Agenda No. 13. Reverse Power Flow testing of +/- 500KV, 2500 MW HVDC Ballia-Bhiwadi bipole link Approval for System Test Schedule (Additional Agenda)

- POWERGRID representative intimated that NRSCT in its 5<sup>th</sup> meeting held on 13.09.2019 discussed power reversal on + 500 KV, 2500 MW, Ballia—Bhiwadi line up to 2000 MW from Bhiwadi to Ballia. The same has been mentioned in 6<sup>th</sup> NCT meeting dated 30.09.2019 at sl.no. 4.3.12 under "Transmission system strengthening scheme for evacuation of power from solar energy zones in Rajasthan (8.1 GW) under phase-II Power Reversal in Ballia-Bhiwadi HVDC Line"
- Accordingly, purchase order had been placed to M/s Siemens Ltd for "Technical support for reverse power flow studies for POWERGRID on HVDC Ballia-Bhiwadi link", both Offsite and Onsite system testing.
- M/S Siemens has proposed for Onsite system testing on Ballia-Bhiwadi link from 24.01.2022 to 03.02.2022 for which shutdown of Bi-pole shall be required as per given test schedule with number of tests, their duration (day & time) and required power flow schedule. Further above-mentioned work of HVDC Ballia -Bhiwadi link is being carried out for reliability of flexible system operation, hence outage period for scheduled testing shall be considered deemed available.
- POWERGRID representative mentioned that testing shall be performed as per approval and real-time coordination with NRLDC for change of power order in Pole/Bipole during system tests for about 7-8 days. During the reverse power flow, deemed availability of poles may be considered.
- In view of the NCT decision, OCC forum agreed to facilitate reverse power flow testing of Bhalia-Bhiwadi bipole link.

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### पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(भारत सरकार का उद्यम





(A Govt. of India Enterprise)

उत्तरी क्षेत्रीय भार प्रेशण केन्द्र / NORTHERN REGIONAL LOAD DESPATCH CENTRE कार्यालय : 18-ए, शहीद जीत सिंह सनसनवाल मार्ग, कटवारिया सराय, नई दिल्ली- 110016 OFFICE : 18-A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi- 110016 CIN: U40105DL2009GOI188682, Website : www.nrldc.org, www.nrldc.in, Tel.: 011- 26519406, 26523869, Fax: 011- 26852747

Ref: NRLDC\TS-09\ 1907-1908

Date: 9th December 2021

To,

Secretary, Central Electricity Regulatory Commission Third & Fourth Floor Chanderlok building, 36 Janpath, New Delhi-110001

Subject: Status of Automatic Demand Management Scheme (ADMS) implementation in Northern region

Sir,

In compliance to the Hon'ble commission order 005\SM\2014 dated 31.12.2015 wherein RLDCs were directed to submit report with regard to Automatic Demand Management Scheme (ADMS) implementation, NRLDC had submitted the report vide letters NRLDC\TS-09\1309-1320 and NRLDC\TS-09\1422 dated 30.08.2016 and 08.09.2016 respectively (Annexure-I).

No significant progress on the matter is observed even after continuous follow-ups in NR-OCC meetings. Further, separate meetings with states such as Haryana, Himachal Pradesh, Punjab and UP were organized for assisting states in expediting ADMS implementation work.

In 186<sup>th</sup> OCC meeting held on 18.08.2021, it was decided that NRLDC may submit a report to CERC based on latest status of ADMS implementation in states of Northern Region. Accordingly, states were requested to submit the latest status of implementation of Automatic Demand Management Scheme (ADMS) to NRPC/NRLDC so that the same could be intimated to CERC as decided in 186<sup>th</sup> OCC meeting.

The issue was subsequently discussed in 187<sup>th</sup>, 188<sup>th</sup> and 189<sup>th</sup> OCC meetings in which states were sensitized on the importance of complying with regulation 5.4.2 of the Indian Electricity Grid Code, which mandates every state to formulate its automatic demand management scheme to maintain frequency within the stipulated band and to ensure network security. All states were requested to submit the latest status of ADMS implementation.

The latest status as available with NRLDC based on discussions held in 189<sup>th</sup> OCC meeting on 23.11.2021, is attached as Annexure-II. This is being submitted as per the decision of 186<sup>th</sup> and subsequent OCC meetings of NRPC.

This is for your kind information please.

Thanking you.

Yours faithfully

(N. Nallarasan)
CGM(I/C) NRLDC

#### Copy to:

- 1. Member Secretary, NRPC, New Delhi
- 2. Chairman & Managing Director, POSOCO, Nehru Place.

पावर सिरदम ऑपरेशन कारपोरेशन लिमिटेड

(पायरप्रिय की पूर्ण स्थापिक प्राप्त शहायक कंपनी) OWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary company of POWERGRID)

NORTHERN REGIONAL LOAD DESPATCH CENTRE 18/A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi - 110 015 Tel: 26854861.26854015.26569504 Fax: 011- 265852747, Website: www.nridc.org REPUBLIC OF THE PROPERTY OF TH

CIN: U40105DL2009GOI188682.

संदर्भ संख्या: NRLDC\TS-09\ 1309-1320

दिनांक: 29 अगस्त 2016 20

सेवा में, सचिव,केंद्रीय विद्युत विनियामक आयोग(सीईआरसी) तीसरा तथा चौथा तल, चन्द्रलोक बिल्डिंग, 36 जनपथ, नई दिल्ली - 110001,

বিষয়: Report on Automatic Demand Management Scheme (ADMS) status of Northern Region in compliance of CERC order in 005/SM/2014 dated 31.12.2015

महोदया,

Please refer to the Hon'ble Central Electricity Regulatory Commission (CERC) order dated 31<sup>st</sup> December 2015 in suomotu petition no 05/SM/2014 in the matter of "Noncompliance of Regulation 5.4.2 (d) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010" wherein following have been directed as quoted below:

"......However, considering the request of the respondents to grant time to implement ADMS, we grant time till 31.6.2016 to the respondents to implement ADMS, failing which they will be liable for action under Section 142 of the Act for noncompliance of the Regulation 5.4.2 (d) of the Grid Code and order of the Commission. RLDCs are directed to submit the report in this regard by 31.8.2016."

In compliance to the above order of the Hon'ble commission, the report on the status of ADMS in Northern region as communicated by respective SLDCs to NRLDC is enclosed herewith.

धन्यवाद,

भवदीय

(१) अप्रवास*)* सन्दर्भक्ष

प्रतिलिपि विनम्न सूचनार्थः

1. सदस्य सचिव, उत्तर क्षेत्रीय विद्युत समिति, 18 ए, SJSS मार्ग, कटवारिया सराय, नई दिल्ली- 110 016

मुख्य कार्यकारी अधिकारी, पोसोको, बी-9, कुतुब इन्स्टीट्यूशनल एरिया, नई दिल्ली - 110 016

3. SLDC प्रमुख-Punjab/Haryana/HP/Rajasthan/UP/Delhi/J&K/Uttrakhand/UT Chandigarh

005/51/2019



### रिस्टम ऑपरेशन कारपोरेशन लिमिटेड

#### (पायरविदे की पूर्ण स्वाचित्व प्राप्त सहायक क्षंपनी) POWER SYSTEM OPERATION CORPORATION LIMITED (A wholly owned subsidiary company of POWERGRID)

NORTHERN REGIONAL LOAD DESPATCH CENTRE 18/A, Shaheed Jeel Singh Sansanwal Marg, Katwaria Sarai, New Delhi - 110 016 Tel: 26854861,26854015,26559504 Fax: 011-265852747, Website: www.nrldc.org,

CIN: U40105DL2009GOI188682

संदर्भ संख्या: NRLDC\TS-09\ 1422-

दिनांक: 08 सितंबर 2016

सेवा में. सचिव,कंद्रीय विद्युत विनियामक आयोग(सीईआरसी) तीसरा तथा चौथा तल, चन्द्रलोक बिल्डिंग, 36 जनपथ, नई दिल्ली - 110001.

विषय: Supplementary Report on Automatic Demand Management Scheme (ADMS) status of Northern Region in compliance of CERC order in 005/SM/2014 dated 31.12.2015

महोदया,

In compliance to the Hon'ble commission order in 005/SM/2014 dated 31.12.2015. NRLDC has submitted the report vide letter NRLDC/TS-09/1309-1320 dated 30.08.2016 on the status of ADMS in Northern region as communicated by respective SLDCs.

Further NRI.DC has received information from Haryana & Rajasthan also. As per information received from Haryana and Rajasthan, it is clear that ADMS is yet to be formulated in these states. Summary of the responses is given below along with copy of their response enclosed as Annex-VI & VII

		NRLDC/NRPC regarding implemen 31.12.2015 in 05	The second second	41		
NR SLDC	Date of response	Summary of Scheme/	Load relief (MW)	Details of feeder	Remarks	Detail Enclosure
Haryana	24-Aug-16 (Received on 02 09 2016)	HVPNL submitted that DISCOMs have been sensitized for the implementation of ADMS.	NA	NA	Schemes is yet to be formulated	Annex-VI
Rajasth an	30-Aug-16 (Received on 05 09:2016)	A committee was constituted by the Director (PT). RPDDC, Jaipur for preparation and implementation of ADMS in all three distribution schemes.	NΛ	NA	Schemes is yet to be formulated	Annex-VI

धन्यवाद,

महाप्रबंधक

सदस्य सचिव, उत्तर क्षेत्रीय विद्युत समिति, 18 ए, SJSS मार्ग, कटवारिया सराय, नई दिल्ली- 110 016

2. मुख्य कार्यकारी अधिकारी, पोसोको, बी-9, कुतुब इन्स्टीट्यूशनल एरिया, नई दिल्ली - 110 016

SLDC प्रमुख-Punjab/Haryana/HP/Rajasthan/UP/Delhi/J&K/Uttrakhand/UT Chandigarh

## Status of ADMS implementation in NR, which is mandated in clause 5.4.2 (d) of IEGC by SLDC/SEB/DISCOMs is presented in the following table:

State/ Utility	Status			
Punjab	Scheme not implemented.  At SLDC level, remote tripping of 100 feeders at 66 kV is possible.  At 11 kV feeder level, ADMS is to be implemented by Distribution Company.			
Delhi	Fully implemented by TPDDL, BRPL and BYPL.  NDMC implementation was scheduled to be completed by 31.03.2020 but got delayed due to some changes incorporated in the scheme.			
Rajasthan	Under implementation.  LoA placed on 12.12.2018 with an execution period of 18 months for ADMS at the level of 33 kV feeders at EHV Substation of RVPN under SCADA / EMS part of project. Supply is in progress. Work is under execution and likely to completed by June'2021.  ADMS functionality at 11 kV feeders from 33/11 kV substation is under the jurisdiction of the DISCOMs.			
UP	Scheme implemented by NPCL only.  Remote operation of 50 feeders at 132 kV level being operated from SLDC.  Further, the solution proposed by M/s Siemens was found to be non- economical and was not accepted by the management.  Noida Power Company Ltd have implemented Intelligent Load Shedding (ILS) scheme, in compliance of IEGC requirements for automatic demand management.			
Haryana	Scheme not implemented.  More than 1700 feeders were tested from SLDC control room for remote operation. Regarding the implementation of ADMS at DISCOM level, the matter is being taken up with the DISCOMs.			
НР	Scheme not implemented.  02 feeders could be operated from SLDC through manual intervention.  Letter has been sent by HPSEB to HP-SLDC for making its operation automatic.			

Tol. 6 Kent 28 8 9 112/21.

#### Follow up issues from previous OCC meetings

1	-	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.	mentioned in <b>Annex</b>	ure-A.I.I.
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.	Data upto following from various states  CHANDIGARH DELHI HARYANA HP J&K and LADAKH PUNJAB RAJASTHAN UP UTTARAKHAND All States/UTs are r furnish updated states	/ UTs:  Sep-2019  Nov-2021  Apr-2021  Mar-2021  Not Available  Aug-2021  Nov-2021  Oct-2021  Nov-2021  requested to
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".	Data upto following from various states  CHANDIGARH DELHI HARYANA HP J&K and LADAKH PUNJAB RAJASTHAN UP UTTARAKHAND BBMB All States/UTs are a furnish updated states	VITs:  Not Available Sep-2021 Sep-2021 Oct-2021 Not Available Mar-2021 Sep-2021 Sep-2021 Mar-2021 Sep-2021 Sep-2021 Cequested to
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.	Status of the inform (month) from states under:  HARYANA PUNJAB RAJASTHAN UP NTPC FGD status details a Annexure-A.I.II. All States/utilities furnish updated statinstallation progress basis.	Feb-2021 Nov-2021 Dec-2021 Nov-2021 Dec-2021 are enclosed as s are requested to tus of FGD
5	Information about variable charges of all generating units in the Region	The variable charges detail for different generating units are available on the MERIT Order Portal.	All states/UTs are a submit daily data or Portal timely.	_

6	Reactive compensation at 220 kV/ 400 kV level at 15 substations				
	State / Utility	Substation	Reactor	Status	
i	POWERGRID	Kurukshetra	500 MVAr TCR	Anticipated commissioning: Dec' 2021 (delay due to pending supplies by GE)	
ii	DTL	Peeragarhi	1x50 MVAr at 220 kV	PO awarded to M/s Kanohar Electricals Ltd. Drawings approved and under stage inspection. GIS Bay is already available. Work expected to be completed by Dec. 21	
iii	DTL	Harsh Vihar	2x50 MVAr at 220 kV	PO awarded to M/s Kanohar Electricals Ltd. Drawings approved and under stage inspection. GIS Bay is already available. Work expected to be completed by Dec. 21	
iv	DTL	Mundka	1x125 MVAr at 400 kV & 1x25 MVAr at 220 kV	Bay work awarded to M/s. Ethos. Bay work is expected to be completed by Dec. 21. Reactor part tender is dropped and at present same is under revision.	
V	DTL	Bamnauli	2x25 MVAr at 220 kV	Bay work awarded to M/s. Ethos. Bay work is expected to be completed by Dec. 21. Reactor part tender is dropped and at present same is under revision.	
vi	DTL	Indraprastha	2x25 MVAr at 220 kV	Bay work awarded to M/s. Ethos. Bay work is expected to be completed by Dec. 21. Reactor part tender is dropped and at present same is under revision.	
vii	DTL	Electric Lane	1x50 MVAr at 220 kV	Under Re-tendering due to Single Bid	
viii	PUNJAB	Dhuri	1x125 MVAr at 400 kV & 1x25 MVAr at 220 kV	400kV Reactors - LOA issued on dated. 17.08.2021 and date of completion of project is 18 months from the date of LOA.  220kV Reactors - LOA issued on dated 19.07.2021 and date of completion of project is 18 months from the date of LOA.	
ix	PUNJAB	Nakodar	1x25 MVAr at 220 kV	220kV Reactors - LOA issued on dated 19.07.2021 and date of completion of project is 18 months from the date of LOA.	
Х	PTCUL	Kashipur	1x125 MVAR at 400 kV	Already submitted to PSDF. On hold due to policy decision	
xi	RAJASTHAN	Aka1	1x25 MVAr	LOA placed on dt. 4.1.2021. Agreement signed on dt. 8.02.2021. Case for 2nd installment forwarded to NLDC, POSOCO on dt. 29.04.2021. Targeted to be completed by March' 2022.	
xii	RAJASTHAN	Bikaner	1x25 MVAr	LOA placed on dt. 4.1.2021. Agreement signed on dt. 8.02.2021. Case for 2nd installment forwarded to NLDC, POSOCO on dt. 29.04.2021. Targeted to be completed by March' 2022.	
xiii	RAJASTHAN	Suratgarh	1x25 MVAr	LOA placed on dt. 4.1.2021. Agreement signed on dt. 8.02.2021. Case for 2nd installment forwarded to NLDC, POSOCO on dt. 29.04.2021. Targeted to be completed by March' 2022.	

xiv	RAJASTHAN	Barmer & others	Agreement signed on dt. 22.06.2020. Grant of Ist Installment received on dt. 19.02.21 & technical bid opened on dt. 22.10.2021. Now, the shortfalls in the bids have been uploaded and are
XV	RAJASTHAN	Jodhpur	Agreement signed on dt. 22.06.2020. Grant of Ist Installment received on dt.19.02.21 & technical bid opened on dt.22.10.2021. Now, the shortfalls in the bids have been uploaded and are

#### Annexure-A-I-I

						<u>Annexure-A-I-I</u>
SI. No.	Substation	Downstream network bays	Commissioning status of ICTs / Bays	Planned 220 kV system	Revised Target	Remarks
	Shahjahanpur, 2x315 MVA 400/220 kV	4 Nos. of 220 kV bays to be utilized	Commissioning of Bays Jun/Sep'14	Shajahnapur- Azimpur D/C line LILO of 220kV Shajahanpur - Sitapur at Shajahanpur PG	Dec'21	Connected to load on 28.07.2021  Updated in 188th OCC
	Hamirpur 400/220 kV 2x 315 MVA S/s (Augmentation by 3x105 MVA ICT)	nos to be utilized		220 kV D/C Hamirpur- Dehan line. Original schedule: Dec' 2020	Dec'21	Updated in 188th OCC
3	Sikar 400/220kV, 1x 315 MVA S/s		Commissioned (date not available)	Not available		Work order was placed on dt. 13.04.2020 to M/s A to Z Ltd. Work started on dt. 4.12.2020. S/S-32/32, T/E-31/32 (T/E at 27 no. location was pending due to Rajasthan High Court stay), T/S- 7.62/8.122 km completed. Now the stay has been vacated and balance work started. Tentative date of completion of work / line charging is 31.12.2021.
4	Bhiwani 400/220kV S/s	6 nos. of 220kV bays		220kV Bhiwani (PG) - Isherwal (HVPNL) D/c Iine	Mar'22	Delayed due to RoW issue
	400/220kV Tughlakabad GIS	10Nos. of 220kV bays	not available)	RK Puram – Tughlakabad (UG Cable) 220kv D/c line Masjid Mor – Tughlakabad 220kv D/c line	Jul'22 Mar'22	PO for supply and ETC of D/C UG cable awarded.  PO for supply and ETC of D/C UG cable awarded.
	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

# **FGD Status**

## Updated status of FGD related data submission

### NTPC (21.12.2021)

MEJA Stage-I

**RIHAND STPS** 

**SINGRAULI STPS** 

**TANDA Stage-I** 

TANDA Stage-II

**UNCHAHAR TPS** 

### **UPRVUNL (20.12.2021)**

**ANPARA TPS** 

HARDUAGANJ TPS

**OBRA TPS** 

PARICHHA TPS

### **PSPCL (20.12.2021)**

GGSSTP, Ropar

GH TPS (LEH.MOH.)

**RRVUNL (09.12.2021)** 

CHHABRA SCPP

**CHHABRA TPP** 

KALISINDH TPS

**KOTA TPS** 

**SURATGARH SCTPS** 

**SURATGARH TPS** 

## Updated status of FGD related data submission

Lalitpur Power Gen. Co. Ltd. (22.10.2021)

**Lalitpur TPS** 

Lanco Anpara Power Ltd.

(22.10.2021)

**ANPARA-C TPS** 

**HGPCL (17.12.2021)** 

PANIPAT TPS

**RAJIV GANDHI TPS** 

YAMUNA NAGAR TPS

Adani Power Ltd. (28.10.2021)

**KAWAI TPS** 

Rosa Power Supply Company (22.10.2021)

Rosa TPP Phase-I

**Prayagraj Power Generation** 

Company Ltd. (22.10.2021)

Prayagraj TPP

**APCPL (30.09.2021)** 

**INDIRA GANDHI STPP** 

## Pending submissions

Talwandi Sabo Power Ltd.

TALWANDI SABO TPP

**L&T Power Development Ltd.** 

Nabha TPP (Rajpura TPP)

**GVK Power Ltd.** 

**GOINDWAL SAHIB** 

## Target Dates for FGD Commissioning (Utility-wise)

Adani Power Ltd.	KAWAI TPS U#1 (Target: 31-12-2024), KAWAI TPS U#2 (Target: 31-12-2024)
APCPL	INDIRA GANDHI STPP U#1 (Target: 30-06-2022), INDIRA GANDHI STPP U#2 (Target: 30-06-2022), INDIRA GANDHI STPP U#3 (Target: 30-06-2022)
GVK Power Ltd.	GOINDWAL SAHIB U#1 (Target: 30-04-2020), GOINDWAL SAHIB U#2 (Target: 29-02-2020)
HGPCL	PANIPAT TPS U#6 (Target: 31-12-2022), PANIPAT TPS U#7 (Target: 31-12-2022), PANIPAT TPS U#8 (Target: 31-12-2022), RAJIV GANDHI TPS U#1 (Target: 31-12-2024), RAJIV GANDHI TPS U#2 (Target: 31-12-2024), YAMUNA NAGAR TPS U#1 (Target: 31-12-2024), YAMUNA NAGAR TPS U#2 (Target: 31-12-2024)

DADRI (NCTPP) U#1 (Target: 31-12-2020), DADRI (NCTPP) U#2 (Target: 31-10-2020), DADRI (NCTPP) U#3 (Target: 31-08-2020), DADRI (NCTPP) U#4 (Target: 30-06-2020), DADRI (NCTPP) U#5 (Target: 30-06-2022), DADRI (NCTPP) U#6 (Target: 30-06-2022), RIHAND STPS U#1 (Target: 28-02-2022), RIHAND STPS U#2 (Target: 31-12-2021), RIHAND STPS U#3 (Target: 31-12-2023), RIHAND STPS U#4 (Target: 31-12-2023), RIHAND STPS U#5 (Target: 30-06-2023), RIHAND STPS U#6 (Target: 30-06-2023), SINGRAULI STPS U#1 (Target: 31-03-2023), SINGRAULI STPS U#2 (Target: 31-03-2023), SINGRAULI STPS U#3 (Target: 31-03-2023), SINGRAULI STPS U#4 (Target: 31-03-2023), SINGRAULI STPS U#5 (Target: 31-03-2023), SINGRAULI STPS U#6 (Target: 31-01-2023), SINGRAULI STPS U#7 (Target: 31-01-2023), UNCHAHAR TPS U#1 (Target: 30-09-2023), UNCHAHAR TPS U#2 (Target: 30-09-2023), UNCHAHAR TPS U#3 (Target: 31-12-2023), UNCHAHAR TPS U#4 (Target: 31-12-2023), UNCHAHAR TPS U#5 (Target: 31-12-2023), UNCHAHAR TPS U#6 (Target: 30-09-2022), MEJA Stage-I U#1 (Target: 31-12-2022), MEJA Stage-I U#2 (Target: 31-12-2022), TANDA Stage-I U#1 (Target: ), TANDA Stage-I U#2 (Target: ), TANDA Stage-II U#3 (Target: 31-12-2022), TANDA Stage-II U#1 (Target: 31-12-2022), TANDA Stage-I U#3 (Target: ), TANDA Stage-I U#4 (Target: )

NTPC

L&T Power Development Ltd (Nabha)	Nabha TPP (Rajpura TPP) U#1 (Target: 30-04-2021), Nabha TPP (Rajpura TPP) U#2 (Target: 28-02-2021)
Lalitpur Power Gen. Company Ltd.	LALITPUR TPS U#1 (Target: 01-01-2024), LALITPUR TPS U#2 (Target: 01-01-2024), LALITPUR TPS U#3 (Target: 01-01-2024)
Lanco Anpara Power Ltd.	ANPARA C TPS U#1 (Target: 31-12-2023), ANPARA C TPS U#2 (Target: 31-12-2023)
Prayagraj Power Generation Company Ltd.	PRAYAGRAJ TPP U#1 (Target: 31-05-2024), PRAYAGRAJ TPP U#2 (Target: 30-09-2024), PRAYAGRAJ TPP U#3 (Target: 31-12-2024)
PSPCL	GH TPS (LEH.MOH.) U#1 (Target: 31-12-2024), GH TPS (LEH.MOH.) U#2 (Target: 31-12-2024), GH TPS (LEH.MOH.) U#3 (Target: 31-12-2024), GH TPS (LEH.MOH.) U#4 (Target: 31-12-2024), GGSSTP, Ropar U#3 (Target: 31-03-2022), GGSSTP, Ropar U#4 (Target: 31-05-2022), GGSSTP, Ropar U#5 (Target: 31-07-2022), GGSSTP, Ropar U#6 (Target: 30-09-2022)

<b>Rosa Power</b>	
Supply	ROSA TPP Ph-I U#1 (Target: 31-12-2024), ROSA TPP Ph-I U#2 (Target: 31-12-2024), ROSA TPP Ph-I
Company	U#3 (Target: 31-10-2024), ROSA TPP Ph-I U#4 (Target: 31-10-2024)
RRVUNL	KOTA TPS U#5 (Target: 31-12-2022), KOTA TPS U#6 (Target: 31-12-2022), KOTA TPS U#7 (Target: 31-12-2022), SURATGARH TPS U#1 (Target: 31-12-2024), SURATGARH TPS U#2 (Target: 31-12-2024), SURATGARH TPS U#3 (Target: 31-12-2024), SURATGARH TPS U#4 (Target: 31-12-2024), SURATGARH TPS U#5 (Target: 31-12-2024), SURATGARH TPS U#6 (Target: 31-12-2024), SURATGARH SCTPS U#7 (Target: 31-12-2024), SURATGARH SCTPS U#8 (Target: 31-12-2024), CHHABRA TPP U#1 (Target: 31-12-2024), CHHABRA TPP U#2 (Target: 31-12-2024), CHHABRA TPP U#3 (Target: 31-12-2024), CHHABRA SCPP U#5 (Target: 31-12-2024), CHHABRA SCPP U#6 (Target: 31-12-2024), KALISINDH TPS U#1 (Target: 31-12-2024), KALISINDH TPS U#2 (Target: 31-12-2024)
Talwandi Sabo TALWANDI SABO TPP U#1 (Target: 28-02-2021), TALWANDI SABO TPP U#2 (Target: 31-12-2020),	
Power Ltd.	TALWANDI SABO TPP U#3 (Target: 31-10-2020)
UPRVUNL	ANPARA TPS U#1 (Target: 31-10-2022), ANPARA TPS U#2 (Target: 31-08-2022), ANPARA TPS U#3 (Target: 30-06-2022), ANPARA TPS U#4 (Target: 30-04-2022), ANPARA TPS U#5 (Target: 28-02-2022), ANPARA TPS U#6 (Target: 30-12-2021), ANPARA TPS U#7 (Target: 22-03-2022), HARDUAGANJ TPS U#8 (Target: 31-12-2021), HARDUAGANJ TPS U#9 (Target: 31-12-2021), OBRA TPS U#10 (Target: 31-10-2022), OBRA TPS U#11 (Target: 31-12-2022), OBRA TPS U#12 (Target: 30-06-2022), OBRA TPS U#13 (Target: 30-04-2022), PARICHHA TPS U#3 (Target: 30-04-2022), PARICHHA TPS U#6 (Target: 28-02-2022), PARICHHA TPS U#6 (Target: 31-12-2021)