



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

उत्तर क्षेत्रीय विद्युत समिति

Northern Regional Power Committee

सं.: उ.क्षे.वि.स./प्रचालन/106/01/2022/1033-1074

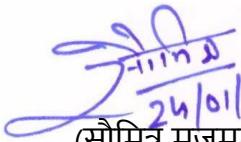
दिनांक: 24.01.2022

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 191^{वीं} बैठक के खण्ड-अ में लिए गए निर्णयों का सार।

Subject: Gist of decisions taken in the Part-A of 191st OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 191^{वीं} बैठक दिनांक 18.01.2022 को आयोजित की गयी। उक्त बैठक की खण्ड-अ में लिए गए निर्णयों का सार **अनुलग्नक - अ** के रूप में संलग्न है।

191st meeting of the Operation Co-ordination Sub-Committee of NRPC was held on 18.01.2022. The Gist of the decisions taken in Part-A of this meeting is enclosed as **Annexure-A**.


24/01/2022.
(सौमित्र मजूमदार)
अधीक्षण अभियंता (प्रचालन)

सेवा में,

प्रचालन समन्वय उप-समिति के सभी सदस्य।

Gist of decisions taken in the Part-A of 191st OCC Meeting

Agenda No. 1: Confirmation of Minutes

Minutes of 190th OCC meeting was issued on 05.01.2022. OCC confirmed the minutes.

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

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

• **Delhi**

Projection for Dec-2021 was made considering the demand and energy consumption of pre-covid time i.e., Dec-2019 keeping in view that situation may improve in coming days leading to increase in power demand. However, the mean minimum temperature of Delhi in month of Dec-21 was recorded as 8.1° Celsius, the highest in past three years. So, demand of Delhi did not pick up in Dec-21.

• **Rajasthan**

The Energy consumption decreased by 1.6% w.r.t. Anticipated Energy requirement which is within permissible limit and Peak Demand increased by 7.1 % w.r.t. Anticipated Peak demand due to two block supply in day hours to agriculture consumers in phasing manner.

• **Himachal Pradesh**

The Anticipation in Energy requirement in respect of Himachal Pradesh for the month of Dec-21 came on the higher side due to persistent dry weather and heavy rush of tourists to celebrate Christmas and New Year.

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 December 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 February 2022 was deliberated in the meeting on 17.01.2022.
- Following shutdown request was also approved in the OCC meeting:

Element Name	Reason	Approved From	Approved To	Remarks
400kV Samba Amargarh Ckt-1&2	Continuous s/d of 13 days for De-stringing and re-stringing works need to be carried out at locations 285, 286 and 287 to bypass tower #286 along with dismantling of tower #286. Force Majeure condition because of unannounced and uninformed hill excavation done leading to landslide conditions.	19-Jan-2022 08:00 Hrs	31-Jan-2022 18:00 Hrs	NRLDC shall issue guideline/precution to be followed during the s/d. The same shall be adhered by all concerned.

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

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

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
CHANDIGARH	Availability	100	250	Revision not submitted
	Requirement	120	240	
	Surplus / Shortfall	-20	10	
	% Surplus / Shortfall	-16.7%	4.2%	
DELHI	Availability	3148	5062	10-Jan-22
	Requirement	1950	4600	
	Surplus / Shortfall	1198	462	
	% Surplus / Shortfall	61.5%	10.0%	
HARYANA	Availability	4470	10920	10-Jan-22
	Requirement	3730	7900	
	Surplus / Shortfall	740	3020	
	% Surplus / Shortfall	19.8%	38.2%	
HIMACHAL PRADESH	Availability	873	1825	04-Jan-22
	Requirement	888	1810	
	Surplus / Shortfall	-15	15	
	% Surplus / Shortfall	-1.6%	0.8%	
J&K and LADAKH	Availability	950	3810	

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
	Requirement	1720	2890	Revision not submitted
	Surplus / Shortfall	-770	920	
	% Surplus / Shortfall	-44.8%	31.8%	
PUNJAB	Availability	4322	7500	10-Jan-22
	Requirement	4136	7290	
	Surplus / Shortfall	186	210	
	% Surplus / Shortfall	4.5%	2.9%	
RAJASTHAN	Availability	9352	18950	10-Jan-22
	Requirement	7700	15300	
	Surplus / Shortfall	1652	3650	
	% Surplus / Shortfall	21.5%	23.9%	
UTTAR PRADESH	Availability	8680	18500	10-Jan-22
	Requirement	8260	18500	
	Surplus / Shortfall	420	0	
	% Surplus / Shortfall	5.1%	0.0%	
UTTARAKHAND	Availability	1084	2270	05-Jan-22
	Requirement	1092	2340	
	Surplus / Shortfall	-8	-70	
	% Surplus / Shortfall	-0.8%	-3.0%	
NORTHERN REGION	Availability	32979	64400	
	Requirement	29596	56800	
	Surplus / Shortfall	3383	7600	
	% Surplus / Shortfall	11.4%	13.4%	

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	To
Delhi	Apr-2018	Sep-2021
Haryana	Apr-2018	Oct-2021
Himachal Pradesh	Apr-2018	Nov-2021
Punjab	Apr-2018	Jul-2021
Rajasthan	Apr-2018	Nov-2021
Uttar Pradesh	Apr-2018	Oct-2021
Uttarakhand	Apr-2018	Sep-2021

- OCC forum again expressed concern on non-submission of energy breakup data by 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 45th TCC / 48th 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 e-mail. Comment from Delhi was received. Rajasthan, HP, Punjab, Haryana had submitted NIL comment. Comment from rest of the members was not received.
- In the 182nd 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.
- 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 183rd 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. Rajasthan 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 184th 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 185th OCC, NRPC representative stated that CPRI has submitted on 28th 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 185th 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 (187th 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 188th 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 189th 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 190th 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.

- In the meeting (191st OCC), NRPC representative apprised the forum that a meeting was held between members of the sub-group, CPRI representatives, and officials from NRPC Sectt & NRLDC on 05.01.2022, wherein it was decided that CPRI shall tune the Q_{gen} value taking help of NRLDC. Tuning may be done for some machines of Punjab (such as Talwandi Sabo), Uttarakhand (such as Shravanti), Himachal Pradesh, and Jammu. CPRI shall also tune Q_{gen} of Central Sector machines such as Salal, Rampur, Bhakra, Dehar etc. These Q_{gen} tunings shall be done in spirit to relieve machines from absorbing MVARs and to avoid over compensation in system due to recommended capacitors. CPRI has intimated 20th Jan'22 as target date for the activity.

Agenda No. 7: Automatic Demand Management System

- Forum was informed that as decided in the 175th 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 186th 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 1st 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 be 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 187th 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 188th 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 31st October 2021 to NRLDC. Status as received till 31.10.2021 would be reported to CERC by NRLDC.
- In the 189th OCC, NRLDC informed that status of ADMS has been sent to CERC twice in the past (same is recorded in MoM of 127th 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 190th OCC, NRLDC representative informed that vide letter dated 09.12.2021 (enclosed as Annexure-A.0 of minutes of 190th OCC), 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 187th 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 187th OCC.
- 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 189th OCC agenda.
- In the 189th 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 190th 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 15th 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.
- In the meeting (191st OCC), HPSLDC representative informed that they need further two weeks to submit the outcome of transient study of all islands.
- Uttarakhand representative informed that major hydro stations e.g. Chibro, Khodri etc at Dehradun Region in Yamuna valley are non-must run and peaking stations. Therefore, it is technically not feasible to implement Dehradun as an islanding scheme. However, nominations of nodal officers from various utilities (PTCUL, UJVN Ltd & UPCL) are being sought for the formation of internal committee for accessing the possibility of Dehradun as Islanding scheme and the report shall be submitted to NRPC Secretariat subsequently.
- NRPC representative asked Uttarakhand to expedite the submission regarding the status on feasibility of the proposed Islanding scheme.
- MS, NRPC stated that all constituents that have given their information about the planning of islanding scheme shall take up the work on top priority and submit the progress in time bound manner by submitting the updated MIS format every month.
- NRLDC representative informed that Rajasthan SLDC is modelling data on PSSE software and it is expected to be completed within one week. Thereafter, NRLDC will submit its comments on the same. Rajasthan representative consented for the same.

- UP and Punjab were asked to update the status of their study being done by CPRI. Both informed that there is no progress since last OCC and they are waiting for response from CPRI.

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 09th January 2022).

Agenda No. 11. Tanda-Basti line (220KV) tripping on unbalanced loading (Agenda by NTPC)

- NRPC representative apprised the forum that issue has been discussed in previous OCC (186 & 188) meetings also.
- In 186th OCC, UP stated that there is a Railway TSS in Govindgarh and there are 3 lines feeding it. When, other two lines are in open situation, and any train passes, then due to unbalanced load, Tanda-Basti line trips. He also added that 400 kV Sultanpur-Basti is operational. Gonda line LILO will be done from Basti. 500 MVA transformer is under commissioning at Basti and load will come latest by Oct, 2021. Then, this issue of tripping will automatically get resolved.
- In 188th OCC, UP representative informed that commissioning of the system as discussed in 186th OCC will come latest by 30.11.2021.
- NRPC representative highlighted that duration of tripping varies from 9 to 15 hours and therefore the issue may be taken seriously by UP.
- UP representative informed that the matter regarding the commissioning of the system as discussed in 186th OCC is being pursued and the said system will come latest by 10.02.2022.

Agenda No. 12. Primary Frequency response test of NTPC NR NCR Generators (Agenda by NTPC)

- NRLDC representative stated that in 174th OCC meeting it was informed that constituents would try to give the schedule; however, it is not mandated. Further, he informed that NTPC was asked to coordinate with the constituents and get their schedule revised if needed.
- NRLDC representative stated that NLDC vide its letter dated 10th Aug'21 has laid out the procedure for carrying out the PFR test as per IEGC and in the letter it has been mentioned that generator themselves arrange for the schedule as being done for all other test such as PG tests etc.
- MS, NRPC stated that post facto correction of DC is not possible. However, he asked NRLDC to coordinate beforehand in future with both constituents and generators at the time of performing such tests.
- UP representative stated that co-ordination at DISCOM level is also required.
- NRLDC representative further apprised the forum about the updated PFR test status of NR region as on 10.01.2021.

Agenda No.13. Operation and Maintenance of 400 kV D/C Twin Moose Samba – Amargarh Transmission Line of NRSS XXIX Transmission Limited (‘NTL’) - BRO road construction affecting tower and possible damage to line (Agenda by NRSS-XXIX Transmission Limited)

- NTL representative made a presentation highlighting uninformed work by BRO and underpinnings of the issue as below:
 - i. 4th Aug’21 – NTL identified that BRO is expanding the road between Bufliaz to Rajouri. There was no prior intimation to NTL by BRO on the said expansion of road near to Tower locations.
 - ii. 9th Aug’21 – NTL convened a meeting with BRO informing the presence of 400 kV Samba – Amargarh line along the proposed expansion.
 - iii. 10th Aug’21 – Commander, BRO was requested to submit detailed proposal and also conduct a joint survey.
 - iv. 24th Aug’21 – BRO informed and clarified that all necessary action being taken to safeguard the tower locations and there was no response on joint survey.
 - v. 15th Sept’2021 – No activity observed during the periodic patrolling of transmission line.
 - vi. 7th Oct’21 – EPC contractor of BRO intimated NTL about major cracks around one of the towers. NTL informed BRO’s EPC contractor to immediately stop the work and take precautionary action to retain hill slope. Copy of E-mail was marked to BRO as well.
 - vii. 8th Oct’21 – BRO informed that work was stopped and necessary steps to construct a retaining wall at hill slope has been initiated.
 - viii. 9th Oct’21 – NTL carried out thorough investigation, a substantial damage to revetment of foundation of tower observed with cracks expanding to tower location, nearby houses and downhill ridges along the winding road.
 - ix. 2nd Nov’21 – A meeting was convened by Chief Engineer, PSE&TD, CEA to discuss the matter regarding operation and maintenance of 400kV D/C Twin Moose Samba-Amargarh Transmission Line.
 - x. 17th Nov’21 – A Joint inspection of the impacted locations of the transmission line was done by CEA, BRO and NTL.
 - xi. 1st Dec’21 – A meeting was convened by Chief Engineer, PSE&TD, CEA to discuss the matter regarding operation and maintenance of 400kV D/C Twin Moose Samba-Amargarh Transmission Line. Members from CSIR-SERC were also present to provide any possible solution to the situation.
 - xii. 16th & 17th Dec’21 – ERS feasibility study was convened by NTL with help of ERS experts at location 286.
 - xiii. 23rd Dec’21 – A Geo Technical survey was convened by NTL with help of scientist from CSIR-CBRI, Roorkee. The team visited the location 286.
- NTL representative highlighted that the tower at location 286/0 is deteriorating progressively due to water percolation, because of snow melting. The soil strata around the tower is unstable and as a result of this, main leg and connecting members and joints are getting deformed. A new tower cannot be constructed in the surrounding area due to

soil instability. The only solution to this problem is to bypass tower no 286/0; by connecting the conductors between the towers at location 285/0 and 287/0.

- NTL requested following:
 - i. To provide the shutdown required to carry forward the proposed work from 19.01.2022 to 31.01.2022.
 - ii. To treat the outage duration for the work performed under this outage as deemed available to transmission licensee as the work is carried out to safeguard the transmission line from landslide conditions after uninformed excessive hill cutting done by BRO. This is a kind of Force Majeure event to the NTL as the situation has arisen out of no fault of the transmission licensee.
- MS, NRPC stated that decision on deemed availability would be dealt separately. In this meeting, urgent requirement of shutdown may be deliberated. MS, NRPC sought views of the representatives of NRLDC, J&K on the shutdown requested by NTL.
- NRLDC representative stated that under outage of said line, load on 400 kV New Wanpoh-Wagoora D/c will increase. Voltage at 400kV & 200kV nodes would reduce by 4-6 kV. J&K may be required to do load rostering in Wagoora, Pampore and Ziankote. Generators of Uri and Kishenganga would be required on bar for active and reactive power support.
- J&K representative informed that load cannot be managed at Wagoora side. He requested to defer the shutdown request till April'22. He also expressed that shutdown on ERS is recommended to avoid interruption in power supply in valley.
- MS, NRPC asked representatives of PSETD Division, CEA to submit their views on proposal of NTL for bypassing of tower no 286 and stringing tower no 285 and 287.
- Representative of PSETD Division, CEA stated that the tower no 286 may collapse at any time. Soil is not stable there. So, ERS may be possible only for short duration. He further added that PSETD Division, CEA has no role in designing of towers but the data regarding bypassing of tower no. 286 and stringing tower no 285 and 287 submitted by NTL is acceptable from their side. Tower no. 286 may be bypassed. However, NTL has to manage all necessary clearances for the line.
- NTL again stressed over non-feasibility of ERS due to instability of soil at tower location 286. He stated that soil in the hill is moving down and cracks are widening.
- In view of the comments of NRLDC, J&K, and PSETD Division, CEA, and precarious condition of tower no. 286, the forum approved the shutdown of 400 kV D/C Sambha – Amargarh Ckt-1&2 from 19.01.2022 to 31.01.2022.
- MS, NRPC requested NRLDC to make a contingency plan that can be followed during this shutdown and to circulate the same among all stakeholders.

Agenda No. 14. Refurbishment & Commissioning of HVDC Rihand-Dadri Bipole system under Add-Cap: Regularization of Outage period (Agenda by POWERGRID)

- POWERGRID representative informed that refurbishment work of HVDC Rihand-Dadri Bipole system has been successfully completed in time with few modifications in testing and commissioning schedule, as approved in outage meeting of 187th OCC due to site and system constraints including the statutory clearances under new construction

activities. POWERGRID requested that the outage period for the refurbishment work may be consented accordingly.

- Forum agreed to the regularization request of outage period.

Agenda No. 15. Augmentation of 1x315 MVA ICT with 500 MVA at PGCIL 400 KV S/S Ludhiana (Agenda by PSTCL)

- POWERGRID representative apprised forum that with regard to the matter about the BOD approval of POWERGRID for shifting the 500 MVA ICT lying at POWERGRID's 400kV Malerkotla, the case pertaining to dismantling, transportation and erection of transformer is in progress and work will be completed before the paddy season 2022.
- CTUIL representative stated that with regard to 315 MVA ICT being spared from Ludhiana in Punjab, it may be diverted to Bhinmal or other ISTS locations and same is under discussion yet. POSOCO and CTU would take up the issue soon.

Agenda No. 16. Status of Generating Units in Northern region under Outage for more than 3 months

- NRPC representative apprised the forum that CEA has highlighted the issue of long outages of the generating units and their status of availability during the ensuing year 2022-23.
- In this regard, NRPC vide its mail dated 11.01.2022 on the above cited matter had requested respective SLDC's (Haryana, Punjab, Rajasthan, U.P) to submit the status for these generating units and also their expected revival date.
- In the meeting (191st OCC), states were requested to furnish the information by 18.01.2022 itself.

Agenda No. 17. Transmission constraints in Northern Region

- NRPC representative apprised the forum that a meeting was chaired by JS (OM & RR), MoP on 12.01.2022, wherein transmission constraints were discussed. Concerned utilities were requested to submit action plan to mitigate the constraint.
- NRLDC representative mentioned that a format would be circulated amongst the concerned utilities of NR for whom the transmission constraint was discussed in the meeting and they were requested to update the same and submit on 18.01.2022 itself.

Agenda No. 18. Abnormal humming in GTs at APL, Kawai and nearby stations (Agenda by APRL)

- The agenda has been discussed in 183rd and 187th OCC meetings for the abnormal humming sound at Power transformers at APL, Kawai, Chhabra, Kalisindh and ICTs at Anta from 1600 hrs of 21st April'21.
- RVPN representative informed that based on the information gathered by them at Chhabra and Kalisindh, it was observed that humming sound is in range of 65-70 dB and is within the permissible range.
- NRLDC representative asked APRL to get the issue locally examined by any expert agency.

Agenda No. 19. Forced Shifting of Tower no. 169 of 400kv D/C Roorki-Kashipur I & II line on new Pile Foundation due to Change in Natural River course: Deemed availability of the Outage (Agenda by POWERGRID)

- POWERGRID representative apprised the issue to the forum and stated that requirement of shutdown for above work is planned as below:
 1. Shifting of lines on ERS: 27-01-22 to 10-02-22 (continuous basis)
 2. Restoration on new tower: 01-03-22 to 15-03-22 (continuous basis)
- POWERGRID requested to consider above outage as deemed available, being Forced Majeure due to natural change of river course which is beyond control of the transmission licensee.
- NRPC representative informed that shutdown on ERS is already approved in 191st OCC outage meeting held on 17.01.2022.
- MS, NRPC stated that as no representative from the beneficiary state is present, so their comments would be sought vide email and decision on the deemed availability matter may be conveyed in the next OCC meeting. MS, NRPC further opined that POWERGRID's claim of sudden change of river course is not pliable because river always change its path gradually and POWERGRID could have noticed this aspect timely and taken corrective action.

Agenda No. 20. Deemed availability for s/d of 400 kV Mohindergarh-Dhanoda line (AC line) - (Additional Agenda by NHAI)

- Sh. K.M.Sharma, Project Director, Bhiwani, NHAI requested the shutdown (for 120 hours) between 5th Feb, 2022 to 15th Feb, 2022 for the cited project work and further requested that deemed availability may be consented in view of MoRTH OM dt. 16.08.2021. He also stressed over dire need of this shutdown in order to facilitate the inauguration of NH-152D.
- NRLDC representative informed that there would be TTC/ATC curtailment of 300 MW due to outage of this line.
- NLDC representative stated that there is no possibility to facilitate this shutdown in Feb'22 as there is already approved shutdowns of some inter regional lines and other major intra-regional links in same month. Moreover, shutdown of this line along with other approved shutdowns will reduce ATC/TTC by 1000-1200 MW.
- MS, NRPC stated that MoRTH OM mentions that deemed availability may be given if transmission customers are not affected by shutdown. As NLDC/NRLDC has confirmed that there will be reduction of TTC/ATC which ultimately tantamount to beneficiaries getting affected by this shutdown. Therefore, deemed availability cannot be certified under given situation. MS, NRPC requested NHAI to coordinate with ATIL and bring the shutdown request with revised dates in the next OCC.

Agenda No. 21. Follow up of decisions of 10th NPC meeting. (Additional Agenda)

- MS, NRPC enquired NRLDC whether they monitor the frequency settings. NRLDC representative replied that they have status of feeder mapping percentage but status is not available whether states have increased the setting by 0.2 Hz.

- NRPC representative highlighted that feeder-mapping status is not available from Uttarakhand, J&K, and Chandigarh.
- Forum decided that states shall communicate to NRPC Sectt. regarding implementation of decision of 47th TCC/49th NRPC to increase the AUFLS setting by 0.2Hz.

Follow up issues from previous OCC meetings

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.																				
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 months, received from various states / UTs: <table border="1"> <tr><td>⊙ CHANDIGARH</td><td>Sep-2019</td></tr> <tr><td>⊙ DELHI</td><td>Dec-2021</td></tr> <tr><td>⊙ HARYANA</td><td>Aug-2021</td></tr> <tr><td>⊙ HP</td><td>Mar-2021</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>⊙ PUNJAB</td><td>Aug-2021</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Dec-2021</td></tr> <tr><td>⊙ UP</td><td>Nov-2021</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Dec-2021</td></tr> </table> All States/UTs are requested to furnish updated status on monthly basis.	⊙ CHANDIGARH	Sep-2019	⊙ DELHI	Dec-2021	⊙ HARYANA	Aug-2021	⊙ HP	Mar-2021	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Aug-2021	⊙ RAJASTHAN	Dec-2021	⊙ UP	Nov-2021	⊙ UTTARAKHAND	Dec-2021		
⊙ CHANDIGARH	Sep-2019																						
⊙ DELHI	Dec-2021																						
⊙ HARYANA	Aug-2021																						
⊙ HP	Mar-2021																						
⊙ J&K and LADAKH	Not Available																						
⊙ PUNJAB	Aug-2021																						
⊙ RAJASTHAN	Dec-2021																						
⊙ UP	Nov-2021																						
⊙ UTTARAKHAND	Dec-2021																						
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 months, received from various states / UTs: <table border="1"> <tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr> <tr><td>⊙ DELHI</td><td>Dec-2021</td></tr> <tr><td>⊙ HARYANA</td><td>Dec-2021</td></tr> <tr><td>⊙ HP</td><td>Dec-2021</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>⊙ PUNJAB</td><td>Mar-2021</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Sep-2021</td></tr> <tr><td>⊙ UP</td><td>Dec-2021</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Dec-2021</td></tr> <tr><td>⊙ BBMB</td><td>Dec-2021</td></tr> </table> All States/UTs are requested to furnish updated status on monthly basis.	⊙ CHANDIGARH	Not Available	⊙ DELHI	Dec-2021	⊙ HARYANA	Dec-2021	⊙ HP	Dec-2021	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Mar-2021	⊙ RAJASTHAN	Sep-2021	⊙ UP	Dec-2021	⊙ UTTARAKHAND	Dec-2021	⊙ BBMB	Dec-2021
⊙ CHANDIGARH	Not Available																						
⊙ DELHI	Dec-2021																						
⊙ HARYANA	Dec-2021																						
⊙ HP	Dec-2021																						
⊙ J&K and LADAKH	Not Available																						
⊙ PUNJAB	Mar-2021																						
⊙ RAJASTHAN	Sep-2021																						
⊙ UP	Dec-2021																						
⊙ UTTARAKHAND	Dec-2021																						
⊙ BBMB	Dec-2021																						
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 information submission (month) from states / utilities is as under: <table border="1"> <tr><td>⊙ HARYANA</td><td>Feb-2021</td></tr> <tr><td>⊙ PUNJAB</td><td>Nov-2021</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Dec-2021</td></tr> <tr><td>⊙ UP</td><td>Nov-2021</td></tr> <tr><td>⊙ NTPC</td><td>Sep-2021</td></tr> </table> FGD status details are enclosed as Annexure-A. I. II. All States/utilities are requested to furnish updated status of FGD installation progress on monthly basis.	⊙ HARYANA	Feb-2021	⊙ PUNJAB	Nov-2021	⊙ RAJASTHAN	Dec-2021	⊙ UP	Nov-2021	⊙ NTPC	Sep-2021										
⊙ HARYANA	Feb-2021																						
⊙ PUNJAB	Nov-2021																						
⊙ RAJASTHAN	Dec-2021																						
⊙ UP	Nov-2021																						
⊙ NTPC	Sep-2021																						
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 requested to submit daily data on MERIT Order 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: July 2022 (90% supplies received from GE and rest is expected by Feb'22)
ii	DTL	Peeragarhi	1x50 MVar at 220 kV	PO awarded to M/s Kanohar Electricals Ltd. Drawings approved and under stage inspection (delay due to pending supply of reactor bushings). GIS Bay is already available.
iii	DTL	Harsh Vihar	2x50 MVar at 220 kV	PO awarded to M/s Kanohar Electricals Ltd. Drawings approved and under stage inspection (delay due to pending supply of reactor bushings). GIS Bay is already available.
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.
x	PTCUL	Kashipur	1x125 MVar at 400 kV	Tender has been invited in first week of Jan'22.
xi	RAJASTHAN	Akal	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	13x25 MVar	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 & Price bid opened on 10.01.22. Order likely to be placed in Feb' 2022.
xv	RAJASTHAN	Jodhpur	1x125 MVar	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 & Price bid opened on 10.01.22. Order likely to be placed in Feb' 2022.

Sl. No.	Substation	Downstream network bays	Commissioning status of ICTs / Bays	Planned 220 kV system	Revised Target	Remarks
1	Shahjahanpur, 2x315 MVA 400/220 kV	4 Nos. of 220 kV bays to be utilized	Commissioning of ICT Commissioning of Bays Jun/Sep'14	Shahjahanpur-Azimpur D/C line		Connected to load on 28.07.2021
				LILO of 220kV Shahjahanpur - Sitapur at Shahjahanpur PG	Dec'21	Updated in 188th OCC
2	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	Mar'22	197 out of 198 Nos.Tower erected.Stringing of 113.56/115.87 km is completed.
3	Sikar 400/220kV, 1x 315 MVA S/s	2 Nos. of 220 kV bays	Commissioned (date not available)	Not available	Feb'22	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 completion of work / line charging is Feb – 2022, as forest clearance is awaited.
4	Bhiwani 400/220kV S/s	6 nos. of 220kV bays	Commissioned (date not available)	220kV Bhiwani (PG) - Isherwal (HVPNL) D/c line	Mar'22	Delayed due to RoW issue
5	400/220kV Tughlakabad GIS	10Nos. of 220kV bays	Commissioned (date not available)	RK Puram – Tughlakabad (UG Cable) 220kv D/c line	Jul'22	PO for supply and ETC of D/C UG cable awarded.
				Masjid Mor – Tughlakabad 220kv D/c line	Mar'22	PO for supply and ETC of D/C UG cable awarded.
6	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	Jan'23	The existing scheme has been revised to construction of 220kV Transmission line on Multi-circuit Towers. The work has been awarded on 04.01.2022. A total of 4 No. 220kV bays shall be utilized i.e. 2 Nos. for 220/132kV. Kala Amb and 2 Nos. 220/132/33kV Giri Substation.

FGD Status

Updated status of FGD related data submission

NTPC (30.09.2021)

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)

GGSTP, 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. (03.01.2022)

Prayagraj TPP

APCPL (30.09.2021)

INDIRA GANDHI STPP

Pending submissions

GVK Power Ltd.

GOINDWAL SAHIB

NTPC

DADRI (NCTPP)

Talwandi Sabo Power Ltd.

TALWANDI SABO TPP

L&T Power Development Ltd.

Nabha TPP (Rajpura TPP)

Target Dates for FGD Commissioning (Utility-wise)

Adani Power Ltd.	KAWAI TPS U#1 (Target: 31-08-2020), KAWAI TPS U#2 (Target: 30-06-2020)
APCPL	INDIRA GANDHI STPP U#1 (Target: 31-12-2021), INDIRA GANDHI STPP U#2 (Target: 31-03-2022), 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: 30-04-2021), PANIPAT TPS U#7 (Target: 28-02-2021), PANIPAT TPS U#8 (Target: 31-12-2020), RAJIV GANDHI TPS U#1 (Target: 30-04-2022), RAJIV GANDHI TPS U#2 (Target: 28-02-2022), YAMUNA NAGAR TPS U#1 (Target: 31-12-2021), YAMUNA NAGAR TPS U#2 (Target: 31-10-2021)

NTPC	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#3 (Target:), TANDA Stage-I U#4 (Target:), TANDA Stage-II U#3 (Target: 31-12-2022), TANDA Stage-II U#4 (Target: 31-12-2022)
-------------	---

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: 31-12-2024), PRAYAGRAJ TPP U#2 (Target: 31-12-2024), 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)

Rosa Power Supply Company	ROSA TPP Ph-I U#1 (Target: 31-12-2024), ROSA TPP Ph-I U#2 (Target: 31-12-2024), ROSA TPP Ph-I 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 TPP U#4 (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 Power Ltd.	TALWANDI SABO TPP U#1 (Target: 28-02-2021), TALWANDI SABO TPP U#2 (Target: 31-12-2020), 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: 30-06-2021), ANPARA TPS U#7 (Target: 30-04-2021), HARDUAGANJ TPS U#8 (Target: 31-12-2021), HARDUAGANJ TPS U#9 (Target: 31-12-2021), OBRA TPS U#9 (Target: 31-08-2022), 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#4 (Target: 30-04-2022), PARICHHA TPS U#5 (Target: 28-02-2022), PARICHHA TPS U#6 (Target: 31-12-2021)