



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/106/01/2022/4026-4067

दिनांक: 26.05.2022

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 195^{वीं} बैठक के खण्ड-अ में लिए गए निर्णयों का सार।

Subject: Gist of decisions taken in the Part-A of 195th OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 195^{वीं} बैठक दिनांक 24.05.2022 को आयोजित की गयी। उक्त बैठक की खण्ड-अ में लिए गए निर्णयों का सार **अनुलग्नक - अ** के रूप में संलग्न है।

195th meeting of the Operation Co-ordination Sub-Committee of NRPC was held on 24.05.2022. 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 195th OCC Meeting

Agenda No. 1: Confirmation of Minutes

Minutes of 194th OCC meeting was issued on 06.05.2022 and no comment on the same was received. OCC confirmed the minutes.

Agenda No. 2.1: Supply Position (Provisional) for April 2022

Reasons submitted by states for significant deviation of actual demand from anticipated figures during the month of April 2022 are as under:

- **Delhi**

In April-2022, the variation between actual and anticipated Energy consumption is (+) 10.37%. The positive variation in energy consumption is mainly due to unusual hot weather condition in April-2022.

- **Punjab**

Actual maximum demand and actual energy requirement were more as compared to anticipated maximum demand and anticipated energy requirement respectively because of high demand of agricultural load and all other categories due to dry season and heavy temperature in the state of Punjab during month of April 2022.

- **Himachal Pradesh:**

The anticipation in energy requirement & peak demand in respect of Himachal Pradesh for the month of April 2022 came on the higher side due to consistent dry weather

- **Uttar Pradesh**

Actual energy requirement was higher than anticipated due to early heat wave, low wind speed and absence of thunder storm/dust storm.

- **Uttarakhand**

Reasons for significant deviation of actual demand from anticipated figures during the month of April 2022 was mainly due to sudden temperature rise (onset of early summers) in the month of April 2022 in comparison to the historical data as well as increased demand after post-COVID situation.

- **J&K and Ladakh**

There are shortages in terms of both energy and peak for the month of April due to non-availability of power w.r.t. demand. Because of higher temperature than normal temperature in April month and low availability of power from J&K Hydro sources (JKPDCL including Baglihar).

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 April 2022 was enclosed in the agenda and same was discussed in the meeting.

Significant deviation in case of Haryana 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 June 2022 was deliberated in the meeting on 23.05.2022.

Element Name	Owner	Reason	Availed From	Availed To	Decision of OCC
765KV JHATIKRA-ALIGARH-I	POW ERG RID	For NHA I diversion work. Shutdown has already been availed and this request is only for regularisation of availed shutdown.	30-Apr-2022 09:00 Hrs	13-May-2022 18:00 Hrs	OCC forum agreed for regularisation of availed shutdown.

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

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

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
CHANDIGARH	Availability	180	410	No Revision submitted
	Requirement	160	380	
	Surplus / Shortfall	20	30	
	% Surplus / Shortfall	12.5%	7.9%	
DELHI	Availability	5138	7500	23-May-22
	Requirement	4213	7500	
	Surplus / Shortfall	925	0	
	% Surplus / Shortfall	22.0%	0.0%	
HARYANA	Availability	5620	11720	16-May-22
	Requirement	6941	12030	
	Surplus / Shortfall	-1321	-310	
	% Surplus / Shortfall	-19.0%	-2.6%	
HIMACHAL PRADESH	Availability	1020	1621	12-May-22
	Requirement	1009	1620	
	Surplus / Shortfall	11	1	
	% Surplus / Shortfall	1.1%	0.1%	

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
J&K and LADAKH	Availability	2070	3530	No Revision submitted
	Requirement	1660	2810	
	Surplus / Shortfall	410	720	
	% Surplus / Shortfall	24.7%	25.6%	
PUNJAB	Availability	6340	12160	23-May-22
	Requirement	8454	15500	
	Surplus / Shortfall	-2114	-3340	
	% Surplus / Shortfall	-25.0%	-21.5%	
RAJASTHAN	Availability	9420	18840	23-May-22
	Requirement	8560	15000	
	Surplus / Shortfall	860	3840	
	% Surplus / Shortfall	10.0%	25.6%	
UTTAR PRADESH	Availability	14850	25500	10-May-22
	Requirement	14550	25500	
	Surplus / Shortfall	300	0	
	% Surplus / Shortfall	2.1%	0.0%	
UTTARAKHAND	Availability	1305	2420	06-May-22
	Requirement	1320	2475	
	Surplus / Shortfall	-15	-55	
	% Surplus / Shortfall	-1.1%	-2.2%	
NORTHERN REGION	Availability	45943	76900	
	Requirement	46867	76100	
	Surplus / Shortfall	-923	800	
	% Surplus / Shortfall	-2.0%	1.1%	

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	To
Delhi	Apr-2018	Mar-2022
Haryana	Apr-2018	Mar-2022
Himachal Pradesh	Apr-2018	Feb-2022
Punjab	Apr-2018	Jan-2022
Rajasthan	Apr-2018	Mar-2022
Uttar Pradesh	Apr-2018	Jan-2022
Uttarakhand	Apr-2018	Dec-2021

- Representatives of Uttarakhand, Uttar Pradesh and Punjab were requested to submit the pending data.

- 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: 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.
- In the 192nd OCC, forum was intimated that no further update has been received on this matter. Rajasthan representative intimated that ADMS implementation schedule in their state has been extended till Dec'22 and this agenda may be continued in OCC meetings for monitoring the ADMS implementation schedule.
- In the 193rd OCC, Rajasthan representative informed that first trial is tentatively scheduled in May 2022.
- In the 194th OCC, Rajasthan representative reiterated its commitment for the 1st trials in May 2022. MS, NRPC asked representatives of other states to regularly update the status on ADMS implementation.
- In the meeting (195th OCC), Rajasthan SLDC representative informed that in consultation with state STU, ADMS implementation in their state is likely to be completed by Dec'22.

Agenda No. 7: Follow-up of issues from various OCC Meetings - Status update

- Updated status is enclosed as **Annexure-A.I**.
- In 195th OCC, all SLDCs were again requested to coordinate with respective Transmission utilities of states/UT's and submit details about the updated status of Downstream network by state utilities from ISTS Station (**enclosed as Annexure-A-II**) before every OCC meeting.

Agenda No. 8. 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 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.
- In the 192nd OCC, UPSLDC informed that they have received techno-commercial offer from CPRI for both the islanding schemes of UP and accessing the inputs from CPRI they will be conveying a meeting in last week of February 2022.
- NRLDC representative informed modeling data on PSSE software received from Rajasthan has not been modeled for islanding scheme. Further, NRLDC representative asked Rajasthan SLDC to send their team next week for modeling the data on PSSE software.
- MS, NRPC asked Uttarakhand SLDC to expedite the study they are conducting to access the feasibility of Dehradun islanding scheme.
- NRPC representative informed that a meeting was convened by HPSLDC with officials of NRPC Sectt., NRLDC, HPSEBL, & HPPTCL on 11.02.2022. It was observed that system study work has been pending due to pre-occupation of the concerned resource. Therefore, it was decided that HPSLDC shall write letters to MDs of HPSEBL & HPPTCL. It was decided to review the status in another meeting in the first week of March 22. HPSLDC has written letter dt. 14.02.2022.
- Punjab SLDC also informed that they will be conveying a meeting with STU within a week to track the progress.
- In the 193rd OCC, NRPC representative informed forum that HPSLDC convened a meeting on 4th March 2022 wherein they presented the results of static and dynamic study conducted by them. NRLDC suggested that dynamic data used by HPSLDC is common data and it was decided that they will use data of particular generators and then apprise about the same.
- UPSLDC also convened a meeting on 7th March 2022 wherein they informed that CPRI has submitted the offer with a completion target of 5 months. It was also discussed that as there are two islanding schemes in UP control area hence it was suggested that CPRI may be asked to do it in 2 parts preferably 2.5 months each for both the islanding scheme.
- UPSLDC representative informed that CPRI would not be able to bifurcate the time separately for both the islanding scheme and acceptance is under consideration by the management.

- HPSLDC representative informed that they have communicated to all generators for providing dynamic data, and only reply from Karcham Wangtoo has been received from till date.
- Rajasthan representative informed that next week they will send their team to NRLDC for modelling the data on PSSE software.
- J&K representative informed that load has been identified and no further update. MS, NRPC asked J&K representative expedite the study work.
- Further, MS NRPC suggested that states shall coordinate with NRPC and NRLDC officials for carrying out the study.
- In the 194th OCC, Punjab representative informed that CPRI has asked for PSSE file for dynamic study which is being coordinated with NRLDC. STU has given timeline of 6 months for implementation after CPRI study.
- MS, NRPC along with NRLDC have desired that all states of northern region where islanding scheme is to be implemented shall convene meeting with the officials of NRPC and NRLDC wherein the study requirements can be discussed.
- OCC forum was of opinion that all generating units (especially 660MW units) shall make an effort to ensure successful household operations. UP representative was requested to expedite the implementation work of Unchahar-Lucknow Islanding scheme after analyzing load-generation balance and conducting steady state study.
- Further, OCC forum was of view that states shall go for implementation of islanding scheme after steady state study along with load generation balancing and dynamic study, if desired, may be carried out in later stage.
- In the meeting (195th OCC), NRLDC representative intimated that steady state study for Rajasthan islanding scheme has been completed. It was decided that Rajasthan may go ahead for implementing the scheme.
- NRPC representative informed that a sub-group will be formulated shortly that would review all proposed islanding schemes of NR and assess the reason for delay.

Agenda No. 9. 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 10th May 2022).

Agenda No. 10. Requesting Generating companies to furnish Daily/Monthly Generation and outages Data online at National Power Portal (NPP) (Agenda by CEA)

- NRPC representative apprised forum that OPM Division, CEA vide letter dated 20.04.2022 (Copy of the letter is attached as Annexure-A.III. of agenda) have highlighted a list of generating companies in Northern region that are not furnishing Daily/Monthly Generation and outages Data online at National Power Portal (NPP).
- NRPC representative asked the generating companies of NR mentioned in the above cited letter to update the data online on NPP portal regularly. Further, in case generating stations are facing any problem in feeding the data online at NPP Portal, they may contact the officials mentioned in the cited letter for further assistance.

- NHPC representative informed that presently Parbati-II HPS is not commissioned and CEA vide mail dated 22.03.2022 (copy of letter enclosed as **Annexure-A.II**) has intimated that entry of Daily Generation data on NPP portal is not possible for those units whose commissioning has not been done yet. The said information has already been communicated by NHPC to OPM division, CEA in regard to Parbati-II HPS.
- NTPC representative also informed that Tapovan Vishnugad HPS is under construction. Further, UPRVUNL informed that Obra-C STPP, Panki TPS Ext and Jawaharpur STPP is also under construction.
- Uttarakhand representative informed that PPA has been terminated and connectively has been repealed by SERC for Beta Infratech Pvt. Ltd. Further, he informed that they have asked Gama Infraprop Pvt. Ltd. to take up the matter with CEA and timely upload the data on NPP portal.
- NPCIL representative mentioned that unit no. 1 of RAPS-A is not operational since 2004 and is under process of decommissioning.
- Uttar Pradesh representative informed that Ghatampur TPP is also under construction.
- OCC forum noted the above information.

Agenda No. 11. Water requirement by Jal Shakti Vibhag, Himachal Pradesh from Chamera-1 Dam (Agenda by NHPC)

- NRPC representative informed that according to the discussions in 193rd OCC, as there will be energy loss (0.28 MU approx. per year) from Chamera-1 Power Station and with regard to energy loss as there is a departure from PPA, the aforesaid matter was communicated to GM Division, CEA by NRPC Sectt. vide letter dated 21.04.2022.
- NHPC representative informed that cited information has been noted by GM Division, CEA and there is no observation on this matter from CEA side.
- Further, NHPC representative apprised forum that similar case regarding water requirement by Indian Army from Chamera-1 Dam was discussed in 96th OCC meeting and OCC agreed for allowing Army to lift six lacs Gallon water per day from the upstream of Chamera Stage 1 Power Station Dam.
- OCC agreed to NHPC proposal in accordance with decision in 96th OCC meeting.

Agenda No.12. SPS implemented at 400kV S/Stn Mundka (Agenda by DTL)

- NRLDC representative mentioned that SPS would be required as with demand of around 7000 MW in Delhi, loading of 400/220 kV 3X315 MVA ICTs at Mundka is close to N-1 contingency limits.
- Further, NRLDC representative also stated that DMRC load is also getting disconnected as per the current logic and despite of being an essential load, DMRC would be disrupted on operation of this SPS logic. On this point, Delhi representative agreed that DMRC load will be removed from the current logic and other 66kV feeders will be tripped. It was decided that all three ICTs will be covered under SPS and the DMRC feeder would be excluded from SPS logic.

Agenda No.13. Regarding reduction of bus fault level on 220kV Bus at 765/400/220kV PGCIL Substation at Bhadla (Agenda by Saurya Urja Company of Rajasthan Ltd)

- NRPC representative presented the matter to the forum that 03 nos. of ICTs of SUCRL have failed since May 2021. SUCRL proposed for reduction of fault current magnitude from the source side to reduce fault current at SUCRL end by keeping bus coupler breaker open.
- CTU representative reiterated its observation (**Annexure-A.III**) on the request of SUCRL that the fault current of 3kA was within the maximum design fault of 3.28kA as per GTP provided and there might have been internal fault in the transformer during fault period. As the fault current through transformer is governed by transformer impedance, which is characterized by the design of the transformer and not bus fault level. As per the short circuit studies conducted and shared, this is clearly evident that fault level current through transformer in all cases was less than rated level in simulated cases of 33kV faults. Therefore, Bhadla PG 220kV bus fault level is not impacting the through fault current of transformer more than rated level in all studied cases as shared. Further Bhadla PS also has many other RE developers (+2600 MW excluding Saurya urja) feeding power through 33/220kV transformers who have not reported any such issue.
- NRLDC representative summarily denied the request of SUCRL from the operator point of view as single bus scheme for long period of six months can severely hamper the reliability and operation of the system.
- In view of above discussion, the forum denied the request of SUCRL for opening of bus coupler breaker for six months and requested SUCRL to rope in the transformer manufacturer to get the transformer design reviewed.

Agenda No.14. Regarding certification of availability of assets under SLTS project since 31.10.2019 (Agenda by NR2-POWERGRID)

- NRPC representative apprised the forum that POWERGRID (NR-II) vide mail dt. 17.05.2022 (copy enclosed as Annexure-A.VI. of agenda) has informed that 220 kV Srinagar-Leh Transmission System is re-designated as ISTS vide MoP letter ref. No. 3/18/2011-Trans Vol (2) dated 23.03.2021 and was transferred to POWERGRID with effect from 31.10.2019. POWERGRID has requested that availability certification of these assets for period from 31.10.2019 upto till date may be done so that POWERGRID can claim O&M charges for these assets.
- NRLDC representative informed that from April 2022 onwards they have started verifying the data of these assets.
- NRPC representative mentioned that outage data for these assets for past months may be submitted by POWERGRID to NRLDC and thereafter, based on the verified data, separate availability certification can be done by NRPC Sectt.

Agenda No.15. Issue of Deemed Availability Certification of shutdown availed by POWERGRID for shifting of transmission lines for NHAI Projects

- NRPC representative presented the matter to the forum and communicated that POWERGRID has requested for Issue of Deemed Availability Certification of shutdown availed by POWERGRID for shifting of transmission lines for NHAI Projects.
- NRPC representative requested beneficiaries to confirm whether they were affected or faced any transmission constraint due to outages (for Sl. No. 1, 2, 3 and 4 of the list in Annexure A.VIII of agenda) during shifting/diversion works of NHAI.

- No observation was recorded by beneficiaries for outages at SI. No. 1, 2, 3 and 4 of the list in annexure A.VIII of agenda. In the absence of any comment, It was decided that the above mentioned line outages for facilitating the NHAJ works may be treated as deemed available.

Agenda No.16. PTCC clearance of existing transmission lines after modification / route diversion on request of other government agencies. (Agenda by NR1- POWERGRID)

- OCC agreed that in line with clause 2.0 of the advisory dated 06.05.2022 issued by CEA (copy enclosed as Annexure-A.IX of agenda) that PTCC clearance for existing transmission line is not required for increase in tower height, provided that other factors like course of transmission line and nature of power flow remain unaltered; however, in case there is change in course of transmission line or change in nature of power flow, such cases may be forwarded to CEA for examination so that suitable advisory on the requirement of fresh PTCC clearance may be issued by CEA.

Agenda No.17. Consideration of outage of transmission lines due to forest / bush fire as deemed available. (Agenda by NR1-POWERGRID)

- NRPC representative presented the matter to the forum and communicated that POWERGRID has requested for consideration of outage of transmission lines due to forest / bush fire as deemed available.
- OCC forum was of view that after verification of outage data for these transmission line by NRLDC, decision on the applicability of deemed availability may be taken by MS, NRPC as per Tariff regulations.

Addl. Agenda No.18. Proposed SPS scheme at Obra TPS (Agenda by UPSLDC)

- NRPC representative intimated that UPSLDC vide letter dated 17.05.2022 (copy attached as **Annexure-A.IV**) has submitted the logic of proposed SPS scheme at Obra TPS.
- UPSLDC representative explained to the forum the proposed SPS scheme at Obra TPS.
- NRLDC representative mentioned that they will study the abovesaid SPS logic and thereby submit its observation.

Follow up issues from previous OCC meetings

Annexure-A. I

1	Down Stream network by State utilities from ISTS Station	Augmentation of transformation capacity in various existing substations, addition of new substations along with line bays as well as requirement of line bays by STUs for downstream network are under implementation at various locations in Northern Region. Further, 220kV bays have already been commissioned at various substations in NR. For its utilization, downstream 220kV system needs to be commissioned.	List of downstream networks is enclosed 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.	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="959 877 1581 1192"> <tr><td>⊙ CHANDIGARH</td><td>Sep-2019</td></tr> <tr><td>⊙ DELHI</td><td>Mar-2022</td></tr> <tr><td>⊙ HARYANA</td><td>Aug-2021</td></tr> <tr><td>⊙ HP</td><td>Jan-2022</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>Mar-2022</td></tr> <tr><td>⊙ UP</td><td>Mar-2022</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Apr-2022</td></tr> </table> <p>All States/UTs are requested to update status on monthly basis.</p>	⊙ CHANDIGARH	Sep-2019	⊙ DELHI	Mar-2022	⊙ HARYANA	Aug-2021	⊙ HP	Jan-2022	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Aug-2021	⊙ RAJASTHAN	Mar-2022	⊙ UP	Mar-2022	⊙ UTTARAKHAND	Apr-2022						
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⊙ RAJASTHAN	Mar-2022																										
⊙ UP	Mar-2022																										
⊙ UTTARAKHAND	Apr-2022																										
3	Healthiness of defence mechanism: Self-certification	<p>Report of mock exercise for healthiness of UFRs carried out by utilities themselves on quarterly basis is to be submitted to NRPC Secretariat and NRLDC. All utilities were advised to certify specifically, in the report that “All the UFRs are checked and found functional” .</p> <p>In compliance of NPC decision, NR states/constituents agreed to raise the AUFR settings by 0.2</p>	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="959 1413 1581 1770"> <tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr> <tr><td>⊙ DELHI</td><td>Mar-2022</td></tr> <tr><td>⊙ HARYANA</td><td>Mar-2022</td></tr> <tr><td>⊙ HP</td><td>Apr-2022</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>⊙ PUNJAB</td><td>Mar-2022</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Mar-2022</td></tr> <tr><td>⊙ UP</td><td>Dec-2021</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Mar-2022</td></tr> <tr><td>⊙ BBMB</td><td>Mar-2022</td></tr> </table> <p>All States/UTs are requested to update status for healthiness of UFRs on monthly basis for islanding schemes and on quartely basis for the rest .</p> <p>Status:</p> <table border="1" data-bbox="959 2011 1581 2074"> <tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr> <tr><td>⊙ DELHI</td><td>Increased</td></tr> </table>	⊙ CHANDIGARH	Not Available	⊙ DELHI	Mar-2022	⊙ HARYANA	Mar-2022	⊙ HP	Apr-2022	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Mar-2022	⊙ RAJASTHAN	Mar-2022	⊙ UP	Dec-2021	⊙ UTTARAKHAND	Mar-2022	⊙ BBMB	Mar-2022	⊙ CHANDIGARH	Not Available	⊙ DELHI	Increased
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⊙ BBMB	Mar-2022																										
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		Hz in 47th TCC/49th NRPC meetings.	<table border="1"> <tr><td>⊙ HARYANA</td><td>Increased</td></tr> <tr><td>⊙ HP</td><td>Not increased</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not increased</td></tr> <tr><td>⊙ PUNJAB</td><td>Increased</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Increased</td></tr> <tr><td>⊙ UP</td><td>Partially increased</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Not increased</td></tr> <tr><td>⊙ BBMB</td><td>Not increased</td></tr> </table> <p>Rajasthan, Delhi, HP and Uttarakhand were requested to submit the updated self certification report indicating increase of 0.2 Hz in AUFR settings, within one week. All states/UTs were requested to update status for increasing settings of UFRs.</p>	⊙ HARYANA	Increased	⊙ HP	Not increased	⊙ J&K and LADAKH	Not increased	⊙ PUNJAB	Increased	⊙ RAJASTHAN	Increased	⊙ UP	Partially increased	⊙ UTTARAKHAND	Not increased	⊙ BBMB	Not increased
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⊙ UTTARAKHAND	Not increased																		
⊙ BBMB	Not increased																		
4	Status of FGD installation vis-à-vis installation plan at identified TPS	List of FGDs to be installed in NR was finalized in the 36th TCC (special) meeting dt. 14.09.2017. All SLDCs were regularly requested since 144th OCC meeting to take up with the concerned generators where FGD was required to be installed. Further, progress of FGD installation work on monthly basis is monitored in OCC meetings.	<p>Status of the information submission (month) from states / utilities is as under:</p> <table border="1"> <tr><td>⊙ HARYANA</td><td>Mar-2022</td></tr> <tr><td>⊙ PUNJAB</td><td>Apr-2022</td></tr> <tr><td>⊙ RAJASTHAN</td><td>May-2022</td></tr> <tr><td>⊙ UP</td><td>Mar-2022</td></tr> <tr><td>⊙ NTPC</td><td>Feb-2022</td></tr> </table> <p>FGD status details are enclosed as Annexure-A. I. II. All States/utilities are requested to update status of FGD installation progress on monthly basis.</p>	⊙ HARYANA	Mar-2022	⊙ PUNJAB	Apr-2022	⊙ RAJASTHAN	May-2022	⊙ UP	Mar-2022	⊙ NTPC	Feb-2022						
⊙ HARYANA	Mar-2022																		
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⊙ RAJASTHAN	May-2022																		
⊙ UP	Mar-2022																		
⊙ NTPC	Feb-2022																		
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. 2nd instalment has been received on dt. 30.07.2021. The erection work of 3 Reactors is under progress and shall be commissioned by 30.06.2022.
xii	RAJASTHAN	Bikaner	1x25 MVar	LOA placed on dt. 4.1.2021. Agreement signed on dt. 8.02.2021. 2nd instalment has been received on dt. 30.07.2021. The erection work of 3 Reactors is under progress and shall be commissioned by 30.06.2022.
xiii	RAJASTHAN	Suratgarh	1x25 MVar	LOA placed on dt. 4.1.2021. Agreement signed on dt. 8.02.2021. 2nd instalment has been received on dt. 30.07.2021. The erection work of 3 Reactors is under progress and shall be commissioned by 30.06.2022.
xiv	RAJASTHAN	Barmer & others	13x25 MVar	Agreement signed on dt. 22.06.2020. Grant of Ist Instalment received on dt.19.02.21 &work order placed on dt. 7.04.2022 to M/s Kanohar Electricals Ltd.
xv	RAJASTHAN	Jodhpur	1x125 MVar	Agreement signed on dt. 22.06.2020. Grant of Ist Instalment received on dt.19.02.21 &work order placed on dt. 7.04.2022 to M/s Kanohar Electricals Ltd.

1. Down Stream network by State utilities from ISTS Station:

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
1	400/220kV, 3x315 MVA Samba	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• Network to be planned for 2 bays.	-	PDD, J&K to update the status.
2	400/220kV, 2x315 MVA New Wanpoh	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 4	• 220 kV New Wanpoh - Alusteng D/c Line	-	PDD, J&K to update the status.
				• 220 kV New Wanpoh - Mattan D/c Line	-	PDD, J&K to update the status.
3	400/220kV, 2x315 MVA Amargarh	Commissioned: 6 Total: 6	Utilized: 6 Unutilized: 2	• 220kV D/C line from 400/220kV Kunzar - 220/33kV Sheeri	-	PDD, J&K to update the status.
4	400/220kV, 2x500 MVA Kurukshetra (GIS)	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• 220kV Bhadson (Kurukshetra) – Ramana Ramani D/c line	-	HVPNL to update the status.
5	400/220 kV, 2x315 MVA Dehradun	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 4	• Network to be planned for 4 bays	-	PTCUL to update the status.
6	Shahjahanpur, 2x315 MVA 400/220 kV	Commissioned: 6 Approved/Under Implementation:1 Total: 7	Utilized: 3 Unutilized: 3 (2 bays to be utilized shortly) Approved/Under Implementation:1	• 220 kV D/C Shahjahanpur (PG) - Gola line	-	UPPTCL to update the status.
				• LILO of Sitapur – Shahjahanpur 220 kV SC line at Shahjahanpur (PG) – under commissioning	21.02.2022	Updated in 192nd OCC by UPPTCL.
7	Hamirpur 400/220 kV Sub-station	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4 (2 bays to be utilized shortly)	• 220 kV Hamirpur-Dehan D/c line	Mar'22	Updated in 192nd OCC by HPPTCL
				• Network to be planned for 4 bays	-	HPPTCL to update the status.
8	Sikar 400/220kV, 1x 315 MVA S/s	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• LILO of 220 kV Sikar (220 kV GSS)-Dhod S/c line at Sikar (PG)	Commissioned	LILO of 220 kV S/C Sikar-Dhod line at 400 kV GSS PGCIL, Sikar has been charged on dt. 31.03.2022
				• Network to be planned for 2 bays.	-	Against the 3rd ICT at 400 kV GSS Sikar, only 2 bays were constructed and same has been utilized by RVPN by constructing LILO of 220 kV S/C Sikar – Dhod line as updated by RVPNL in 195th OCC
9	Bhiwani 400/220kV S/s	Commissioned: 6 Total: 6	Utilized: 0 Unutilized: 6	• 220 kV D/C line Bhiwani (PG) – Bhiwani (HVPNL) line	-	Issue related to ROW as intimated in 192nd OCC.HVPNL to update the status.
				• 220 kV Bhiwani (PG) - Isherwal (HVPNL) D/c line.	-	Issue related to ROW as intimated in 192nd OCC.HVPNL to update the status.
				• 220 kV Bhiwani (PG) - Dadhibana (HVPNL) D/c line.	-	Issue related to ROW as intimated in 192nd OCC.HVPNL to update the status.
10	Jind 400/220kV S/s	Commissioned: 4 Approved:4 Total: 8	Utilized: 4 Unutilized: 0 Approved:4	• LILO of both circuits of 220 kV Jind HVPNL to PTPS D/C line at 400 kV substation PGCIL Khatkar (Jind) with 0.5 sq inch ACSR conductor	-	HVPNL to update the status.
11	400/220kV Tughlakabad GIS	Commissioned: 6 Under Implementation: 4 Total: 10	Utilized: 6 Unutilized: 0 Under Implementation:4	• RK Puram – Tughlakabad (UG Cable) 220kV D/c line – March 2023.	-	DTL to update the status.
				• Masjid Mor – Tughlakabad 220kV D/c line.	-	DTL to update the status.
12	400/220kV Kala Amb GIS (TBCB)	Commissioned: 6 Total: 6	Utilized: 0 Unutilized: 6	• HPPTCL has planned one no. of 220kV D/c line from Kala Amb 400/220kV S/s to 220/132kV Kala Amb S/s	Jan'23	Updated in 192nd OCC by HPPTCL
				• Network to be planned for 4 bays	-	HPPTCL to update the status.
13	400/220kV Kadarpur	Commissioned: 8	Utilized: 0	• LILO of both circuits of 220 KV Pali - Sector 56 D/C line at Kadarpur along with augmentation of existing conductor from 220 KV Sector-56 to LILO point with 0.4 sq inch AL-59 conductor.	-	HVPNL to update the status.

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
13	Sub-station	Total: 8	Unutilized: 8	• LILO of both circuits of 220KV Sector 65 - Pali D/C line at Kadarpur along with augmentation of balance 0.4 sq. inch ACSR conductor of 220 kV Kadarpur - Sector 65 D/C line with 0.4sq inch AL-59 conductor	-	HVPNL to update the status.
14	400/220kV Sohna Road Sub-station	Commissioned: 8	Utilized: 0	• LILO of both circuits of 220kV D/c Sector-69 - Roj Ka Meo line at 400kV Sohna Road	-	HVPNL to update the status.
		Total: 8	Unutilized: 8	• LILO of both circuits of 220kV D/c Badshahpur-Sec77 line at 400kV Sohna Road	-	HVPNL to update the status.
15	400/220kV Prithla Sub-station	Commissioned: 8	Utilized: 0	• LILO of both ckt of 220kV D/c Ranga Rajpur – Palwal line	-	HVPNL to update the status.
		Total: 8	Unutilized: 8	• 220kV D/C for Sector78, Faridabad	-	HVPNL to update the status.
16	400/220kV Sonepat Sub-station	Commissioned: 6	Utilized: 2	• LILO of both circuits of 220kV Samalkha - Mohana line at Sonepat		HVPNL to update the status.
		Under Implementation:2 Total: 8	Unutilized: 2 Under Implementation:2	• Sonepat - HSIISC Rai 220kV D/c line	Jul'22	Updated in 192nd OCC
17	400/220kV Neemrana Sub-station	Commissioned: 6	Utilized: 4	• LILO of Bhiwadi - Neemrana 220kV S/c line at Neemrana (PG)	Oct'22	In Tendering stage as updated in 192nd OCC by RVPNL.
		Total: 6	Unutilized: 2			
18	400/220kV Kotputli Sub-station	Commissioned: 6	Utilized: 4	• Kotputli - Pathreda 220kV D/c line	-	Bid documents under approval as updated in 195th OCC by RVPNL.
		Total: 6	Unutilized: 2			
19	400/220kV Jallandhar Sub-station	Commissioned: 10	Utilized: 8	• Network to be planned for 2 bays	-	PSTCL to update the status.
		Total: 10	Unutilized: 2			
20	400/220kV Roorkee Sub-station	Commissioned: 6	Utilized: 4	• Roorkee (PG)-Pirankaliyar 220kV D/c line	-	PTCUL to update the status.
		Total: 6	Unutilized: 2			
21	400/220kV Lucknow Sub-station	Commissioned: 8	Utilized: 4	• Network to be planned for 4 bays	-	UPPTCL to update the status.
		Total: 8	Unutilized: 4			
22	400/220kV Gorakhpur Sub-station	Commissioned: 6	Utilized: 4	• Network to be planned for 2 bays	-	UPPTCL to update the status.
		Total: 6	Unutilized: 2			
23	400/220kV Fatehpur Sub-station	Commissioned: 8	Utilized: 6	• Network to be planned for 4 bays	-	UPPTCL to update the status.
		Under Implementation:2 Total: 10	Unutilized: 2 Under Implementation:2			
24	400/220kV Abdullapur Sub-station	Commissioned: 10	Utilized: 10	• Abdullapur – Rajokheri 220kV D/c line	May'22	Updated in 194th OCC by HVPNL
		Under Implementation:2 Total: 12	Unutilized: 0 Under Implementation:2			
25	400/220kV Pachkula Sub-station	Commissioned: 8	Utilized: 2	• Panchkula – Pinjore 220kV D/c line	31.12.2022	Updated in 194th OCC by HVPNL
		Under tender:2		• Panchkula – Sector-32 220kV D/c line	31.12.2022	Updated in 194th OCC by HVPNL
		Total: 10	Unutilized: 4	• Panchkula – Raiwali 220kV D/c line	Commissioned	Updated in 194th OCC by HVPNL
		Out of these 10 nos. 220kV Line Bays, 2 bays would be used by the lines being constructed by POWERGRID (Chandigarh-2) and balance 8 nos. bays would be used by HVPNL	Under Implementation:2	• Panchkula – Sadhaura 220kV D/c line: Sep'23	Sept'23	Updated in 194th OCC by HVPNL
		Commissioned:7	Utilized: 6	• Amritsar – Patti 220kV S/c line	-	PSTCL to update the status.

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
26	400/220kV Amritsar S/s	Approved in 50th NRPC- 1 no. Total: 8	Unutilized: 1 Approved in 50th NRPC- 1 no.	• Amritsar – Rashiana 220kV S/c line (2 bays shall be required for above lines. However, 1 unutilized bay shall be used for Patti and requirement of one additional bay approved for Rashiana by NRPC)	-	PSTCL to update the status.
27	400/220kV Bagpat S/s	Commissioned: 8 Total: 8	Utilized:6 Unutilized: 2	• Bagpat - Modipuram 220kV D/c line	-	UPPTCL to update the status.
28	400/220kV Bahardurgarh S/s	Commissioned: 4 Total: 4	Utilized:2 Unutilized: 2	• Network to be planned for 2 bays.	-	HVPNL to update the status.
29	400/220kV Jaipur (South) S/s	Commissioned: 4 Total: 4	Utilized:2 Unutilized: 2	• Network to be planned for 2 bays.	-	LILO case of 220 kV Dausa – Sawai Madhopur line at 400 kV GSS Jaipur South (PG) is under WTD approval as updated by RVPNL in 195th OCC
30	400/220kV Sohawal S/s	Commissioned: 8 Total: 8	Utilized: 2 Unutilized: 6	• Sohawal - Barabanki 220kV D/c line	-	UPPTCL to update the status.
				• Sohawal - New Tanda 220kV D/c line	-	UPPTCL to update the status.
				• Network to be planned for 2 bays	-	UPPTCL to update the status.
31	400/220kV, Kankroli	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• Network to be planned for 2 bays	-	RVPNL to update the status
32	400/220kV, Manesar	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• Network to be planned for 4 bays	-	HVPNL to update the status
33	400/220kV, Saharanpur	Commissioned: 6 Under Implementation:2 Total: 8	Utilized: 6 Unutilized: 0 Under Implementation:2	• Network to be planned for 2 bays	-	UPPTCL to update the status
34	400/220kV, Wagoora	Commissioned: 10 Total: 10	Utilized: 6 Unutilized: 4	• Network to be planned for 4 bays	-	PDD, J&K to update the status.
35	400/220kV, Ludhiana	Commissioned: 9 Total: 9	Utilized: 8 Unutilized: 1	• Network to be planned for 1 bay	-	PSTCL to update the status
36	400/220kV, Chamba (Chamera Pool)	Commissioned: 3 Under tender:1 Total: 4	Utilized:3 Unutilized: 0 Under tender:1	• Stringing of 2nd ckt of Chamera Pool – Karian 220kV D/c line	-	HPPTCL to update the status
37	400/220kV, Mainpuri	Commissioned: 6 Under Implementation:2 Total: 8	Utilized: 6 Unutilized: 0 Under Implementation:2	• Network to be planned for 2 bays	-	UPPTCL to update the status
38	400/220kV, Patiala	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• Network to be planned for 2 bays	-	PSTCL to update the status

2. Establishment of new 400/220kV substations in Northern Region:

Sl. No.	Name of Substation	MVA Capacity	Expected Schedule	Downstream connectivity by States
1	400/220kV Dwarka-I GIS (8 nos. of 220kV bays)	4x 500	Mar'22	DTL to update the status
2	220/66kV Chandigarh GIS (8 nos. of 66kV bays)	2x 160	Apr'22	Chandigarh to update the status.
3	400/220kV Jauljivi GIS Out of these 8 nos. 220kV Line Bays, 4 nos. (Pithoragath-2, & Dhauliganga-2) would be used by the lines being constructed by POWERGRID and balance 4 nos. bays would be used by the lines being constructed by PTCUL.	2x315	Feb'22	• 220kV Almora-Jauljibi line • 220kV Brammah-Jauljibi line PTCUL to update the status of lines.

FGD Status

Updated status of FGD related data submission

NTPC (25.02.2022)

MEJA Stage-I

RIHAND STPS

SINGRAULI STPS

TANDA Stage-I

TANDA Stage-II

UNCHAHAR TPS

UPRVUNL (21.05.2022)

ANPARA TPS

HARDUAGANJ TPS

OBRA TPS

PARICHHA TPS

PSPCL (23.05.2022)

GGSSSTP, Ropar

GH TPS (LEH.MOH.)

RRVUNL (06.05.2022)

CHHABRA SCPP

CHHABRA TPP

KALISINDH TPS

KOTA TPS

SURATGARH SCTPS

SURATGARH TPS

Updated status of FGD related data submission

**Lalitpur Power Gen. Co. Ltd.
(15.02.2022)**

Lalitpur TPS

**Lanco Anpara Power Ltd.
(15.02.2022)**

ANPARA-C TPS

HGPCL (21.03.2022)

PANIPAT TPS

RAJIV GANDHI TPS

YAMUNA NAGAR TPS

Adani Power Ltd. (18.02.2022)

KAWAI TPS

**Rosa Power Supply Company
(15.02.2022)**

Rosa TPP Phase-I

**Prayagraj Power Generation
Company Ltd. (15.02.2022)**

Prayagraj TPP

APCPL (25.02.2022)

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)

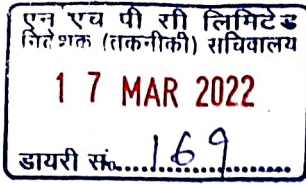
Adani Power Ltd.	KAWAI TPS U#1 (Target: 31-12-2024), KAWAI TPS U#2 (Target: 31-12-2024)
APCPL	INDIRA GANDHI STPP U#1 (Target: 30-09-2022), INDIRA GANDHI STPP U#2 (Target: 30-09-2022), INDIRA GANDHI STPP U#3 (Target: 30-09-2022)
GVK Power Ltd.	GOINDWAL SAHIB U#1 (Target: 30-04-2020), GOINDWAL SAHIB U#2 (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: 30-06-2024), RIHAND STPS U#2 (Target: 30-06-2024), 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: 30-06-2024), SINGRAULI STPS U#2 (Target: 30-06-2024), SINGRAULI STPS U#3 (Target: 30-06-2024), SINGRAULI STPS U#4 (Target: 30-06-2024), SINGRAULI STPS U#5 (Target: 30-06-2024), SINGRAULI STPS U#6 (Target: 31-03-2023), SINGRAULI STPS U#7 (Target: 31-03-2023), UNCHAHAR TPS U#1 (Target: 31-12-2023), UNCHAHAR TPS U#2 (Target: 31-12-2023), UNCHAHAR TPS U#3 (Target: 30-06-2024), UNCHAHAR TPS U#4 (Target: 30-06-2024), UNCHAHAR TPS U#5 (Target: 30-06-2024), UNCHAHAR TPS U#6 (Target: 30-06-2022), 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: 31-12-2024), LALITPUR TPS U#2 (Target: 30-09-2024), LALITPUR TPS U#3 (Target: 30-06-2024)
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: 31-10-2024), PRAYAGRAJ TPP U#2 (Target: 31-10-2024), 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: 31-12-2024), ROSA TPP Ph-I U#4 (Target: 31-12-2024)
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: 31-12-2023), ANPARA TPS U#2 (Target: 31-12-2023), ANPARA TPS U#3 (Target: 31-12-2023), ANPARA TPS U#4 (Target: 31-12-2023), ANPARA TPS U#5 (Target: 31-12-2023), ANPARA TPS U#6 (Target: 31-12-2023), ANPARA TPS U#7 (Target: 31-12-2023), HARDUAGANJ TPS U#8 (Target: 31-12-2024), HARDUAGANJ TPS U#9 (Target: 31-12-2024), OBRA TPS U#9 (Target: 31-12-2024), OBRA TPS U#10 (Target: 31-12-2024), OBRA TPS U#11 (Target: 31-12-2024), OBRA TPS U#12 (Target: 31-12-2024), OBRA TPS U#13 (Target: 31-12-2024), PARICHHA TPS U#3 (Target: 30-04-2022), PARICHHA TPS U#4 (Target: 31-12-2024), PARICHHA TPS U#5 (Target: 31-12-2024), PARICHHA TPS U#6 (Target: 31-12-2024)



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
प्रचालन निष्पादन प्रबोधन प्रभाग
Operation Performance Monitoring Division

No. CEA/OPM/DGR/2022/99-182

Dated : 14.02.2022

To,

As per List attached

Sub: Furnishing of Daily/Monthly Generation and outages Data online at National Power Portal (NPP), in fulfilment of obligation under Section 74 of Electricity Act 2003-regd.

Sir,

Under the relevant provision of The Electricity Act, 2003, this office is entrusted with the responsibility to collect & record the data concerning the generation of power and publish various reports like Daily Generation Report, Monthly Generation Report, PLF report etc. All these reports need to be prepared based on the information furnished by various generating stations/utilities on daily, monthly and yearly basis in a time bound manner. To enable various Generating Companies in the country submit the aforesaid generation data to this office online, Login IDs and Passwords were issued a few years back to the nodal officers nominated by the respective companies. Most of the Generating Companies have been submitting the generation data online. However, your Generating Company has still not switched over to online mode of submission of generation data despite repeated requests, leading to delay in preparation/issuance of related reports. This has been viewed seriously at the highest level in the government.

In this connection, your attention is invited to Section 74 of The Electricity Act 2003 and CEA (Furnishing of Statistics, Returns and Information) Regulations, 2007, which stipulate that *it shall be the duty of every licensee, generating company or person generating electricity for its or his own use to furnish to Authority such statistics, returns or other information relating to generation, transmission, distribution, trading and use of electricity as it may require and at such times and in such form and manner as may be specified by the Authority.*

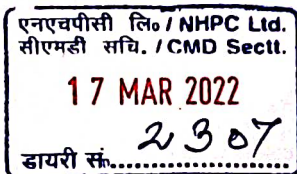
Accordingly, it is requested once again to ensure timely furnishing of daily & monthly generation and outage data of your power stations at the National Power Portal (NPP) online with immediate effect. This may be treated as the final notice to take necessary action in the matter immediately, failing which action may be initiated against the Generating Company under *Section 146* for non-compliance of The Electricity Act, 2003.

Further incase of any problem in online data feeding into the NPP, the nodal officer may contact this Division or NIC Officers, Sh. Ajay Badola, (Mob. No. 9899382669) or Sh. Akash, (Mob. No. 9810496775) or may send email at npp.support@nic.in for assistance.

Already replied
the email
dt 14/2/22
21/3
DMP

निदेशक (परि./तक./का./वित्त)/कं. सचिव
Director (Proj./Tech./Pers./Fin.)/Co. Secy.

21.02.2022
(राकेशगोयल)
मुख्य अभियंता



21/03/22
ED (OSM)
प्राथमिकता पर
ओ एण्ड एम विभाग
महाप्रबंधक-I
महाप्रबंधक-II
महाप्रबंधक-III
महाप्रबंधक-IV
ED(OSM)/469
21-3-22
21/03

- (i)----- LOWER PERIYAR HPS
- (j)----- NARIAMANGLAM HPS
- (k)----- THOTTIYAR HPS

17-----LARSEN & TOURBO LTD.
(a)-----SINGOLI BHATWARI HPS

18-----MALANA POWER COMPANY LIMITED
(a)-----MALANA HPS

- 19-----MEGHALAYA ENERGY CORP. LTD.**
(a)-----MYNTDU(LESHKA) St-1 HPS
(b)----- NEW UMTRU HPS
(c)----- KYRDEMKULAI HPS
(d)----- UMIAM HPS ST-I
(e)----- UMIAM HPS ST-IV

20-----NHPC LIMITED
(a)----- PARBATI-II HPS

21-----NSL TIDONG POWER GENERATION PRIVATE LIMITED
(a)-----TIDONG HPS

- 22-----ORISSA HYDRO POWER CORPORATION LIMITED**
(a)-----UPPER KOLAB HPS
(b)----- HIRAKUD HPS
(c)----- RENGALI HPS
(d)----- CHIPLIMA HPS
(e)----- BALIMELA HPS
(f)----- UPPER INDRAVATI HPS

- 23-----PUNJAB STATE POWER CORP. LTD.**
(a)-----MUKERIAN-III HPS
(b)----- ANANDPUR SAHIB-II HPS
(c)----- MUKERIAN-II HPS
(d)----- SHANAN HPS
(e)----- MUKERIAN-IV HPS
(f)----- ANANDPUR SAHIB-I HPS
(g)----- RANJIT SAGAR HPS
(h)----- GH TPS (LEH.MOH.)
(i)----- MUKERIAN-I HPS

- 24-----RAJASTHAN RAJYA VIDYUT UTPADAN NIGAM LIMITED**
(a)-----MAHI BAJAJ-I HPS
(b)----- SURATGARH STPS
(c)----- DHOLPUR CCPP
(d)----- JAWAHAR SAGAR HPS
(e)----- R P SAGAR HPS
(f)----- SURATGARH TPS

Re: Furnishing of Daily/Monthly Generation and outages online at NPP - regd

From : Satyam Soni <satyam.20@cea.nic.in>

Tue, Mar 22, 2022 04:48 PM

Subject : Re: Furnishing of Daily/Monthly Generation and outages online at NPP - regd

2 attachments

To : O&M <hod-om-co@nhpc.nic.in>**Cc :** Rakesh Goyal <goyal.rakesh@nic.in>, Anita Verma <anitaverma@nic.in>, Sumit Goel <sumit.goelcea@gov.in>, amitabhjha@nhpc.nic.in

Sir,

With reference to trailing mail, it is intimated that entry of Daily Generation Data on NPP is not required for those units whose COD have not been done.

However, Daily Generation data should be entered on daily basis on NPP after declaration of COD for said units.

Regards,
Satyam Soni
Assistant Director (OPM)

AM (E)
Amitabh

From: "O&M" <hod-om-co@nhpc.nic.in>**To:** "satyam 20" <satyam.20@cea.nic.in>**Cc:** "goyal rakesh" <goyal.rakesh@nic.in>, "Amitabh Jha" <amitabhjha@nhpc.nic.in>**Sent:** Thursday, February 17, 2022 5:55:21 PM**Subject:** Re: Furnishing of Daily/Monthly Generation and outages online at NPP - regd

Sir,

This is in reference to your letter no. CEA/OPM/DGR/2022 dated 14.02.2022 on captioned subject, vide which, it has been intimated that the Generation/outages data in respect of Parbati-2 HE Project (NHPC) is not being furnished on NPP portal. In this regard, it is intimated that all the units of Parbati -2 HE project have been commissioned but the COD (Commercial Operation Declaration) of units is yet to be done. The generation from Parbati-2 HE project is being treated as infirm power and consequently the generation/outages data of Parbati-2 HE project is not being entered on NPP portal. However, the generation/outages data of other power stations of NHPC are being submitted on NPP portal within scheduled time on daily basis.

Thanking You.

Regards,

Executive Director (O&M)
O&M Division
NHPC Limited

<ashok@powergrid.in>, "NARESH BHANDARI" <ms-nrpc@nic.in>, "Alok kumar POSOCO" <Alok.kumar@posoco.in>, "vipul cea" <vipul.cea@gov.in>, "Kaushik Panditrao" <kaushik.panditrao@gov.in>, "Reeturaj Pandey" <pandeyr.cea@gov.in>, "rk porwal" <rk.porwal@posoco.in>, "K K Sarkar {के. के. सरकार}" <kksarkar@powergrid.in>, "Sourov Chakraborty {एस. चक्रवर्ती}" <schakraborty@powergrid.in>, "Anshul Gupta {अंशुल गुप्ता}" <anshulgupta@powergrid.in>, "Ankita Singh {अकिता सिंह}" <ankita@powergrid.in>, "Jasbir Singh {जसबीर सिंह}" <jasbir@powergrid.in>, "MADHUSUDAN MEENA {मधुसूदन मीना}" <madhusudanmeena@powergrid.in>, "NARENDRA SATHVIK RANGANATH . {नरेंद्र सात्विक आर}" <rnsathvik@powergrid.in>, "Roushan Kumar {रौशन कुमार}" <roushan.k@powergrid.in>, "Sandeep Kumawat {संदीप कुमावत}" <sandeepk@powergrid.in>, "Yatin Sharma {यतिन शर्मा}" <yatinsharma@powergrid.in>

Sent: Saturday, May 21, 2022 6:33:20 PM

Subject: RE: SUCRL_ICT failure details at PSS-2, Bhadla.

Dear Sir

As per the Root Cause Analysis received through trailing email, it is observed that Fault current of approximately 3kA occurred in W-phase of HV side (220kV) of the Transformer. This fault current persisted for 375ms. During this fault period, it seems that some internal fault occurred in the transformer, which led to fault current shoot up to approximately 12.4kA RMS.

The fault current of 3kA was within the maximum design fault of 3.28kA as per GTP provided. When the transformer HV winding was burnt, the transformer failed (leading to shorted transformer impedance) and the fault of 12.4kA was fed through the 220kV system and the same is not above the design fault level of 220kV system (i.e. 40kA).

Further, it may be mentioned that the fault current through transformer is governed by transformer impedance, which is characterized by the design of the transformer not bus fault level. As per the short circuit studies conducted and shared, this is clearly evident that fault level current through transformer in all cases is less than rated level in simulated cases of 33kV faults. Therefore Bhadla PG 220kV bus fault level is not impacting the through fault current of transformer more than rated level in all studied cases as shared.

Further Bhadla PS also has many other RE developers (+2600 MW excluding saurya urja) feeding power through 33/220kV transformers who have not reported any such issue.

In view of the above, M/s SUCRL may review the transformer design w.r.t. transformer impedance, share dynamic short circuit test report as well as make efforts for reduction in frequent 33kV cable faults at SUCRL end.

Regards
Kashish Bhambhani
CTUIL

From: Vinod Halge <vinod.halge@sauryaaurja.com>

Sent: Tuesday, April 12, 2022 10:56

To: Kashish Bhambhani { कशिश भम्भानी } <kashish@powergrid.in>

Cc: Bibhu Biswal (ILFS Energy) <bibhu.biswal@ilfsindia.com>

Subject: SUCRL_ICT failure details at PSS-2, Bhadla.

Warning: This email has not originated from POWERGRID. Do not click on attachment or links unless sender is reliable. Malware/ Viruses can be easily transmitted via email.

Dear Sir,

With reference to our discussion held at your office regarding reduction of Bus Fault Level at Bhadha - I GSS which will help to reduce the short circuit current feeding through the grid during fault at LV side of Transformer. As suggested during the meeting, analysis of fault events to be done and accordingly further discussion will be taken up.

Submitting following data for your perusal & seeking your guidance to resolve ICT failure issue.

- 1) SLD of pooling substation
- 2) GTP of Transformer
- 3) ICT-01 Failure DR
- 4) ICT-03 Failure DR
- 5) ICT-04 Failure DR
- 6) CGL RCA Report
- 7) PPT_Reduction of bus fault level

Please let us know any more details required for analysis.

Thanks & Regards,

Vinod V Halge

Saurya Urja Company of Rajasthan Ltd.

Mobile + 91-9116032104

Website: <http://www.sauryaaurja.com/> | Email id: vinod.halge@sauryaaurja.com



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उत्तर प्रदेश राज्य भार प्रेषण केन्द्र

उपरोक्त ट्रांसमिशन कारपोरेशन लि०

(उत्तर प्रदेश सरकार का उपक्रम)

यू०पी०एस०एल०डी०सी० परिसर, विभूति खण्ड-११

गोमती नगर, लखनऊ-226010

ई-मेल : cepso@upsldc.org

sera@upsldc.org



U.P. State Load Despatch Centre

U.P. Power Transmission Corporation Ltd.

(A U.P. Govt. Undertaking)

UPSLDC Complex, Vibhuti Khand – II

Gomti Nagar, Lucknow- 226010

E-mail: cepso@upsldc.org

sera@upsldc.org

No: - 1255 /CE (PSO)/SE(R&A)/EE-II/SPS

Dated: - 13/5/2022 2022

Member Secretary,

NRPC 18-A, SJSS Marg,

Katwaria Sarai, New Delhi – 110016

Subject: - Regarding inclusion of proposed SPS Scheme at Obra TPS in the agenda for 195th OCC meeting of NRPC, New Delhi.

To ensure safe and secure grid operation at Obra TPS and connected transmission system, a System Protection Scheme has been proposed. Kindly find enclosed herewith logic of proposed SPS at Obra TPS for its inclusion in the agenda of upcoming 195th OCC meeting of NRPC and its approval.

Encl: As above

13/5/2022
 (Emaduddin khan)
 Chief Engineer (PSO)
 Di. ac. being

No: - /CE (PSO)/SE(R&A)/EE-II/SPS

Copy forwarded to following for information and necessary action:-

Dated: - 2022

1. Director (SLDC), Vibhuti Khand – II, Gomti Nagar, Lucknow.
2. Director (Operation), UPPTCL, 11th Floor, Shakti Bhawan Extn., Lucknow.
3. Director (Technical), UPRVUNL, 8th Floor, Shakti Bhawan Extension, Lucknow.
4. Director (Commercial & Planning), UPPTCL, 5th Floor Shakti Bhawan, Lucknow.
5. Chief Engineer (C&S), UPSLDC, Vibhuti Khand – II, Gomti Nagar, Lucknow.
6. Chief General Manager (Incharge), NRLDC, 18 – A SJSS Marg, Katwaria Sarai, New Delhi, 110016.
7. Superintending Engineer (SC), UPSLDC, Vibhuti Khand – II, Gomti Nagar, Lucknow.

13/5/2022
 (Emaduddin khan)
 Chief Engineer (PSO)
 Di. ac. being

Logic for proposed SPS (System Protection Scheme) for ICTs at Obra TPS

Name of Substation	ICT Rating	Tripping Logic - I			Tripping Logic -II			Tripping Logic -III (Applicable when one of the 315 MVA ICT trip)		
		%setting	Time Delay	Priority of feeder for load cut off	%setting	Time Delay	Priority of feeder for load cut off	%setting	Time Delay	Action
400kV Obra TPS	315 MVA ICT -I	Above 95% of rated current	5 sec for Group 1, 2 min for Group 2	Group 1. 220 kV Obra-Rewa Road ckt 1 &2 Group 2. 220 kV Obra-Mirzapur line	Above 105% of rated current	Instantaneous	220 kV Obra-Rewa Road ckt 1 &2 and 220 kV Obra- Mirzapur lines trip simultaneously	Above 70% of rated current prior to tripping of 315 MVA ICT	Instantaneous	220 kV Obra-Rewa Road ckt 1 &2 and 220 kV Obra- Mirzapur lines trip simultaneously
	315 MVA ICT -II	Above 95% of rated current	5 sec for Group 1, 2 min for Group 2		Above 105% of rated current	Instantaneous		Above 70% of rated current prior to tripping of 315 MVA ICT	Instantaneous	
	240 MVA ICT -III	Above 95% of rated current	5 sec for Group 1, 2 min for Group 2		Above 105% of rated current	Instantaneous		Above 70% of rated current prior to tripping of 315 MVA ICT	Instantaneous	

Note- 1-SPS shall operate if any one of the condition is met that is logic mentioned above is OR.

2- In Tripping Logic III, pre disturbance loading has been used for actuation of SPS in order to avoid inherent time taken by SPS. SPS shall operate instantaneously if pre-disturbance loading is above 70 % AND any one of the 315 MVA ICT gets tripped.

Pratik
13/1/2022