सत्यमेव जयते

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

स.उक्षेविस/ प्रचालन/108/04/2023/ 6650-6684 दिनांक :15.09.2023
No. NRPC/OPR/108/04/2023/ Date: 15.09.2023

सेवामें/ To,

संलग्न सूची के अनुसार/As per list attached

विषय: दूरसंचार, स्काडा और टेलीमेटरी उपसमिति की 23वीं बैठक।
Subject: 23rd meeting of Telecommunication, SCADA& Telemetry Sub Committee

इस कार्यालय के पत्र दिनांक 06.09.2023 के क्रम करते हुए यह सूचित किया जाता है कि उत्तर क्षेत्रीय विद्युत समिति की दूरसंचार, स्काडा और टेलीमेटरी (टेस्ट) उप-समिति की 23वीं बैठक दिनांक **21.09.2023** को **11:00** बजे से **वेब-एक्स विडियो कॉंफ्रेंसिंग** के माध्यम से आयोजित की जाएगी। बैठक की कार्यसूची आपकी सूचना एवं आवश्यक कार्यवाही हेतु संलग्न है।

In continuation to NRPC letter dated 06.09.2023, it is to be intimated that the 23rd meeting of Telecommunication, SCADA & Telemetry (TeST) Sub-committee of NRPC will be **held on 21.09.2023 at 11:00 AM via WebEx video conferencing**. The agenda for the meeting is enclosed herewith for your information and necessary action.

Kindly make it convenient to attend the meeting.

Encl: As above.

भवदीय
Yours faithfully,

ANZUM PARWEJ
Digitally signed by ANZUM PARWEJ
Date: 2023.09.15 18:38:35 +05'30'

(अंजुम परवेज/ Anzum Parwej)
(अधी. अभि. & सदस्य संयोजक टेस्ट उपसमिति)
SE & Member Convener TeST sub-committee

Contents

1. Confirmation of Minutes

The minutes of 22nd meeting of TeST sub-committee held on 24.05.2023 were issued on 28.06.2023. Minutes are available at NRPC website (http://164.100.60.165). No comments have been received till date.

Members may kindly confirm the minutes.

2. Hot Line Speech Communication System for Northern Region (Agenda by CTU)

2.1 Hot Line Speech Communication System (VOIP based PABX system) was implemented in 2016 by POWERGRID in all five regions after grid disturbance in 2012 where grid operators faced problem of fast communication due to unavailability of dedicated speech communication PAN India between NLDC, RLDCs, SLDCs, important state and ISTS substations and generators. The said PABX was implemented by M/s Orange through Alcatel Lucent as OEM.

2.2 In the 67th NRPC meeting, POWERGRID representative stated that the scheme executed by M/s ORANGE was with a provision of AMC of 7 years as part of the contract and the same is expiring in July' 2023 for most of the sites. AMC of the same was extended and approved in the 67th NRPC meeting for further 2 years with financial implication (i.e. approx. Rs. 60 lacs per year) and shall be booked in ULDC O&M charges as per the CERC norms. Further, NRPC advised CTU to plan upgradation/ new system and implementation of existing Hot line speech communication or new EPABX system timely.

2.3 On subsequent discussions with POWERGRID, it is understood that during the execution of the said project, RPCs approval was sought in all regions and cost of the project was booked in the ongoing Communication System packages of the respective regions. It is prudent to mention that as useful life of equipment /cable etc. procured under communication packages is considered to be 15 years as per CERC tariff regulation, so it is understood that useful life of hotline speech communication is 15 years.

2.4 As there is no separate approval of CERC for the useful life of hotline speech communication system, to plan upgradation /new system timely, POWERGRID shall confirm whether they have approached CERC for revised depreciation of the existing system, so that new system can be planned by CTU. In case only upgradation of the system needs to done, POWERGRID may take up this with M/s Orange on T&C of the contract. However, CTU is already under discussions with various VOIP exchange OEMs and suppliers/integrators and on confirmation of life of the system by POWERGRID, CTU shall proceed accordingly.

Members may deliberate.

3. Standard Operating Procedure for VOIP connectivity proposed by the TSPs/ GenCos (Agenda by CTU) (Agenda by CTU)

3.1 A meeting was held under the Chairmanship of Member Secretary (NRPC) on 06.07.2023 among NRPC, CEA, NRLDC/Grid India, CTU, POWERGRID, M/s Indigrid & M/s Sterlite regarding provision of VOIP connectivity to the Control Centre / Coordination Centre of Indigrid & Sterlite with NRLDC VOIP exchange.

3.2 After detailed deliberations in the meeting, CTU was advised to prepare a draft SOP for providing the VOIP connectivity to control centres of TSPs/ GenCos etc. and put up for deliberations in the upcoming TeST meeting.

3.3 Draft SOP has been prepared by CTU and same is attached at **Annexure-I**, the same needs to be deliberated for finalization. Further approval process of this SOP in another regions needs to be deliberated. This SOP shall be applicable for all VOIP connectivity proposed by the TSPs/ GenCos etc. in future.

Members may deliberate.

4. Redundant communication for Fatehgarh-I (Adani) (Agenda by CTU)

4.1 Redundant communication for Fatehgarh-I (Adani) was discussed in the 22nd TesT meeting of NRPC, where forum requested CTU to submit the agenda with complete scheme details. Presently, Fatehgarh-I is connected with 24F OPGW (radial path upto LILO point of Fatehgarh-I (Adani) – Bhadla line.

4.2 As per the inputs received from Adani & POWERGRID, present connectivity is shown in the Figure-1 below where 12 nos. of fiber are used for LILO of Fatehgarh-I (Adani) – Bhadla at Fatehgarh-II and 12 nos. of fiber bypassed towards Bhadla (PG) sub-station. It is proposed that 6.5 kms. 24F OPGW may be installed on the second peak of Fatehgarh-I (Adani) – Bhadla line by replacing the earth wire with OPGW in live line condition upto LILO point of Fatehgarh-II (PG) (shown in Figure-2).

4.3 This shall provide redundant communication for Fatehgarh-I (Adani) sub-station upto Fatehgarh-II (PG). Additional FOTE are not required for this configuration. Existing FOTE shall be used. Further, Fatehgarh-II & Bhadla (PG) are connected in the wideband network with different locations and thus provide two redundant paths.

Present Fiber Connectivity of Fatehgarh-I (Adani)

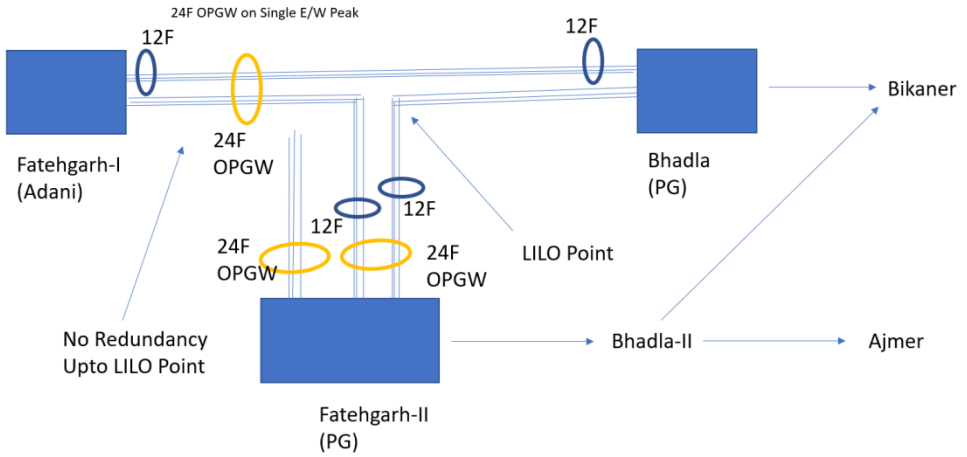


Figure-1

Proposed Fiber Connectivity of Fatehgarh-I (Adani)

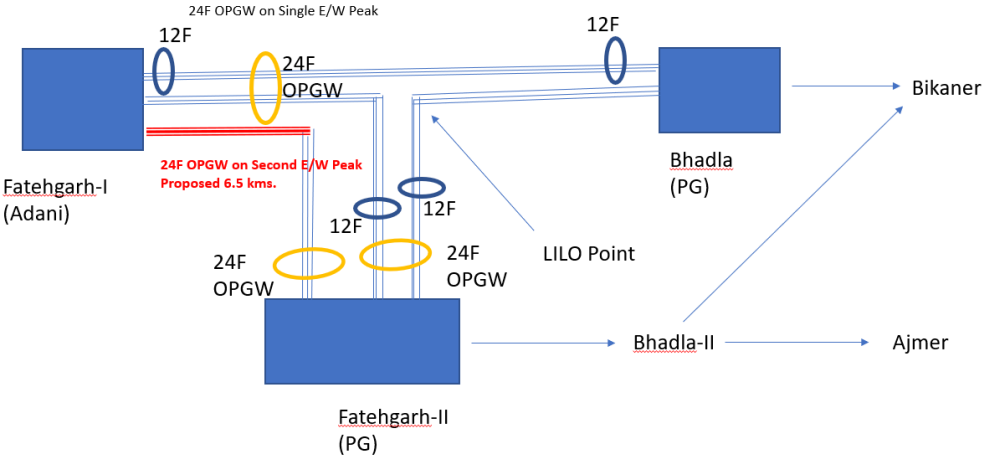


Figure-2

Members may kindly deliberate

5. Redundant communication for Alusteng, Drass, Kargil, Khalasti, Leh (Agenda by CTU)

5.1 Requirement of redundant communication for Alusteng, Drass, Kargil, Khalasti, Leh was deliberated in the 22nd TesT meeting of NRPC.

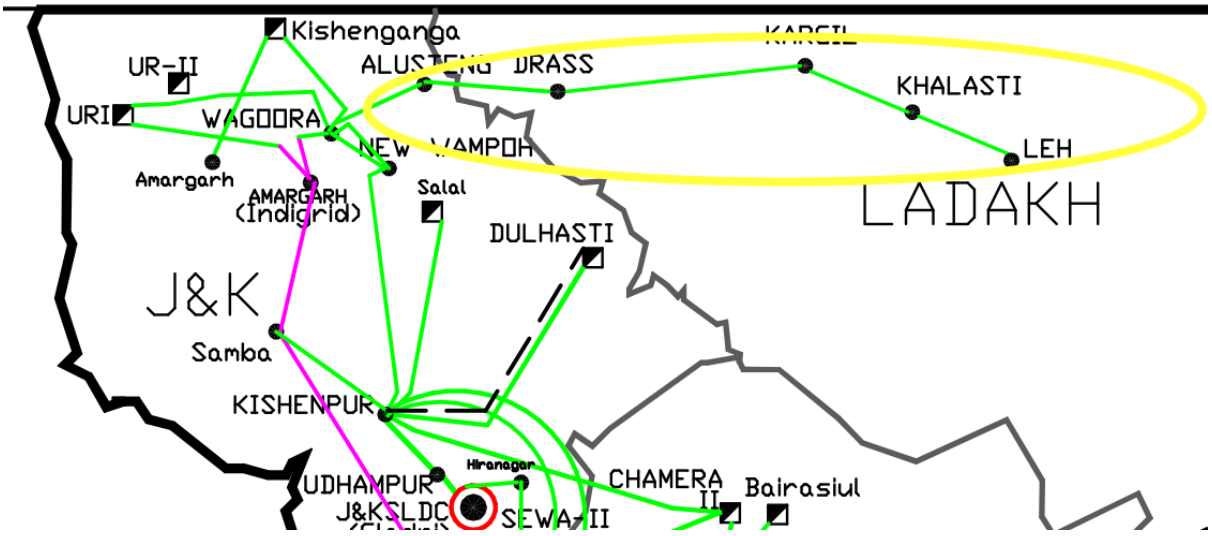


Figure-3

5.2 During the meeting POWERGRID informed that presently data of these stations is routed through PowerTel (POWERGRID) Network from Leh – Wagoora (PowerTel using fibres on sharing basis on POWERGRID OPGW and some section of J&K PDD network) as FOTE provided under S/s package (for ULDC purpose) are not commissioned.

5.3 Since there is no possibility of forming a SNCP ring for redundancy, it is proposed that fibre redundancy on the same path being used by PowerTel from Leh to Wagoora shall be provided by interconnecting the FOTE of S/s packages at above said locations with additional fibres to provide path redundancy.

5.4 For this, additional two nos. of STM-16 FOTE are required, 1 at Zainakote (J&K PDD) and 1 at Wagoora (PG) locations.

Members may kindly deliberate

6. Redundant communication for Narora (NAPP) (NPCIL) (Agenda by CTU)

6.1 Redundant communication for Narora (NAPP) (NPCIL) was deliberated in the 22nd TesT meeting of NRPC. In the meeting UPPTCL has confirmed that they have included NAPP – Atrauli link (38 kms.) in their proposed OPGW package awarded to TCIL. Using NAPP – Atrauli link data of NAPP may be routed through following links upto ISTS node:

"Narrora (NAPP) – Atrauli – Aligarh (400) – Sikandara Rao – Kasganj- Etah – Mainpuri (UP) – Mainpuri (PG)- NRLDC"

6.2 CTU suggested that alternate path may be explored with lesser hops and to avoid frequent interruptions in the existing NAPP – Khurja UPPTCL link. It is proposed that OPGW on Narrora – Sibhawali UPPTCL line may be planned. Line length of Narrora – Sibhawali is around 88 kms.

6.3 UPPTCL informed that this link is not possible to include in their existing OPGW package. CTU proposed that this link can be proposed under ISTS (NAPP – Simbhauli). The proposal was agreed in the 22nd TeST meeting.

Members may kindly deliberate

7. Redundant communication for Sewa-II (Agenda by CTU)

7.1 Redundant communication for Sewa-II was deliberated in the 22nd TesT meeting of NRPC. Presently Sewa-II is connected with Sewa-II – Hiranagar link. Where redundant path not available due to unavailability of ISTS line.

7.2 In the 22nd TesT meeting of NRPC, POWERGRID suggested that Sewa-II & Chamera-I are very close and UGFO cable of approx. 2 kms. may be installed between these stations to create redundant communication path. Additional FOTE/SFPs are required along with fibre to meet link budget requirement between Sewa-II & Chamera-I.

Members may kindly deliberate

8. Redundant Communication for Chamera-III (NHPC) & Budhil (GreenCo) (Agenda by CTU)

8.1 Redundant communication for Chamera-III (NHPC) & Budhil (GreenCo) was deliberated in the 22nd TesT meeting of NRPC. In the meeting it was deliberated that to provide redundancy for Chamera-III (NHPC) and Budhil (GreenCo), 2 nos. of additional STM-16 equipment are required at Lahal & Budhil (1 at each). Further, HPPTCL to provide 3 pair of optical fibers for above redundancy on their following lines:

(1) 220kV Lahal – Budhil (GreenCo)
(2) 400kV Chamera Pooling(PGCIL)- Lahal(HPPTCL)

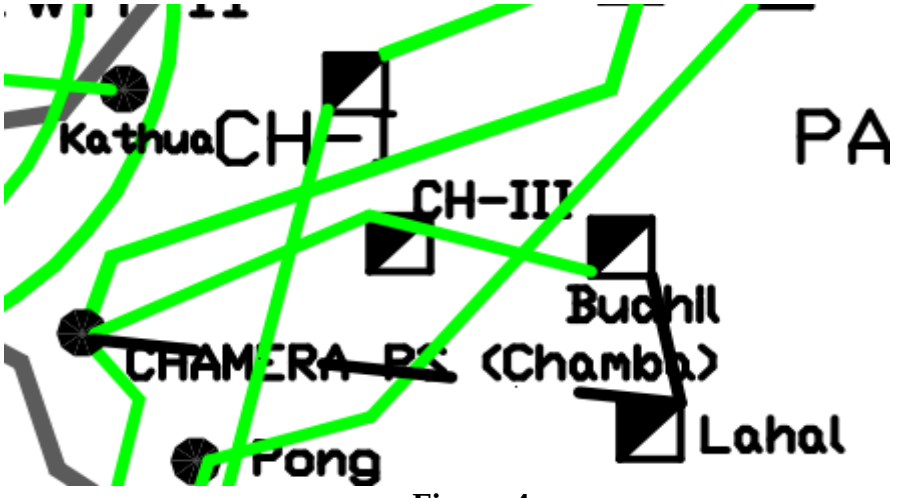


Figure-4

Members may kindly deliberate

9. Dual reporting of RTU, PMU, VOIP, AGC etc. applications on dual channel to RLDC and Back up RLDC (Agenda by CTU)

9.1 Presently, all the data channels and voice channels are reporting in main and backup mode with a main channel to RLDC and protection channel to Backup RLDC. It is suggested by Grid-India that for increase of redundancy in the system both main and protection channels should report to main RLDCs as well as back up RLDCs in dual mode considering the criticality of real grid operations by the RLDCs.

9.2 For discussing the same, meetings were held among POWERGRID, Grid-India, CTU and CEA on dated 09.05.2023 and 27.06.2023. As per discussions held in the meetings, POWERGRID has to provide the region wise data of additional requirement for equipment/card/port etc in respective FOTE/Gateway/RTU for the implementation of dual redundancy.

9.3 This was also discussed in the 4th CPM of Northern Region.

9.4 POWERGRID has submitted the data to CTU but that is only related to FOTE & ethernet cards. Regarding the expansion of SAS gateways/ RTUs ports, POWERGRID informed that they are compiling this data as SAS gateways/RTUs upgradation which are upgradable and SAS gateway/RTUs for replacement which are not upgradable along with cost estimate.

POWERGRID to update the status

10. Connectivity of STU node on fiber in view of AMR (Agenda by CTU)

10.1 The meter readings from several locations (mostly STU nodes) in each region are intermittent and having communication issues as the meters at the state nodes are not having secure & reliable communication links and are operational on public domain communication links like GPRS.

10.2 GRID-INDIA has identified a list of such nodes (list attached as **Annexure-II**). It is proposed to provide the connectivity of such nodes on captive OPGW network for receiving the data successfully.

10.3 All constituents may check and update the status of OPGW in list. Whether it is considered in any scheme or it has to be included in scheme for AMR.

10.4 This was also discussed in the 4th CPM of Northern Region.

10.5 UPPTCL has submitted the data to CTU, however still some of stations data required to be provided. Other utilities i.e. J&K, Punjab, Himachal, RVPNL, HVPNL, PTCUL,

Chandigarh UT, BBMB, Central Sector stations, IPPs etc. needs to provide the data for examination and preparation of the scheme.

Members may kindly deliberate

11. Additional FOTE at AGC locations (Agenda by CTU)

11.1Additional FOTE at all AGC operated generating stations in Northern Region are proposed in view of resource disjoint and criticality of AGC operation for grid operation purpose as failure of single equipment may lead to disruption in AGC operation. This agenda was also deliberated in the 2nd & 3rd ISTS planning meeting of NR and also in the 22nd TeST meeting of NRPC. This was also discussed in the 4th CPM of Northern Region.

11.2POWERGRID has provided the list of locations where FOTE are required for AGC locations, same is given below:

Additional FOTE at AGC Plants connectivity

Table-1

Sr No.	Name	Directions at critical nodes	Available Equipment	Required Equipment
1	Koteshwar	1	1	1
2	Nathpa Jhakri	2	2	-
3	Chamera-3	2	1	1
4	Dulhasti	1	1	1
5	Tehri	1	1	1
6	Rihand-I	2	1	1
7	Riahnd-II			
8	Rihand-III			
9	Anta	2	1	1
10	Chamera-2	2	1	1
11	Chamera-1	2	1	1
12	Dhauliganga	1	1	1
13	Unchahar-II	2	1	1
14	Unchahar-III			
15	Unchahar-IV			
16	Auraiya	2	1	1

17	Bairasiul	1	1	1
18	Tanda-2	1 (UPPTCL)	-	2
19	Singrauli	2	1	1
20	IGSTPS	1	1	1
21	Dadri Gas	2	1	1
22	Dadri-2	3	1	1
23	Dadri-1			
24	Sewa-II	1	1	1
25	Koldam	1	1	1
			Total FOTE	**20**

Total No. of FOTE are 20 nos.

Total 20 nos. of FOTE are required for AGC operation resource disjoint purpose.

Members may kindly deliberate

12. Additional equipment at critical locations in view of resource disjoint (Agenda by CTU)

As per CEA Manual of communication Planning which stated communication resources like FOTE and Media should be resource disjoint. Inputs for such locations for NR region in provided by POWERGRID where additional equipment (FOTE) are proposed along with critical locations in view of grid operation, details are given below:

Table-2

Additional Equipment Locations in Northern Region

Sr No.	Name	Directions at critical nodes	Available Equipment	Required equipment
1	Mandola	4	1	1
2	DTL Bawana	4	1	1
3	Muradnagar	4	1	1
4	SLDC, RRVPNL (Jaipur)	2	1	1

5	SLDC, HVPNL (Panipat)	5	1	1
6	SLDC, BBMB (Chandigarh)	3	1	1
7	SLDC, DTL (New Delhi)	2	1	1
8	SLDC, HPSEBL (Shimla)	1	1	1
9	SLDC J&K PDD (Jammu)	1	1	1
10	SLDC Lucknow (UPPTCL)	2	1	1
12	SLDC PSTCL (Patiala)	2	1	1
13	SLDC PTCUL (Dehradun)	1	1	1

Total No. of FOTE - 13 nos.

Total 13 nos. of FOTE are required for resource disjoint and critical locations in Northern Region.

This agenda was also discussed in the 2nd& 4th CPM of Northern Region.

Members may kindly deliberate

13. Equipment at Backup SLDCs & Backup NRLDC (Agenda by CTU)

13.1As per the new architecture proposed by Grid-India, backup NRLDC is proposed at NER – Guwahati and backup SLDCs are proposed in each state. Further, Main and backup SLDC shall report to main and backup RLDC respectively. Grid-India vide their letter dated 18.07.2023 requested communication planning for upcoming Backup NRLDC at Guwahati and ICCP communication from Main & Backup SLDCs to Backup NRLDC. This agenda was also discussed in the 4th CPM of Northern Region. Based on the discussion in 4th CPM of NR and inputs received from POWERGRID & STUs following locations are finalised where additional FOTE are required:

Locations along with FOTE requirement is given below:

Table-3

Sr No.	Name	Backup CC location	FOTE
1	Backup NRLDC	Guwahati	2
2	SLDC, RRVPNL (Jaipur)	Sub-LDC Bhilwara	1
3	SLDC, HVPNL (Panipat)	HW, Shakti Bhawan Panchkula	1
4	SLDC, BBMB (Chandigarh)	SLDC, Patiala, Punjab	0
5	SLDC, DTL (New Delhi)	400kV Bamnauli (ALDC Bldg)	2
6	SLDC, HPSEBL	Sub-LDC	1

	(Shimla)	Hamirpur	
7	SLDC J&K PDD (Jammu)	Backup SLDC Srinagar	2
8	SLDC Lucknow (UPPTCL)	SLDC Modipuram (UPPTCL)	0
9	SLDC PSTCL (Patiala)	SLDC, BBMB (Chandigarh)	0
10	SLDC PTCUL (Dehradun)	Kashipur	1
		Total	10

13.2Tota l10 nos. of FOTE are required for the above locations. POWERGRID & STUs may further provide any other communication infrastructure (Fibre Cable etc.) are required to meet communication requirements for the Backup RLDC & SLDCs.

Members may kindly deliberate

14. Redundant communication for Saharanpur (PG) S/s (Agenda by CTU)

14.1 The agenda was deliberated in the 3rd CPM of NR and 22nd TeST meeting of NRPC.

Saharanpur (PG) is presently connected with Roorkee that is on single fibre path. During 3rd ISTS planning meeting of NR, POWERGRID informed that Alternate path can be created using UPPTCL network.

14.2 In the 22nd TeST meeting CTU suggested that alternate path may be provided through Sahararnpur-Bhagpat PG line (121 kms.) line. POWERGRID informed that installation of OPGW on Sahararnpur-Bhagpat PG line may not be feasible due to severe RoW issues. In the meting UPPTCL advised to explore path of Sahararnpur (PG)-Devband-Sahararnpur (UP)-Nanauta-Shamli-Muradnagar. UPPTCL was requested to give consent for fibre sharing also if path is to be utilized.

14.3 In the 4th CPM of NR UPPTCL stated that as per the proposed path i.e. Sahararnpur (PG)-Devband (UP)-Sahararnpur (UP)-Nanauta (UP)-Shamli (UP) -Muradnagar (UP) – Dadri (PG), they can provide 1 pair of fiber on sharing basis to POWERGRID. However, at Shamli & Murad Nagar, they have Fiber Home STM-1 FOTE that cannot be patched, so at these locations 2 nos. STM-16 FOTE can be proposed in ISTS on which UP data will also be combined. CTU suggested that UPPTCL FOTE can be integrated with POWERGRID FOTE, wherever possible and on the remaining locations, bypass through FODP can be opted to optimize cost. After deliberation, it was decided that 1 pair of fiber shall be

provided by UPPTCL on the said path and two new FOTE at Shamli and Muradnagar shall be provided under ISTS scheme. This was also discussed in the 4th CPM of Northern Region.

Members may kindly deliberate

15. J&K Telemetry Issues (Agenda by NRLDC)

15.1 Reliability and accuracy of SCADA data and its associated communication system is essential for monitoring and coordinating operations of a large electricity grid. It helps in visualization and management of the critical grid element failure/grid incident in real time and minimizes the possibility of any untoward incidences/disturbances.

15.2 Real-Time data availability from Jammu and Kashmir is very poor. There is zero visibility of data in J&K stations at J&K and NRLDC. With poor monitoring of data, it is very difficult to monitor grid in efficient manner. The matter has been discussed in various TCC and TeST Meetings but there is no improvement of the same.

Brief details are as follows:

- Under SCADA upgrade project, M/s Siemens installed 66 RTUs at all 400KV / 220 KV and 132 KV sub- stations/generating stations of J&K PDD.
- RTUs were not integrated with Control centre due to non-availability of communication network.
- RTUs were tested locally and commissioned without data availability at Control Centre.
- **Due to Non availability of data, J&K PDD is not able to monitor its drawal from grid and its generation**. It is dependent of Central sector data for monitoring of drawal.
- *Matter was also discussed in Special Meeting with J&K on 28.07.2020 where in Representative of J&K informed that they have given consultancy work to POWERGRID for installation of OPGW in J&K. However, due to funding issue OPGW work has been stalled by POWERGRID. According to J&K almost 95% of the work is complete and once funding issue is resolved non-availability of telemetry issue will be resolved.*

- Further, it was informed that payment issues were resolved and many communication links were commissioned and pending link would be commissioned by December 2022.
- *Matter was also discussed in 47th TCC-49th NRPC Meeting,* J&K confirmed that they will resolve the issues mutually with POWERGRID so that data starts reporting to SLDC/ NRLDC.
- During 19th TeST Meeting dated 07.03.2022, J&K representative informed that by 31st December 2022 all 70 RTUs will be integrated with SLDC.
- During 20th TeST Meeting held on 09.09.2022, it was discussed that J&K informed that although some of the links have been commissioned but data reporting is yet to start due to disconnection of CT/PT cables at site / other integration issues of the RTU. Further it was informed that they are in process of rectification of RTU issues and joint visit is planned with M/s Siemens.

- During 64th NRPC Meeting held on 24th March 2023, it was informed that joint visit could not be conducted and after discussions, it was decided that a joint meeting shall be conducted comprising members from Siemens, POWERGRID, J&K and NRLDC to resolve the RTU integration issues.
- During 68th NRPC Meeting held on 18th August 2023, Representative from J&K informed that there is no improvement in regard to telemetry and they are taking up with POWERGRID and Siemens.

J&K/POWERGRID to update the status.

16. Communication plan for channel redundancy to NRLDC (Agenda by NRLDC)

16.1 The provision of redundant & reliable communication was discussed in various TeST Meetings. Redundant communication is to ensure that two ports at RTU end are configured for RLDC. Also, data is configured with two different communication channels for bringing redundancy into the system and increase reliability of data to NRLDC/RLDC. The reliability of communication channel to **NRLDC was discussed in various TeST Meeting since November 2016 (8th TeST Meeting)**. It is informing that still 7 RTUs are reporting to NRLDC on single channel.

16.2 It is requested to expedite the process of providing redundant channel for the remaining locations at the earliest. It is to note that stations where second is down since long is considered as single channel only.

Thus, it is requested that reliability of redundant channel may also be ensured.

List of RTUs with single channel is given below:

S.NO.	Name of RTU	Comments	Timeline
1	KISHANGANGA	NHPC	
2	PARBATI-2	NHPC	
4	KARCHAM WANGTOO	IPP	
5	PARBATI-3	NHPC	
6	AD Hydro	AD Hydro	
7	Bhiwadi HVDC	POWERGRID	Second gateway Faulty

Issue regarding Parbati-2, 3 and Kishanganga was discussed in detail in 22nd TeST Meeting held on 24.05.2023; still there is no improvement regarding this. Data from existing links from these stations is highly unreliable. NHPC /POWERGRID to take urgent action in this regard.

POWERGRID/Utilities are requested to please update the status.

17. Telemetry issue from NTPC Singrauli (Agenda by NRLDC)

17.1 Presently SCADA data from NTPC Singrauli is updating at NRLDC through two RTUs, one is old S900 RTU and other one is new Gateway, which is under commissioning at NTPC Singrauli. Some of the bays where SAS upgradation work completed data from those bays are reporting through new Gateway and remaining bays are still reporting through old RTU. Details of the bays which are yet to be integrated to new gateways is as follows:

S.No.	Bays
1.	ICT 1 & ICT2 Bays
2.	All 132 KV Bays
3.	Allahabad -3
4	GT-7

17.2 However, Old RTU was commissioned under ULDC Phase-1 and AMC for this RTU is not available. Any issue in the telemetry of bays, which are yet to be upgraded remains unattended. Matter has been taken up with NTPC many times but the issue is yet to be rectified.

NTPC is requested to take immediate action for resolution of the same.

NTPC to update the status.

18. Redundant communication to NRLDC (Agenda by NRLDC)

18.1Additional fiber connectivity to NRLDC via Tughlakabad-NRLDC-R.K.Puram was approved in 19th TeST Meeting held on 07th March 2022. It may be noted that NLDC and NRLDC connectivity is very critical for real time monitoring, voice connectivity and grid operation point of view. After this connectivity, robust fiber connectivity shall be established along with existing optical paths for NLDC, RLDC and all their back up RLDCs System for grid operation.

18.2 In accordance with discussion, fiber connectivity was established upto NRLDC in Nov-Dec 2022. However, final commissioning is yet to be completed. NRLDC has requested POWERGRID to expedite the commissioning of this link vide letter dated 08th Dec 2022 and 18th April 2023.

18.3 However, link is yet to be commissioned. POWERGRID is requested to please expedite the work as one of the existing communication links to NRLDC via Maharanibagh is highly prone to cut and any outage of this links leads to radial connectivity to NRLDC/NLDC.

18.4 Issue was also discussed in 22nd TeST Meeting held on 24.05.2023 where POWERGRID informed that they are in process of commissioning of aforementioned link and it will be completed within one month. However, commissioning of the link is still pending.

POWERGRID to please update the status.

19. EOL/EOS for firewalls supplied under URTDSM Project (Agenda by NRLDC)

19.1Unified Real Time Dynamic State Measurement (URTDSM) project was implemented by POWERGRID through 70% PSDF grant and 30 % equity. Defect liability Period was completed in Dec 2019 and thereafter AMC for six years started from January 2020.

19.2 As per information received from M/s GE, System Integrator through which AMC of URTDSM is being executed; OEM of Internal & External Firewall & Firewall Management devices has declared End of Life/ end of Support of firewall versions supplied under URTDSM project and same needs to be replaced with newer version to continue subscriptions/ patches etc.

19.3POWERGRID is requested to please take up with vendor for replacement of firewalls prior to EOL/EOS of the product.

19.4 Issue was also discussed in 22nd TeST Meeting held on 24.05.2023 where POWERGRID informed that they will take-up with vendor for replacement of firewalls within desired schedule. Licenses of the firewall are expiring in Oct'23. POWERGRID is requested to please update the status and expedite the necessary work considering Cyber Security Compliance.

POWERGRID to update the status.

20. PMU integration of RRVPNL stations supplied under STNAMS (Agenda by NRLDC)

20.1 NRLDC representative stated that in reference to the discussion in 62nd NRPC Meeting held on 31.01.2023 & 63rd NRPC held on 24.02.2023, where representative of RRVPNL informed that around 8 PMU out total 25 PMUs under STNAMS project has been commissioned and data of same is updating at RRVPNL STNAMS control center. Further, STNAMS PDC will be integrated with Rajasthan SLDC PDC upon completion of Cyber Security compliances at STNAMS system. It was also informed that there is a provision to integrate new Phasor data concentrator (PDC) with existing PDC installed at Rajasthan SLDC.

20.2 During the meetings RRVPNL representative was requested to expedite the PMU data for better visibility of Rajasthan area as it is very important from grid operation point of view considering recent events in Renewable pocket.

20.3 In this regard NRLDC has also requested RRVPNL and SLDC to expedite the integration process vide letter **NRLDC/SCADA/2023 dated 14.02.2023**.

20.4 In view of the above it was requested that RRVPNL shall advise the concern to take necessary actions so that integration of PMU data reporting at STNAMS control centre with Rajasthan SLDC PDC for onward transmission of data to NRLDC.

20.5During 64th RPC Meeting RRVPNL representative stated that PMUs has started reporting at their control centres. However, prior to integration with Rajasthan PDC cybersecurity audit was to be completed. He further informed that Cyber security audit has been completed and they are in the process of closure of Cyber Security points. On closure of

points Cyber Security points, they will start the process of integration of PDC. He confirmed that integration work would be completed by 30th April 2023.

20.6 **During 68th NRPC Meeting held on 18th Aug 2023 Representative from RRVPNL informed that they are in process of integration of PMUs at SLDC.**

RRVPNL/Rajasthan SLDC to please update the status.

21. Calculation of actual drawal by states based on SLDC end SCADA data (Agenda by NRLDC)

21.1 As discussed in the 6th TeST meeting all SLDCs shall maintain and monitor their own drawal calculation (alternate calculation) based on the SLDC drawal points. SLDC shall compare its own calculated value of real-time drawal from the grid with drawal computed by RLDC based on ISTS end data to ensure correct assessment of drawal in real time. Corrective measures shall be taken whenever any anomaly is detected between the two drawal computations.

21.2 UP and Delhi are using their end calculation as primary calculation for monitoring of drawal whereas Rajasthan is entirely dependent on STU data. However, Punjab, Haryana, Jammu and Kashmir, Uttarakhand are dependent on RLDC end drawal values.

21.3 All concerned were requested to please compute drawal values based on STU end SCADA also, so that same can be verified with NRLDC end value and any discrepancy can be rectified immediately. Matter was also discussed in 188th, 189th, 190th OCC meeting where it was decided that all utilities shall calculate the drawal based on STU end data and use it as primary calculation for managing drawal in real-time. SLDCs shall share the calculated values to NRLDC.

21.4 NRLDC is yet to receive calculated values from Uttarakhand, J&K, and Himanchal Pradesh. However, it is seen that Punjab & Haryana are still using NRLDC end data for drawal calculations.

All SLDCs are requested to please necessary action in this regard.

Matter was discussed in 22nd TeST Meeting held on 24.05.2023 where all states agreed to share their calculation points. However, calculation points from JK, Himanchal Pradesh and Uttarakhand are yet to be received at NRLDC.

Further, PSTCL & Haryana are requested to please monitor calculations based on their telemetry points.

Members to please update status.

22. Redundant Communication from Sub-stations/Generating Stations (Agenda by NRLDC)

22.1As per CERC communication Regulations,2017 redundant communication shall be provided from Sub-stations/Generating Stations to concerned Load Despatch Centre. During 22nd TeST Meeting held on 24.05.2023 redundant communication paths from different Generating Stations/Sub-Stations were discussed. Details of various links is as given below:

S.No	Link	Discussion in 22nd TeST Meeting
1.	Redundant communication for Fatehgarh PS (Adani)	CTU was advised to submit separate scheme for OPGW installation for connectivity to Fatehgarh PS station Adani.
2.	Redundant communication for Samba (PG)	The issue of usage of existing OPGW or separate OPGW installation is to deliberated in separate meeting
3.	Redundant communication for Dulhasti (NHPC)	Inputs from POWERGRID were requested
4.	Redundant communication for Alusteng, Drass, Kargil, Khalasti, Leh	CTU was advised to submit the detailed scheme as per deliberation in the meeting
5.	Redundant communication for Narora (NAPP) (NPCIL)	CTU was advised to submit the detailed scheme as per deliberation in the meeting
6.	Redundant communication for Sewa-II	CTU was advised to submit the detailed scheme as per deliberation in the meeting
7.	Redundant Communication for Chamera-III (NHPC) & Budhil	CTU was advised to submit the detailed scheme as per deliberation in the meeting
8.	Redundant Communication for Pithoragarh (PG) Sitarganj (PG) stations	PTCUL was requested to expedite the implementation of OPGW on priority.
9.	Redundant communication for Saharanpur (PG) S/s	CTU was advised to submit the detailed scheme as per deliberation in the meeting.

CTU is requested to please update the status redundant communication for these Stations.

23. Implementation of U-NMS Project (Agenda by NRLDC)

23.1 U-NMS project is being implemented by POWERGRID in Northern Region through M/s Sterlite. As per information given by POWERGRID that FAT/SAT of the system is complete and System Availability test is going to start and final commissioning is expected in November 2023.

23.2 As discussed in 22nd TeST Meeting for commissioning of U-NMS Project, database is required of existing NMS of centre sector / state sector/ IPPs / Solar developer/ other transmission licensee and independent nodes which are reporting data for grid operation.

Technical details/ information pertain to integration has been obtained for POWERGRID installed NMS system(s) which were part of ULDC schemes, whereas details from state sector/ IPPs / other transmission licensee are still not been available in full shape to UNMS vendor, which may further delay the works for database development and integration.

23.3 As it is essential that all NMS and Network Equipments are required to be integrated in the U-NMS for monitoring and configuration of elements in Northern Region.

However, till date any Network Equipments are yet to be integrated in U-NMS.

POWERGRID/CTU is requested to please update the status of integration of all NMS and Network Equipments in the region.

24. DECLARATION OF COMMERCIAL OPERATION (DOCO) AND COMMERCIAL OPERATION DATE (COD) of Communication System (Agenda by NRLDC)

24.1As per IEGC 2023 regarding Commercial operation of communication system can be declared by transmission licensee based on certification by Respective Control Centre.

24.2 As per IEGC and Detailed draft procedure for certification of communication equipment issued by Grid-India, Procedure for certification of Communication system is applicable for following Inter-State and Inter-regional Communication System.

- OPGW
- Communication System
- Auxiliary Power Supply of Communication System

24.3Certification for links other ISTS / Inter-regional communication shall not come under the purview of these procedure.

This is for information of members please.

25. Non-Availability / Reliability of Telemetry (Agenda by NRLDC)

25.1Uninterrupted availability of telemetry is essential for smooth operation of grid. It is essential to ensure 100% of availability of the data. However, it is seen that even at 765kV/400kV level data is highly intermittent.

The non-availability of various 400 KV / 765 stations was calculated for the month of August 2023. The list of stations where data availability is less than 95% is given below.

PGCIL	**UPPTCL**	**RRVPNL**	**PSTCL**
Kankroli	Muradnagar-New	Anta	Nakodar
Sikar	Vishnu Prayag	Akal	Rajpura
Uri-2	Meja	Kankani	Mukatsar
Bhiwadi	Nehtaur	Barmer	Nakodar
Chamba	Dasna	Deedwana	**HVPNL**
Punchkula	Noida Sector-148	Hinduan	KIRORI

Sambha	Sikandarabad	Babai	DHANONDA
Jhajjar	Tanda 400	Alwar	DIPALPUR
Maharanibagh	Lalitpur	SSCTPS	MGTPS
Budhil	Varanasi	**PTCUL**	RGTPS
Sewa-2	Agra 765kV	Srinagar(UK)	NAWADA
Kishanganga	Ataur	Kashipur	**BBMB**
DTL	Indira puram	**HPPTCL**	Panipat
Harsh Vihar	Bara	Sainj	
Mundka			

Reliability of telemetry is essential for smooth monitoring and operation of the grid.

Member may like to discuss the issues and resolution target for restoration of reliability.

26. Display of DC/Schedule of Generating Stations in SCADA Display (Agenda by NRLDC)

26.1 In high demand period and other there is requirement of monitoring Declared Capacity & Schedule of all Generating Stations in Northern Region. Schedule & DC of Central sector is being integrated with NRLDC SCADA system and same is being monitored by Control Room. However, DC & Schedule of State generator is not integrated with their SCADA system.
It is requested that all states that take up for integration of state generator in their SCADA system for further integration with NRLDC.

Members to note and share timelines for integration.

27. Regarding upcoming ULDC Ph-III (Agenda by PSTCL)

27.1It is kindly requested to PGCIL to expedite the tendering process for installation/commissioning work of ULDC Ph-III as PSTCL is facing few issues with regards to existing SCADA system under ULDC Ph-II such as No Possibility of Merging IEC101/IEC104 data for the same station telemetry, storage space issue in Admin Server, End of life of some equipment, No provision of alarm w.r.t Stuck-up data. Latest status of ULDC Ph-III Tender may also be apprised please.

POWERGRID to please update the status

28. Expiration of insurance of Equipment supplied under ULDC Ph-II (Agenda by PSTCL)

28.1 Insurance of Equipment supplied under ULDC Ph-II has expired since more than a year.

POWERGRID is requested to do the needful please

29. Regarding Internal firewalls, external firewalls and Antivirus for SCADA EMS system installed under ULDC Ph-II (Agenda by UPSLDC)

Joint procurement by PGCIL for End-of-Life internal firewalls, renewal of subscription for External firewall & Antivirus for SCADA EMS System under ULDC phase-ll for all the constituents in northern region.

30. Regarding Preventive Maintenance of DG Set for UPSLDC Lucknow and Backup SLDC (Agenda by UPSLDC)

Scheduled Preventive maintenance of DG set is not being performed by Ms Siemens for UPSLDC Lucknow and Backup SLDC Modipuram even after many reminders. Last maintenance activity was performed in Jan 2022 at UPSDLC lucknow and in March 2022 at Backup SLDC Modipuram. It has been approximately more than 18 months since last maintenance activity was performed, while per AMC contract preventive maintenance of DG set needs to done every six months by Ms Siemens. Auto start function, display functions of DG set are not working properly and various alarms are continuously popping on display. ln case of main power supply failure it may cause complete shutdown of SCADA system at SLDC Lucknow and backup SLDC Modipuram.

31. Agenda Regarding Drawl Points of ICTs at Transmission Sub-stations of PGCIL. (Agenda by UPSLDC)

31.1UP drawl is calculated from approx 139 drawal points consisting of various inter-state lines, ICTs of PGCIL and UP-PGCIL lines. Out of these 139 drawal points there are 35 ICT drawal points of PGCIL sub-stations (**Annexure-III**).

31.2Actual drawal points of state at sub-stations of PGCIL are 220kV feeders not ICTs. Therefore, SEM installed at 220kV feeders should be taken for purpose of energy drawl and accounting of states.

31.3. In case, there is some issue in SEM of 220kV feeders, meters installed at ICTs are to be taken for the purpose of Energy Accounting and it should be LV side meter in no case it can be HV side meter. SEM if ICT should be used only for the period when there is some issue in interface point meter i.e. 220kV feeders.

31.4Therefore, SEM meter of 220kV feeder need to be considered for computation of energy drawal in future. Copy of the letter from Chief Engineer (C & S) UPSLDC in this regard is also enclosed for kind reference **(Annexure- III)**.

32. Regarding expiry of licenses of Fortigate make Internal Firewall (Agenda by BBMB)

32.1The current license of Fortigate Make Firewall installed for SCADA system of SLDC BBMB had validity till 30.04.2023 which has expired. The same was also discussed in 22nd TeST meeting. POWERGRID is requested to ensure that the license of the internal firewall maybe renewed or internal firewall maybe replaces at the earliest so that cyber security posture of the system is maintained.

33. Regarding component wise bifurcation/ breakup of cost for ULDC Phase-III scheme (Agenda by BBMB)

The component wise bifurcation of total cost estimated of ULDC Phase-III Scheme in respect to hardware and software equipments have not been supplied till date. The same

maybe provided at the earliest so that it can be apprised to higher management of BBMB Requested regarding the same has already been sent to PGCIL but reply is awaited.

POWERGRID to please update the status

34. Issues being faced by HARYANA SLDC in ULDC Phase-ll (Agenda by HVPNL)

34.1Non-displaying of Dynamic Values on SLDC Haryana Website

Initially this issue remained pending for about 1.5 years and resolved in April 2022. But in May 2022, the issue has been re-appeared. Since 20th TeST meeting, M/s Siemens ensuring to resolve the issue within one month but the issue hasn't been resolved till date.

So, M/s Siemens may be asked to update the progress and resolve this issue at the earliest.

34.2 E-DNA new data points list not updating in e-DNA ChAD manager

For the last 1.5 years up-dation of newly created points in ChAD manager of e-DNA software have been stopped resulting in interruption of access of historical data through their ChAD ID. In last two TeST meetings, M/s Siemens informed that "Issue is pending with the OEM of eDNA and their partner Kalkitech. They have tried multiple time to resolve the issue. We are awaiting to get a resolution."

So, M/s Siemens may be asked to update the progress and resolve this issue at the earliest.

34.3 Image Backup of servers

M/s Siemens was asked several times to certify that the image backups of all the servers have been taken. But they haven't given certificate on it yet. In last several TeST meetings, M/s Siemens informed that they will start taking fresh image backup and also planning to install Acronis for online Backup of some of the servers. M/s Siemens may be asked to provide the update on the progress.

34.4IMM in PDS console not working: -

In last several TeST meetings, it was proposed that M/s Siemens would install another IMM in the operator console instead of the IMM in the PDS.

M/s Siemens may be asked to update the latest progress on the issue.

Members may kindly deliberate

35. Agenda regarding settlement of issue of MW tower (Asset of HVPNL) installed at 400KV S/s, Bawana (Agenda by HVPNL)

35.1 In 18th TeST meeting, an agenda was put up for consideration of NRPC, upon which it was suggested by Member Secretary / NRPC to HVPNL & DTL to sort out this bilateral issue mutually. It is added that HVPNL management had already approved the proposal of DTL regarding usages of MW tower and conveyed to DTL during December - 2021.

During 19th TeST meeting held on dated 07.03.2022 through video conference the agenda was again put up and it was requested to DTL to expedite the settlement of the issue of MW tower installed at 400kV substation Bawana. It was assured by representative of DTL that

NOC given by HVPNL is under consideration of DTL Management and the issue will be resolved by next month. It has been more than 1 year since then but DTL has not handed over the equivalent iron scrap of weight 66.8MT and the issue is still unresolved. The agenda could not be deliberated during 21stTeST meeting due to non-availability of DTL representatives & during 22ndTeST meeting held on 24.05.2023 it was suggested by NRPC that a joint meeting under the chairmanship of MS, NRPC with senior officials (Chief engineer/GM level) from HVPNL and DTL may be planned.

35.2 Accordingly, a meeting was held under the chairmanship of MS, NRPC with HVPNL and DTL on 27.07.2023 wherein following was decided:

1. DTL to take up the issue with the management and resolve the issue within one month.
2. Hand over the said MW tower to HVPNL if the issue is not resolved with the above approach.

However, decision is still pending at DTL end, therefore DTL may be emphasized to get resolve the long pending issue, the vendor M/s Maa Chintpurni Traders, Patiala is pressing very hard for collection of MW tower material standing at 400KV S/s, Bawana.

Members may kindly deliberate

Standard Operating Procedure (SOP) on Providing VOIP Connectivity to Utilities' Control Centres with RLDC VOIP Exchange

1.0 Background

A meeting was held under the Chairmanship of Member Secretary (NRPC) on 06.07.2023 among NRPC, CEA, NRLDC/Grid India, CTU, POWERGRID, M/s Indigrid & M/s Sterlite regarding provision of VOIP connectivity to the control centre / coordination centre of Indigrid & Sterlite with NRLDC VOIP exchange.

After detailed deliberations in the meeting, CTU was advised to prepare a draft SOP for providing the VOIP connectivity to control centres of TSPs/ GenCos etc. and put up for deliberations in the upcoming TeST meeting (copy of minutes are attached at **Annexure-I**).

This SOP shall be applicable for all VOIP connectivity proposed by the TSPs/ GenCos etc. In future.

2.0 Provision in Regulations

(a) CERC (IEGC) Regulations, 2023 chapter 6 Regulation 28 **clause (7)** stating-

"Every generating station, and transmission substation of 110 kV and above shall have a control room manned by qualified operating personnel round the clock.

Alternatively, the same may be operated round the clock from a remotely located control room, subject to the condition that such remote operation does not result in a delay in the execution of any switching instructions and information flow:

Provided that a transmission licensee owning a transmission line but not owning the connected substation, shall have a coordination centre functioning round the clock, manned by qualified personnel for operational coordination with the concerned load despatch centres and equipped to carry out the operations as directed by concerned load despatch centres."

(b) CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 , **clause 6 (i)** stating -

"The nodal agency for planning, and coordination for development of communication system for inter-State transmission system user shall be the Central Transmission Utility."

(c) CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 , **Clause 7 (ix)** stating **-**

"The CTU shall provide access to its wideband network for grid management and asset management by all users."

This SOP shall also be applicable to all regions like ER, WR, SR & NER.

3.0 Application for VOIP connectivity

Applicant Shall apply VOIP connectivity through RLDC VOIP Exchange for their control centre/ coordination centre through a letter alongwith their requirement duly filled in the format attached at **Annexure-II** to CTU for their review.

Applicant shall also submit the undertaking for all the expenses towards communication, cyber security compliance and any other requirements for this purpose shall be borne by them.

Applicant to comply CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020, CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017, and CEA (Cyber Security in Power Sector) Guidelines, 2021, and their amendment issued time to time.

Typical connectivity diagram for VOIP connectivity is given at CTU website, can be seen from the following link:

4.0 Grant of VOIP connectivity

CTU shall examine the connectivity application of TSPs/ GenCos etc. and if found suitable in all respects a letter regarding grant of connectivity shall be issued with a copy to RPC/ RLDC/ POWERGRID. Since POWERGRID is owning and maintaining the VOIP exchange system therefore all necessary configuration work and allotment of VOIP channel shall be provided by them.

In case during review of the application there are any observations, same shall be communicated to applicant for revised submission.

The respective RLDC (Grid-India) shall coordinate for such connectivity and also ensure proper functioning after configuration of VOIP channel into the RLDC VOIP exchange.

Annexure-I

Format for details to be submitted with VOIP connectivity

Name of applicant:

Designation:

Contact number and email:

Organisation/ Utility:

Control Centre / Coordination Centre for which VOIP connectivity is required:

Whether Utility falls under CERC Tariff Regulation: Yes/ No

Connectivity Required from: RLDC/ ISTS S/s / ISGS G/s

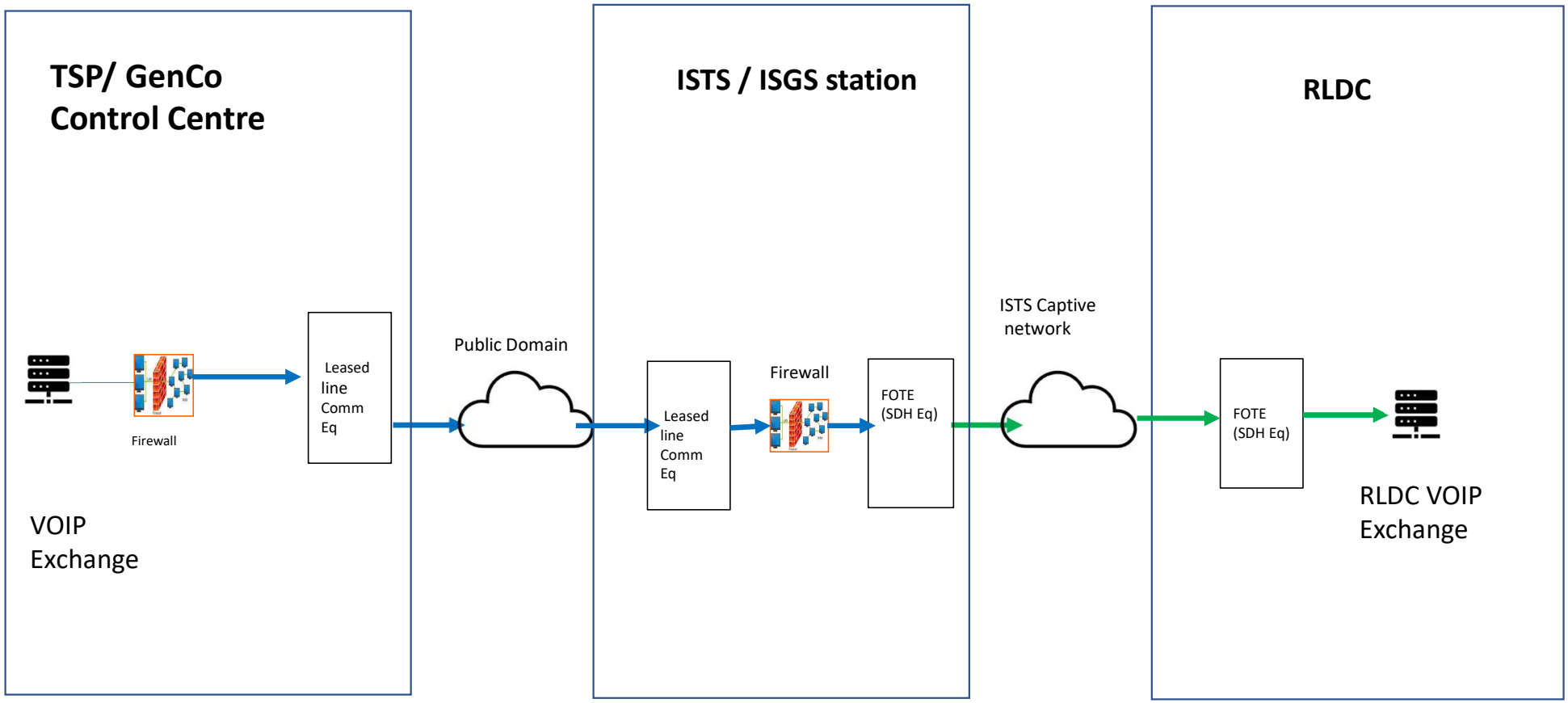
Name of above Location:

No. of VOIP Channels Required:

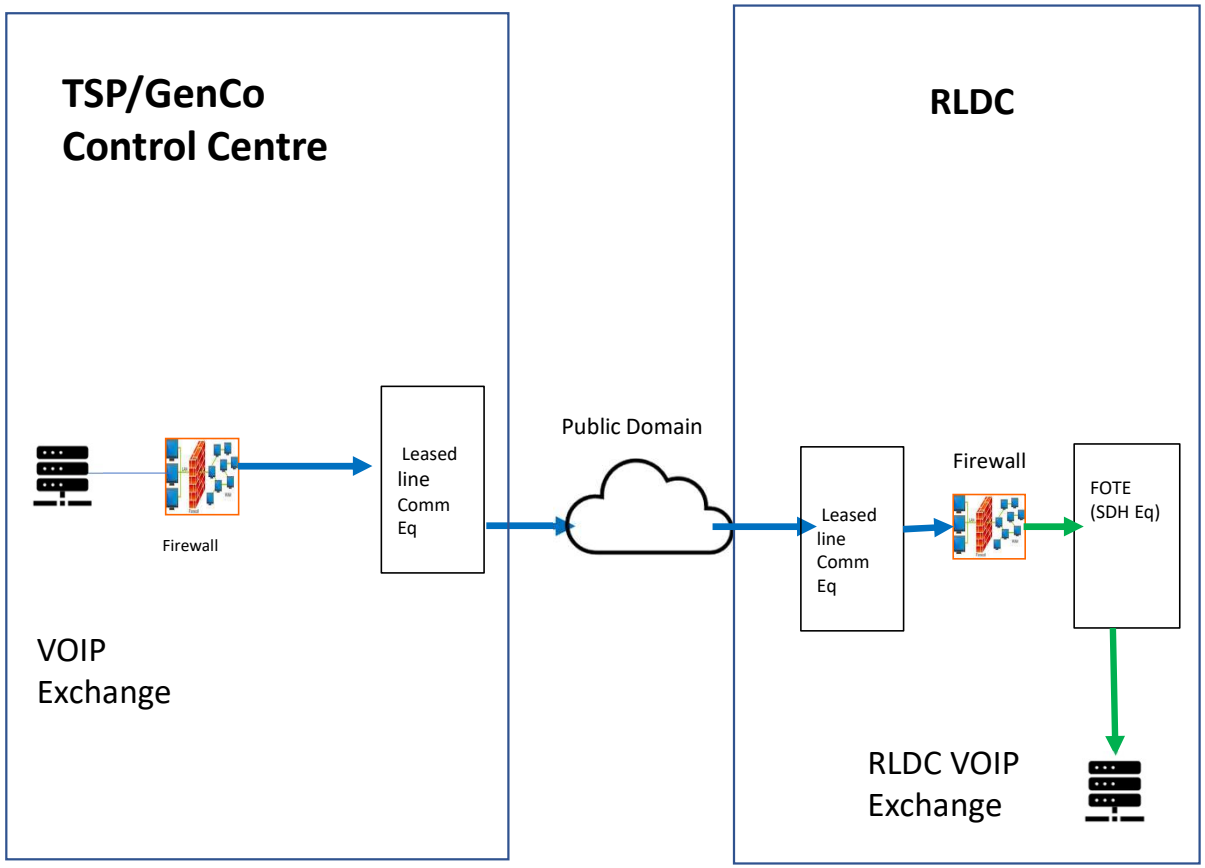
Cyber Security Compliance Provided: Yes/ No

Proposed Connectivity diagram:

VOIP Connectivity Diagram for TSP/ GenCo Control Centre from ISTS / ISGS Station



VOIP Connectivity Diagram for TSP/ GenCo Control Centre from RLDC directly



Annexure - II

LOCATIONS WHERE INTERFACE ENERGY METERS ARE INSTALLED BY CTU									
Sl.No	**Utility Name**	**Substation Name (A)**	**Number of Meters**	**Fiber optic Communication**	**Automatic Meter Reading(AMR) Data available(Yes/No)**	**AMR Comminication through Fiber optic /GPRS/NA**	**Connected to ISTS Node (B)**	**Distance in Kms. (between A to B)**	**Remarks**
1	ADANI	Ad-Hydro-IPP	4	NA	Yes	GPRS			
2	PDD	Barn-PDD	2	NA	Yes	GPRS			
3	UPCL	Bhagwanpur-UPCL	1	NA	Yes	GPRS			
4	PSEB	Bhari- PSEB	1	NA	Yes	GPRS			
5	UT Chandigarh	Chandigarh-Sec.39 UT	2	NA	Yes	GPRS			
6	UT Chandigarh	Chandigarh -Sec.52 UT	2	NA	Yes	GPRS			
7	UT Chandigarh	Chandigarh -Sec.56 UT	1	NA	Yes	GPRS			
8	UPCL	Chilla-UPCL	1	NA	Yes	GPRS			
9	HPPTCL	Chhaur -HPPTCL	2	NA	Yes	GPRS			
10	RAILWAYS	Dadri Railway	2	NA	Yes	GPRS			
11	PSEB	Chohal-PSEB	1	NA	Yes	GPRS			
12	UPCL	Dhakrani HPS-UPCL	4	NA	Yes	GPRS			
13	UPCL	Dhalipur HPS-UPCL	3	NA	Yes	GPRS			
14	BBMB	IT Park Chandigarh-BBMB	1	NA	Yes	GPRS			
15	PDD	Jammu-PDD	6	NA	Yes	GPRS			
16	PSEB	Kangra-PSEB	1	NA	Yes	GPRS			
17	PDD	Kathua-PDD	1	NA	Yes	GPRS			
18	UPCL	Khatima-UPCL	1	NA	Yes	GPRS			
19	UPCL	Khodri HPS-UPCL	8	NA	Yes	GPRS			
20	UPCL	Kulhal HPS-UPCL	4	NA	Yes	GPRS			
21	UPCL	Laksar-UPCL	1	NA	Yes	GPRS			
22	HEP	Lanco Budhil HEP	3	NA	Yes	GPRS			
23	PDD	Mahanpur-PDD	2	NA	Yes	GPRS			
24	PSEB	Mahilpur-PSEB	2	NA	Yes	GPRS			
25	HVPN	Mansadevi-HVPN	1	NA	Yes	GPRS			
26	UPCL	Manglore-UPCL	1	NA	Yes	GPRS			

27	HEP	Malana HEP-2	4	NA	Yes	GPRS			
28	NHPC	Parabati-III HPS-NHPC	7	NA	Yes	GPRS			
29	HPSEB	Paddhar-HPSEB	1	NA	Yes	GPRS			
30	RTPS	Renusagar-RTPS-UPPCL	1	NA	Yes	GPRS			
31	PSEB	Shanan-PSEB	4	NA	Yes	GPRS			
32	PTCUL	Srinagar-PTCUL	2	NA	Yes	GPRS			
33	SCL	Shree Cement Ltd	6	NA	Yes	GPRS			

Annexure - III

उत्तर प्रदेश राज्य भार प्रेषण केन्द्र
उ0प्र0 पॉवर ट्रांसमिशन कारपोरेशन लि0
(उत्तर प्रदेश सरकार का उपक्रम)
यू0पी0एस0एल0डी0सी0 परिसर, विभूति खण्ड–2,
गोमती नगर, लखनऊ–226010
ई–मेल: cecs@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: cecs@upsldc.org

No: 04 -UPSLDC/CE(C&S)/Drawal/ICT

Dated: 09/01/2023

Superintending Engineer
Northern Regional Power Committee
18 A, Qutab Institutional area, Shaheed Jeet Singh Marg,
Katwaria Sarai, New Delhi-110016
(Email: sec-nrpc@nic.in)

Subject: Regarding Drawal point of ICTs of PGCIL Substations for UP

It is to apprise you that at present UP drawal is calculated from approx 139 drawal points consisting of various interstate lines, ICTs of PGCIL & UP –PGCIL lines. Out of these 139 drawal points there are 35 ICT darwal points of PGCIL substations (list enclosed).

In case of ICTs SEM meters are installed at both HV & LV side, however HV side meter is considered as main meter for computing drawal of UP, due to which transformation losses of ICT is included in state drawal of UP. Since actual drawl point is LV side of ICT, but drawal is calculated from energy data of HV side of ICT, which appears to be incorrect.

Therefore it is requested to check the energy data of actual drawal points in case of ICTs and consider LV side meter of ICTs for computation of energy drawal in future. It is also requested to revise previous energy drawal data.

(Amarendu)
Chief Engineer (C&S)

CC:

1. Director (UPSLDC), Gomti Nagar, Lucknow.
2. Director (Operation) UPPTCL, Shakti Bhawan, Lucknow.
3. Superintending Engineer (EA) (UPSLDC), Gomti Nagar, Lucknow.

(b) The details of Uttar Pradesh Net Interchange with Grid are available in the following figures:

Uttar Pradesh Net Interchange with Grid - 1/3

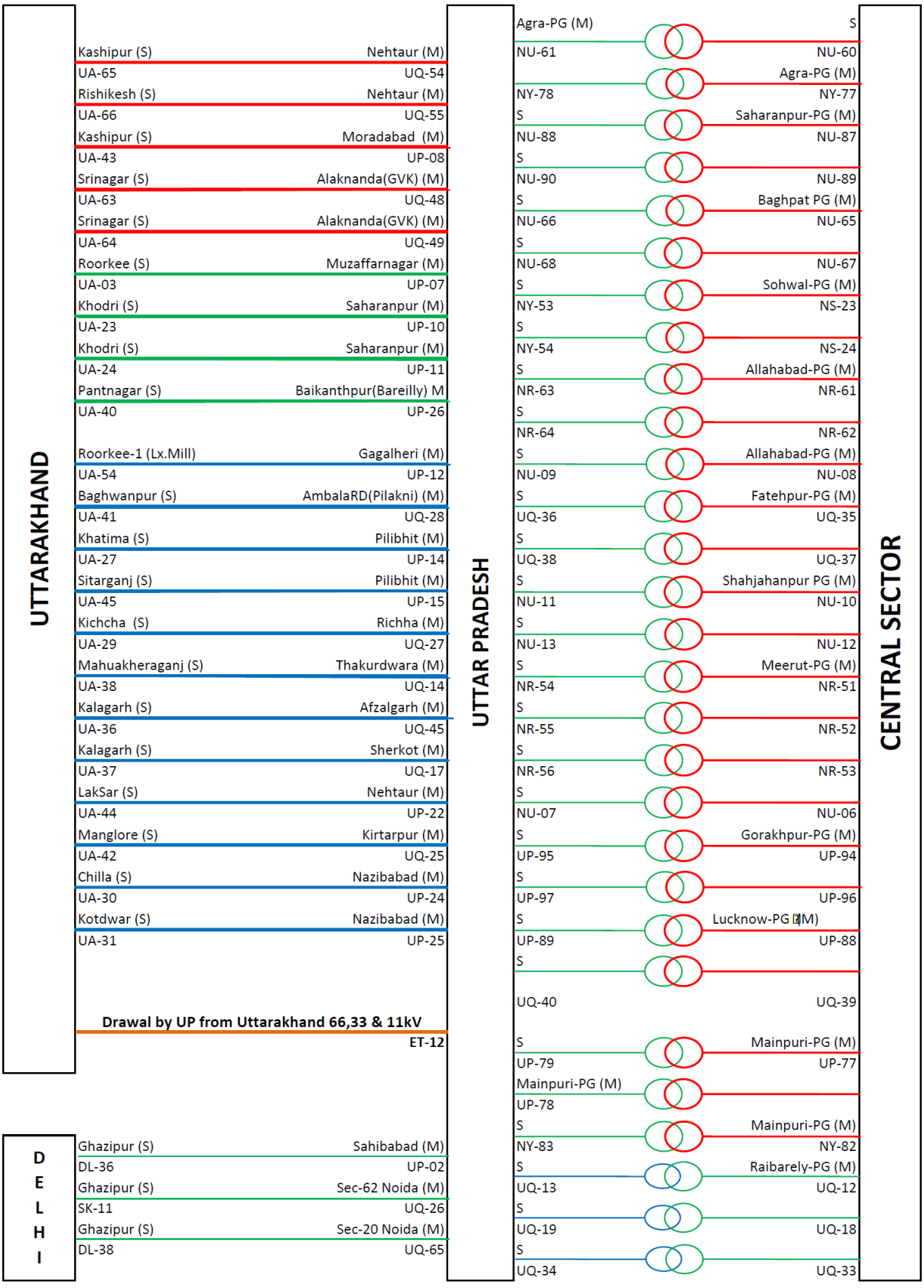


Figure 29: Drawal points of Uttar Pradesh part-1

Uttar Pradesh Net Interchange with Grid - 2/3

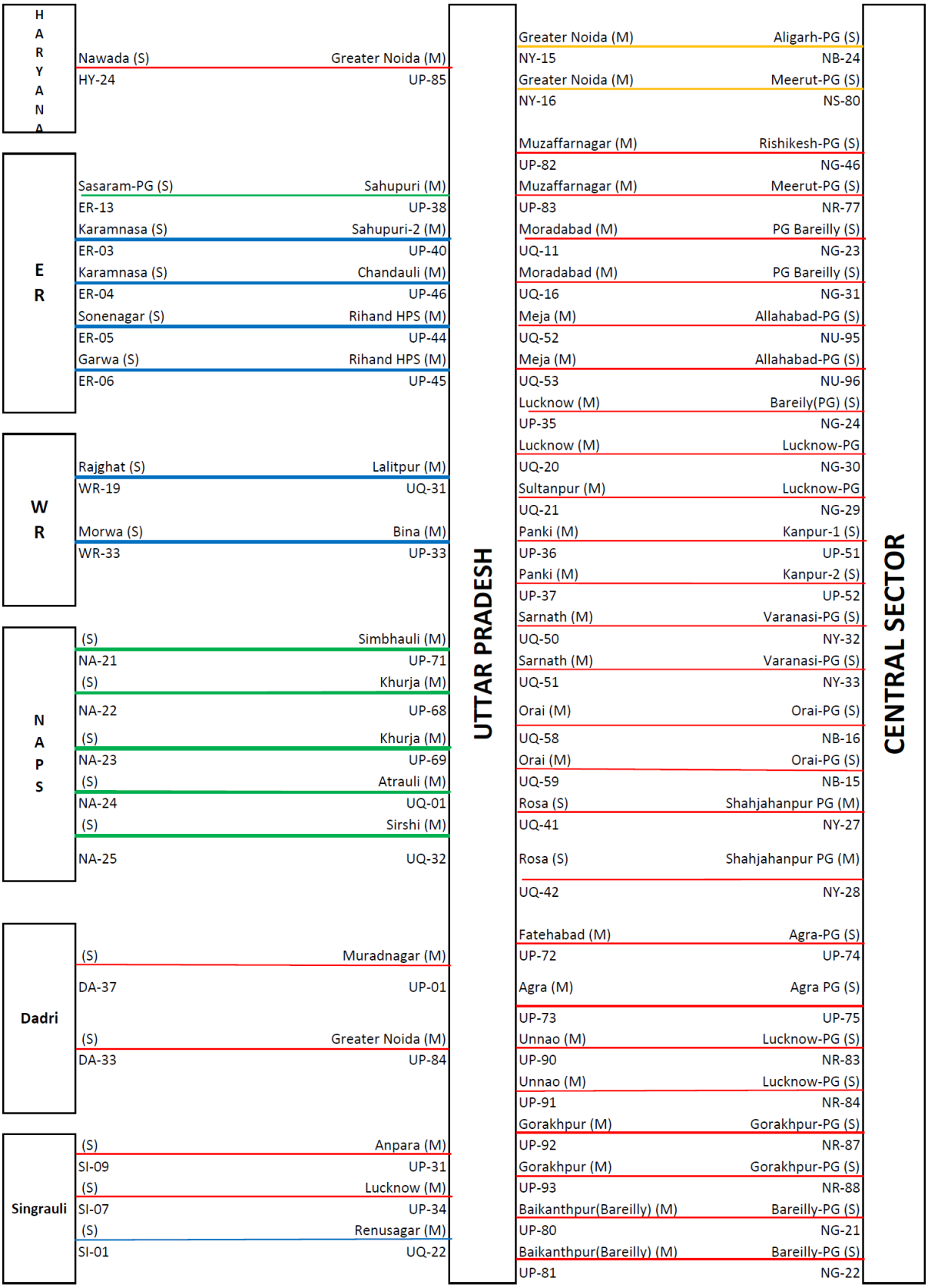


Figure 30: Drawal points of Uttar Pradesh part-2

Uttar Pradesh Net Interchange with Grid - 3/3

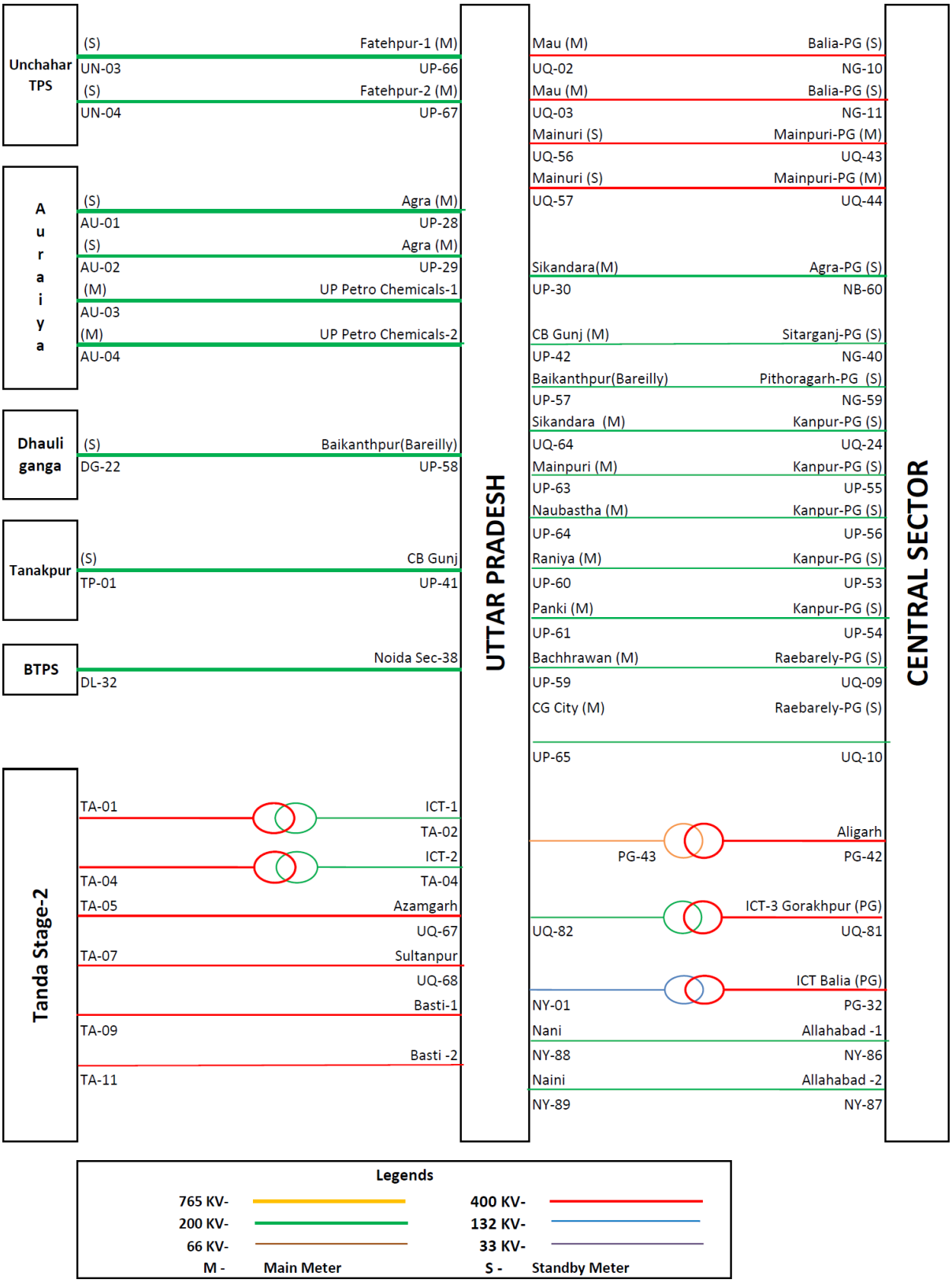


Figure 31: Drawal points of Uttar Pradesh part-3