



सत्यमेव जयते

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

स.उक्षेविस/ प्रचालन/108/04/2019 / 7939-73

दिनांक :31.07.2019

No. NRPC/OPR/108/04/2019/

Date: 31.07.2019

सेवा में / To,

संलग्न सूची के अनुसार/As per list attached

विषय: दूरसंचार, स्काडा और टेलीमेट्री उप समिति की पंद्रहवी बैठक।

**Subject: 15<sup>th</sup> meeting of Telecommunication, SCADA & Telemetry Sub Committee**

महोदय ,

Sir,

इस कार्यालय के पत्र दिनांक 15.07.2019 का क्रम करते हुए यह सूचित किया जाता है कि उत्तर क्षेत्रीय विद्युत समिति की दूरसंचार, स्काडा और टेलीमेट्री (टेस्ट) उप-समिति की 15 वीं बैठक दिनांक 07.08.2019 को 11:00 बजे से उ.क्षे.वि.स. सचिवालय सम्मलेन कक्ष, नई दिल्ली में होनी सुनिश्चित है। बैठक की कार्यसूची आपकी सूचना एवं आवश्यक कार्यवाही हेतु संलग्न है। कृपया बैठक में भाग लेने की कृपा करें।

In continuation to NRPC letter of even no. dated 15.07.2019, it is intimated that the 15<sup>th</sup> meeting of Telecommunication, SCADA & Telemetry (TeST) Sub-committee of NRPC will be held on 07.08.2019 at 11:00 AM at NRPC secretariat conference hall, New Delhi. The agenda for the meeting is enclosed herewith for your information and necessary action. Kindly make it convenient to attend the meeting.

भवदीय

Yours faithfully,

(आर.पी. प्रधान)

(R.P. Pradhan)

अधीक्षण अभियंता

Superintending Engineer

**Agenda for 15<sup>th</sup> Meeting of Telecommunication, SCADA & Telemetry  
(TeST) Sub- Committee**

Date: 07.08.2019

Venue: Conference Hall, First Floor, NRPC, Katwaria Sarai, New Delhi

**1. Confirmation of Minutes**

**1. Confirmation of Minutes:**

The minutes of 14<sup>th</sup> meeting of TeST sub-committee held on 17.12.2018 were issued on 14.02.2019. Minutes are available on NRPC website ([www.nrpc.gov.in](http://www.nrpc.gov.in)). No comment on the MoM has been received.

**Members may discuss and confirm the Minutes.**

**1A. Follow -up**

**1A Follow-up of Decisions in 14<sup>th</sup> Test meeting held on 17.12.2018**

Responsibility for Action plan and Time line for Various issues were mentioned in Minutes of 14<sup>th</sup> TeST meeting issued on.14.02.2019.

Members may submit, the status of the identified action points on these decisions. If the action could not be taken, then, the reasons, constraints and action plan for completion of the task may be submitted, so that the same may be discussed in the meeting.

**2. Telecommunication Related Issues**

**2.1 Issues in OPGW laying (Agenda by POWERGRID)**

**2.1.1 HPSEBL:**

| S/No. | Link Name             | Constituent | Length (Km) | Remarks             |
|-------|-----------------------|-------------|-------------|---------------------|
| 1     | Naptha Ghanvi 66KV    | HPSEB       | 20          | Rail pole structure |
| 2     | Ghanvi Jeori 66KV     | HPSEB       | 4           | Rail pole structure |
| 3     | jeori Nagoli 66KV     | HPSEB       | 25          | Rail pole structure |
| 4     | Kumarsain Nogoli 66KV | HPSEB       | 25          | Rail pole structure |
| 5     | Guuma Jutogh 66KV     | HPSEB       | 15          | Rail pole structure |
| 6     | Gumma-Kumarsain 66KV  | HPSEB       | 42          | Rail pole structure |

|   |                   |       |            |                     |
|---|-------------------|-------|------------|---------------------|
| 7 | Bhaba-Nathpa 66KV | HPSEB | 2          | Rail pole structure |
|   | <b>TOTAL</b>      |       | <b>133</b> |                     |

All the links are on rail pole structure. Vendor has tried for OPGW installation in Gumama-Kumarsain link. During execution it has been observed that at most of the tower locations either the condition of conductor/ Earthwire is very poor or earthwire is not present. Due to which the work has become almost impossible with possibility of tower collapse in these conditions. Accordingly a joint site inspection has been carried out with M/s HPSEB representative for further possibility of work in this link. The joint inspection comes out with report that in this condition it is not safe as well as feasible to carry out the work. Accordingly work has been stopped in this link. Also same is the condition of other 66KV Links having rail pole structure, which are very old lines (More than 30 years old) and it is not safe to carry out OPGW work in these links. same may be deleted from scope of the scheme.

| S/No. | Link Name        | Constituent | Length | Remarks           |
|-------|------------------|-------------|--------|-------------------|
| 8     | Sainj-Hulli 66KV | HPSEB       | 21     | Lattice Structure |

The condition of earth wire as well as tower peak is very poor. About 6 km OPGW was done in 2017 with very critical situation. Strengthening of peak and requirement of Shut down is must for carrying work in this link.

Other 132 KV Links:

Most of the links are very old and the condition of earthwire is very poor. Further sag in many sections of old links is very uneven. While going for any preparation any slight swing of rope etc. may cause tripping of line as the incident in case of 132KV Solan-Kunihar Line.

**Confirmation of Commissioning** for 11 nos OPGW Links installed under Package-V is pending from HPSEB since 07.06.2019 even POWERGRID approached on regular basis to HPSEB, this is required by NRLDC for issuance of DOCO certificates.

### 2.1.2 BBMB:

| S/No. | Link Name                    | Constituent | Length | Remarks           |
|-------|------------------------------|-------------|--------|-------------------|
| 1     | 220 KV Bhakra-220 KV Jamlpur | BBMB        | 86     | Lattice Structure |

In this link tower modification (raising of tower height as well as shifting of tower) has to be done by M/s BBMB. Accordingly details of towers where modifications has been proposed, has been provided by M/s BBMB from T.

NO. 55 to 270. while no information has been provided for tower section 1 to 55. In this condition with proposed modification in line it will not be feasible to carry out the installation and it will be better to carry out the work after completion of proposed modifications.

**2.1.3 PSTCL:**

| S/No. | Link Name                    | Constituent | Length | Remarks                 |
|-------|------------------------------|-------------|--------|-------------------------|
| 1     | 220 KVJamsher-<br>220KVJadla | PSTCL       | 67.33  | OPGW Laid<br>62.62 Kms, |

Balance 4.71 KM OPGW is pending to be laid since more than 2 years due to severe ROW. Three times Installation team mobilised but not success. On each occasion M/s PSTCL intimated. PSTCL is requested to issue instructions to concern site officials to resolve the ROW problem, so that work may be completed and if required help of District administration may also be taken up.

**2.1.4 Reliable Communication Scheme (Additional) under Central Sector for NR. (Agenda by POWERGRID)**

2.1.4.1 During 39<sup>th</sup> & 40<sup>th</sup> NRPC meetings, implementation of Reliable Communication Scheme envisaging 5474km approved for implementation by POWERGRID to provide connectivity of substation of 132 kV and above under central sector as per directive of MOP, GOI.

2.1.4.2 In order to provide reliability and redundancy in ISTS communication system in line with draft MANUAL OF COMMUNICATION PLANNING IN POWER SYSTEM OPERATION, 2019 (CEA), and also Communication Regulation 2017, following additional Central Sector fibre optic are to be established for building path redundancy and route diversity for reliable data & voice connectivity:

| S.No. | Name of Link                   | Route Length(km) | Purpose   |
|-------|--------------------------------|------------------|---|
| 1     | 400kV Panchkula-<br>Patiala    | 65.494           | Physical Path Redundancy & route diversity for Panchkula S/s                                |
| 2     | 400kV Nalagarh-<br>Patiala     | 93.78            | Reliable ICCP link between HP, Punjab and NRLDC   |
| 3     | 400kV Jalandhar<br>Moga        | 85.15            | Physical Path Redundancy & route diversity for Jalandhar (PG) through Central Sector links. |
| 4     | 400kV Parbati PS -<br>Amritsar | 250.53           | Path Redundancy & route diversity of Parbati PS (Banala) & Hamirpur                         |

| S.No. | Name of Link                                   | Route Length(km) | Purpose   |
|-------|--|------------------|---|
| 5     | LILO of Parbati-Amritsar at Hamirpur           | 6.7              | through Central sector network.   |
| 6     | 400kV Kurukshetra-Malerkotla PG                | 180              | Path Redundancy of Malerkotla (PG) through central sector network.  |
| 7     | 765kV Meerut - Moga                            | 337.15           | Route diversity of Moga S/S & creation of reliable ICCP link between Punjab, Rajasthan (through upcoming 765kV Bikaner Moga under GEC Part D & NRLDC. |
| 8     | 400kV Bassi-Sikar                              | 169.8            | Redundancy of Sikar S/S   |
| 9     | 400kV Dehradun-Bagpat                          | 165              | Physical path Redundancy & for route diversity of Bagpat S/S  |
| 10    | 400kV RAPP B -Jaipur South with LILO at Kota   | 300              | Redundancy of Kota & RAPP through Central Sector network  |
| 11    | 400kV Allahabad-Singrauli                      | 200              | Redundancy of Singrauli   |
| 12    | 400kV Allahabad-Fatehpur 765                   | 130              | Strengthening of Inter Regional Connectivity (WR-NR). (400kV Fatehpur –Mainpuri is under implementation under Reliable Communication scheme)          |
| 13    | 400kV Patna-Ballia                             | 200              | Strengthening of Inter Regional connectivity ER –NR.  |
| 14    | 400kV Kanpur-Ballabgarh                        | 260              | Redundancy of old Agra-Kanpur link which has reached the end of its useful life of 15 years.  |
| 15    | Chittorgarh 400kv RVPN to Chittorgarh 220 RVPN | 52               | Redundancy of Chittorgarh 220/132 through Central Sector network  |
| 16    | 400kV Lucknow – Kanpur                         | 156              | Redundancy of Network and avoiding multiple sub-stations  |
|       | <b>TOTAL</b>                                   | <b>2651.604</b>  |   |

2.1.4.3 The estimated cost for above proposal is approx. Rs 88.32 Cr for implementation on cost plus basis. However, the actual quantity/cost shall be discovered only after implementation. The Tariff for the investment made is

to be shared by all constituents as per CERC notification. The scheme shall become part of existing Commercial Agreement signed for ULDC Project.

2.1.4.4 Members may please deliberate for consideration & approval.

#### 2.1.5 **Status of NHPC stations (Agenda by NHPC)**

In 38<sup>th</sup> TCC and 41<sup>st</sup> NRPC meeting held at Faridabad POWERGRID informed the following status

2.1.5.1 Parbati-III: During 42<sup>nd</sup> TCC and 45<sup>th</sup> NRPC meeting held on 07.06.2019 and 08.06.2019 POWERGRID informed that out of 6.5 Kms, OPGW has been laid on 3Kms patch. Some additional commercial issues have risen on the part of PKTCL due to which the work has been pending and the same shall be completed after resolution of the issues. POWERGRID requested NRPC to call a meeting of POWERGRID and PKTCL to resolve the issue, if they fail to resolve the issue at their end.

2.1.5.2 Sewa-II: During 42<sup>nd</sup> TCC and 45<sup>th</sup> NRPC meeting held on 07.06.2019 and 08.06.2019 POWERGRID informed that Connectivity is a part of Gladni-Hiranagar line of J&K which PGCIL is implementing as a consultancy project. Since Aug'16 the payment amounting to Rs 30-35 Cr is stuck at the end of J&K and PGCIL cannot proceed further due to lack of fund being made available by J&K. POWERGRID asked NRPC to take the issue of pending payment with PDD, J&K.

POWERGRID may update the status

#### 2.1.6 **VSAT Connectivity at URI-II Power Station (Agenda by NHPC)**

2.1.6.1 During 42<sup>nd</sup> TCC and 45<sup>th</sup> NRPC meeting held on 07.06.2019 and 08.06.2019 POWERGRID informed that VSAT at URI-II PS will be installed within 03 months (Award by July 19 and installation by August 19).

POWERGRID may update the status.

#### 2.2 **Replacement of S900 RTUs (Agenda by DTL)**

2.2.1 AMC of S900 RTU: Existing AMC of S900 RTUs is expiring on 31.01.2020 and new RTUs are still awaited. POWERGRID is requested to consider for renewal or fresh award of AMC of old S900 RTUs till the replacement is not completed.

2.2.2 AMC of BTPS RTU: After closure of BTPS Generating Plant, 200KV yard of BTPS station is taken over by DTL and now BTPS RTU (Husky – OEM is M/s Synergy) is also to be maintained by DTL. POWERGRID is requested to consider for including this BTPS RTU in scope of AMC of S900 RTU.

2.2.3 Replacement of S-900 RTUs: Keeping in view of urgency of replacement of S900 RTUs, POWERGRID is requested to expedite the work in time bound manner for replacement and also the project schedule and targeted completion period may be apprised.

### **2.3 Arrangement of FRTU for monitoring of real time status of UPS and DG Set (Agenda by UPSLDC)**

2.3.1 This issue has been raised in several TeST meeting as well as in SCADA AMC meeting held recently on 17-05-19 wherein Powergrid confirmed that same would be supplied under RTU replacement package. M/S Powergrid is requested to update the status.

### **2.4 RTU RELATED ISSUES (Agenda by HPSEBL)**

2.4.1 RTU (Siemens make) at 220 kV Baddi sub-station is not working properly as it has been observed that RTU leaves the data for some time, ask for restarting and sometimes it restarts itself. The matter stands informed to M/s SIEMENS'S site Engineer. M/s SIEMENS is requested to take necessary action in this regard.

### **2.5 HPSEB Communication Related Issues: (Agenda by HPSEB)**

#### **2.5.1 Implementation of OPGW under Package-I (a).**

2.5.1.1 As per notification of award Ref. No. CC-CS/439-NR1/OFOC-3038/3/G5/R/NOA-I/5537 dated 30.09.2015, the project was supposed to be completed within 18 months from the date of notification of award i.e. by March, 2017 as such project completion is delayed by more than two years. Further, it is intimated that OPGW stringing work on HPSEBL transmission network under Package I (a) was commenced w.e.f. 09.02.2017 but as on date, about 200Km OPGW has been laid by the firm i.e. M/s Ten Dot Cable Pvt. Ltd. out of about 543 Km which shows that prevailing pace of laying of OPGW is very slow. Therefore, it was requested to PGCIL that concerned vendor may be directed to deploy more gangs, so as to complete the OPGW laying work as soon as possible and also, SAT activity may be carried out on the links wherein OPGW stringing work has been completed so that real time data reporting could be shifted simultaneously to fibre.

PGCIL may update the status with tentative completion schedule.

2.5.1.2 Optic fibre communication link between 132 kV Giri - Solan line installed under Package 1 (a) is interrupted w.e.f 08.04.2019 and same was informed to PGCIL but the issue is not resolved till date. Due to non availability of real time data in respect of 220KV Giri station & being interstate drawl point, it is

becoming difficult for power regulation in real time, moreover, it has been pointed out in the 161<sup>st</sup> OCC meeting that there is drastic difference between SEM & SCADA value in respect of HP, therefore, PGCIL is requested to kindly direct the concerned vendor to take immediate action for rectification of fault on said OPGW link.

POWERGRID may inform the Status & Action plan.

## 2.5.2 Partial reporting of real time data at backup SLDC, HVPNL, Panipat

2.5.2.1 In this context, it is intimated that presently, 39 Nos. RTUs have been configured in SCADA system at SLDC Control Centre, Shimla (26 Nos. are reporting on IEC101 and 13 Nos. are on IEC104). Further, it has come to the notice that all RTUs are not reporting at backup SLDC i.e. SLDC Panipat, Haryana and only a few RTUs of IEC101 are reporting at SLDC Panipat through multisite link. The matter was taken up with M/s. SIEMENS and has advised as reproduced as under:-

*“We would like to inform you that HPSEBL recently migrated few RTUs from IEC101 to IEC104 for which configuration changes are to be carried out at backup control center end i.e. HVPNL. We request you to kindly inform to HVPNL to carry out these changes in IFS server and Siemens site engineer will support for the same”.*

2.5.2.2 In view of above, PGCIL was requested to configure a port in the Tejas SDH at SLDC, Shimla & SLDC Panipat and accordingly, it was confirmed by Sh. Nripesh, Tejas Networks Ltd., Gurgaon that one port has been configured for HPSEBL with port details – SLDC Jutogh- 1-7-2 and SLDC Panipat- 1-7-4. Simultaneously, it was requested to HVPNL to carry out the activity of synchronizing HPSEBL database, create channels in IFS Server and other updation/configuration if any, in the SCADA system and also, establish the connectivity between Tejas SDH to SCADA system at SLDC Panipat.

M/s PGCIL & HVPNL is requested to kindly take necessary action in this regard and update the status please.

## 2.6 **DTL Communication issues (Agenda by DTL)**

### 2.6.1 Replacement of diverted Communication Eqpts. /addl. BOQ.

A number of SDH/PDH communication equipments have been diverted/utilized by PGCIL for project works, from earlier allocated DTL sites, such as 220KV Papankalan III/Preet Vihar etc.

Plan for replacement / installation at those sites alongwith the additional approved BOQ for other sites, be provided by POWERGRID.

2.6.2 New communication equipments (ECI make) that is supplied under ULDC Scheme has been installed and the data has been shifted accordingly.



2.6.3 In order to have reliable communication network, POWERGRID is requested to provide a plan for AMC/support i.e. start date of AMC and AMC period after guarantee period as per contact agreement for maintaining new communication equipments (ECI make) and also AMC/support for new laid OPGW (under ULDC phase-II)

2.6.4 DCPS and Auxiliary Power Supply

- a) POWERGRID is requested to appraise the action plan of renewal / fresh award of AMC of Auxiliary Power Supply installed at SLDC Delhi. Existing AMC is expiring in January 2020. Further the MoU (valid till June 2020) in this regard is also to be extended.
- b) Status of AMC / Support of newly installed 10 nos. of 48V DCPS supplied under OPGW Project in DTL may please be appraised.

## 2.7 UPPTCL Communication issues (Agenda by UPPTCL)

2.7.1 As discussed in 12th TeST Meeting at point no. 2.2.4.1, in replacement of NOKIA PDH, UPPTCL has requirement of new PDH at the following stations.

| Sl.No. | Name of Stations            | Requirement of V.28 cards |
|--------|-----------------------------|---------------------------|
| 1.     | 220KV Muzaffarnagar         | 2                         |
| 2.     | 220KV Modipuram Backup SLDC | 17                        |
| 3.     | 220KV Muradnagar            | 2                         |
| 4.     | 220KV C.B ganj              | 2                         |
| 5.     | Harduaganj TPS              | 4                         |
| 6.     | 220KV Etah                  | 2                         |
| 7.     | 220KV Mainpuri              | 2                         |
| 8.     | 400 KV Sarojninagar         | 2                         |
| 9.     | 400KV Unnao                 | 2                         |
| 10.    | 220KV Allahabad Rewa road   | 2                         |
| 11.    | Gomtinagar SLDC             | 17                        |
| 12.    | Obra(B)                     | 2                         |
| 13.    | 220KV Sahupuri              | 2                         |
| 14.    | 400KV Sultanpur             | 3                         |
| 15.    | 400KV Muradnagar            | 4                         |
| 16.    | Rihand Pipri(H)             | 2                         |
| 17.    | 132KV Mirzapur              | 2                         |
| 18.    | 220KV Khurja                | 2                         |

POWERGRID is requested to discuss the Future/Phasing out of FIBRE home make SDH equipments.

## 2.8 Fibre cut between Kishenpur-New Wanpoh (Agenda by NRLDC)

2.8.1 It is to mention that there is a fibre cut between Kishnepur-Wanpoh since January 2019 due to which PMU data from Wagoora, Wanpoh and Uri is not

available at NRLDC. It is to mention that data from these stations is critical for monitoring of Kashmir Valley.

2.8.2 PGCIL to update status of restoration of fibre.

### **3. Issues in Unified Load Dispatch & Communication scheme of NR (Phase-II):**

#### **3.1 SCADA issues of UPSLDC (Agenda by UPSLDC)**

##### **3.1.1 Web Server Issues**

- Non Working of Web Server-2
- Frequent stoppage/interruption of data viewing on COL consoles through web server-1.
- Non-inclusion of new updates in COL data viewing. It needs to be done manually

##### **3.1.2 OTS issues:**

Non utilization of OTS applications due to data sync. problem of OTS. In SCADA AMC Meeting held on 17<sup>th</sup> May'19 at PGCIL New Delhi Siemens agreed to send EMS Engineer in 1<sup>st</sup> Week of June'19 for resolving the issues. Siemens EMS Engineer reached SLDC on 17-06-19 and remained up to 22-06-19 but issue could not be resolved. Further action from Siemens is still pending.

##### **3.1.3 EMS Issues:**

Non running of voltage scheduler, Security dispatch and optimal Power flow Applications. This issues has also been raised continuously in various TeST as well as in MRM also and during previous SCADA AMC Meeting Held on 17<sup>th</sup> May'19 at PGCIL, New Delhi, Siemens agreed to send EMS Engineer during 1<sup>st</sup> week of June'19 for resolving the issues. Siemens EMS Engineer reach SLDC on 17.06.19 and remained at SLDC but these issues are still unresolved. No further action has been taken by Siemens for resolving these issues.

##### **3.1.4 SCADA AMC Meeting date 17-05-19 pending issues :-**

- Powergrid requested Siemens to submit the names of reserve engineers within one month but the same have not yet been intimated by Siemens.
- M/S Siemens was requested to streamline complain portal and M/S Siemens agreed to resolve all issues in complain portal within 15 days but the issues are still pending even after lapse of more than two months.

- M/S Siemens informed that there is change in hierarchy and Powergrid asked Siemens to inform new escalation matrix to SLDCs, NRLDC and Powergrid by 23rd May 2019 but the same has not yet been informed even after lapse of three months.
- It was agreed by Siemens that it would impart training to resident engineers through VC for knowledge sharing and other purposes. Such sessions will be held on fortnightly basis and first meeting shall be held on first week of June'19 but the same have not yet been started by Siemens.

### 3.1.5 **Networking Issues:-**

In the meeting related to Scada AMC on 17-05-2019 Siemens agreed that for IP conflicts issues an Engineer of Siemens shall visit at SLDC. Siemens Engineer reached SLDC on 11-06-19 afternoon and remained up to 12-06-19 forenoon, but issue could not be resolved.

Further action to be taken has not been communicated by Siemens.

### 3.1.6 **IMM Issues:-**

- Issues of frequent shut down of IMM workstation has been reported to Siemens through site engineer and complaint portal several times but problem is still unresolved even after lapse of 4-5 months.
- Issues of slow down and database sizing have been occurring repeatedly but no permanent solution has been offered by Siemens so far.

3.1.7 **PDS issues-** Relational database problem. Data it is not sync with master database.

## 3.2 **DTL SCADA issues (Agenda by DTL)**

### 3.2.1 **Short Term Load Forecasting:**

- a) Features for manual execution and correction is not activated in STLF.
- b) All forecast type (Similar day etc) feature in STLF is not working properly.
- c) Technical support regarding STLF is not available from M/S Siemens.
- d) In load error analysis page the current forecast value does not match with any of the forecasted values.

### 3.2.2 **EMS TUNING.**

- a) Problems regarding EMS tuning and convergence have not been resolved even with the help/support from M/s Siemens.
- b) Unable to retrieve correct estimated value even after proper database synchronization resulting in failure of OTS (Operator Training Simulator).

### 3.2.3 **Problem regarding ICCP integration of MES:-**

ICCP configuration for MES has not been done properly resulting into Data

transfer failure since May.

Remote end support from Siemens is very poor. Issues of emergency nature are not resolved in time bond nature.

### 3.2.4 **Charges for bay extension in Siemens RTU's.**

As already requested in previous TeST meetings, Unit charges for extension of 220 / 66 / 33 KV bays in RTU's installed by M/s Siemens under ULDC Phase 2 needs to be provided to the constituents to enable the new bay extension work at various sites. Same has still not been provided by M/s POWERGRID. Accordingly, M/s POWERGRID is requested to finalize the rates of bay extension work with M/s Siemens and provide the same to constituents.

Members may discuss.

### 3.3 **Mapping of UFR, df/dt relay details in SCADA (Agenda by NRLDC)**

3.3.1 As per CERC regulation, UFR and df/dt mapping is mandatory. In 136th OCC meeting dt. 16.06.2017, it was decided that in addition to the SCADA mapping, states should provide the following information regarding the UFR, df/dt relays installed at their respective substations:

- Source of frequency measurement for UFR, df/dt relay viz. positive sequence, phase-to-neutral, phase-to-phase
- Computational time for measurement of frequency, rate of change of frequency in UFR, df/dt relays respectively.

3.3.2 In the 137th OCC meeting dt. 18.07.2017, NRPC reiterated that mapping of UFR has to be done in the SCADA of SLDC & NRLDC for better visibility of relay status and feeder load relief. In the subsequent OCC meetings, all state utilities were requested to correct the SCADA UFR, df/dt displays as per the comments.

3.3.3 NRLDC representative in the 160th OCC meeting, sensitized the house about requirement of mapping of UFR and df/dt and how it is helpful during crisis / grid disturbance condition.

3.3.4 NRLDC representative further presented the current status of mapping of UFR and df/dt in SCADA.

**% SCADA data visibility**

| State Name    | UFR (Main) | UFR (Alternate) | df/dt (Main) | df/dt (Alternate) |
|---------------|------------|-----------------|--------------|-------------------|
| Punjab        | 67         | 13              | 77           | 12                |
| Haryana       | 91         | 0               | 0            | 0                 |
| Rajasthan     | 29         | 75              | 100          | 100               |
| Delhi         | 100        | 100             | 100          | 100               |
| Uttar Pradesh | 2          | 0               | 48           | 0                 |
| HP            | 88         | 79              | 73           | 0                 |
| Uttarakhand   | 0          | 0               | 0            | 0                 |
| J&K           | 0          | 0               | 0            | 0                 |

3.3.5 Following action points were decided in the 160th OCC meeting:

- All the feeders coming under UFR and df/dt scheme shall be mapped in the display despite of data availability, RTU availability. In case data is not available, alternate feeder details to be mapped. All the details (main feeder details and alternate feeder details) to be mapped before 30th June 2019. (Action by: All the state utilities of NR)
- All the state utilities shall check and monitor the UFR, df/dt display on monthly basis and submit the monthly progress report to NRPC / NRLDC. (Action by: All the state utilities of NR)
- All the suspected data in the mapping shall be monitored on daily basis and accordingly remedial measures shall be taken. (Action by: All the state utilities of NR)

3.3.6 Utilities are requested to comply to the action points as decided above and provide the updated SCADA UFR, df/dt display status.

## 4. Telemetry Related Issues

### 4.1 Non-Availability / Reliability of Telemetry (Agenda by NRLDC)

- 4.1.1 Uninterrupted 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 400 kV/765kV level, data is highly intermittent.
- 4.1.2 The non-availability of various 400 kV / 765 kV stations was calculated for the month of June 2019. The list of stations where data availability is less than 80% is given below.
- 4.1.3 Out of 198 number of 400 kV/765 kV sub-stations, data of nearly 29 (14.6%) stations are highly intermittent.

|               |                   |             |            |
|---------------|-------------------|-------------|------------|
| <b>PGCIL</b>  |                   |             |            |
| Malana        | Bhadla (PG)       | RAPP-D      | Kanpur 400 |
| Parbati-2     | Uri-2             | Parbati-III | Budhil     |
| Chamera-3     | Koteshwar Pooling | Chamera-I   | Sewa-2     |
| <b>PTCUL</b>  |                   |             |            |
| Srinagar(UK)  | Kashipur          |             |            |
| <b>DTL</b>    |                   |             |            |
| Harsh Vihar   |                   |             |            |
| <b>RRVNL</b>  |                   |             |            |
| Barmer        | Hindaun           | Kawai       |            |
| <b>UPPTCL</b> |                   |             |            |
| Aligarh (UP)  | Vishnu Prayag     | Agra South  | Rosa       |
| <b>HPPTCL</b> |                   |             |            |
| Sainj         |                   |             |            |
| <b>PSTCL</b>  |                   |             |            |
| Nakodar       | Dhuri             | Nhuyawali   | Makhu      |

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

Concerned Utilities may submit the issues and their rectification action plan to NRPC Sectt. at the earliest , so that the same may be discussed in the meeting.

#### **4.2 Telemetry of digital status (Agenda by NRLDC)**

- 4.2.1 The importance of correct Digital telemetry was discussed in all the TeST sub-committee meeting and it is observed that there is no improvement in this regard. It was decided in previous TeST Sub-committee meeting that the constituents will furnish the availability status of 220 kV and above stations and improvement thereof.

Members are requested to furnish the status of digital data telemetry of the stations and the same may be discussed for further improvement.

Concerned Utilities may submit the status and action plan for removal of deficiencies to NRPC Sectt. at the earliest, so that the same may be discussed in the meeting.

#### **4.3 Unreliable Telemetry from States/Utilities (Agenda by NRLDC)**

- 4.3.1 Telemetry status as on 30.06.19 is given below:

| Northern Region summary sheet and details of current status of implementation of telemetry system |                  |                       |     |                        |     |                  |     |                        |     |                  |     |                                     |      |            |  |
|---|------------------|-----------------------|-----|------------------------|-----|------------------|-----|------------------------|-----|------------------|-----|-------------------------------------|------|------------|--|
|   |                  |                       |     |                        |     |                  |     |                        |     |                  |     | Updated Till:                       |      | 30.06.2019 |  |
| Sl. No.   | User Name        | Total Nos of Stations |     | Telemetry not Provided |     |                  |     | Telemetry Intermittent |     |                  |     | Total non-availability of data in % |      |            |  |
|   |                  |                       |     | Total nos of           |     | Non-availability |     | Total nos of           |     | Non-availability |     |                                     |      |            |  |
|   |                  | GS                    | SS  | GS                     | SS  | GS               | SS  | GS                     | SS  | GS               | SS  | GS                                  | SS   |            |  |
| 1   | Punjab           | 17                    | 173 | -                      | 84  | -                | 49% | 2                      | 13  | 12%              | 8%  | 12%                                 | 56%  |            |  |
| 2   | Haryana          | 5                     | 70  | -                      | 13  | -                | 19% | -                      | -   | -                | -   | -                                   | 19%  |            |  |
| 3   | Rajasthan        | 20                    | 223 | -                      | -   | -                | -   | 3                      | 7   | 15%              | 3%  | 15%                                 | 3%   |            |  |
| 4   | Delhi            | 6                     | 43  | -                      | -   | -                | -   | 1                      | 8   | 17%              | 19% | 17%                                 | 19%  |            |  |
| 5   | UP               | 81                    | 182 | -                      | -   | -                | -   | 2                      | 62  | 2%               | 34% | 2%                                  | 34%  |            |  |
| 6   | Uttarakhand      | 10                    | 29  | -                      | -   | -                | -   | 6                      | 27  | 60%              | 93% | 60%                                 | 93%  |            |  |
| 7   | HP               | 15                    | 25  | -                      | -   | -                | -   | 3                      | -   | 20%              | -   | 20%                                 | -    |            |  |
| 8   | JK               | 4                     | 17  | 3                      | 12  | 75%              | 71% | 1                      | 5   | 25%              | 29% | 100%                                | 100% |            |  |
| 9   | POWERGRID        | -                     | 81  | -                      | -   | -                | -   | -                      | 6   | -                | 7%  | -                                   | 7%   |            |  |
| 10  | NTPC             | 14                    | -   | -                      | -   | -                | -   | -                      | -   | -                | -   | -                                   | -    |            |  |
| 11  | NHPC             | 14                    | -   | -                      | -   | -                | -   | 6                      | -   | 43%              | -   | 43%                                 | -    |            |  |
| 12  | NPCIL            | 5                     | -   | -                      | -   | -                | -   | 1                      | -   | 20%              | -   | 20%                                 | -    |            |  |
| 13  | NJPC             | 2                     | -   | -                      | -   | -                | -   | -                      | -   | -                | -   | -                                   | -    |            |  |
| 14  | THDC             | 2                     | -   | -                      | -   | -                | -   | -                      | -   | -                | -   | -                                   | -    |            |  |
| 15  | BBMB             | 6                     | 16  | -                      | -   | -                | -   | -                      | -   | -                | -   | -                                   | -    |            |  |
| 16  | IPP/JV/Patran    | 6                     | 4   | -                      | -   | -                | -   | 2                      | -   | 33%              | -   | 33%                                 | -    |            |  |
|   | TOTAL            | 207                   | 863 | 3                      | 109 | 1%               | 13% | 27                     | 128 | 13%              | 15% | 14%                                 | 27%  |            |  |
|   | Total (over all) | 1070                  |     | 112                    |     | 10%              |     | 155                    |     | 14%              |     | 25%                                 |      |            |  |
| Note:   |                  |                       |     |                        |     |                  |     |                        |     |                  |     |                                     |      |            |  |
| 1. Constituentswise details is as furnished by SLDC's / as available at RLDC.                     |                  |                       |     |                        |     |                  |     |                        |     |                  |     |                                     |      |            |  |
| 2. 'GS' Generating Stations and 'SS' subStations  |                  |                       |     |                        |     |                  |     |                        |     |                  |     |                                     |      |            |  |

*It is to mention that non availability as on 30.06.2018 was 26% whereas non - availability as on 30.06.2019 is 25%. It is to again emphasis that very little or no improvement in this regards.*

Members are requested to please expedite the availability of data at SLDC/NRLDC.

#### **4.4 Communication plan for channel redundancy and to back-up NRLDC (Agenda by NRLDC)**

4.4.1 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 channel for bringing redundancy into the system and increase reliability of data to NRLDC/RLDC.

4.4.2 Presently 109 RTUs out of 128 RTUs are reporting on redundant channel. It is requested to expedite the process of providing redundant channel for the remaining locations at the earliest.

4.4.3 It is to note that stations where second channel is down since long is considered as single channel only.

4.4.4 However redundant channels provided are not reliable and it is found that standby channel are also down due to lack of path diversity/common source of Power Supply etc. 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          | Main Channel | Standby Channel |
|------|----------------------|--------------|-----------------|
| 1    | BHADLA (PG)          | GPRS         |                 |
| 2    | KISHANGANGA          | LEASE LINE   |                 |
| 3    | KURUKSHETRA NEW      | FIBER OPTIC  |                 |
| 4    | PARBATI-2            | LEASE LINE   |                 |
| 5    | SALAL                | FIBER OPTIC  |                 |
| 6    | SEWA-2               | LEASE LINE   |                 |
| 7    | RIHAND-3             | FIBER OPTIC  |                 |
| 8    | SINGRAULI HYDRO      | FIBER OPTIC  |                 |
| 9    | BHADLA (ADANI)       | GPRS         |                 |
| 10   | BHADLA (SAURYA URJA) | GPRS         |                 |
| 11   | BUDHIL               | LEASE LINE   |                 |
| 12   | KARCHAM WANGTOO      | PLCC         |                 |
| 13   | MALANA               | PLCC         |                 |
| 14   | SHREE CEMENT         | GPRS         |                 |
| 15   | CHEMERA-3*           | LEASE LINE   | FIBER OPTIC     |
| 16   | KOLDAM*              | FIBER OPTIC  | PLCC            |
| 17   | NATHPA JHAKRI*       | FIBER OPTIC  | PLCC            |
| 18   | URI-2*               | LEASE LINE   | PLCC            |
| 19   | JHAJJAR*             | PLCC         | PLCC            |

\*Standby channel down since long.

4.4.5 PGCIL/utilities are requested to please update the status and ensure the healthiness of channel provided for data transfer to NRLDC.

Concerned Utilities may submit the status and action plan for removal of deficiencies to NRPC Sectt. at the earliest , so that the same may be discussed in the meeting.

#### 4.5 Frequent Interruption of data from NR-II stations

4.5.1 Frequent interruption in Power supply has been observed at PSTCL stations resulting in non-availability of RTUs data from NR-II stations and wrong computation of drawal data of Punjab. Various dates where outage was observed is given below:



| Date           | Power Supply Issue |
|----------------|--------------------|
| 25th June 2019 | Ajitwal            |
| 28th June 2019 | Jagraon            |
| 28th June 2019 | Rajpura            |

4.5.2 It is noted that battery backup at many locations in Punjab is not available. It is requested to replace battery banks for uninterrupted telemetry.

4.5.3 It may be noted that draft “Manual of Communication Planning in Power System Operation” by CEA which is under draft stage also mandates that there should be redundancy in DCPS supply as well as battery bank.

PSTCL/PGCIL to update the status.

## 5. Unified Real Time Dynamic State Measurement (URTDSM) Scheme

### 5.1 Maintenance of PMUs installed under URTDSM

5.1.1 Data from many PMU locations is not available at NRLDC due to GPS issue at site. Issue has already been raised with PGCIL but there is very little progress in that effect. PGCIL is requested to please take up with vendor for restoration of data. Further there is a need for some guidelines for attending faults in PMU (any fault in PMU data goes unattended for long time) due to non-availability of personal for maintenance of PMUs.

List of Sub-stations with PMUs data issue is given below:

|           |             |
|-----------|-------------|
| Fatehabad | Bamnauli    |
| Kishenpur | Kota        |
| Sohawal   | Merta       |
| Bhiwani   | Varanasi UP |
| Azamgarh  | Heerapura   |
| Sultanpur | Unnao       |
| Anpara    | Sahupuri    |

POWERGRID may update

## 6. OTHER AGENDA

### 6.1 Establishment of State-of-the-Art Unified Centralized Network Management System U-NMS for ISTS and State Utility Communication Network. (Agenda by POWERGRID)

6.1.1 CERC notified Communication Regulation in May'17 and it envisages Centralized Supervision System for ISTS Communication. As per the regulation clause:

Quote:

....

#### 4. OBJECTIVE:

These regulations provide for planning, implementation, operation and maintenance and up-gradation of reliable communication system for all communication requirements including exchange of data for integrated operation of National Grid.

#### 5. SCOPE and APPLICABILITY:

(i) These regulations shall apply to the communication infrastructure to be used for data communication and tele -protection for the power system at National, Regional and inter-State level and shall also include the power system at the State level till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commissions.

(ii) All Users, SLDCs, RLDCs, NLDC, CEA, CTU, STUs, RPCs, REMC, FSP and Power

Exchanges shall abide by the principles and procedure as applicable to them in accordance with these regulations.

#### 6. NODAL AGENCY:

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

(ii) The nodal agency for planning, and coordination for development of communication system for intra - State transmission system user shall be the **State Transmission Utility**.

(vii) CTU shall be the Nodal Agency for supervision of communication system in respect of inter-State communication system and will implement centralized supervision for quick fault detection and restoration.

.....

## Unquote

Further, in line with regulation provisions of centralized supervision for quick fault detection and restoration of communication network of ISTS and all other Utility by integrating its NMS with other users NMS has been kept in the documents of Technical standard & Manual of Communication Planning Criteria being finalized by CEA. In addition to this guideline on availability of Communication system for ISTS has been submitted to CERC by NPC for which centralized U-NMS is considered essential.

- 6.1.2 Accordingly, CTU is to implement State of the Art Unified Network Management System (U-NMS) in a Control Center environment at National/Regional level.
- 6.1.3 The establishment of U-NMS is proposed to be taken up in a unified manner for implementing centralized supervision of communication Network for transmission system of Cross Border, Inter Regional, Inter-State and Intra-State System.
- 6.1.4 The proposed U-NMS shall acquire data directly from existing NMS of ISTS and State Utility and also from nodes not integrated with existing NMS for all ISTS and all other Utility communication links. The U-NMS will acquire information of communication network of ISTS, State Utility and cross Border communication system. The U-NMS application shall facilitate for controlling, managing, operation, fault detection and restoration and maintenance of ISTS and State Communication System.
- 6.1.5 It will be possible to integrate different make NMS and Network Element with proposed U-NMS. (In U-NMS adequate provision shall be made to integrate upcoming nodes by having sufficient capacity i.e. 200%).
- 6.1.6 The proposed U-NMS to be deployed for operations of NLDC, RLDCs and SLDCs to manage National, Regional and State level Communication System.
- 6.1.7 U-NMS Configuration for National & Regional level shall consist of Servers, Storage Devices, VPS, Switches, Routers, Firewall, Remote workstations etc. in dual LAN in Main (High Availability-HA) and Backup configuration to manage ISTS regional, inter-regional and Cross Border communication links.
- 6.1.8 U-NMS Configuration for managing Intra-State Communication for SLDCs shall be considered by providing Remote workstations, Furniture etc. with rights to access servers of respective region to manage their respective Communication Network.
- 6.1.9 Following functions (Service Assurance, Service Fulfillment, Web Consoles, Ticketing etc.) are considered in the proposed U-NMS. (Applications/ Functions may vary at National/Regional/ State- depending upon the Operational / Administrative Requirements):

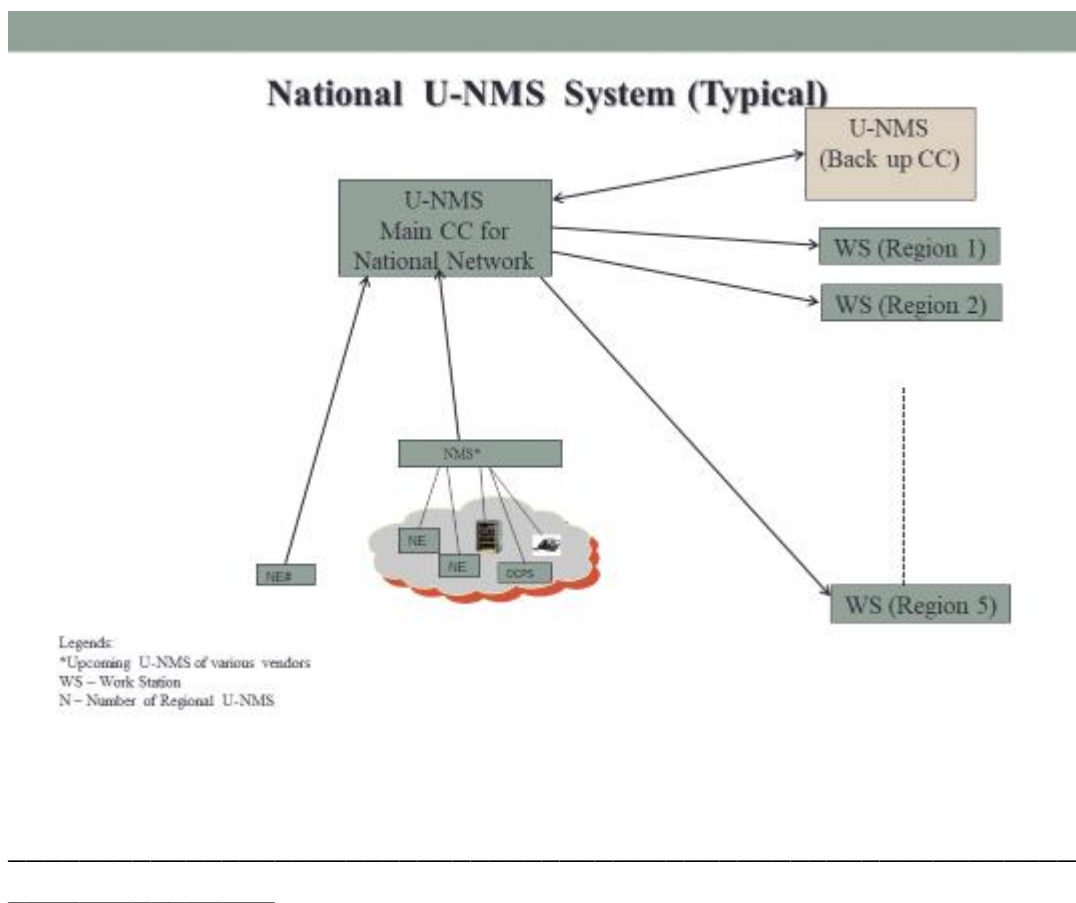
**U-NMS PROJECT PROPOSAL:**

- 1) Control Centre at National & Regional level
- 2) Workstation based Control Centre at State level

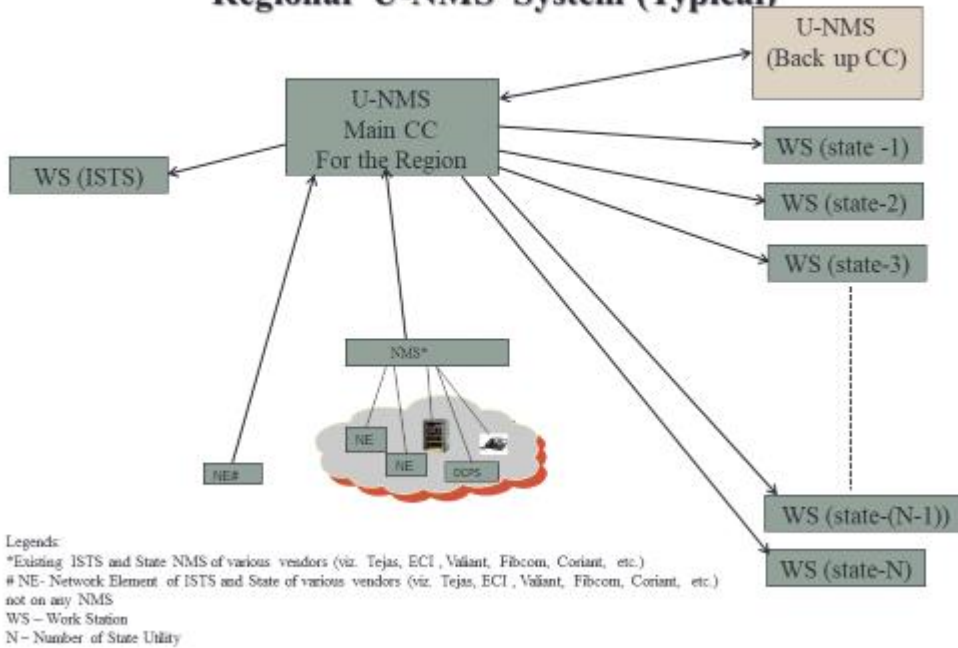
Estimated cost for Northern Region - **Rs. 117 Cr.** (excluding AMC cost and Civil Works) with implementation Time (from date of Investment Approval): **2 Years (24 months)**

The scheme shall be implemented by POWERGRID on tariff route basis and investment to be recovered as per CERC notification.

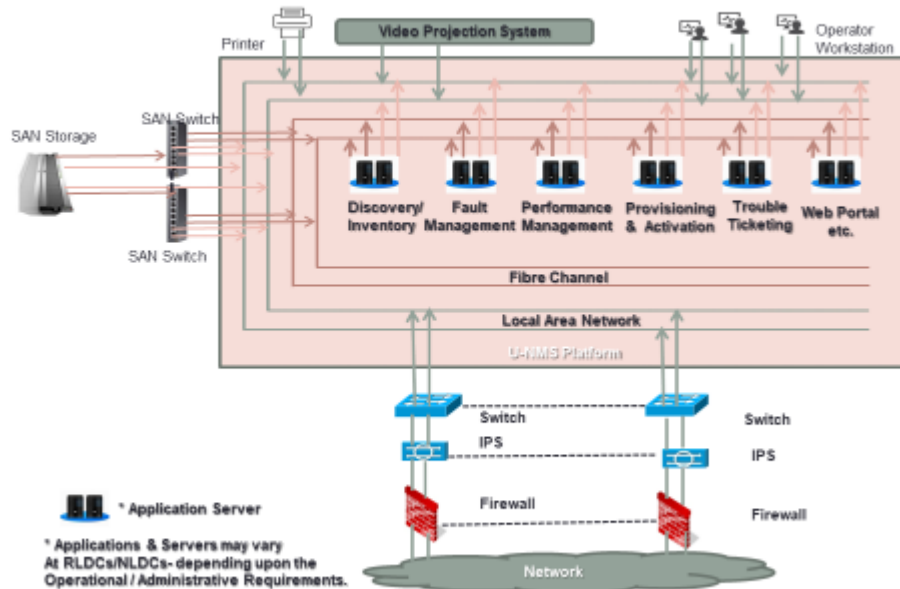
Members may deliberate the scheme for consideration of approval.



### Regional U-NMS System (Typical)



### Typical UNMS Configuration for Regional and National



## 6.2 Mapping of analog data and digital status of SPS operation related information in SCADA (Agenda by NRLDC)

### 6.2.1 Data and SoE:

6.2.1.1 System Protection Scheme (SPS) is very important defensive mechanism for healthy and reliable system operation. Further, SPS is an important tool which helps in protecting in real time based on some logic. Therefore, monitoring of SPS is also important to assess its reliability. Mapping of SPS signal in SCADA, SPS feeders CB status, analog data in SCADA or Station Event log is discussed in various OCC meetings and TCC meeting however it seems utilities are not considering it during implementation of new SPS scheme like Agra-Gwalior SPS (extension), Tehri-Koteshwar SPS, Dhauliganga SPS and Anpara-Unnao SPS scheme etc.

List of SPS is given in **Annexure-6.2**

6.2.1.2 NRPC/ TCC has already approved the following:

- Mapping of SPS signal in SCADA, SPS feeders CB status, analog data in SCADA or Station Event log for new SPS scheme to be taken care at the time of implementation of new scheme
- Utilities shall expedite the Mapping of feeders and digital data, also in existing SPS scheme.

6.2.1.3 *It is to mention that PGCIL has integrated Agra-Gwalior SPS signal from Dadri end. However, it is requested that signal from Agra end shall also be integrated along with further signal being sent from Dadri to respective Sub-Stations.*

POWERGRID, THDC, NHPC and UPPTCL are requested to please update the status.

It is once again requested to all the NR utilities to kindly expedite the mapping of digital and analog data for existing SPS scheme.

### 6.3 Installation of Terminal Server (Agenda by NRLDC)

6.3.1 RTU / SAS of a group of Generating stations / Sub-stations shall report to the respective redundant terminal servers through redundant channels ( with path diversity ) installed at remote ( beyond RLDC ) communication nodes and from remote communication nodes the terminal servers shall report to Main and Backup control centre.

6.3.2 In this regard, NRLDC vide its letters NRLDC /SL-II/SCADA/2019 dated 22nd March 2019 and NRLDC /SL-II/SCADA/2019/958 dated 8th July 2019 has also requested PGCIL to share the locations and arrange for providing communication channels. (**Annexure-6.3**)

6.3.3 The matter was also discussed in 42nd TCC and 45th NRPC meeting held on 07<sup>th</sup>-08<sup>th</sup> June 2019 wherein POWERGRID confirmed that communication equipments and channel are available for shifting of terminal server.

6.3.4 In view of the above discussions, PGCIL is again requested to please share the locations and RTU details for those locations so that necessary action required for shifting of terminal server may be initiated at our end.

**6.4 Disposal of old and obsolete SCADA equipment of ULDC I scheme: (Agenda by DTL)**

6.4.1 The recovery charges against the ULDC –I Scheme has been completed during July'2017 but the communication regarding the disposal of old & obsolete equipment's under said scheme was still awaited from POWERGRID. POWERGRID is requested send letter indicating confirmation of completion of useful life of the equipment and its salvage value (if any) so as to be disposed off the same.

**6.5 Dismantling of Microwave Tower at NRLDC (Agenda by NRLDC):**

6.5.1 As per discussion in 31st NRPC and 28th meeting of TCC held on 23rd and 24th July'2014 at New Delhi, Microwave tower shall be dismantled by respective constituents.

6.5.2 It is to mention that one microwave tower is installed at NRLDC and the same needs to be dismantled.. As per statutory aviation norms, continuous maintenance of 48 V DC and aviation lights is required till the time of tower dismantling.

6.5.3 NRLDC has also requested for dismantling of Tower at their premises via letter dated 04<sup>th</sup> May 2017. (Details given in **Annexure-6.5**).

PGCIL is requested to take up for dismantling of Microwave Tower and also NRPC may arrange/grant permission for dismantling of tower.

**Members may discuss.**

**6.6 Action on CERT-in advisory C/AD-2019-0012 regard end of life for windows 7 (Agenda by UPSLDC):** In SCADA AMC Meeting dated 17-05-19, Siemens agreed to submit detailed action plan by 31<sup>st</sup> July'2019. It is to be informed.

**6.7 Issue of stoppage of ICCP data from WUPPTCL (Agenda by UPSLDC):**

The is still persisting even though now less frequently manual ON/OFF of admin state through ICCP summary display is still required.

**DATE AND TIME OF THE NEXT MEETING**

The date and venue of next (16<sup>th</sup>) meeting of the Telecommunication, SCADA & Telemetry (TeST) will be intimated later.



**Annexure-6.2****SPS in Northern Region**

| <b>Sl. No</b>  | <b>Name of the Scheme</b>  | <b>Agency</b> | <b>Approved date &amp; Status</b> | <b>Remarks</b>  | <b>Category type</b>            |
|--|--|---------------|-----------------------------------|---|---------------------------------|
| <b>SPS related to tripping of critical line / Corridor</b> |  |               |                                   |   |                                 |
| 1  | <b>SPS for WR-NR corridor</b><br>765kV Agra-Gwalior & 1 & 2  | CTU           | 27-11-10<br>In service            | <p>Scheme has been implemented for load shedding. Implementation for 500MW generation back down in Western region was completed (Korba, Vindhyachal, CGPL Mundra).</p> <p>The setting has been modified on 13.04.2014</p> <p>The revised SPS for contingency of 765 kV Agra-Gwalior was approved in 32nd TCC/36th NRPC meeting held on 23rd /24th December, 2016. In the revised</p> <p>Scheme, States of Haryana, Punjab, Rajasthan and Haryana were to identify the additional feeders for load relief. Further, Delhi, which was earlier not part of SPS, was also to be included in revised scheme and for this they were to identify feeders with load of 200 MW.</p> <p>In 158th OCC meeting, POWERGRID informed that revised SPS scheme has been implemented. Revised Load shedding detail is pending from Punjab.</p> <p>Last mock exercise held on 01.05.2019. One more mock testing would be done after finalisation of load group.</p> | Load Rejection / Gen. Rejection |
| 2  | <b>SPS for WR-NR corridor</b><br><b>SPS for contingency due to tripping of Mundra-Mahendergarh HVDC Bipole</b> | Adani power   | 13-07-12<br>In service            | <p>Implemented.</p> <p>All the deficiencies observed during earlier Mock testing on 24.12.2013 &amp; 08.07.2014 have been set right, it was decided in the 108th OCC meeting that another Mock Testing of this SPS would be carried out.</p>  | Load Rejection / Gen. Rejection |

|   |   |     |                                       |   |                                 |
|---|---|-----|---------------------------------------|---|---------------------------------|
| 3 | <b>SPS for ER-NR Corridor SPS for high capacity 400kV Muzaffarpur-Gorakhpur D/C Inter-regional tie line related contingency</b> | CTU | 15-12-06<br>In service                | Implemented   | Load Rejection / Gen. Rejection |
| 4 | <b>SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency</b>   | CTU | 29-06-2005<br>In service              | Implemented   | Load Rejection / Gen. Rejection |
| 5 | <b>SPS for HVDC Balia-Bhiwadi Bipole</b>  | CTU | 15-04-2010 & 27-11-2010<br>In service | ERPC had forwarded its comments to NRPC proposing for backing down of generation are from Kahelgaon STPS-II and Barh STPS of NTPC only, instead of their proposal from Farakka STPS & Kahelgaon STPS-I. Automatic backing down of generation in the Singrauli – Rihand complex for Case 2 is yet to be implemented.                             | Load Rejection / Gen. Rejection |
| 6 | <b>SPS for contingency due to tripping of multiple lines at Dadri</b>   | CTU | July-2016<br>In service               | Implemented (Under Revision after commissioning of bus sectionaliser at Dadri TPS)  | Load/ Gen. Rejection            |
| 7 | <b>SPS for 220 kV Salal- Jammu circuit carrying more than 150 MW each</b>   | CTU | 27-11-2010<br>Approved                | No information from PDD, J&K. PDD, J&K to intimate in writing about the status of implementation of this SPS. Also status of underlying transmission network from Wanpoh and Sambha S/S to be intimated. OCC was of the opinion that once underlying transmission network from Sambha substation is commissioned, this SPS may not be required. | Load rejection                  |

|   |  |                         |  |   |                |
|---|--|-------------------------|--|---|----------------|
| 8   | <b>SPS Proposed for Kashmir Valley</b>   | CTU/<br>PDD             | 13-01-2013<br>Approved<br>(But Yet to be discussed in RPC meeting) | A committee formed and approved. Implementation is pending from J&K   | Load rejection |
| <b>SPS related to Safe evacuation of Generation</b> |  |                         |  |   |                |
| 9   | SPS for reliable evacuation of power from NJPS, Rampur, Baspa H.E.P and Karcham Wangtoo  | Karcham /Rampur/ Jhakri | 04-02-2011<br>In service   | Revised SPS considering Rampur HEP (approved in 28th TCC & 31st NRPC meeting) has been implemented on 12.03.2015.   | Gen. Rejection |
| 10  | SPS for Reliable Evacuation of Ropar Generation  | Ropar TPS               | 27-11-2010<br>In service   | SPS installed and commissioned on 29.05.2013. SPS is hard wired.  | Gen. Rejection |
| 11  | SPS for Reliable Evacuation of Rosa Generation   | UPPTCL                  | 31-03-2015<br>(Revised SPS)<br>In service                          | Revised SPS for four units with connectivity at 220kV & 400 kV level has been implemented on 10th June 2016   | Gen. Rejection |
| 12  | SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station | UPPTCL                  | 11-05-2012<br>Approved   | SPS has been commissioned at all locations between 15.01.15 & 17.01.15  | Gen. Rejection |
| 13  | SPS for evacuation of Kawai/ Chhabra TPS   | RRVNL                   | In Service   | Revised SPS (after charging of 400kV Kawai-Anta D/C line) Implemented. In 139th OCC meeting, representative of Rajasthan informed that all efforts are being made to implement the automatic load shedding (to control the load generation mismatch) scheme by 28.02.2018 | Gen. Rejection |
| 14  | SPS for safe evacuation of Anpara-D Generation   | UPPTCL                  | 11.04.2016<br>In service   | In 158th OCC meeting, representative of UPPTCL informed that the revised SPS scheme considering third ICT at 765/400 kV Unnao (UP) has been implemented in the month of Jun-2019 and agreed for mock testing of the scheme. Last mock exercise held on 17.06.2019         | Gen. Rejection |
| 15  | SPS for safe evacuation of Lalitpur TPS Generation                                       | UPPTCL                  | 19.08.2017<br>Approved   | In 140th OCC meeting, NRLDC representative informed that UPPTCL may kindly implement the scheme as per target date informed by UPPTCL. (Target date: 31.12.2017) UPPTCL may also check the suggestion   | Gen. Rejection |

|   |   |        |                          |   |                |
|---|---|--------|--------------------------|---|----------------|
|   |   |        |                          | mentioned in Annexure-10 of Agenda of 140th OCC meeting               |                |
| <b>SPS related to overloading of Transformers</b> |   |        |                          |   |                |
| 16  | SPS for Transformers at Ballabgarh (PG) substation        | CTU    | 27-11-2010<br>In service | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 17  | SPS for Transformers at Maharani Bagh (PG) substation     | CTU    | 27-11-2010<br>In service | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 18  | SPS for Transformers at Mandola (PG)                      | CTU    | 27-11-2010<br>In service | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 19  | SPS for Transformers at Bamnauli (DTL) Substation         | DTL    | 27-11-2010<br>In service | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 20  | SPS for Transformers at Bawana (DTL) Substation           | DTL    | 27-11-2010<br>In service | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 21  | SPS for Transformers at Moradabad (UPPTCL) Substation     | UPPTCL | 27-11-2010<br>Approved   | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 22  | SPS for Transformers at Muradnagar (UPPTCL) Substation    | UPPTCL | 27-11-2010<br>Approved   | Implemented on 17.01.2015 (Under Revision after capacity upgradation) | Load rejection |
| 23  | SPS for Transformers at Agra (UPPTCL) Substation          | UPPTCL | 27-11-2010<br>Approved   | Implemented on 15.01.2015 (Under Revision after capacity upgradation) | Load rejection |
| 24  | SPS for Transformers at G. Noida (UPPTCL) Substation      | UPPTCL |                          | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 25  | SPS for Transformers at Muzaffarnagar (UPPTCL) Substation | UPPTCL |                          | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 26  | SPS for Transformers at Azamgarh (UP)                     | UPPTCL |                          | Implemented (Under Revision after capacity upgradation)               | Load rejection |
| 27  | SPS for Transformers at Bareilly (UP)                     | UPPTCL |                          | Implemented (Under Revision after capacity upgradation)               | Load rejection |

|    |  |        |  |   |                |
|----|--|--------|--|---|----------------|
| 28 | SPS for Transformers at Gorakhpur (UP) | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |
| 29 | SPS for Transformers at Lucknow (UP)   | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |
| 30 | SPS for Transformers at Mau (UP)       | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |
| 31 | SPS for Transformers at Sarnath (UP)   | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |
| 32 | SPS for Transformers at Sultanpur (UP) | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |
| 33 | SPS for Transformers at Unnao (UP)     | UPPTCL |  | Implemented (Under Revision after capacity upgradation) | Load rejection |

**Annexure-6.3**

**पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड**  
(भारत सरकार का उद्यम)  
**POWER SYSTEM OPERATION CORPORATION LIMITED**  
(A Govt. of India Enterprise)



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

No. NRLDC / SL – II / SCADA / 2019

551

Date: 22<sup>nd</sup> Mar 2019

To,  
CGM (ULDC & Engg),  
NR-1 POWERGRID,  
B-9 Qutab Institutional Area  
Katwaria Sarai, New Delhi 110016.

**Sub: Communication connectivity for Shifting of Terminal Server (NRLDC, SCADA) at Site**

Sir,

This is to inform you that as per approved SCADA architecture, RTU / SAS of a group of Generating stations / Sub-stations shall report to the respective redundant terminal servers through redundant channels ( with path diversity ) installed at remote ( beyond RLDC ) communication nodes and from remote communication nodes the terminal servers shall report to Main and Backup control centre. But due to non-availability of communication channels, terminal servers were installed at NRLDC and from NRLDC links were established to Backup Control Centre for data transfer.

It may be noted that back-up Control Centres are so designed that in case of any disaster happens at Main Control Centre, then complete visibility is available at back-up control centre and control room operations and real time dispatch activities should be possible from back-up control centre. However, with present configuration of data routing, if any disaster happens at Main Control Centre, the visibility of real time data from stations directly reporting to NRLDC will not be available at back-up control centre.

The matter was discussed in various TeST Meetings in which POWERGRID informed that due to non-availability of the communication ring, the channel planning of terminal sever could not be done so far and informed that the channel planning would be done based on the planned network and terminal server placement would be completed once the communication links are established.(Minutes of the meeting attached in Annex-I)

As the communication links are reported to be established, NRLDC has prepared a plan depicting the locations of Terminal Servers and data reporting / channel requirement details based on available communication network (Annex-II).

POWERGRID may examine the link availability at the selected locations for Terminal Servers and finalize the location of terminal servers channel plan. New locations, if any, may be suggested/incorporated in case the required communication channels are not available at the selected locations.

g/c

पंजीकृत एवं केन्द्रीय कार्यालय : प्रथम तल, बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016  
Registered & Corporate Office : 1st Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016

The concerned communication service provider may be requested to configure the necessary channels as per final channel plan for both Main and Back-up NRLDC and inform NRLDC so that the shifting activity of the terminal servers could be taken up.

*For working copy*

Yours faithfully,  
*Manoj Kumar Agrawal*  
22/8/2019  
(Manoj Kumar Agrawal)  
GM, (MO & SL – II)

CC:

1. Executive Director (LD&C) , PGCIL
2. Executive Director (NRLDC)
3. Chief General Manager (NLDC)

**Minutes of Meeting of 4<sup>th</sup> Meeting of Telecommunication, SCADA & Telemetry  
(TeST) Sub Committee held on 6<sup>th</sup> February 2015 at New Delhi.**

(List of participants is enclosed at Annexure –I)

Member Secretary, NRPC welcomed all delegates to the 4<sup>th</sup> meeting of Telecommunication, SCADA & Telemetry Sub Committee. He has expressed concern that progress of telemetry was not satisfactory, which was causing problems in grid management. He has informed that the issue is already under consideration of Hon'ble CERC. He expresses satisfaction that major technical issues in the new SCADA system were appeared to have been resolved and expressed hope that remaining issues would also get resolved over next few months.

Thereafter, the regular agenda with additional agenda were taken up for discussion.

**1. Confirmation of Minutes of 1<sup>st</sup> TeST sub-committee meeting**

TeST Sub-committee confirmed the minutes of 3<sup>rd</sup> TeST sub-committee meeting held on 21<sup>st</sup> November 2014 Rishikesh, which were issued vide letter no.E/147-181- dated 16-01-2015.

**2. Telecommunication related issues**

**2.1 RTU communication plan for channel redundancy and to back-up NRLDC**

Representative of NRLDC informed that the redundant channels were either not provided or were not working and requested POWERGRID to come-up with a plan for providing redundant channel for stations under Central Sector. He submitted the details of the status of the channels non-availability, which is attached at Annexure-II .

Representative of POWERGRID informed that all 400 kV stations were expected to be connected on FO network in 2 to 4 months time and redundant communication would also be made available. However, till the implementation of the FO channel, POWERGRID would look into the problem of the already provided channels and effort would be made to address the issue.

Representative of NRLDC also stated that presently all the terminal servers of the RTUs/ SASs were installed at NRLDC due to non-availability of the dedicated communication node. In fact, communication channel configuration should be planned so that the terminal server are shifted to the communication node so that it can report both to main NRLDC and Back-up NRLDC directly.



POWERGRID informed that due to non-availability of the communication ring, the channel planning could not be done so far. The installation of the terminal equipments was going on for the FO network. However, it was informed that the channel planning would be done based on the planned network and would be completed within one month time.

Representative of DTL stated that POWERGRID should provide feasible solution for communication connectivity for both minto road terminal server and DTL SLDC back up at Jaipur. Representative of POWERGRID stated that presently they would be preparing plan for Central Sector only.

## **2.2 Installation / Commissioning of TEJAS make FO end equipment**

Representative of BBMB informed that the TEJAS make FO end equipment had been installed at some sites of BBMB. He requested POWERGRID to provide connectivity to various locations where equipment had been installed. He further requested POWERGRID to complete the installation of TEJAS make end equipment at remaining sites of BBMB.

POWERGRID informed that equipment for 42 sites were under dispatch and within 10 days all communication equipment would be installed progressively and installation work would be completed by end of June 2015.

On the request of BBMB, POWERGRID agreed to take up the work at BBMB locations on priority.

## **2.3 Implementation of OPGW network at NHPC Power Stations**

Representative of NHPC informed that OPGW network for NHPC Power Station was to be completed by Mar'2015 as per the commitment given of POWERGRID . But looking at the slow progress at sites, this target was unlikely to be achieved. He also requested POWERGRID to inform the status and Station wise schedule of OPGW network implementation for NHPC Power Stations.

POWERGRID informed that work was in process for connectivity of Dhauliganga HEP and Chamera- I, II ,III HEPs. Work for Dhauliganga HEP and Chamera HEP would be completed by end of March 2015. POWERGRID assured completion of work at balance NHPC stations by June 2015 except Dhulasiti-Kishanpur due to non-availability of shut down by NRLDC to complete the work in the present season. S.E.(O) NRPC requested NRLDC to explore possibility of providing shut down to Dhulasiti-Kishanpur line from 10AM to 4 PM for required number of days (Approx 15 days ) to complete the work. Representative of NRLDC agreed to look into the issue.

| S.No. | MOGA       |            | ABDULLAPUR |           | MANESAR      |           | LICHOVU 400  |           | BAHADURGARH |         | NILDC ID1 |         | EXTRA    |         |
|-------|------------|------------|------------|-----------|--------------|-----------|--------------|-----------|-------------|---------|-----------|---------|----------|---------|
|       | STATION    | CHANNEL    | STATION    | CHANNEL   | STATION      | CHANNEL   | STATION      | CHANNEL   | STATION     | CHANNEL | STATION   | CHANNEL | STATION  | CHANNEL |
| 1     | ANRIBAR    | FIBERHOME  | ADINDRO    | NOVA      | BADARPUR     | NOVA      | ALHAMBAD     | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 2     | CHAMBA     | LEASE LINE | DEHRADUN   | TEAS      | BALLABGARH   | FIBERHOME | BAREILLY 745 | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 3     | CHAMBA-1   | LEASE LINE | DEHRADUN   | TEAS      | BAREILLY 400 | FIBERHOME | FATEHGARH    | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 4     | CHAMBA-2   | LEASE LINE | DEHRADUN   | TEAS      | DADR S45     | NOVA      | GORAKHPUR    | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 5     | CHAMBA-3   | LEASE LINE | DEHRADUN   | TEAS      | DADR S45     | NOVA      | LUCHOW 745   | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 6     | CHAMBA-4   | LEASE LINE | DEHRADUN   | TEAS      | DADR S45     | NOVA      | LUCHOW 400   | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 7     | JAILANDHAR | FIBERHOME  | KACHHARA   | FIBERHOME | CHANNWELI    | NOVA      | LUCKNOW 745  | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 8     | BEHAMPUR   | NOVA       | KACHHARA   | FIBERHOME | CHANNWELI    | NOVA      | LUCKNOW 400  | FIBERHOME | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 9     | LUPRANA    | FIBERHOME  | MALAMA     | FIBERHOME | GURABAN      | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 10    | MAHENDOLA  | FIBERHOME  | MALAMA     | FIBERHOME | GURABAN      | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 11    | MAHENDOLA  | FIBERHOME  | MALAMA     | FIBERHOME | GURABAN      | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 12    | MORLA 400  | NOVA       | PINCHELA   | NOVA      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 13    | MORLA 745  | NOVA       | REOPUR     | FIBERHOME | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 14    | PAVALA     | FIBERHOME  | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 15    | SAHIBVA    | FIBERHOME  | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 16    | UB-1       | LEASE LINE | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 17    | UB-2       | LEASE LINE | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 18    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 19    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 20    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 21    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 22    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 23    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 24    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 25    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |
| 26    | WANSOH     | TEAS       | SAHARANPUR | TEAS      | MAHARAJGARH  | NOVA      | SHAHANUPUR   | TEAS      | CHANNWELI   | NOVA    | ANBERGRI  | NOVA    | AGRA IDC |         |

पावर सिस्टम ऑपरेशन कॉर्पोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
**POWER SYSTEM OPERATION CORPORATION LIMITED**  
(A Govt. of India Enterprise)



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

No. NRLDC / SL – II / SCADA / 2019 / 957

Date: 08<sup>th</sup> July 2019

To,  
CGM (ULDC & Engg),  
NR-1 POWERGRID,  
B-9 Qutab Institutional Area  
Katwaria Sarai, New Delhi 110016.

Ref: - Our letter dated NRLDC / SL – II / SCADA / 2019 dated: 22.03.2019

**Sub: Communication connectivity for Shifting of Terminal Server (NRLDC, SCADA) at Site**

Sir,

This is in reference to letter mentioned above where it was requested to provide communication connectivity for shifting to terminal servers to site as per approved SCADA architecture.

RTU / SAS of a group of Generating stations / Sub-stations shall report to the respective redundant terminal servers through redundant channels ( with path diversity ) installed at remote ( beyond RLDC ) communication nodes and from remote communication nodes the terminal servers shall report to Main and Backup control centre.

The matter was also discussed in 42<sup>nd</sup> TCC and 45<sup>th</sup> NRPC meeting held on 07<sup>th</sup>-08<sup>th</sup> June 2019 wherein POWERGRID confirmed that communication equipments and channel are available for shifting of terminal server.

In view of the above discussions it is requested to please share the locations and RTU details for those locations so that necessary action required for shifting of terminal server may be initiated at our end

Yours faithfully,

*Manoj Kumar Agrawal*  
08/07/2019  
(Manoj Kumar Agrawal)  
GM, (MO & SL – II)

CC:

etc

1. Executive Director (LD&C), PGCIL
2. Executive Director (NRLDC)
3. Chief General Manager (NLDC)
4. Member Secretary, NRPC

पंजीकृत एवं केन्द्रीय कार्यालय : प्रथम तल, बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016  
Registered & Corporate Office : 1st Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016

## **Annexure-6.5**

28<sup>th</sup> TCC & 31<sup>st</sup> NRPC Meetings (23<sup>rd</sup> and 24<sup>th</sup> July, 2014) – Minutes

existing resources. He further stated that NRPC had approved constitution of a new sub-committee for addressing telemetry and SCADA related issues in the last meeting and a good beginning had been made in the first meeting of this sub-committee held in April 2014.

In the end, Chairman, TCC once again welcomed the participants to the meeting on behalf of DTL and NRPC.

### **C O N F I R M A T I O N   O F   M I N U T E S   ( T C C )**

#### **A.1 Minutes of 27<sup>th</sup> meeting of TCC**

Minutes of 27<sup>th</sup> meeting of TCC held on 27<sup>th</sup> February, 2014 circulated vide letter No. NRPC/Comm1/209/RPC (30<sup>th</sup>)/2014/1542-1628 dated 03<sup>rd</sup> April, 2014 were confirmed with the following amendments:-

##### **A.1.1 Para C.4.2 under item C.4 under the heading “Default in payment of outstanding dues of NHPC” reading as:-**

*C.4.2 Representative of PDD J&K stated that they had paid ₹ 600 crore recently and remaining dues would be cleared by the end of Financial Year 2013-14.*

##### **Stands replaced with**

*C. 4.2 Representative of PDD J&K stated that they had paid ₹ 600 crore recently and remaining dues would be cleared by the end of Financial Year 2013-14. However, NHPC stated that PDD J&K had made a payment of ₹315 Crs only to NHPC till 27.02.2014 during 2013-14 against their claim of ₹ 600Crs.*

##### **A.1.2 The following new para stands added in the minutes:**

**“B.24 Dismantling of Microwave Towers”.**

*Representative of POWERGRID informed that as decided in NRPC meeting held on 12<sup>th</sup> and 13<sup>th</sup> July’12, POWERGRID had invited Expression of Interest for leasing of Microwave towers but did not receive any response, even after extension of date. He stated that as accelerated recovery of investment had been approved by CERC and final bill had been raised for the same, these towers had become property of the constituents. Further, many of these tower*

locations were repeater locations, which were not required after commissioning of fibre optic system under Microwave replacement scheme. In case these towers were not dismantled, 48V DC and aviation light would have to be maintained as per statutory aviation norms. As no other usages of Microwave towers could be seen in near future, he proposed that constituents at their discretion might dismantle and/or dispose of these Microwave towers.

TCC agreed with the proposal of POWERGRID.”

|  |
|--|
| <p style="text-align: center;"><b>PROCEEDINGS OF 31<sup>st</sup> MEETING OF<br/>NRPC</b></p> |
|--|

Shri P.S. Mhaske, Member Secretary (I/C) , NRPC welcoming the members of Technical Coordination Committee and Northern regional Power Committee and delegates to the meeting extended hearty welcome to Shri Arun Goyal, CMD, DTL who had taken over charge of Chairperson, NRPC for the year 2014-15.

Member Secretary, NRPC stated that Shri S.S.Yadav, MD, PTCUL has relinquished charge of chairperson, NRPC after completion of his tenure of one year on 31<sup>st</sup> March 2014. During his tenure as Chairperson, NRPC, Shri Yadav had played an important role in resolving a number of operational, commercial & administrative issues. He had been a source of inspiration and provided continuous guidance. As proposed by Member Secretary, NRPC following resolution was passed in appreciation of the services rendered by Shri S.S.Yadav as Chairperson of NRPC.

“Northern Regional Power Committee places on record its deep appreciation of the outstanding service rendered by Shri S.S.Yadav, Managing Director, PTCUL, during his tenure as Chairperson, NRPC. Shri Yadav provided able guidance in various technical, commercial & administrative matters and made valuable contribution as Chairperson of the Committee.”

Member Secretary, NRPC informed NRPC members and other senior officers who joined in the NRPC meeting that in the TCC meeting held on 23.07.2014, 16 number of operational items and 14 numbers of Commercial items were discussed in details.

Member Secretary , NRPC thanked Shri Arun Goyal, CMD, DTL, Shri Haldar, Director (Operation), DTL and his team of officers for hosting this meeting and for the arrangements for comfortable stay of the participants.

पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
**POWER SYSTEM OPERATION CORPORATION LIMITED**  
(A Govt. of India Enterprise)



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

No. NRLDC / SL - II / 2017

Date : 4<sup>th</sup> May, 2017

To,  
AGM(ULDC),  
NR-1 POWERGRID  
NEW DELHI

**Sub: Dismantling of Microwave Tower at NRLDC**

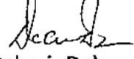
Sir,

You are aware of the fact that the microwave communication links from NRLDC used for ULDC communication network has already been replaced with Fibre Optic communication and present no Microwave link is operational from NRLDC.

It is also understood that NR - I, POWERGRID has initiated action for dismantling of towers installed under ULDC scheme. It is, therefore, requested to please take necessary action for dismantling of microwave tower installed at NRLDC premises, which was being used for the microwave communication.

Thanking you.

Yours faithfully,

  
(Debasis De)  
AGM, SL - II

Registered Office : B-9, Outab Institutional Area, Katwaria Sarai, New Delhi -110 016

पंजीकृत कार्यालय : बी-9, कृतब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली -110 016

Corporate Identification Number : U40105DL2009GOI188682

स्वाहत एव राष्ट्रहित म ऊजा बचाए

Save Energy for Benefit of Self and Nation

पावर ग्रिड कार्पोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprise) पावरग्रिड



उत्तरी क्षेत्र-1, मुख्यालय, वी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016, दूरभाष: 26560112, 26560115, फैक्स: 011-26601081 तार 'नेटग्रिड'  
Northern Region-1, Headquarters, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016 Tel.: 26560112, 26560115 Fax : 011-26601081 Gram: 'NETGRID'

संदर्भ संख्या / Ref. No. :

: NR-1/ULDC/NRPC

दिनांक / Dated :

01.11.2017

Member Secretary  
Northern Regional Power Committee  
18-A, Shaheed Jeet Singh Marg,  
Katwaria Sarai,  
New Delhi-110016

**Subject: Dismantling of Microwave Tower installed at NRLDC**

Sir

You may kindly be aware that in 31<sup>st</sup> meeting of NRPC and 28<sup>th</sup> meeting of TCC held on 23<sup>rd</sup> and 24<sup>th</sup> July, 2014 at New Delhi, it was decided that Microwave towers shall be dismantled by respective constituents. Accordingly, POWERGRID have awarded a work contract for dismantling of Microwave towers installed under Central Sector locations. One 40M height Microwave tower is installed in the premises of NRPC/NRLDC also which needs to be dismantled.

In view of the above, it is requested to please grant permission for usage of free space near microwave tower for dismantling purpose in the premises of NRPC/NRLDC.

**Enclosure:** Copy of NRPC meeting is enclosed - As above.

Yours faithfully,

(Y K Dixit)

GM (Engg./ULDC)

**Copy to:**

1. ED, NRLDC, New Delhi

पंजीकृत कार्यालय : वी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016  
Regd. Office : B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016

आप हमसे हिन्दी में पत्र व्यवहार कर सकते हैं।