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 / 13640 – 674 दिनांक :04.11.2019

No. NRPC/OPR/108/04/2019/ Date: 04.11.2019

सेवा में / To,

संलग्न सूची के अनुसार/As per list attached

विषय: दूरसंचार, स्काडा और टेलीमेटरी उप समिति की सोलहवीं बैठक।
Subject: 16th meeting of Telecommunication, SCADA & Telemetry Sub Committee

महोदय ,
Sir,

इस कार्यालय के पत्र दिनांक 21.10.2019 एंव 01.11.2019 का क्रम करते हुए यह सूचित किया जाता है कि उत्तर क्षेत्रीय विद्युत समिति की दूरसंचार,स्काडा और टेलीमेटरी (टेस्ट) उप-समिति की 16 वीं बैठक दिनांक 14.11.2019 को 10:00 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 21.10.2019 and 01.11.2019, it is intimated that the 16th meeting of Telecommunication, SCADA & Telemetry (TeST) Sub-committee of NRPC will be held on 14.11.2019 at 10:00 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

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38. Sr. Vice President, JSW Energy Ltd., New Delhi-110066 (Fax: 46032343 / 26183546)
39. Station Head, Adani Power Rajasthan Ltd., Ahmedabad-380006 (Fax No- 079-25557176)

40. Sh. Anil Kumar Garg, General Manager(BD) , AD Hydro Power Ltd , Noida-201301 , (Fax: 0120- 4323271/4278772)
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44. Nabha Power Limited , (Fax: 01762277251 /01724646802)
45. Prayagraj Power Generation Co. Ltd. Bara, Allahabad, Uttar Pradesh-212107

Special Invitee:

1. Sh. G.Rama Krishna Reddy, Project Manager, SIEMENS, e-mail: g.reddy@siemens.com

Agenda for
16th Meeting of Telecommunication, SCADA & Telemetry (TeST)
Sub- Committee

Date: 14.11.2019
Venue: Conference Hall, First Floor, NRPC, Katwaria Sarai, New Delhi

1. Confirmation of Minutes

1. Confirmation of Minutes

The minutes of 15th meeting of TeST sub-committee held on 07.08.2019 were issued on 03.09.2019. Minutes are available at NRPC website (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 last TeST meeting held on 07.08.2019

Action plan and Time line for various issues were mentioned in Minutes of last TeST meeting.

Members may submit the status of action taken. 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 could be discussed in the meeting.

2. Telecommunication Related Issues

2.1 Issues in OPGW laying (Agenda by POWERGRID)

2.1.1 HPSEBL:

As discussed during 15th TeST sub-committee meeting, some of the links (approx. 155 Kms) are on rail pole structure and OPGW cable laying on these old transmission lines are not safe. During execution, it had been observed that at most of the tower locations, either the condition of conductor/earth wire was very poor or earth wire was not present, due to which, the work had become almost impossible with possibility of tower collapse in these conditions. A joint site inspection had been carried out with M/s HPSEB representative for further possibility of work on these links. Accordingly, work had been stopped on these links.

S/No.	Link Name	Constituent	Length	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
8	Sainj-Hulli 66KV	HPSEB	21	Lattice Structure
	TOTAL		**133 +21**	

During the last TeST meeting, HPSEBL committed to look into the report including the healthiness of the towers and revert by 31st August, 2019, however, no confirmation has been received till date from HPSEBL.

In view of delay in project execution, it is again requested to delete above links from the scope of the scheme or additional time schedule may be accepted to execute the above links over and above the project schedule on account of delay in non-confirmation by HPSEBL.

Other 132 KV Links:

Most of the links are very old and the condition of eathwire 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 happened in case of 132KV Solan-Kunihar Line. HPSEBL needs to resolve the issue regarding strengthening of peak of the towers as per contract agreement.

HPSEBL may update the status of strengthening of peak of the towers.

2.1.2 **PSTCL:**

Balance 4.71 KM of 220KV Jamsher-Jadla link, for laying of OPGW was pending since more than two and half years due to severe ROW. Requests were also made to PSTCL to issue instructions to the concerned site officials to resolve the ROW problem, so that work could be completed and if required, help of District administration may also be taken up.

The issue was also raised during 15th TeST sub-committee meeting, however even after confirmation by PSTCL during the meeting, they will take civil administration/SDM's help for resolving the issue but ROW issue of 220kV Jamsher-Jadla line is still not cleared.

PSTCL is again requested to take up the issue with their higher management and necessary instruction may be issued to site officers to take necessary action to sort out the problems at site, so that balance works could be carried out and link may be commisisoned and due to non-completion of this link, other intermediate links and redundant path could not be commisioned.

2.1.3 **PSTCL comments on agenda 2.1.2**

A joint meeting/visit with DM/SSP, Nawanshar would be scheduled to resolve the on-going ROW issue. It is requested to mobilize the staff of vendor to reach the said site, simultaneously efforts are being made by field offices to resolve ROW issue, which has been cropped up due to aggrieved farmer.

2.1.4 **Regarding commissioning of OPGW under Package 1(a) on various transmission lines of PSTCL (Agenda by PSTCL)**

2.1.4.1 PSTCL is under process of laying OPGW on its various 220KV/132kV transmission lines in Package namely 1(a) through PGCIL. It consists of 1378kms, 132kV/220kV transmission lines. So far 1130 kms has been laid out but only 400 kms approx. is commissioned. Recently few communications were made with PGCIL regarding inordinate delay in commissioning and requested to organise meetings with PSTCL, but there is no reply from concerned department till date.

2.1.4.2 The issue needs to be resolved, may by putting up this case in NRPC meeting so that commissioning may get impetus as due to in-ordinate delay, data of few sub-stations of PSTCL is a mismatching with DSM and heavy penalty is being imposed by PSPCL. It is further added that Package 1(a) may be completed in time bound manner and tentative commissioning schedule may be apprised to PSTCL and PGCIL may be made accountable if there is delay in execution of this project. It is also added that PGCIL may be directed to execute the diversion work of OPGW in stipulated time frame failing which provision of imposing penalty shall be incorporated.

2.1.5 **Reliable Communication Scheme (Additional) under Central Sector for Northern Region (Agenda by POWERGRID)**

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

2.1.5.2 In order to provide reliability and redundancy in ISTS communication system in line with CEA's draft Manual of Communication planning in power system operation 2019, and also CERC's 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-Patiala	65.494	Physical Path Redundancy & route diversity for Panchkula S/s
2	400kV Nalagarh-Patiala	93.78	Reliable ICCP link between HP, Punjab and NRLDC
3	400kV Jallandhar Moga	85.15	Physical Path Redundancy & route diversity for Jallandhar (PG) through Central Sector links.
4	400kV Parbati PS - Amritsar	250.53	Path Redundancy & route diversity of Parbati PS (Banala) & Hamirpur through Central sector network.
5	LILO of Parbati-Amritsar at Hamirpur	6.7	
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-Ballabhgarh	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
	TOTAL	**2651.604**	

2.1.5.3 During 15th TeST meeting, the proposal for implementation of above links was discussed in detail with requirement of above mentioned each link with estimated cost of approx. Rs 88.32 Cr for implementation on cost plus basis by POWERGRID. This figure has been arrived on prorate basis of initial scheme. 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

2.1.5.4 During the 15th TeST meeting, Sub-Committee granted in-principle technical approval to the above scheme and recommended for further deliberations in the next TCC/NRPC meetings. The matter was further discussed in 43rd TCC & 46th NRPC meeting held on 23-24th Sept'2019. Representatives of PSTCL and RRVPNL informed that they further need to discuss the above mentioned links as they are also implementing thousands of Kms of OPGW links in their respective state network and POWERGRID can utilized their OPGW network for reporting of telemetry data up to NRLDC/NLDC. They further mentioned that they need only 15 days' time to revert on the issue/links, however till date no confirmation has been received by POWERGRID from RRVPNL and PSTCL for availability of redundant reliable OPGW network against above proposed links for establishing reliable and redundant ISTS Communication System.

2.1.5.5 Members may please deliberate for consideration and approval the proposal, so that POWERGRID can establish Reliable and Redundancy (N-2 criterion) in ISTS Communication System within the time line of CEA's draft MANUAL OF COMMUNICATION PLANNING IN POWER SYSTEM OPERATION, 2019 and CERC's Communication Regulation 2017.

2.1.5.6 In the last TCC/Board meeting, Rajasthan had stated that DPR of the project still does not seem to be ready. Since, Rajasthan itself has been laying 13000 KM network for redundancy, so part of Rajasthan included in the scheme, is not required. POWERGRID stated that they have proposed only those nodes where redundancy is not available. In case, if there is any duplicacy, that would be deleted.

2.1.6 **PSTCL comments on above Agenda**

In the 15th TeST meeting as per Point 2.1.4, sub-committee granted in-principle technical approval to the scheme mentioned at above said point, and the same was discussed in 43rd TCC/46th NRPC meeting vide Point B.15.5.

As far as PSTCL is concerned, all such links belong to either PGCIL or other state utilities & PSTCL has no relevance to these links as PSTCL's Telemetry data is already been running on OPGW covered under ULDC scheme and Package-V and on-going Package 1(a). Hence there is no separate need in

investing on any equipment by PSTCL for making redundancy path on said links.

2.1.7 **Reliable Voice communication between Central Sector Substations / Generating Stations and NRLDC (Agenda by NRLDC)**

2.1.7.1 During the Grid Disturbance in 2012, it was realized that one of the main reason for delayed grid restoration process was due to problem faced in voice communication by Control Centre Operators with other Control Centres /Generating Stations/Sub-Stations operators. Accordingly, NRPC approved POWERGRID proposal for implementation of State of art PABX system in the 24th TCC/27th NRPC meeting held on 29/30 November 2012. After approval from NRPC, the same was implemented by POWERGIRD in 2013.

2.1.7.2 Out of total 129 sub-stations/generating stations at inter-State level in Northern Region, VOIP connectivity is presently available only in 79 locations and out of these available locations only 43 (i.e. just 50% of total locations) are in working condition. Further, it is understood that VOIP was not established at some locations during project implementation due to non-availability of fibre connectivity/interfacing equipment. Since now the fibre connectivity to most of these locations has been established, concerned utilities are requested to please arrange availability of Voice communication through VOIP network for these locations also at the earliest.

2.1.7.3 The size of the Northern Grid has increased subsequently and with increasing penetration of renewable, fast and reliable voice communication is now much more critical for ensuring reliable grid operation and speedy restoration in case of any contingency.

S. No	Constituent/ utility	No of Sub-Station	Available	% availability	Working	% Working
1	POWERGRID	77	58	75.32%	32	41.56%
2	NHPC	14	5	35.71%	1	7.14%
3	NTPC	10	6	60.00%	3	30.00%
4	THDC	2	2	100.00%	2	100.00%
5	SJVNL	1	0	0.00%	0	0.00%
6	NJPC	1	0	0.00%	0	0.00%
7	NPCIL	4	4	100.00%	3	75.00%
8	IPP	20	4	22.22%	2	11.11%
	TOTAL	129	79	62.20%	43	33.86%

2.1.7.4 POWERGRID has confirmed that they ensure healthiness of VOIP at their substations and will procure new VOIP equipment for POWERGRID Substations.

2.1.7.5 POWERGRID has informed that owners/generating sub-stations shall procure centralized PABX compatible VOIP phone on their own and

POWERGRID shall configure communication link from sub-station to NRLDC wherever communication links are available.

2.1.7.6 It is therefore requested that all other Utilities to procure the VOIP equipment for those locations where it was not considered earlier during project execution phase. All concerned are requested that kindly ensure healthiness and near 100% availability of VOIP connectivity at all inter-State locations.

2.1.8 **Status of OPGW connectivity at NHPC Power Stations under Central Sector scheme (Agenda by NHPC)**

Parbati-III: During 15th TeST meeting held on 07.08.2019, it was informed by POWERGRID that the issues involved were bilaterally resolved and the work would be carried out by POWERGRID during the proposed shutdown between 19th and 31st September, 2019.

POWERGRID is to update.

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

During 15th TeST meeting held on 07.08.2019, it was informed by POWERGRID that the contract would be awarded by 15th August, 2019 and is likely to be completed within 3 months' subject to law and order situation in the J&K.

POWERGRID is to update.

2.2 **Replacement of S-900 RTUs (Agenda by BBMB)**

The contract agreement for replacement of S-900 RTUs installed under ULDC-1 scheme at 11 sites of BBMB and integration of 61850 compliant Numerical Relays with HMI servers for providing the functionality of Event Logger at all the sites of BBMB through POWERGRID was signed on 30.3.2019 and accordingly an advance payment was made to POWERGRID. Subsequently, site survey for 5 sites of BBMB was carried out during April – May 2019. However, till date neither the work of installation / commissioning of RTUs nor the integration of 61850 compliant Numerical Relays with HMI servers has been started at any of the sites of BBMB.

POWERGRID is to update.

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 the same would be supplied under RTU replacement package. The issue is still pending, however Powergrid, during 15th TeST meeting, confirmed that FRTUs would be supplied in the second lot within a period of maximum 06 months.

POWERGRID is to update.

2.4 RTU RELATED ISSUES (Agenda by RVPN)

2.4.1 There are frequent failure/non-availability of all RTUs data (101 & 104). Latest happened on 27.10.19. The problem has already been reported to M/s Siemens many times, even discussed in the meeting on 17.05.19 at PGCIL, New Delhi but, no concrete solution provided by M/s Siemens.

2.5 HPSEB Communication Related Issues (Agenda by HPSEB)

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

Under Package I (a), OPGW stringing work on HPSEBL transmission network commenced w.e.f. 09.02.2017 and as on date, about 206Km out of about 543 Km OPGW has been laid by the firm i.e. M/s. Ten Dot Cable Pvt. Ltd. Further, during 15th TeST meeting, PGCIL has raised the concern under item No.2.1 on constraints in laying OPGW on 66kV rail pole structures and requested to delete about 154 Km OPGW from the scope of work, however, after deliberations, it was recorded in the MoMs as under:

"Representative of HPSEBL stated that other associated equipments are already installed at site but laying of OPGW was pending which resulted loss of connectivity in between. In regards to joint inspection report, he intimated that he would look into the report including the healthiness of the towers and revert by 31st August, 2019."

To resolve the above issue, a meeting was convened by HPSEBL at Hamirpur on dated 22.10.2019 wherein the representative of PGCIL, HPSEBL and the concerned OPGW laying vendor i.e. M/s Ten Dot Cable Pvt. Ltd. participated. However, the vendor expressed his reservations for laying OPGW on 66Kv links on account poor condition of existing 66kV Rail pole structures and further hilly & tough terrains which he added to the discussions that this very aspect of state of health of 66kV rail pole structures, came into notice in execution stage, not during survey, and requested to find out some other methodologies to sort out the issue by providing some other means in place of OPGW. It is proposed that in place of OPGW, the ADSS fibre optic cables be provided on 66kV links in view of the fact that all the terminal equipment already stand installed at all the locations under the said package and OPGW procured against these links be diverted to some other Central Sector locations so as to ensure healthy and uninterrupted real time data from various generating stations injecting power through these 66kV links.

POWERGRID may update about action plan.

2.5.2 **Replacement of 12 fibre OPGW with 24 fibre on the HPSEBL links i.e. 132kV Jutogh (Shimla)-Kunihar-Kangoo (Gagal)-Hamirpur-II under Reliable Communication Scheme (Package-B)**

It has been given to understand that PGCIL has placed LoA for replacement of 12 fibre OPGW installed under ULDC Phase-I with 24 fibre OPGW under Reliable Communication Scheme (Package-B) and included following HPSEBL links:

S. No.	Description	Length of link	Remarks
1	132kV Jutogh-Kunihar-II	16.21 KM	Replacement of 12 fibre OPGW installed under ULDC Phase-I with 24 fibre OPGW under Reliable Communication Scheme.
2	132kV Kunihar-Kangoo (Gagal)	50.24 KM	
3	132kV Kangoo (Gagal)-Hamirpur-II	43.78 KM	
Total		110.23 KM	

In this context, it is intimated as under-

- That on this link i.e. 132kV Jutogh (Shimla)-Kunihar-Kangoo (Gagal)-Hamirpur-II, six dark fibres have been leased to Telecom Department of PGCIL for their telecom business, one pair is being used for Central sector (Tejas SDH), one pair for Nokia–Fujitsu Communication equipments & one pair for ECI Communication equipments under Package-V and presently, there is no fibre available on this link for making connectivity of Fibcom-Tejas Communication equipments under Package-I(a). Therefore, during OPGW laying work, whole data/communication shall remain disrupted and power regulation in the State shall get paralyzed.
- Under Package-I (a), 24 fibre OPGW is being/has been laid on LILO point (132KV Jutogh-Kunihar-II) to Maliana, LILO point (132KV Kunihar-Kangoo) to Bagha & LILO point (132KV Kunihar-Kangoo) to Darlaghat, therefore, splicing at LILO Point may be carried out simultaneously during the replacement of 12 fibre with 24 fibre on these links.
- The existing 12 fibre OPGW may be taken by the vendor and Credit of depreciated value may be given to the scheme.

Members may deliberate.

2.6 **Implementation of Multisite Configuration between BBMB SLDC and PSTCL SLDC (Agenda by BBMB)**

2.6.1 The issue was discussed in 15th TeST meeting wherein BBMB conveyed that the following Multisite Configurations are yet to be implemented by M/s SIEMENS:

a) Scheduling and UI rate calculations to be implemented between Backup Control Centre and NRLDC.

b) Flow of BBMB ICCP data between Backup Control Centre and NRLDC.

2.6.2 After deliberation, it was stated that SIEMENS would discuss the feasibility with NRLDC and explore to implement the same. NRLDC and M/s SIEMENS may update the status.

2.7 **Non synchronization of multisite database (Agenda by RVPN)**

2.7.1 Some IP address of series 172.27.27.xx which are exclusively assigned to RVPN SCADA system and are being used by DTL SLDC. Due to IP conflict issue, multisite database (IFS) synchronization is not possible. Without multisite database synchronization, backup control centre may not be operated from DTL SLDC and vice versa.

2.7.2 Matter is still pending with DTL & M/s Siemens.

2.8 **Agenda for 1% advance for material supplied for repairing of OPGW networks installed under ULDC NR Project (Agenda by HVPNL)**

2.8.1 Lines of HVPNL over which OPGW has been laid under ULDC Projects are as below.

- 220KV Narwana - Safidon - PTPS.
- 220KV Nunamajra - Bahadurgarh.
- 220KV PTPS Sewah CKT 1 & II.

2.8.2 Now PGCIL has demanded 1% advance for repairing of OPGW networks installed under ULDC NR Project from all constituent of NR. However, the reconciliation statement of material procured earlier against 1% advance taken from constituents was not provided by PGCIL. The matter was taken up with PGCIL.

2.8.3 PGCIL is requested to update the status for taking further necessary action in the matter.

2.9 **Requirement of PDH Equipment for replacement of Nokia Equipment under Reliable Communication Scheme (Agenda by POWERGRID)**

2.9.1 POWERGRID is implementing OPGW installation on new transmission lines along with replacement of ULDC Phase-I OPGW and communication Equipment under Reliable Communication Scheme. Requirement of PDH was removed from all the locations citing upgradation of RTUs to 104 protocol & using of VOIP phones. Requirement of PDH equipment alongwith required nos. of channels (Voice and Data channel for replacement of Nokia), if any under this scheme may be intimated to POWERGRID on priority, so that requirement can be freezed. Till date only UPPTCL has conveyed their requirement and BoQ for the same has been approved and suppply will be commenced within 3-4 months.

2.10 **Communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations under AGC as per CERC order 319/RC/2018 dated 28th August 2019**

CERC, in the matter of Automatic Generation Control (AGC) implementation in India, has issued the direction that all thermal ISGS stations with installed capacity of 200 MW & above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC, to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by the National Load Despatch Centre (NLDC).

In the Order, CERC directed the Central Transmission Utility (CTU) to commission communication facility from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dual communication. The list of plants identified for AGC operation by NLDC as per CERC Order is attached as **Annexure-1**.

Relevant extracts from the CERC Order 319/RC are given as below:

…The Central Transmission Utility (CTU) is directed to have communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dual communication.

…The expenditure as a result of compliance of the above directions may be claimed as per relevant regulations or provisions of the PPA.

Considering the importance of communication links being used for automatic controls, same common points may not be used along the path to ensure near 100% availability. Also, in line with the CERC Order, all the power plants are supposed to take necessary action for arranging the communication (through redundant and alternate paths) from the existing nearest wideband communication node to the unit control room through two fibre optic cables, in coordination with Central Transmission Utility (CTU).

It may please be noted that all the ISGS stations whose tariff is determined or adopted by CERC should be AGC-enabled before 28th February 2020 as per the Order of the Hon’ble Commission.

On 27th September 2019, nominated nodal officers from CTU discussed the detailed action plan regarding the communication to AGC power plants at NLDC, New Delhi. Two Ethernet ports would be made available from existing SDH node available near generating station, wherever spare ports are available. In case of constraint, upgradation of equipment / cards as required shall be considered while working out requirement for AGC communication connectivity. RLDCs/NLDC will coordinate with concerned generating station

for connectivity of Ethernet port to RTU at generating station for AGC application.

In some cases, requirement of usage of STU network for AGC connectivity is expected. The same shall be brought out by CTU. RLDCs/NLDC shall facilitate necessary coordination between STU & CTU for providing Fibres, Equipment, if required.

Members may deliberate and prepare the detailed plan.

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

2.11.1 There is a fiber cut between Kishnepur-Wanpoh since January 2019 due to which PMU data from Wagoora, Wanpoh and Uri was not available at NRLDC. It is to mention that data from these stations is critical for monitoring of Kashmir Valley.

2.11.2 The matter was also discussed during 15th TeST Meeting, POWERGRID intimated that unprecedented ice deposition on OPGW in Kashmir valley has led to the breakage of the same and data from alternate route has been restored.

However alternate arrangements are yet to be made.

2.11.3 POWERGRID to update the status of alternate arrangements and timeline for replacement of damaged OPGW.

2.12 Upgradation of SMT-16 to STM-64 Communication Equipment (Agenda by POWERGRID)

2.12.1 During the 14th TeST sub-committee meeting, NRLDC requested to explore the possibility of upgradation of communication equipment from STM-16 capacity to STM-64 or adopt other latest technology to cater additional requirement for future projects including RTU/SAS data reporting on 104 protocol, new PMUs under WAMS System, AGC Project, establishment of inter-regional control centres of SCADA/ PDC, upgradation of NLDC and establishment of REMC control centres and backup control centre at Kolkata for WAMS system and other new schemes. In this regard, POWERGRID have examined the possibility and 17 Equipment needs to be upgraded from STM 16 to 64 for Tejas make Communication Equipment, their associated SFPs and amplifiers are required. Further in view of shortage of Ethernet Ports, new cards also required as per the discussion at several locations/ specially NLDC, NRLDC and all SLDCs, of Northern Region along with some of station where most of the ports has been utilized for grid operation services (RTU/SAS, PMU, VOIP, AMR, TWFL, Pilot project PMU, some inter-connections for other sub-stations). The estimated cost for above proposal is approx. Rs 2.77 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 under Reliable Communication Scheme. The scheme shall become part of existing Commercial Agreement signed for ULDC Project.

2.12.2 Members may please deliberate for consideration & approval.

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

3.1 SCADA issues of HVPNL (Agenda by HVPNL)

3.1.1 **Interruption in publishing of SCADA data on SCADA Web Server**

Publication of SCADA data on SCADA Web Server gets interrupted, many times, resulting into inconvenience to the system user. The interruption in the publishing is occurring since more than four months at SLDC Panipat. M/s Siemens may be asked to check and resolve the issue at the earliest.

3.1.2 **Rollover to IPv6**

In the 12th TeST Meeting, the sub-committee advised that the necessary action regarding migration to IPv6 in compliance to Govt. directions shall be taken by the concerned utilities in co-ordination with their internet service provider. However, work is still pending, thus POWERGRID is requested to carry out this activity.

3.1.3 **Non-working / Failure of Haryana SLDC Website**: Number of instances of non-working of Haryana SLDC Website has occurred for the past 1 year. The website during its failure has been restored by M/s Siemens in a long span of time. Thus M/s SIEMENS may be asked to make an alternate arrangement during such instances.

3.1.4 **Non Availability of Site Engineer: -** In the recent past due to non-availability of engineer at site, problem could not be resolved on time. In the meeting held on 17.05.2019 at NR-1, POWERGRID office, it was decided that M/S Siemens would provide dedicated back office support for the AMC of NR SCADA project to avoid any delay in problem resolving by 31st May, 2019, However it has not been provided yet.

It is pertinent to mention that the non-availability of site engineer is a serious issue keeping in view the importance of SCADA System directly affecting the System operation activities & Grid Security. So it is requested to ensure the availability of site engineer to avoid such type of incidents in future.

3.1.5 **Issue regarding functionality of IMM: -** During the activation of a display job in IMM there is always SVG POP error and 'transfer job failed error' occurs every time. Each time during the solution of these type of error M/s SIEMENS site engineer gives a temporary solution by deleting the display of other constituents. This type of activities shows that in the IMM, there is some space shortage problem or may be some other reason (M/s SIEMENS may update the reason & remedial action to resolve these type of problem). Thus M/s SIEMENS may be asked to resolve the issue to avoid recurrence of such instances in future.

3.1.6 **Issue regarding functionality of PDS: -**The PDS system of SLDC, Panipat has not been working for last one year and same has been communicated to several time to M/s SIEMENS. It was decided that M/S Siemens would provide dedicated back office support for the AMC of NR SCADA project to avoid any delay in problem resolving by 31st May, 2019, However it has not been provided yet by M/s SIEMENS till now. Thus the matter may be taken up with M/s SIEMENS regarding functionality of PDS.

3.1.7 **Addition of another link on website of SLDC Haryana:** As per Govt. of Haryana direction Antyodaya Saral link has to be added by every Haryana department sites and the same has to be added at SLDC Haryana site by M/s SIEMENS. Regarding the same message has been conveyed to M/s SIEMENS many times. But the said job yet to be completed by M/s SIEMENS. Therefore, M/s SIEMENS may be asked for providing the link of Antyodaya Saral at Haryana SLDC website.

3.1.8 **Regarding functionality of STLF:** The STLF (Short Term Load Forecasting) is essential for the load forecasting on short term basis for optimum utilization of available power sources and for the smooth functioning of Grid. However, the feature available in SCADA, either shows error or load forecast w.r.t. the actual load shows huge mismatch. It is important to mention that there is no training organized by M/s SIEMENS to familiarize with STLF feature. So M/s SIEMENS may be asked for early organization for the training of STLF.

3.1.9 **EMS tuning:** During the EMS tuning activity, certain problems/misconceptions are being faced which are not been resolved even with the help / support available from M/s. Siemens Engineers deployed at SLDC, Panipat as they are not conversant with the EMS functionality of the system.

The matter was discussed in the 12th TeST meeting wherein it was assured by M/s Siemens to deploy suitable manpower, who can help in EMS tuning activity at SLDC Panipat or provide back office support dedicated to this work only. Thus the matter may be taken up with M/s SIEMENS regarding EMS tuning.

3.1.10 **Frequent changes of Site Engineer deployed by M/s SIEMENS at SLDCs:**

At the TeST meeting forum, the issue of frequent changes in the deployment of third party Site Engineers at SLDCs by M/s SIEMENS has been raised time and

again. They have been withdrawing experienced manpower by replacing them with inexperienced engineers having inadequate knowhow of the system. Despite regular follow-up, compliance has not been made by M/s Siemens. Frequent changing of site engineers has challenged the performance & smooth working of the system. They are unable to resolve even petty issues/events at site and always seek back office support from Bombay. This leads to very poor response time. The engineers so deployed are engaged through third party and are paid low in general. Such manpower may be a threat against the system security and thus M/s SIEMENS should ensure to deploy manpower which is on their own roll.

POWERGRID, being the contractual owner of the project is required to take up with M/s SIEMENS for ensuring deployment of own-roll qualified and skilled engineers.

3.1.11 **Cyber Security Issues:**

A team of National Critical Information Infrastructure Protection Centre (NCIIPC) visited at Haryana SLDC, Panipat on 05.08.2019 to assess the suitability of SLDC system for declaring it as Critical Information Infrastructure (CII). NCIIPC vide MOM dated 05.08.2019 stated that in the present scenario none of the Business Process of SLDC Panipat is considered to be identified as CII. However, followings suggestions have been made to improve the Cyber Security posture of SLDC.

(a) Cyber Security Auditor:

The SCADA system was commissioned in the NRLDC/SLDCs under ULDC Phase-II during Jan, 2015. It was executed by POWERGRID on the behalf of NR constituent states through M/s SIEMENS. As per contract, there was a provision of cyber security audit from a third party CERT-IN empaneled vendor. Accordingly, M/s SIEMENS is getting the cyber security audit done on annual basis from M/s AKS Information Technology Services Pvt. Ltd. since 2016. The cyber security audit is being done by same third party CERT-IN empanelled vendor continuously for the last three years. NCIIPC suggested that in future, the cyber audit should be got carried out from different CERT-IN empanelled auditors annually.

In pursuance to the suggestion, M/s SIEMENS has shown its inability citing that it may not be possible to choose new Vendor at this stage since they have already engaged the Cyber Security audit vendor for 6 years as per AMC terms.

POWERGRID, being the contractual owner of the project is required to take up with M/s SIEMENS to implement the NCIIPC suggestion by engaging different Cyber Security Auditors annually.

(b) Window 7 Operating System Updation & Up-gradation:

The Operator consoles and some server part of SLDC SCADA system is running on Windows 7 Operating System. NCIIPC observed that rarely any updation is being done by the vendor and the support of Windows 7 is also likely to be stopped very soon. Thus, it was proposed that the Operating System should be migrated to higher version of Windows and provision needs to be included for regular offline/online updates. Accordingly, M/s SIEMENS was asked to do the needful but till to date no response has been received.

POWERGRID, being the contractual owner of the project is required to take up with M/s SIEMENS to migrate into higher version of Windows and to do the regular offline/online updates.

(c) Preparation of Information Security Management System (ISMS) Policy & Cyber Crisis Management Plan (CCMP):

NCIIPC team suggested for preparation of ISMS policy and Cyber Crisis Management Plan (CCMP) for the SLDC SCADA system.

In the NR Region, NRLDC is looking in to the supervision, monitoring and control of integrated operation of Regional grid in coordination with all State power utilities, Central generating Stations etc. with the help of modern state-of-the-art SCADA system set up in NRLDC and all SLDCs. The SCADA Systems of all the Northern Region SLDCs are identical and closely integrated with NRLDC. Thus, all the SLDCs SCADA Systems are required to implement policy / plan with respect to Information Security Management System (ISMS) Policy & Cyber Crisis Management Plan (CCMP) in a unified manner.

NRLDC may chalk` out a unified ISMS policy and CCMP for all the NR constituent State SLDCs and implementation thereof.

3.2 SCADA issues of PSTCL (Agenda by PSTCL)

3.2.1 Information Model Management problems:

Recently problem occurred in database development tool i.e. IMM on Aug 8, 2019 (due to failure of SAN hard disks) and persisted for few days, due to which database development work get affected at large. M/s Siemens is requested to take necessary steps to avoid similar issue in future.

3.2.2 **Updation of SCADA data in Web Server**:

As already pointed out in the past TeST meetings, it is again reiterated that problem related to data updation in Web Server has not been resolved completely by M/s Siemens. In the recent past problem occurred on 11/8/19, for which the matter was also taken up with M/s Siemens and a ticket (On Siemens Complaint Portal) was also raised on same. Although issue was resolved by firm, PGCIL is also requested to take up matter with M/s Siemens to resolve it on permanent basis.

3.3 SCADA issues of UPSLDC (Agenda by UPSLDC)

3.3.1 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 automatically. It needs to be done manually
- Even when Col data is viewed through cable or through public IP, availability of data is not satisfactory causing annoyance at senior management level very frequently. In spite of regular pursuance with Siemens, no concrete solution has been provided so far.

3.3.2 OTS issues:

OTS applications could not be utilised due to data sync problem of OTS. In SCADA AMC Meeting held on 17th May'19 at PGCIL New Delhi, M/s Siemens agreed to send EMS Engineer in 1st 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. At present, OTS server's STATUS is Not in Service.

3.3.3 Data Sync / EMS Issues:

The database at UPSLDC is not synchronized with NRLDC & other constituents. If we sync domain database, EMS model becomes very large whereas data availability in EMS is very less as ICCP data bases are not synced. Therefore, we are unable to run EMS modules at UPSLDC, results come very poor & not of any use for system control.

3.3.4 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 has not yet been intimated by Siemens.
- 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. No action has been taken by Siemens even after lapse of more than 05 months.

3.3.5 Networking Issues:

The issue was raised in previous TeST meetings and still unresolved. Failure of data reporting from RTUs/SAS on account of this was observed on a number of times and also observed on 25-10-2019. 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. It is proposed that some external agency having expertise in providing networking solutions may be taken for resolving networking issues. It may be noted that above problem causes complete failure of real time data.

3.3.6 **IMM Issues:**

- Issues of frequent shut down of IMM workstation has been reported to Siemens through complaint portal several times and also reported to their site engineers but problem is still unresolved even after lapse of 6-7 months.
- **PSOS disconnection problem -** IMM frequently disconnected from PSOS.

3.3.7 **PDS issues -** Database is not sync with master database due to Relational database size limit problem.

3.4 Action on CERT-in advisory C/AD-2019-0012 regard end of life for windows 7 (Agenda by UPSLDC)

3.4.1 In SCADA AMC Meeting dated 17-05-19, Siemens agreed to submit detailed action plan by 31st July, 2019. This issue was again raised in 15th TeST meeting as well and again Siemens assured for detailed action plan shortly, but necessary measures are yet to be taken by Siemens.

3.5 EDNA issues (Agenda by UPSLDC)

History data of many parameters got corrupted for the following period.

a. 12/08/2019 09:30 HRS to 20/08/2019 13:30 HRS.

b. 29/08/2019 21:30 HRS to 03/09/2019 15:30 HRS.

c. 03/10/2019 08:30 HRS to 03/10/2019 17:00 HRS.

No concrete action has been taken by Siemens to analyse the root cause of the problem.

3.6 Web server issue of RVPN (Agenda by RVPN)

There is issue in web server database sync/update, every time Siemens site engineer has to run script to sync the database, permanent solution is still pending.

3.7 Inclusion of HBL make charger in AMC (Agenda by RVPN)

Inclusion of HBL make charger in AMC, which are provided under microwave replacement scheme.

POWERGRID may deliberate.

3.8 DTL SCADA issues (Agenda by DTL)

3.8.1 New display creation getting transfer failed in IMM.

Creation of new SCADA display is getting transfer failed through IMM. Ticket for this was generated on 09-08-2019 at 10:49:59 IST with Ticket No. 8411 and the complaint is still in open state. Resolution has been repeatedly asked from Siemens but only temporary solution was provided which does not fulfill the requirement as many new substations are adding in DTL network in the near future.

3.8.2 HIS data loss

Replay function is not able to retrieve data from Historian sever. Data lost from 25th Aug, 2019 at 11.00 AM to 30th Aug, 2019 at 7.00 AM. Ticket for this was generated on 2019-09-04 at 12:46:02 IST with ticket no. 8521 and the complaint is still in open state.

3.8.3 IMM failure

Tool for the database updation i.e. IMM was down from 16th Oct 2019 at 3PM to 21st Oct. 2019 at 11AM. (Total for 116 Hrs). The response for the complaint resolution was very slow and the works got affected severely. Ticket was generated on 2019-10-16 at 15:08:38 IST with ticket no. 8744.

4. Telemetry Related Issues

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

4.1.1 In order to have proper visualization and Situational awareness to control room operator for ensuring reliable grid operation, uninterrupted availability of telemetry is essential. It is essential to ensure 100% availability of the data from

all the Sub-stations. However, it is seen that data is highly intermittent even for some of the 400kV/ 765kV Sub-stations.

4.1.2 The non-availability of various 400 KV / 765 stations was calculated for the month of September 2019. The list of stations where data availability is less than 80% is given below.

4.1.3 Out of 200 number of 400/765 sub-stations data of nearly 20 (10%) is highly intermittent.

Central Sector		
Malana	Faridabad Gas	Azure 34
Amargarh	Roorkee	Bhadla Saurya Urja
Pithoragarh	Dulhasti	Koteshwar THDC
TPREL	Rihand-3	Jhajjar
PTCUL		
Kashipur		
HVPNL		
Kirori		
UPPTCL		
Dasna	Agra South	Aligarh (UP)
Mainpuri	Muzzfarnagar	Vishnu Prayag

*Intermittency based on September month data availability

4.1.4 Since, the Reliability of telemetry is essential for smooth monitoring and operation of the grid, the matter has been discussed in various TeST Meetings. Though there is some improvement from last TeST meeting but still 10% station data at 400 KV and above is intermittent.

4.1.5 The matter was also discussed in 15th TeST Meeting wherein MS NRPC has emphasized the importance of telemetry and requested all to ensure 100% availability of telemetry.

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

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 constituent will furnish the availability status of 220 kV and above stations and improvement there off.

4.2.2 The matter regarding availability of correct digital status is being regularly taken in various TeST Meeting since 2016 but still there is negligible improvement in availability of digital status.

4.2.3 The matter was also discussed during 15th TeST Meeting where it was decided that all constituents would submit the digital status availability report to NRPC/NRLDC on quarterly basis but till date no report has been submitted by constituents.

4.2.4 Availability of digital status based on snapshot of 28th October is given below:

S. No.	Constituent	Total CB	Available	Not Available	% Availability
1	Central Sector	3344	2708	636	85.31%
2	RRVPNL	1851	1264	587	68.29%
3	UPPTCL	2076	1437	639	69.22%
4	BBMB	261	247	14	94.64%
5	DTL	549	444	105	80.87%
6	HVPNL	806	557	249	69.11%
7	HPSEB	121	89	32	73.55%
8	PSTCL	838	587	251	70.05%
9	Uttarakhand	152	100	52	65.79%

4.2.5 List of Sub-Stations having poor digital telemetry is given below:

Central Sector			
Bhiwadi	Malerkotla	Vindhyanchal	
HVPNL			
Daultabad	Kabulpur	Dhanoda	
PSTCL			
Muktsar	Talwandi Saboo		
RRVPNL			
Suratgarh	KTPS		
DTL			
Bamnauli	Bawana	CCGTB	Harsh Vihar
UPPTCL			
Anapara T	CB Ganj	Greater Noida	Muradnagar

Obra B	Panki 1	Unnao	Vishnu Prayag
HPSEBL			
Baspa			

4.2.6 All members are requested to honour the decision taken in the TeST committee meeting and furnish the status regularly and take actions for making correct digital status available to Control Centers.
Members may like to deliberate.

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

4.3.1 Telemetry status as on 30.09.19 is given below:

	Northern Region summary sheet and details of current status of implementation of telemetry system											
									Updated Till:		30.09.2019	
Sl. No.	User Name	Total Nos of Stations		Telemetry not Provided				Telemetry Intemittent				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	171	-	65	-	38%	-	12	-	7%	- 45%
2	Haryana	5	71	-	12	-	17%	-	-	-	-	- 17%
3	Rajasthan	20	225	-	-	-	-	6	14	30%	6%	30% 6%
4	Delhi	6	43	-	-	-	-	-	5	-	12%	- 12%
5	UP	21	195	-	-	-	-	3	32	14%	16%	14% 16%
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	-	-	-	-	-	4	-	5%	- 5%
10	NTPC	14	-	-	-	-	-	3	-	21%	-	21% -
11	NHPC	14	-	-	-	-	-	1	-	7%	-	7% -
12	NPCIL	5	-	-	-	-	-	-	-	-	-	- -
13	NJPC	2	-	-	-	-	-	-	-	-	-	- -
14	THDC	2	-	-	-	-	-	1	-	50%	-	50% -
15	BBMB	6	16	-	-	-	-	-	-	-	-	- -
16	IPP/JV/Patran	9	5	-	-	-	-	3	2	33%	40%	33% 40%
	TOTAL	150	878	3	89	2%	10%	27	101	18%	12%	20% 22%
	Total (over all)	1028		92		9%		128		12%		21%

4.3.2 It is to mention that non availability as on 30.06.2018 was 26% whereas non - availability as on 30.09.2019 is 21%. It is to again emphasis that very little or no improvement in this regards.

Average Data Non-availability	
Jun-18	26%
Jul-18	24%
Aug-18	24%

Sep-18	22%
Oct-18	25%
Nov-18	24%
Dec-18	22%
Jan-19	22%
Feb-19	28%
Mar-19	25%
Apr-19	26%
May-19	23%
Jun-19	25%
Jul-19	24%
Aug-19	21%
Sep-19	21%

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 The reliability of communication channel to NRLDC was discussed in various TeST Meeting since November 2016(8th TeST Meeting). It is to inform that still 21 RTUs are reporting to NRLDC on single channel.

4.4.3 Presently 113 RTU out of 134 are reporting on redundant channel. 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.

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.

4.4.5 List of RTUs with single channel is given below:

S.NO.	Name of RTU	Comments	Timeline
1	BHADLA (PG)	Will be arranged along with Fiber connectivity of 765 KV Bhadla-Bikaner	September 2019
2	KISHANGANGA	NHPC	NHPC to revert
3	PARBATI-2	NHPC	NHPC to revert
4	SALAL	NHPC	NHPC to revert

5	SEWA-2	NHPC	NHPC to revert
6	RIHAND-3	NTPC	NTPC to revert
7	SINGRAULI HYDRO	NTPC	NTPC to revert
8	BHADLA (ADANI)	Will be arranged along with Fiber connectivity of 765 KV Bhadla-Bikaner	September 2019
9	BHADLA (SAURYA URJA)	Will be arranged along with Fiber connectivity of 765 KV Bhadla-Bikaner	September 2019
10	BUDHIL	IPP	
11	KARCHAM WANGTOO	IPP	
12	MALANA	IPP	
13	SHREE CEMENT	IPP	
14	CHEMERA-3*	NHPC	NHPC to revert
15	KOLDAM*	NTPC	December 2019
16	NATHPA JHAKRI*	RTU to be replaced	October 2019
17	URI-2*	NHPC	NHPC to revert
18	APTFL		
19	TPREL		
20	ACME POWER		
21	Mahoba Power (Adani)		

*Standby channel down since long.

4.4.6 The matter was also discussed in 15th TeST Meeting and comments received during the meeting is given table above. However, no response has been received from NHPC.

4.4.7 During the meeting it was also decided that since many IPPs were not available in the meeting, Member Secretary, NRPC informed that a special meeting may be called with IPPs within one month for arrangement of telemetry through redundant channel. However, meeting is yet to be conveyed.

POWERGRID/Utilities are requested to please update the status.

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 RTU data from NR-II stations and wrong computation of drawal data of Punjab. Various dates were 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.

4.5.4 This matter was discussed during 15th TeST Meeting requested POWERGRID/PSTCL to submit the status of DCPS healthiness / Battery backup of all the locations of NR-II to NRPC/NRLDC within a period of one month. However, no such report has been received from POWERGRID/PSTCL.

4.5.5 PSTCL/PGCIL to update the status for replacement of faulty battery banks.

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

5.1 URTDSM issue of HVPNL (Agenda by HVPNL): -

3nos. of PMU have been shifted from PTPS to the DCRTP. The SAT (Site acceptance test) has not been carried out till now. So M/s GE T&D India Ltd. may be asked for SAT testing

5.2 URTDSM issue of PSTCL (Agenda by PSTCL):

5.2.1 Under 1st phase of URTDSM scheme implemented by PGCIL on Unified basis, 3 nos. generating stations of Punjab i.e. 1) GGSSTP, Ropar 2) GNDTP, Bathinda 3) GHTP, Lehramohabat were covered. Real time data from GGSSTP, Ropar plant is not reporting at SLDC Ablowal since long already under the knowledge of PGCIL.

5.2.2 PGCIL is once again requested to resolve the telemetry data issue of GGSSTP, Ropar in a time bound manner and also intimate the tentative time line.

5.2.3 In addition, PGCIL is also requested to clarify that:

a) What action is being taken by PGCIL in general to cover left out circuits data through PMU?

b) Status of 2nd Phase of URTDSM scheme (along with its tentative time schedule).

c) Whether IPPs having generation at 220KV are also bound/required to provide PMU data at SLDC? If yes, PGCIL is requested to kindly intimate the regulation(s) please.

5.3 PMUs installed under URTDSM Scheme at 400 kV Substations / Power Houses of BBMB

5.3.1 BBMB stated that due to phase mismatch of 400 kV viz-a-viz 220 kV system at 400 kV Substations / Power Houses of BBMB, phasor mismatch is being observed in the PMUs installed under URTDSM Scheme. In the 15th TeST meeting, POWERGRID intimated that necessary instructions shall be imparted to M/s GE to alter the phase sequence wiring in PMUs installed at Dehar Power House, Bhiwani & Panipat. However, this work has yet to be executed, as such, POWERGRID is requested to get this work completed at the earliest.

5.3.2 It has been intimated by POWERGRID that necessary wideband channel through OPGW for reporting of PMUs installed at Bhakra Right & Pong PH to SLDC Chandigarh have been configured. The same was intimated to M/s GE, however, till date PMUs installed at these sites are not reporting. POWERGRID is requested to impart necessary instructions to M/s GE to take necessary action in this regard.

5.3.3 The issue of defective GPS System installed for PMU at Bhiwani has been taken up with M/s GE repeatedly. The site engineer of M/s GE stationed at BBMB Chandigarh had E mailed to M/s GE Noida office regarding the rectification of this GPS on 05.09.2019, but till date no action has been initiated.

5.3.4 For 2*80 kVA UPS system installed under PMU project at BBMB SLDC, a console has been provided to monitor the UPS parameters at Control Room. However, necessary action to view the UPS parameters through the console has not been undertaken by M/s GE.

5.4 Maintenance of PMUs installed under URTDSM

5.4.1 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.

5.4.2 The matter was also discussed during 15th TeST Meeting wherein POWERGRID informed that approved procedure of PMU maintenance will be shared and maintenance activities would start. However, no action for PMU maintenance has been taken yet.

5.4.3 PGCIL to update.

6. OTHER AGENDA

6.1 Delay in Payment (Agenda by POWERGRID)

POWERGRID is providing consultancy services on RTU/ APS/ Wideband/ OPGW maintenance to constituents on overhead charges basis as per MOU signed with respective Constituents. Constituents are paying on quarterly or yearly basis with advance payment, however even advance payments are being released on delay of 5-6 months and in some cases the delay is of up to one and more years, our Audit team has also observed this issue and POWERGRID have no other option to deduct the overhead charges from advance 1% deposited with us and cancellation of AMC with immediate effects.

Outstanding payment:

DTL – approx. Rs. 8 Lacs (RTU/OPGW)

J&K PDD – Approx. Rs 22.58 Lac (APS, OPGW, RTU, wideband & Insurance)

PTCUL – approx. Rs 5 Lac (RTU, APS, OPGW & short payments)

UPPTCL – approx. Rs 60 Lac (APS, RTU, OPGW, wideband)

Above outstanding amounts are pending since long and POWERGRID is regularly pursuing the case with respective Constituents however settlement of payment issue was not closed till date even repeated reminders. Now POWERGRID have no other option to stop AMC works for UPPTCL, PTCUL and J&K PDD where payment has not been released since long and total outstanding is also very huge. It may be noted that after stoppage of AMC, data availability may be impacted and respective constituents may take care of their telemetry data and voice connectivity.

DATE AND TIME OF THE NEXT MEETING

The date and venue of next (17th) meeting of the Telecommunication, SCADA & Telemetry (TeST) will be intimated later.

Annexure-1

List of power plants identified by NLDC for implementing AGC as per CERC Order 319/RC/2018

S.no.	Power Plant	Reg	T/H	Cap (MW)	Nearest wideband node	Main communication path available ?	Alternate communication path available?	Route diversity available for alternate path ?
1	Singrauli STPS	NR	T	2000				
2	Naptha Jhakri	NR	H	1500				
3	Indra Gandhi STPS	NR	T	1500				
4	Tehri	NR	H	1000				
5	Koldam	NR	H	1000				
6	Rihand TPS Stage – III	NR	T	1000				
7	Rihand TPS Stage – I	NR	T	1000				
8	Rihand TPS Stage – II	NR	T	1000				
9	Dehar	NR	H	990				
10	Dadri TPS Stage – II	NR	T	980				
11	Dadri TPS Stage – I	NR	T	840				
12	Dadri Gas	NR	T	830				
13	Bhakra Right	NR	H	785				
14	Auraiya Gas	NR	T	663				
15	Bhakra Left	NR	H	594				
16	Chamera-I	NR	H	540				
17	Parbati III	NR	H	520				
18	Unchahar TPS Stage – IV	NR	T	500				
19	Unchahar TPS Stage – I	NR	T	420				
20	Unchahar TPS Stage – II	NR	T	420				
21	Anta Gas	NR	T	419				
22	Koteshwar	NR	H	400				
23	Pong	NR	H	396				
24	Dulhasti	NR	H	390				
25	Chamera-II	NR	H	300				
26	Dhauliganga	NR	H	280				
27	Chamera-III	NR	H	231				
28	Bairasiul	NR	H	180				
29	Sewa-II	NR	H	120				
30	Rampur	NR	H	412				