

# **CENTRAL ELECTRICITY REGULATORY COMMISSION**

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No:CERC/Engg./X/TF-CS/2014-15

Dated: 22<sup>nd</sup> July, 2015

To

The Members of the Task Force  
(As per List Enclosed)

**Subject: Minutes of the 2<sup>nd</sup> Meeting of Task Force for giving inputs for framing of Draft Regulation on “Communication Systems in Power Sector**

Madam/Sir,

Please find enclosed herewith minutes of the 2<sup>nd</sup> Meeting of the Task Force for giving inputs for framing of Draft Regulation on “Communication Systems in Power Sector” held in CERC on 06.7. 2015.

Yours faithfully,

Encl: As above

SD/-  
(Vikram Singh)  
Dy.Chief (Engineering)  
(Convenor of Task Force)

### **Members of the Task Force**

<b>SI. No.</b>	<b>Name of the Member</b>	<b>Name of the Organization</b>	<b>Designation</b>
1	Smt.Neeraja Mathur	—	Ex-Chairperson, CEA
2	Shri AK Saxena	CERC	Chief (Engg.)
3	Shri D.K.Jain	CEA	CE (EI)
4	Shri H.H.Sharan	POWERGRID	Addl. G.M. (LD&C)
5	Shri P.K.Agarwal	POSOCO	AGM
6	Shri Dinkar Devate	NTPC	GM (Electrical)
7	Shri Chandrashekharaiiah	KPTCL	Executive Engineer
8	Shri. C.G.Thakkar	GETCO	Dy. Engineer (Engg.)
9	Shri Hitesh Kakati	AEGCL	AGM Comm.
10	Shri H.K.Samantaray	OPTCL	Sr.G.M.Telecom
11	Shri A.D.Thirumoorthy	IWPA	Chief Technical Advisor
12	Ms. J.Rexline Terese	TATTRANSKO	Chief Engineer
13	Sh.Atulya Kumar Naik	SECI	Additional GM
13	Shri Vikram Singh	CERC	DC (Engg.)

**CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI**

**Minutes of the 2<sup>nd</sup> Meeting of Task Force for giving input for framing of Draft Regulations on “Communication Systems in Power Sector”**

Second meeting of Task Force for giving input for framing Draft Regulation on “Communication System in Power Sector” was held at CERC, New Delhi on 6<sup>th</sup> July, 2015. List of participants enclosed as **Annexure-1**.

1. Chairperson of the task force Ms. Neerja Mathur, welcomed the participants. It was mentioned that co-opted members from TANTRANSCO and SECI were also present. Chief (Engg.) CERC expressed pleasure in finding that representative from Tata Power Delhi Distribution limited (TPDDL), who on its own pursued the minutes of the first meeting of the Task Force available on the CERC Website and desired to share their experience with the group. He welcomed representative from TPDDL as a special invitee.
2. Chairperson elucidated the highlights of last meetings and requested members to furnish their views on the requirement of communication systems for various applications and draft Regulations circulated. She recapitulated the terms of reference and discussion held during the last meeting. She recalled that during the last meeting POWERGRID was requested to submit the cost data of transmission lines with and without fiber optic cables.
3. Representative of POWERGRID stated that the cost of OFC has come down drastically and at present it is around Rs.1.5 Lakh per km. In respect of PLCC, the cost involved is towards outdoor equipment and irrespective of length of the line cost remains same. He was of the opinion that for lines shorter than 25 km, optical fiber option is economical than PLCC.
4. KPTCL was of the view that PLCC should be kept for protection purposes. Chief Engineer (EI), CEA was of the view that it may be left to the utility to choose a particular system for data, voice and protection.
5. Representative of TANTRANSCO stated that they are only using Optical Fiber and are providing OPGW on all lines and have dispensed with use of PLCC.

6. Representative of TPDDL was of the view that present communication system provided for Delhi Discoms has become obsolete. SDH equipment was provided in 2007 and with technological obsolescence OEM support did not exist. They, therefore, took-up-upgradation with DERC without any regulation or standards on communication system, it was very hard for a utility to convince Appropriate Commission for up-gradation/ replacement of old communication system.
7. The representative of Indian Wind Power Association (IWPA) was of the view that cost for providing communication system from plant to control center should be borne by the utility. Further SLDC should ensure the integration of data from plant to Control Center. Giving the rough estimate of the cost involved , the representative of IWPA stated that the one time cost would be around Rs. 2 lakhs for less than 10 MW Wind Turbine and Rs. 3 lakhs for more than 10 MW Wind Turbine. He was also of the view that cyber security is important and there is need for standards for cyber security and its compliance.
8. Representative of Solar Energy Corporation India (SECI) was of the view that provision of redundancy should be there in the communication system. The communication system should be cost effective. Solar Power Developer may bear the cost of RTU and communication channel till Area SLDC, however equipment may have to be provided by the State utility. The cost should not be loaded on to a trader. Chief (Engg.) CERC was of the view that it is the responsibility of the Solar Power Developer (SPD) to ensure availability of data from plant to the nearest control center and the SPD should also bear its cost.
9. Representative of Karnataka Power Transmission Corporation Ltd. (KPTCL) was of the view that in broader aspect, an STU needs to develop communication infrastructure for the State. In so far as wind generator is concerned, STU may provide SCADA upto the pooling point, which is also the billing point. The generator needs to bear the cost incurred by STU for providing the communication infrastructure.
10. Chief Engineer, CEA pointed out that since Karnataka has developed SCADA upto 11 kV; it is easier for Karnataka to integrate RE generators upto 11kV. However, other States have not developed the infrastructure hence it will be difficult for them.

11. Representative of TPDDL gave a presentation on the communication system in TPDDL. He explained TPDDL network architecture and various technological options for network up-gradation and the challenges faced during the up-gradation. He opined that fiber network for WAN network is the best solution. For last mile connectivity combination of RF mesh, PLC and VSAT/Cellular Technology, may be adopted depending on consumer density and geographical condition. TPDDL was of the view that packet technology network for Core for handling huge amount of data should be provided. Interoperable and standard based PLC network may be used for remote and slum areas and P2P RF link or VSAT as a fall back arrangement for mission critical services may be provided. A copy of the presentation is placed at Annexure-2.
12. Members also discussed draft Regulations. It was noted that POWERGRID, GETCO, KPTCL, OPTCL and NTPC have submitted comments on the draft Regulations after the first meeting.
13. Members of the view that life of optical fiber may be kept 15-20 years however the life for terminal equipment should not be more than 7 years.
14. POWERGRID stated that 'user' needs to be defined in the draft Regulations. It was pointed out that definition is already given at 2(bb). Chief (Engg.) CERC stated that the draft Regulations are for ISTS, 'Voltage level 33 kV and above' given in the definition may be deleted. KPTCL and GETCO were of the view that state network should also be covered by the Regulations. It was clarified that the report of the Task Force may bring out such communication requirement including smart grid requirement. The State Electricity Regulatory Commissions may eventually frame communication Regulation for the respective State.
15. It was decided that definitions given under Section-2 may be checked/verified with respect to Act 2003, and CERC Regulations and the same, if provided therein, shall be used in these Regulations also. More related definitions may also be included.
16. In the objectives under Section-3, tele protection, audio-visual/video conferencing may be added. In the scope under Section-4, applicability shall be added.
17. Under Section-5, members discussed roles and responsibilities of various agencies. It was decided that sequencing of the agencies given the draft

may be changed in a hierarchal manner, starting from CEA followed by CTU, RLDC, and so. Members were of the view that CTU at the Center and STU at the State level is only responsible for planning and coordination, whereas an ISTS licensee owning the transmission system shall establish the communication system. Further, members were of the view that one agency may be made responsible for ensuring cyber security. It was also decided that the CEA standards for communication system need to cover the cyber security aspect as well.

18. In the role of user under Section-6.4, NHPC representative was of the view that it would be difficult for the user to integrate its communication system with the communication pooling point, terminal equipment of load dispatch center and NHPC is facing problem particularly when CTU system comes in series with STU system. NHPC representative was of the view that CTU or RLDC should be responsible for such integration. Chief Engineer, CEA clarified that the user should integrate its system at interconnection point and thereafter the communication system provider (transmission licensee) should take care. NLDC may frame guidelines on interfacing requirements for the communication system which should be followed by all users, ISTS licensee, SLDCs and RLDCs for seamless integration.
19. GETCO was of the view that there should be a communication model which can be applied to any STU network. It was agreed that the specific choice of the mode of communication may not be specified in the regulation but the availability of adequate communication is mandatory.
20. At the end of the discussion while emphasizing the cyber security requirement, perceived threats and protection in the Power transmission and Communication sector, Chairperson urged all the participants to give their suggestion with reference to terms of references of the Task Force so that draft regulations could be finalized with clear perceptions of the present and upcoming trends in the Communication system in Power sector. Presently draft regulation is prepared with the CERC purview. Chairperson decided that the draft Regulations needs to be modified based on the discussion and requested Sh. C.G.Thakkar, GETCO, Sh. H.H. Sharan, POWERGRID and Sh. P.K. Agarwal, POSOCO to assist Sh. Vikram Singh, the member convener, in modifying the draft Regulations

and preparation of report of the Task Force. She also requested Sh. Sanjay Banga, TPDDL to provide input on the topic of cyber security and smart grid.

21. She also requested other members to give their inputs on draft Regulations as well as Terms of Reference of the Task Force to the member convener for preparation of the report.

Meeting ended with Vote of thanks to the Chair.

**ANNEXURE-I**

## List of Participants.

<b>Second Meeting held on 6.07.2015 of Task Force for giving input for forming of Draft Regulation on "Communication Systems in Power Sector"</b>				
<b>Sl. No.</b>	<b>Name</b>	<b>Name of the Organization</b>	<b>Designation</b>	<b>E-mail ID</b>
1	Ms.Neeraja Mathur	—	Ex-Cairman,CEA	<a href="mailto:neerjamathur123@gmail.com">neerjamathur123@gmail.com</a>
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