



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
शोध एवं विकास प्रभाग

No. CEA/PLG/R&D/Standards/2017 | 336-356

Date: 05.12.2017

To, As per list attached

Sub: Minutes of the Meeting of Committee to develop approach paper for electric vehicle and charging station standards

The first meeting of the committee to develop electric vehicle and station standards was held on 4th December 2017 at New Delhi under the chairmanship of Member (Planning), CEA. The minutes of the meeting are here by attached for necessary action at your end.

This issues with the approval of Member (Planning), CEA.

(Seema Saxena)
Chief Engineer

Copy to:

SA to Member (Planning), CEA

MINUTES OF THE 1ST MEETING OF THE COMMITTEE TO DEVELOP AN APPROACH PAPER FOR ELECTRIC VEHICLES AND CHARGING STATION STANDARDS HELD ON 4TH DECEMBER 2017 AT NEW DELHI

1.0 Shri Pankaj Batra, Member(Planning) CEA, welcomed all the members to the meeting and gave a brief background for the need of constitution of committee to develop an approach paper for electric vehicles and charging station standards. The list of members and participants is enclosed as **Annexure I**. He stated that a lot of efforts are being put in by a number of PSUs and organizations like B.I.S., B.E.E., NITI Aayog, and Ministry of Heavy Industries. He informed that the purpose of the meeting was to coordinate and usher the efforts of all organizations especially on the technical side, and to avoid duplication and to act as a missing link. Also the effect of Electric Vehicles on the Electricity Grid needs to be determined. Member (Planning) also informed the participants that Shri. Sajid Mubashir, Scientist from Department of Science and Technology, is currently heading the BIS Committee ETD-51 to develop standards for e-vehicles.

A presentation was then given by R&D Division, CEA to explain the purpose, agenda and the current prevalent standards regarding the Electric Vehicles and charging infrastructure. A copy of the presentation is at **Annexure – II**.

1.1 Shri Abhay Bakre, Director General BEE informed the committee that he was co-chair for the sub group to develop the infrastructure regarding electric vehicles under the Bharat Charging Standards committee of by Ministry of Heavy Industries, whose recommendation were submitted to NITI Aayog. He further informed about the amendments done in 2010 to the Electricity Conservation Act, 2001 to include electric vehicles which would facilitate development of e-vehicles and charging stations. EVI (e-Vehicle Initiative) under the Clean Energy Ministerial has two sub components named EV30@30 and Pilot City Programme(PCP), which are in process of implementation in the country. EV30#30 has a goal of sales of minimum 30% electric vehicles by 2030 while Pilot City Programme deals with implementation of E-Mobility in cities like Nagpur, Delhi etc.

1.2 Shri D.G. Salpekar, General Manager (e-Vehicle), EESL, informed that EESL had placed tenders for purchase of 10000 e-vehicles, which was won by Tata Motors Limited and Mahindra after competitive bidding process in August,2017. These vehicles are being purchased by Govt. departments and they are being delivered starting 7 December 2017. For this purpose, EESL had called for bids for installing chargers in specific locations in New Delhi. He stated that EESL would install the chargers and O&M for these would be done by the supplier for 5 Years. Some of the issues highlighted by him were that possibly all safety issues concerning the Bharat Chargers Standards, which are being used currently were not addressed, there were also issues of lack of suppliers for the charging stations in the market, lack of uniform standardization/certification procedure.

- 1.3** It was further informed that first 400 EVs have already been booked by various organizations. Moreover, Andhra Pradesh is further planning to place an order for Electric Vehicles. The standard capabilities of the EV chargers being delivered include a charging time of 5 – 6 hours for AC charging and 60 to 90 minutes for DC charging. The AC chargers can charge up to 3 vehicles at a time while a DC charger can charge only a single vehicle at a time.
- 1.4** Shri Anil Kaushik, Assistant General Manager(BD), NTPC, informed that NTPC has bought around 20 e-vehicles. These vehicles are proposed to be used for in house purpose only in location like Faridabad and Dadri, using them in-house charging stations.
- 1.5** Shri Aditya Gupta, Chief Business Officer, Tata Power, stated that Tata Power is running a public charging station in Vikroli, Bombay and is currently charging electric vehicles free of cost, as there is no tariff order of MERC regulation on what charging station should charge EVs. However, he stated that there are tariff orders of MERC at the rate of which the Distribution Companies should charge charging stations. Similarly, he stated that DERC had also taken out a tariff order for the same. Member (Planning) requested Tata Power to provide the tariff orders of MERC and DERC for information.
- 1.6** Sh. Mangal Hembram, Chief Engineer, (DP&D) informed that the Distribution Transformers are already working at 70-80% loading of their capacity. He further raised concerns about whether there is a need for new infrastructure or the existing infrastructure needs to be scaled up with the EV integration into the grid. In response, EESL stated that the Load of the charging stations to be used in EESL for DC charging station is going to be 20kW and for AC charging station it will be 3 * 3.33 kW, as AC charging station will have 3 charging points. It was stated that the distribution system adequately needs to be checked while putting up charging stations.

1.7 Proposal to co-opt members from other organizations:

After consultation with the participants present, the Chairman suggested that following organizations will be requested to co-opt a member for the next committee meeting:

- (i) Shri. Sajid Mubashir, Scientist G, Department of Science and Technology
- (ii) Other concerned divisions of CEA, e.g. RESD Division.
- (iii) Power Grid Corporation of India Limited (PGCIL)
- (iv) Automotive Research Association of India (ARAI)
- (v) Central Electricity Regulatory Commission (CERC)
- (vi) Delhi Electricity Regulatory Commission (DERC)
- (vii) International Centre for Automotive Technology(ICAT)

- 1.8** The chairman of the committee stated that tariff for charging should be so structured that the charging infrastructure set up for EVs may be utilized in the day in office parking lots when solar generation peaks, which would reduce the impact of solar integration on the grid and allow more efficient utilization of coal based plants and in

the house after the evening peak hours. Grid connectivity standards need to be made to ensure that Harmonics and D.C. injection into the grid is kept within limits.

1.9 The following decisions were taken during the meeting:

- i) The chairman of the committee stated that, as per the terms of reference, an approach paper was to be made within 1 month.
- ii) There would be only one more meeting within a week to 10 days and report prepared thereafter.
- iii) The Committee decided to co-opt certain members for the next meeting to take their views.
- iv) The committee further suggested to amend the grid connectivity regulations of CEA to include connectivity of the charging stations.
(ACTION: G.M. DIVISION)
- v) The committee suggested that a franchise model could be used for providing charging stations and billing the consumers, which would not require any amendment in the Electricity Act, 2003.
- vi) Tata Power to provide the tariff orders as requested by Member (Planning)
(ACTION: TATA POWER)

The Chairman thanked all the members for their valuable suggestions.

केन्द्रीय विद्युत प्राधिकरण (Central Electricity Authority)

Annexure I

शोध एवं विकास प्रभाग (Research & Development Division)

संदर्भ एवं फाइल सं./Reference & File No.

उपस्थिति सूची (Attendance List):

दिनांक (Dated): 04/12/2017

Sl. No. क्रम सं.	Name & Designation नाम व पदनाम	Organization/ Office address संगठन/कार्यालय का पता	Ph. No./ Fax No. दूरभाष/ फैक्स नंबर एस टी डी कोड सहित/ (with STD code)	Mobile No. मोबाइल नंबर	Email Id/ ईमेल आई. डी.	signature/ हस्ताक्षर
1.	Sh. Pankaj Batra (Member Planning)	CEA				
2.	Sh. Abhay Bakre DG	BEE		9910500573	dg_bee@nic.in	
3.	Seema Saxena CE, R&D	CEA		9810531680		
4.	Sh. Mangal Hemram Chief Engineer, DP&D	CEA	26732607	9718808051	cedpd-cea@gov.in	
5.	Sh. M. M. Dhakate Director	CEA	26732653	9990758885	mmdhakate@nic.in	
6.	Sh. Dinesh Chandra (CE)GM Div.	CEA	26732652		gmcea@nic.in	
7.	Sh. Vikram Singh Director GM Div.	CEA		9868893051	vikramsingh_cea@gov.in	

8.	Sh. Sudhir Jain. D.D., R&D	CEA		8527768477	sudhirjain@nic.in	
9.	Sh. Deepak Sharma AD, R&D	CEA	26732031		deepak2010@nic.in	
10.	Ms. Sonam Srivastava AD, R&D	CEA		9643225606	sonam.sri06@gov.in	
11.	Sh. Sameer Pandita	BEE		9999006267	spandita@bunet.in	
12.	Sh .D.G. Salpekar	EESL		9650990185	dsalpekar@eesl.co.in	
13.	Sh.Aditya Gupta, Chief Business Officer	Tata Power		9029399999	aditya.gupta@tatapower.com,	
14.	Sh.Manasvi Sharma	Tata Power		9029002369	manasvimanas.sharma@tatapower.com	
15.	Sh.Preetam Singh	Tata Power		9250008994	preetikasingh@tatapower.com	
16.	Sh.Anil Koushik AGM(BD)	NTPC,EOC Noida			anilkaushik@ntpc.co.in	
17.	Sh.Rajeev	Project Engineer,BEE		8930137372	rajeevk@beenet.in	
18	Krishna Pal	R&D, CEA	26732012		Krishna.nandpal@nic.in,	