



सत्यमेव जयते

No.12/2/2018-EV
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg,

New Delhi, 1st October 2019

To,

1. The Secretaries of all the Ministries/ Departments of Government of India
2. The Chief Secretaries of the States/UTs

Sub: Charging Infrastructure for Electric Vehicles (EV) -Revised Guidelines & Standards-reg

Sir/ Madam,

The guidelines & standards for charging infrastructure for electric vehicle were issued by this Ministry on 14.12.2018. Thereafter a number of suggestions have been received from various stakeholders. These suggestions have been examined & it has been decided to adopt some suggestions. The revised guidelines are as follows:-

Objectives

- a) To enable faster adoption of electric vehicles in India by ensuring safe, reliable, accessible and affordable Charging Infrastructure and eco-system.
- b) To promote affordable tariff chargeable from EV owners and Charging Station Operators/Owners.
- c) To generate employment/income opportunities for small entrepreneurs.
- d) To proactively support creation of EV Charging Infrastructure in the initial phase and eventually create market for EV Charging business.
- e) To encourage preparedness of Electrical Distribution System to adopt EV Charging Infrastructure.

In Light of the above, it has been decided as follows:

1. Private charging at residences / offices shall be permitted. Distribution Companies (DISCOMs) may facilitate the same.
2. Setting up of Public Charging Stations (PCS) shall be a de-licensed activity and any individual/entity is free to set up public charging stations provided that, such stations meet the technical, safety as well as performance standards and protocols laid down below as well as any further norms/ standards/ specifications laid down by Ministry of Power and Central Electricity Authority (CEA) from time to time.
- 2.1 Any person seeking to set up a Public Charging Station may apply for connectivity and he shall be provided connectivity on priority by the Distribution Company licensee to supply power in the area.

- 2.2 Any Charging Station/ Chain of Charging Stations may also obtain electricity from any generation company through open access
- 2.3 For these guidelines, Electric Vehicle Supply Equipment (EVSE) shall mean an element in EV infrastructure that supplies electric energy for recharging the electric vehicles.

3. Public Charging Infrastructure (PCI)- Requirements:

- 3.1 Every Public Charging Station (PCS) will have the following infrastructure:
- An exclusive transformer with all related substation equipment including safety appliance, if required.
 - 33/11 KV line/cables with associated equipment including line termination etc, if required.
 - Appropriate civil works
 - Appropriate cabling & electrical works ensuring safety
 - Adequate space for Charging and entry/exit of vehicles.
 - Public Charging Station shall have, any one or more chargers or any combination of chargers from the table given below in one or more electric kiosk/boards:

Charger Type	S. No.	Charger Connectors*	Rated Output Voltage(V)	No. of Connector guns (CG)	Charging vehicle type (W=wheeler)
Fast	1	Combined Charging System (CCS) (min 50 kW)	200-750 or higher	1 CG	4W
	2	CHArge de MOve (CHAdeMO) (min 50 kW)	200-500 or higher	1 CG	4W
	3	Type-2 AC (min 22 kW)	380- 415	1 CG	4W, 3W, 2W
Slow/ Moderate	4	Bharat DC-001 (15 kW)	48	1 CG	4W, 3W, 2W
	5.	Bharat DC-001 (15 kW)	72 or higher	1 CG	4W
	6.	Bharat AC-001 (10 kW)	230	3 CG of 3.3 kW each	4W, 3W, 2W
*In addition, any other fast/slow/moderate charger as per approved DST/BIS standards whenever notified. Note :Type -2 AC (min 22 kW) is capable of charging e-2W/3W with the provision of an adapter					

- vii. Charging Station for e-two/three wheelers shall be free to install any charger other than those specified above subject to compliance of technical & safety standards as laid down by CEA.
 - viii. Tie up with at least one online Network Service Providers (NSPs) to enable advance remote/online booking of charging slots by EV owners. Such online information to EV owners should also include information regarding location, types and numbers of chargers installed/available, service charges for EV charging etc
 - ix. Share charging station data with the appropriate DISCOM and adhere to protocols as prescribed by CEA for this purpose. CEA, Central Nodal Agency (CNA) and State nodal agency (SNA) shall have access to this database.
- 3.2 Electric Vehicle Supply Equipment (EVSE) shall be type tested by an agency/lab accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) from time to time.
- 3.3 The above minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis)
- 3.4 Captive charging infrastructure for 100% internal use for a company's own/leased fleet for its own use will not be required to install chargers as per para 3.1 and to have NSP tie ups
- 3.5 Charging Station may also be installed by Housing societies, Malls, Office Complexes, Restaurants, Hotels, etc. with a provision to allow charging of visitor's vehicles which are permitted to come in its premises.
- 4. Public charging Infrastructure (PCI) for long range EVs and/or heavy duty EVs:**
- 4.1 Fast Charging Stations (FCS) i.e. Public charging stations for long range EVs and/ or heavy duty EVs (like trucks, buses etc) will have the following :
- i. At least two chargers of minimum 100 kW (200- 750 V or higher) each of different specification (CCS /CHAdeMO or any fast charger as approved by DST/BIS for above capacity) with single connector gun each.
 - ii. Appropriate Liquid Cooled Cables for high speed charging facility as above [4.1(i)], for onboard charging of Fluid Cooled Batteries (currently available in some long range EVs), if required.
- 4.2 Such Fast Charging Stations (FCS) which are meant only for 100% in house/captive utilisation, for example buses of a company, would be free to decide the charging specifications as per requirement for its in- house company EVs.
- 5. Location of Public Charging Stations:**
- 5.1 In case of Public Charging Stations, the following requirements are laid down with regard to density/distance between two charging points:
- i. At least one Charging Station shall be available in a grid of 3 Km X 3 Km. Further, one Charging Station shall be set up at every 25 Km on both sides of highways/roads.



- ii. For long range EVs and/or heavy duty EVs like buses/trucks etc., there shall be at least one Fast Charging Station with Charging Infrastructure Specifications as per para 4.1 above at every 100 Kms, one on each side of the highways/road located preferably within/alongside the stations laid in para 3 above. Within cities, such charging facilities for heavy duty EVs may be located within Transport Nagars, bus depots.
- 5.2 Additional PCS/FCS can be installed even if there exists a PCS/FCS in the required grid or distance.
- 5.3 The above density/distance requirements shall be used by the concerned state/UT Governments/their Agencies for the purposes of land use planning for public charging stations as well as for priority in installation of distribution network including transformers/feeders etc. This shall be done in all cases including where no central/state subsidy is provided.
- 5.4 The appropriate Governments (Central/State/UTs) may also give priority to existing retail outlets (ROs) of Oil Marketing Companies (OMCs) for installation of Public EV Charging Stations (in compliance with safety norms) to meet the requirements as laid above. Further, within such ROs, Company Owned and Company Operated (COCO) ROs may be given higher preference.
- 6. Database of Public EV Charging Stations:**
Central Electricity Authority (CEA) shall create and maintain a national online database of all the Public Charging Stations through DISCOMs. Appropriate protocols shall be notified by DISCOMs for this purpose which shall be mandatorily complied by the PCS. This database shall have access as finalised by CEA and Ministry of Power.
- 7. Tariff for supply of electricity to EV Public Charging Stations:**
7.1 The tariff for supply of electricity to EV Public Charging Station shall be determined by the appropriate commission in accordance with the Tariff Policy issued under section 3 of Electricity Act 2003 as amended from time to time.
7.2 The tariff applicable for domestic consumption shall be applicable for domestic charging.
7.3 The separate metering arrangement shall be made for PCS so that consumption may be recorded and billed as per applicable tariff for EV charging stations.
- 8. Service charges at PCS:**
8.1 Charging of EVs is a service as already clarified by Ministry of Power vide letter No. 23/08/2018-R&R dated 13.04.2018.
8.2 In such cases where the PCS/FCS has been installed with Government Incentives (financial or otherwise), State Nodal Agency/State Government/Appropriate Commission shall fix the ceiling of Service Charges to be charged by such PCS/FCS.

9. Priority for Rollout of EV Public Charging Infrastructure:

After extensive consultations with State Governments and different Department/Agencies of Central Government, phasing as follows are laid down as national priority for rollout of EV Public Charging Infrastructure:

9.1 Phase I (1-3 Years):

All Mega Cities with population of 4 million plus as per census 2011, all existing expressways connected to these Mega Cities & important Highways connected with each of these Mega Cities may be taken up for coverage. A list of these Mega Cities and existing connected expressways is attached at Annexure- 1.

9.2 Phase II (3-5 Years):

Big cities like State Capitals, UT headquarters may also be covered for distributed and demonstrative effect. Further, important Highways connected with each of these Mega Cities may be taken up for coverage.

9.3 The above priorities for phasing of rollout may be kept in mind by all concerned, including, different agencies of Central/State Governments while framing of further policies/guidelines for Public Charging Infrastructure of EVs, including for declaring further incentives/subsidies for such infrastructure and for such other purposes.

10. Implementation Mechanism for Rollout:

10.1 Bureau of Energy Efficiency (BEE) shall be the Central Nodal Agency for rollout of EV Public Charging Infrastructure. All relevant agencies including Central Electricity Authority (CEA) shall provide necessary support to Central Nodal Agency.

10.2 Every State Government shall nominate a Nodal Agency for that State for setting up charging infrastructure. The State DISCOM shall generally be the Nodal Agency for such purposes. However, State Government shall be free to select a Central/State Public Sector Undertaking (PSU) including Urban Local Bodies (ULBs), Urban/Area Development Authorities etc. as its Nodal Agency.

11. Selection of Implementation Agency for Rollout:

11.1 The Central Nodal Agency shall finalize the cities and expressways/highways to be finally taken up from the priority as given at para 10 above, in consultation with the respective State Governments.

11.2 An Implementation Agency may be selected by the respective State Nodal Agency and shall be entrusted with responsibility of installation, operation and maintenance of PCS/FCS for designated period as per parameters laid down in this policy and as entrusted by the concerned Nodal Agency. The Implementation Agency may be an Aggregator as mutually decided between Central and State Nodal Agencies. However, they may also decide to choose different PCS providers for bundled packages or for individual locations as mutually decided. Further, whenever bundled packages are carved for bidding, such packages may include at least one identified expressway/highway or part thereof to prepare a cohesive regional package; the selected identified cities may be divided into one or more parts as necessary for such purposes.

- 11.3 In such cases where the PCS/FCS has been installed with Government Incentives (financial or otherwise), State Nodal Agency/State Government/Appropriate Commission shall fix the ceiling of Service Charges to be charged by such PCS/FCS. The appropriate agency as mentioned above shall have the option for giving subsidy such as bidding for lower service charges or bidding for quantum of subsidy for fixed service charges etc.
12. These guidelines and standards shall supersede the "Charging Infrastructure for Electric Vehicles – Guidelines and Standards" issued by Ministry of Power on 14.12.2018.

This issues with the approval of Hon'ble Minister of State (IC) for Power and New & Renewable Energy and Minister of State for Skill Development and Entrepreneurship.



(S. Majumdar)

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Copy to:

1. Prime Ministers Office/Cabinet Secretariat.
2. CEO, NITI Aayog
3. The Secretaries of the CERC/State Commissions/JERCs.
4. Chairperson, CEA
5. DG, BEE



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Annexure 1

I. List of 4 million plus cities (as per census 2011)

1	Mumbai
2	Delhi
3	Bangalore
4	Hyderabad
5	Ahmedabad
6	Chennai
7	Kolkata
8	Surat
9	Pune

II. List of corridors

1	Mumbai-Pune Expressway
2	Ahmedabad-Vadodara Expressway
3	Delhi-Agra Yamuna Expressway
4	Delhi-Jaipur
5	Bengaluru-Mysore
6	Bengaluru-Chennai
7	Surat-Mumbai Expressway
8	Agra - Lucknow Expressway
9	Eastern Peripheral Expressway
10	Delhi-Agra NH2 Expressway
11	Hyderabad ORR expressway
12	5 connected highways to each megacity



