सत्यमेव जयते

No.12/2/2018-EV (Comp No. 244347)
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, the 14th January, 2022

To,

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

Subject: Charging Infrastructure for Electric Vehicles (EV) – the revised consolidated Guidelines & Standards-reg

Sir/ Madam,

The "Charging Infrastructure for Electric Vehicles - Guidelines and Standards" were issued by the Ministry of Power on 14.12.2018 which were subsequently revised on 01.10.2019 and an Amendment thereof was issued on 08.06.2020. After careful consideration of progress made and suggestions received from various stakeholders, it has been decided to amend the guidelines to accelerate the E-Mobility transition in the country. In supersession of all previous guidelines in this regard, the revised consolidated 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 provide foraffordable tariff chargeable from Charging Station Operators/Owners and Electric Vehicle (EV) owners.
c) To generate employment/income opportunities for small entrepreneurs.
d) To proactively support creation of EV Charging Infrastructure.
e) To encourage preparedness of Electrical Distribution System to adopt EV Charging Infrastructure.
f) To promote energy security and reduction of emission intensity of the country by promotion of entire EV ecosystem

Definitions:

i. **Electric Vehicle Supply Equipment (EVSE)** shall mean an element in Electric Vehicle Charging Infrastructure (EVCI) that supplies electrical energy for recharging the battery of electric vehicles.
ii. **Public Charging Station (PCS)** shall mean an EV charging station where any electric vehicle can get its battery recharged.

iii. **Battery Charging Station (BCS)** shall mean a station where the discharged or partially discharged electric batteries for electric vehicles are electrically recharged.

iv. **Captive Charging Station (CCS)** shall mean an electric vehicle charging station exclusively for the electric vehicles owned or under the control of the owner of the charging station e.g., Government Departments, Corporate houses, Bus Depots, charging stations owned by the fleet owners etc. and shall not be used for commercial purpose of charging other vehicles on paid for basis.

v. **Battery Swapping Station (BSS)** shall mean a station where any electric vehicle can get its discharged battery or partially charged battery replaced by a charged battery.

Guidelines:

1. Owners may charge their Electric Vehicles at their residence/offices using their existing electricity connections.

2. 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 norms/ standards/ specifications laid down by Ministry of Power, Bureau of Energy Efficiency (BEE) and Central Electricity Authority (CEA) from time to time.

2.1 Public Charging Station (PCS), may apply for electricity connection and the Distribution Company licensee shall release connection for EV Public charging station (PCS) in accordance with the timelines stated in section 4 sub. (11) of the Electricity (Rights of Consumers) Rules 2020. Accordingly, timelines for providing the connectivity for the PCS are as under:

i. Post submission of application complete in all respect, the connection for a Public Charging Station shall be provided within time period not exceeding seven days in metro cities, fifteen days in other municipal areas and thirty days in rural areas, within which the distribution licensees shall provide new connection or modify an existing connection. Appropriate Commission may specify a time limit for providing such connection to a Public Charging Station which may be less than the aforementioned specified time limit.

ii. Provided that where such supply requires extension of distribution mains, or commissioning of new sub-stations, the distribution licensee shall supply the electricity to such premises immediately after such extension or commissioning or within such period as may be specified by the Appropriate Commission.

2.2 Any Public Charging Station/ Chain of Charging Stations may obtain electricity from any generation company through open access. Open Access shall be provided for this purpose within 15 days of receipt of the application complete in all respect. They will be required to pay the applicable surcharge – equal to the current level of cross subsidy (not more than 20 percent, as per the Tariff Policy Guidelines), transmission charges and wheeling charges. No other surcharge or charges shall be levied except mentioned in this provision.

3. Public Charging Infrastructure (PCI)- Requirements:

3.1 Every Public Charging Station (PCS) will comply with the following: -

i. An exclusive transformer with all related substation equipment including safety appliance, if required by Supply Code as approved by Appropriate Electricity Regulatory Commission.
ii. Appropriate civil works
iii. Appropriate cabling & electrical works ensuring safety
iv. Adequate space for Charging and entry/exit of vehicles.
v. Appropriate Fire protection equipment and facilities.
vi. Public Charging Station shall have, any one or more chargers or any combination of chargers from the table given in ANNEXURE II & ANNEXURE III in one or more electric kiosk/boards.
vii. Charging Station for(two/three wheelers) e- vehicles 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 State Nodal Agency (SNA) and adhere to protocols as prescribed by Central Nodal Agency (CNA) i.e., Bureau of Energy Efficiency (BEE) for this purpose. The CNA and SNA shall have access to this database.
x. Public Charging Stations for EVs shall comply with the provisions of Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019 and Central Electricity Authority (Measures relating to Safety and Electric Supply) (Amendment) Regulations, 2019.

3.2 Electric Vehicle Supply Equipment (EVSE) should have been 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 Network Service Provider (NSP) tie ups.

3.5 Public 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 rangeEVs 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) willhave the following :

i. At least two chargers of minimum 100 kW (200- 750 V or higher) each of different specification (CCS /CHAdeMO Chargers for above capacity or BIS

Standards for eBus Charging Station (Level-4: 250 to 500 kW) as provided under ANNEXURE III (6)) 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 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 shallbe 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 Public Charging Stations as per ANNEXURE II or BIS Standards for Power Level 1 to 5 as per ANNEXURE III. 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 twin purposes of arrangement of land in any manner 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:

6.1. Bureau of Energy Efficiency (BEE) shall create and maintain a national online database of all the Public Charging Stations in consultation with State Nodal Agencies (SNAs). Bureau of Energy Efficiency shall create a Web-Portal/Software/Mobile Application for the database of Public Charging Stations throughout the country. A common format for information in this regard shall be prepared by Bureau of Energy Efficiency (BEE) and State Nodal Agencies (SNAs) shall be directed to keep the details as per such format and update the same on the Web-Portal/Software/Mobile Application developed by BEE on weekly basis.

7. Tariff for supply of electricity to EV Public Charging Stations:

7.1 The tariff for supply of electricity to Public EV Charging Stations shall be a single part tariff and shall not exceed the "**Average Cost of Supply**" till 31st March, 2025. The same tariff shall be applicable for Battery Charging Station (BCS).

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.

7.4 DISCOMs may leverage on funding from the Revamped Distribution Sector Scheme (RDSS) under 'Part A – Distribution Infrastructure' for the general upstream network augmentation necessitated due to the upcoming charging infrastructure in various areas. The cost of such works carried out by the DISCOMs with the financial assistance from Government of India under the Revamped Scheme shall not be charged from the consumers for Public Charging Stations for EVs.

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 As electricity is being provided at concessional rates and also considering the fact that subsidy is being provided by the Central/State Governments in many cases for setting up Public Charging Stations, the State Government shall fix the ceiling of Service Charges to be charged by such PCS/FCS.

9. Provision of land at promotional rates for Public Charging Stations (PCS):

9.1 In initial years the penetration of Electric Vehicles on road is increasing gradually. Consequently, the utilization rate for the Public Charging Stations is very low. High cost ofrent for land and chargers coupled with no definite visibility of revenues makes the overall investment proposition for setting up a public Charging Station challenging in present scenario.

9.2 Accordingly, it is provided that the land available with the Government/Public entities shall be provided for installation of Public Charging Stations to a Government/Public entity on a revenue sharing basis for installation of Public Charging Station at a fixed rate of ₹1/kWh (used for charging) to be paid to the Land-Owning Agency from such PCS business payable on quarterly basis. A model revenue sharing agreement is placed at **Annexure –IV.**Such revenue sharing agreement may be initially entered by parties for a period of 10 years. The Revenue Sharing Model may also be adopted by the public Land-owning agency for providing the land to a private entity for installation of Public Charging Stations on bidding basis with floor price of ₹1/kWh.

9.3 Furthermore, based on available charging technologies and their evolution, type of vehicles, the types of chargers, indicating number of charging points required for setting up adequate PCS within the local urban areas including the building premises of all building types and with the long term vision of implementing 'electric mobility' during the next 30 years, amendments have been made in the relevant sections (Chapter 10) of the Model Building Bye-laws, 2016 and the Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI – 2014)

by the Ministry of Housing and Urban Affairs (MoHUA). A copy of these amendments is enclosed at **ANNEXURE V**. These may be implemented fully to provide adequate space for setting up charging stations.

10. 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:

10.1 **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 I**.

10.2 **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.

10.3 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.

11. Implementation Mechanism for Rollout:

11.1 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.

11.2 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.

12. Selection of Implementation Agency for Rollout:

12.1 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.

12.2 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 maybe 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.

13. These Guidelines and Standards shall supersede the Revised "Charging Infrastructure for Electric Vehicles – Guidelines and Standards" issued by Ministry of Power on 1st October, 2019 and subsequent amendments dated 08.06.2020.

This issues with the approval of Hon'ble Minister of Power, New & Renewable Energy.

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Copy to:

1. **Prime Minister's 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 I

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**

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ANNEXURE II

Electric Vehicle Chargers as provided under Para 3.1 (vi) of the Guidelines

Charger Type	S. No.	Charger Connectors*	Rated OutputVoltage(V)	No. of No. of Connector guns (CG)	Charging vehicle type(W=wheeler)
Fast	1	Combined Charging System(CCS) (min 50 kW)	200-750or higher	1 CG	4W
	2	CHArgedeMOve (CHAdeMO) (min 50 kW)	200-500or 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

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ANNEXURE III

Indian Standards EV Charging notified by BIS of 01.11.2021

1. Light EV AC Charge Point

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-22-1	Bluetooth Low Energy	IS-60309	As per EV manufacturer

2. Light EV DC Charge Point

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-25 [CAN]		Combined Socket under development	IS-17017-2-6

3. Parkbay AC Charge Point

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-1	IS-15118 [PLC] for Smart Charging	IS-17017-2-2	IS-17017-2-2

4. Parkbay DC Charge Point

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-22-2	IS-17017-2-3

5. DC Charging Protocol

Power Level 3	Charging Device	EV-EVSE Communication	Connector
DC 50 kW to 250 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-2-3

6. eBus Charging Station (Level-4: 250 to 500 kW)

Power Level 4	Charging Device	EV-EVSE Communication	Connector
DC High Power (250 kW --> 500 kW)			
Dual Gun Charging Station	IS-17017-23-2	IS-15118 [PLC]	IS-17017-2-3
Automated Pantograph Charging Station	IS-17017-3-1		IS-17017-3-2

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