# ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ

ಅಧಿಕೃತವಾಗಿ ಪ್ರಕಟಿಸಲಾದುದು

ವಿಶೇಷ ರಾಜ್ಯ ಪತ್ರಿಕೆ

| ಭಾಗ – ೩ Part –III | ಬೆಂಗಳೂರು, ಶನಿವಾರ, ೩೦, ಜನವರಿ, ೨೦೨೧ (ಮಾಘ, ೧೦, ಶಕವರ್ಷ, ೧೯೪೨) BENGALURU, SATURDAY, 30, JANUARY, 2021 (Magha, 10, SHAKAVARSHA, 1942) | ನಂ. ೧೫೪ No. 154 |
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**Government Of Karnataka**

No. UDD 18 TTP 2020

Karnataka Government Secretariat
Vikasasoudha
Bangalore, Date: 29.01.2021

NOTIFICATION- II

The draft of the following Bye-laws further to amend the Karnataka Municipalities Model Building Bye-Laws, 2017 which the Government of Karnataka proposes to make in exercise of the powers conferred by sub-section (1) of section 325 of the Karnataka Municipalities Act, 1966 (Karnataka Act 22 of 1964) is hereby published as required by sub-section (1) of section 325 of the said Act, for the information of all the persons likely to be affected thereby and notice is hereby given that the said draft will be taken into consideration after thirty days from the date of its publication in the official Gazette.

Any objection or suggestion which may be received by the State Government from any person with respect to the said draft before the expiry of the period specified above will be considered by the State Government. Objections and suggestions may be addressed to the Secretary to Government, Urban Development Department, 4th Floor, Vikasa Soudha, Bangalore-560001.

## DRAFT BYE-LAWS

**1. Title and commencement.-** (1) These bye laws may be called the Karnataka Municipalities Model Building (Amendment) Bye-Laws, 2021.

(2) They shall come into force from the date of their final publication in the official Gazette.

**2. Amendment of bye-law 11.-** In the Karnataka Municipal Corporations Model Building Bye-Laws, 2017 (hereinafter referred to as the said bye-laws), in bye-law 11, after sub bye-law 11.3, the following shall be inserted, namely;-

**"11.4 Electric Vehicle Charging Infrastructure (EVCI).-** Charging infrastructure (CI) shall be provided for Electric Vehicles (EVs), in 20% of the total parking spaces required, to be provided as per the Zonal Regulations applicable to the respective Local Planning Authorities in all types of buildings. The provisions shall be for CI for private use or for Public Charging Stations (PCS) as prescribed in this Chapter. Additionally, the building shall have an additional power load, equivalent to the power required for all charging points (for the CI or in a PCS) to be operated simultaneously, with a safety factor of 1.25 as referred in Annexure D.

**11.4.1 Residential Buildings (plotted house).-** The Charging infrastructure requirements for individual house or self-use shall be as specified in the Table below,-

**Table-11.2**
**Charging Infrastructure requirements for individual house or self-use:**

| Building Type | Plotted House |
|---|---|
| Ownership of Station | Private (Owner) |
| Connection and Metering | Domestic meter |
| Type of Charger | Slow chargers as per owner's specific requirements |
| Modes of Charging | AC (Single charging gun) |
| Norms of Provisions | Minimum 1 SC and additional provisions as per the individual owner. |

Note: *The charging infrastructure installed by a house owner shall be construed as a Private CI meant for self-use (non-commercial basis) as per the note at clause 4 of Annexure D.*

**11.4.2 All other buildings (including Apartment buildings or Group Housing).- A**ny CI installed at public or private areas or building premises of any category that caters to commercial mode of charging of EVs shall be deemed as a Public Charging Station(PCS) and shall have to install the minimum requirements of chargers as specified in the guidelines issued vide No. 12/2/2018-EV, dated 14.12.2018 by the Ministry of Power, Government of India, as referred in Annexure E. However, in order to provide sufficient charging points for the EV share in all vehicles as under clause 3 of *Annexure D, the* ratio of types of chargers shall be as recommended under the Table below:–

**Table-11.3**
**Charging Infrastructure requirements for PCS (commercial use):**

| Building Type | Any building type | | | |
|---|---|---|---|---|
| Ownership of Station | Commercial Metering and Payment | | | |
| Types of Charger | as per minimum requirements specified in Ministry of Power guidelines (Annexure E) | | | |
| Additional chargers | PCS service provider shall install additional number of kiosk or chargers beyond the minimum specified requirements to meet the ratio of charging points as prescribed below. (by the type of vehicles) | | | |
| Norms of Provisions for charging points | **4-Wheelers**<br>(i) 1 Slow Charger (SC) each 3 EVs.<br>(ii) 1 Fast Charger (FC)- each 10EVs | **3-Wheelers**<br>(i)1 Slow Charger (SC) each 2 EVs | **2- Wheelers**<br>(i)1 Slow Charger (SC) each 2 EVs | **PV (Buses)**<br>(i)1 Fast Charger (FC) each 10 EVs |

Note:

1. *Charging bays shall be planned currently at 20% capacity of all vehicles including 2-wheelers and 4-wheelers.*
2. *Open metering and on-spot payment options to be available for all users.*
3. *Provision of Fuel Cooled Battery Charging Station (FCB CS) and Battery Swap (BS) shall not be mandatory and will be at the discretion of the service provider."*

**2. Insertion of Annexures.-** In the said bye-laws, after Annexure C and the entries relating thereto, the following shall be inserted, namely;-

**Annexure D**

**Technology, options, specification of EV charging and PCS infrastructure.**

**1. EV Charging Technology:**

**1.Electric Vehicle Supply Equipment (EVSE):** An EVSE shall be a wall mounted box that supplies electric energy for recharging of electric vehicle batteries and shall have a safety lock-out feature that does not allow current to flow from the device until the plug is physically inserted into the car. EVSEs may be customized with added features as mentioned, namely:-

(a) Authentication
(b) Integrated payment gateways
(c) Software for remote monitoring

**2. Types of EVSE: (a) Charging speeds.-** Charging power, which determines the time required to charge a vehicle, may vary by orders of magnitude across charge points, as shown in Table 1. A small household outlet may charge as slowly as 1.2 KW, while the most advanced rapid charging stations can charge at up to 350 KW. Charging infrastructure is broadly broken into three categories based on speed: Level 1, Level 2, and direct current (DC) fast-charging (sometimes referred to as Level 3).

**(b) Private Charging.-** Charging batteries of privately owned cars through domestic charging points. Billing shall be part of home or domestic metering.

**(c) AC-Slow Charging.-** The house private chargers are generally used with 230V/15A single phase plug which can deliver a maximum of up to about 2.5KW of power. The EVSE supplies AC current to the vehicle's onboard charger which in turn shall convert the AC power to DC, allowing the battery to be charged.

**(d) Public Charging.-** For charging outside the house premises, electric power shall be billed and payment shall be collected. The power drawn by these chargers shall be managed from time to time.

**(e) DC-Fast Charging.-** DC current shall be sent to the electric car's battery directly via the charge port. FC chargers (usually 50 KW or more) may supply 100 or more kilometers of range per hour of charging. The fast chargers shall be used as a top-up, rather than fully charging vehicles, for cab companies and corporate users who have a fleet of electric cars.

**3. EV share in all vehicles.-** The charging infrastructure prescriptions in all urban development guidelines shall be at least 20%.

**4. Power Load sanction to premises.-** While adding Charging Infrastructures to the proposed set of building types, enhanced Power Load shall be added for each such building type by the Power ESCOMs, commensurate to the total additional power requirement of simultaneous operation of all the specified charging points in the premise. The load capacity assigned to each premise shall be kept with a safety factor of 1.25 with a long-term vision of thirty years.

**Table 1**

**EVs charging modes and availability:**

| Vehicle type | Slow Charging | Fast Charging | Public CI |
|---|---|---|---|
| 2-Wheelers | Y | N | Yes/Limited |
| 3-Wheelers | Y | N | Yes/Limited |
| PVs (Cars) | Y | Y | Yes |
| PVs (Buses) | N | Y | Yes |

**Table 2**
**Charging options for EV types (by ownership):**

| Vehicle type | Private CI | Public CS | Predominant place of charging |
|---|---|---|---|
| 2-Wheelers | SC/BS | SC | Point of residence / Work |
| 3-Wheelers | SC/BS | SC/BS | Residence / Parking stations |
| PVs (Cars) | SC/BS | FC | Residence / Point of work / other public places |
| PVs (Buses) | - | FC/BS | Bus Terminals/Depots |

1. The option of Battery Swapping (BS) for privately owned 2-Wheelers and PV(Cars) shall be limited to Private CI.

2. For 3-Wheelers, the BS shall be made available in PCS, for faster recharge experience only.

3. For PV (Buses), Captive fast charging infrastructure for 100% internal use for fleets may be adopted by privately owned Depots/Garages.

4. The charging infrastructure, installed at every Public Charging Station (PCS), shall follow the guidelines and standards for setting up Charging Infrastructure for Electric Vehicles, dated 14.12.2018, issued by the Ministry of Power and the connectivity regulations and safety norms shall be defined by respective authorities such as Central Electric Authority or Ministry of Power for grid access to such PCS or any other charging station or infrastructure.

**5. Charger Specifications and PCS Infrastructure.-** (a)Any installed PCS shall have one or more electric kiosk or boards with installation of all charger models as prescribed in the guidelines and standards notified by the Ministry of Power, dated 14 December 2018, for Charging Infrastructure for EVs (at Annexure II), with other necessary arrangements as deemed necessary.
(b) Public Charging Station service providers shall be free to create charging hubs and to install additional number of kiosk or chargers in addition to the minimum chargers prescribed vide the guidelines and standards notified by Ministry of Power, dated 14 December 2018, including options for installation of additional chargers, if required.

Note: 1. Minimum infrastructure requirements shall not apply to Private Charging Points which are meant for self-use of individual EV owners (non-commercial basis).

2. Captive charging infrastructure for 100% internal use for a company's own fleet shall not be required to install all type of chargers and to have NSP tie ups.

**6. Location of PCS/ FCB CS in local area/ building precincts.** In accordance with the guidelines and standards notified by Ministry of Power, dated 14 December 2018, following minimum standards with regard to density of/distance between PCS in local level facilities in building premise/ urban precincts shall be followed, as per provisions in the Model building bye-laws, namely:-

(1) At the local levels, within the urban area, at least one Public Charging Station is to be available within a grid of 3Km x 3Km.

(2) At the building premise levels, for various building types:

(a) Private charging infrastructure (non-commercial use) for individuals.

(b) For all commercial modes of charging EVs, at least one PCS, as per the minimum specifications laid under the guidelines and standards notified by the Ministry of Power, dated 14 December 2018.

(c) Stand-alone Battery Swapping Stations may be added with the PCs.

## Annexure E

## Charging Infrastructure for Electric Vehicles - Guidelines and Standards:

1. Private charging at residences or offices shall be permitted and ESCOMs may facilitate the same.
2. Setting up of Public Charging Stations (PCS) shall be a de-licensed activity and any individual or entity is free to set up public charging stations:

Provided that, such stations meet the technical as well as performance standards and protocols laid down below, as well as any further norms, standards or specifications laid down by Ministry of Power and Central Electricity Authority from time to time.

(a) 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.

(b) Any Charging Station or Chain of Charging Stations may also obtain electricity from any generation company through open access.

3. Minimum requirements for Public Charging Infrastructure (PCI): Every Public Charging Station (PCS) shall have the following minimum infrastructure:an exclusive transformer with all related substation equipment including safety appliance;

(i) 33 or ll KV line or cables with associated equipment including as needed for line termination, metering etc.;

(ii) appropriate civil works;

(iii) adequate space for charging and entry or exit of vehicles;

(iv) current international standards that are prevalent and used by most vehicle manufacturers internationally like CCS and CHadeMO. Hence, Public Charging Stations shall have one or more electric kiosk or boards with installation of all the charger models as follows:

| Charger Type | Charger Connectors* | Rated Voltage (V) | No. of Charging Points/No. of Voltage (V) Connector guns (CG) |
|---|---|---|---|
| Fast | CCS (min. 50 kW) | 200-1000 | 1/ 1 CG |
| | CHAdeMO (min. 50 kW) | 200-1000 | 1/ 1 CG |
| | Type-2 AC (min. 22 kW) | 380-480 | 1/ 1 CG |
| Slow/ Moderate | Bharat DC-00 I ( 15 kW) | 72-200 | 1/1 CG |
| | Bharat AC-001 (JO kW) | 230 | 3/3 CG of 3.3 kW each |
| *In addition, any other fast/slow/moderate charger as per approved BIS standards whenever notified. | | | |

(v) the kiosk or board may have options for installation or additional chargers if required;

(vi) the Public Charging Station Providers shall be free to create Charging Hubs and to install additional number of Kiosk or Chargers in addition to the minimum number of chargers prescribed above;

(vii) tie-up with at least one online Network Service Providers (NSPs) to enable advance remote or online booking of charging slots by EV owners. Such online information to EV owners shall include information regarding location, types and numbers of chargers installed or available etc.;

(viii) share charging station data with appropriate ESCOM and to maintain appropriate protocols as prescribed by such ESCOM for this purpose. CEA shall have access to this database;

(ix) appropriate public amenities; and
(x) in addition to the above, fast charging facility are provided at the PCS by the PCI provider, the following additional infrastructure shall be provided, namely:-

(a) appropriate Liquid Cooled cables, if High Speed Charging Facility for onboard charging of Fluid Cooled Batteries (FCBs) is provided; and

(b) appropriate Climate Control Equipment for Fast Charging of Batteries to be used for swapping (i.e. not onboard).

4. Every Public Charging Station (PCS) shall be operational only after inspection and clearance as communicated by a suitable clearance certificate, by the concerned electrical inspectors or technical personnel, designated specifically by the respective ESCOM for this purpose. ESCOMs may also empanel one or more third party authorized technical agencies for this purpose.

5. Electric Vehicle Service Equipment (EVSE) shall be type tested by an appropriate reputed authority.

6. The above minimum infrastructure requirements shall not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).

7. Captive charging infrastructure for 100% internal use for a company's own or leased fleet for its own use shall not be required to install all type of chargers and to have NSP tie-ups.

8. Public Charging Station may have the option to add Stand-alone battery swapping facilities in addition to the above mandatory facilities, provided space and other conditions permit.

9. Public charging Infrastructure (PCI) for long distance EVs and/or heavy duty EVs like trucks, busses etc. shall have the following minimum requirements, namely:-

(i) at least two chargers of minimum 100 kW (with 200-1000 V), each of different specification (CCS & Chaderno) and with single connector gun, each in addition to the minimum charging infrastructure requirements as mandated for Public Charging Stations in para 3.

(ii) appropriate Liquid Cooled Cables for high speed charging facility for on board charging of Fluid Cooled Batteries, currently available in some long range EVs.

(iii) in addition to above, the Fast Charging Stations (FCS) for Long Distance EVs and/or Heavy Duty EVs may also have the option of swapping facilities for batteries, for meeting the charging requirements as per para 3. For Fast Charging or Long Distance use of EVs and/or for Heavy Duty Vehicles like buses/trucks etc. FCBs shall have higher charging rate and longer life. Such Fast Charging Stations (FCS) which are meant only for 100% in house/captive utilisation, for example buses of a company, shall be free to decide the charging specifications as per requirement for its in-house company EVs.

**10. Location of Public Charging Stations.-** In case of Public Charging Stations, the following minimum requirements are laid down with regard to density/distance between two charging points, namely

(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 or roads; and
(ii) for long range EVs, like long range SUVs and heavy duty EVs like buses, trucks etc., there shall be at least one Fast Charging Station with Charging Infrastructure Specifications at every 100 km, one on each side of the highway or road located preferably within or alongside the stations. Within cities, such charging facilities for heavy duty EVs shall be located within Transport Nagars, bus depots. Swapping facilities shall not be mandatory within cities for Buses, trucks, etc.

11. Additional public charging stations shall be set up in any area only after meeting the above requirements.

12. The above density or distance requirements shall be used by the state Governments or 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 or state subsidy is provided.

13. The Governments (Central/State) 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 including firewalls, etc., to meet the requirements. Further, within such ROs, Company Owned and Company Operated (COCO) ROs may be given higher preference.

14. Any deviation from above norms shall be admissible only after specific approval of State Nodal Agency, in consultation with the Central Nodal Agency.

15. 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 ESCOMs. Appropriate protocols shall be notified by ESCOMs for this purpose which shall be mandatorily complied by the PCS or BCS. This database shall have restricted access as finalised between CEA and Ministry of Power.

**16. Tariff for supply of electricity to EV Public Charging Stations.-** (a) The tariff for supply of electricity to EV Public Charging Station shall be determined by the appropriate commission:

Provided that, the tariff shall not be more than the average cost of supply plus fifteen percent.

(b) The tariff applicable for domestic consumption shall be applicable for domestic charging.

**17. Service charges at PCS or BCS.-** Charging of EVs is a service, as clarified by Ministry of Power vide letter No. 23i08/2018-R&R, dated 13.04.2018. The State Nodal Agency shall fix the ceiling of the Service Charges to be charged by the Public Charging Stations.

**18. Priority for rollout of EV Public Charging Infrastructure:**

(a) **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 and important highways connected with each of these Mega Cities shall be taken up for coverage. A list of theses Mega Cities and existing connected expressways is attached at Annexure-1.

(b) **Phase-II (3-5 Years):** Big cities like State Capitals, at head quarters shall be covered for **distributed** and demonstrative effect. Further, important Highways connected with each of these Mega Cities shall be taken up for coverage.

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

**19. Implementation Mechanism for Rollout.-** (a) The Ministry of Power shall designate a Central Nodal Agency for the rollout. All relevant agencies, including Central electricity Authority (CEA) shall provide necessary support to this nodal agency.

(b) The 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 or State Public Sector Undertaking (PSU), including Urban Local Bodies (ULBs), Urban or Area Development Authorities etc. as its Nodal Agency.

**20. Selection of Implementation Agency for Rollout.-** (a) The Central Nodal Agency shall finalize the cities and Expressways/Highways to be finally taken up from the above phasing, in consultation with the respective State Government.

(b) An Implementation Agency shall be selected by the State Nodal Agency and shall be entrusted with responsibility of installation, operation and maintenance of PCS/FCS/BCS/BSF for designated period, as per parameters specified and as entrusted by the concerned Nodal Agency. The Implementation Agency may be an Aggregator as mutually decided between Central and State Nodal

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Agencies: Provided that, they may decide to choose different PCS/FCS providers for bundled packages or for individual locations as mutually decided. Provided further that, whenever bundled packages are carved for bidding, such packages shall necessarily 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.

(c) Where Implementing Agency is selected by bidding, all bidding shall be conducted by the State Nodal Agency.

(d) There shall be an upper cap on the Service Charges declared by the State Nodal Agency. Subsidy, if admissible from Central or State Government, shall be suitably factored in such calculations of Upper Cap or Bid Variable."

**Annexure 1**

To Guideline No. 12/2/2018-EV, GoI, MOP, New Delhi
Dated: 14.12.20.

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 | Bengalurur-Mysore |
| 6 | Bengaluru- Chennai |
| 7 | Surat-Mumbai Expressway |
| 8 | Agra-Lucknow Expressway |
| 9 | Eastern Peripheal Expressway |
| 10 | Delhi-Agra NH2 Expressway |
| 11 | Hyderabad ORR Expressway |
| 12 | 5 connected highways to each mega city |

By Order and in the name of the
Governor of Karnataka

(C.S Shivakumaraswamy)
Under Secretary to Government
Urban Development Department

ಮುದ್ರಕರು ಹಾಗೂ ಪ್ರಕಾಶಕರು:- ಸಂಕಲನಾಧಿಕಾರಿಗಳು, ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಸರ್ಕಾರಿ ಕೇಂದ್ರ ಮುದ್ರಣಾಲಯ, ಬೆಂಗಳೂರು

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