

#### -----KNOWLEDGE PARTNERS-----





#### **FOREWORD**



Shri G JAGADISH REDDY
Hon'ble Minister for Energy,
Government of Telangana

We stand at the threshold of a new era in transportation, marked by a steady increase in adoption of electric vehicles (EVs), across both passenger and goods mobility segments. With significant interest among both public and private sector towards EVs, there has been adoption across various vehicle categories, individual ownership as well as electric vehicle fleets for employee and/ or goods transport.

It is imperative to support and pave the way for wider proliferation of electric vehicles as these provide a pathway for sustainable and eco-friendly mobility transition. For this, there is an immense need for scaling up the roll out of Electric Vehicle Charging Stations (EVCS) and the related EV Charging Infrastructure (EVCI). This comprehensive document on the forms and processes for set up of EVCI, will help encourage private and public sector collaboration in set up of EVCS, attract investments in the rollout of EVCI and thereby create an environment that not only encourages entrepreneurship through charge point operators, but also ensure that every citizen can embark on the electric journey without apprehensions about lack of charging infrastructure.

We must act decisively, laying the foundation for an efficient, large-scale network of user-friendly charging infrastructure.

G Reddy

#### **MESSAGE**



**Shri. SUNIL SHARMA (IAS)**Special Chief Secretary, Department of Energy, Government of Telangana

The Electric Vehicle (EV) landscape in India has been undergoing a significant and transformative evolution in recent times. Telangana State (TS) is swiftly emerging as a central hub for electric vehicles and energy storage solutions not just in terms of adoption of vehicles but also in terms of a manufacturing base. As the state accelerates its journey towards establishing sustainable transportation options and creating a forward-thinking policy framework to support e-mobility adoption, initiatives to support the deployment of robust EV charging infrastructure stands out as a critical priority.

A noteworthy initiative in this regard is the launch of this comprehensive compendium. This compendium will serve as a comprehensive guide for prospective applicants, equipping them with essential information pertaining to requisite documents, forms, processes, permits/ approvals as well as relevant government directives/ orders/ memos, related to the setup of EV charging stations across the state. This document will be beneficial for government departments, corporates, industries, commercial establishments, real estate developers, real estate developers, residential welfare associations, as well as individuals to understand the detailed process for set up of EVCI in buildings.

The transition towards electric mobility is not merely a trend, but a fundamental shift that holds the potential to revolutionize the way we move, reduce our carbon footprint and enhance air quality. In closing, I would like to extend my sincere appreciation to the Administrative Staff College of India (ASCI) and the International Copper Association India (ICAI) for their invaluable contributions and support in bring out this compendium. Their diligent efforts have been instrumental in its creation.

Sund Status 29.8.23

#### **MESSAGE**



Shri. Y. SATHISH REDDY
Chairman, Telangana State Renewable
Energy Development Corporation Ltd.,

As a progressive move in 2020, the Government of Telangana unveiled the visionary Electric Vehicle (EV) and Electric Storage Policy 2020-2030. This landmark policy appointed TSREDCO as the pivotal State Nodal Agency to anchor the roll-out of Electric Vehicle Charging Infrastructure (EVCI) via Single Window Clearance (SWC) mechanism.

As India aims to have 30% of new vehicle sales be electric by 2030 and this could amount to potentially 102 million EVs on road. As on date, the uptake of EVs has been slower than anticipated primarily attributed to concerns related to range anxiety given the inadequate availability of charging infrastructure. Addressing this crucial challenge, TSREDCO has taken proactive measure with the aim of alleviating citizens' apprehensions about limited driving range, by putting a target of setting up 3,000 electric vehicle charging stations by 2030. These charging stations are envisioned to significantly contribute to enhancing the convenience and confidence of EV users.

Given the aforementioned scenario, there arises a pressing need for a comprehensive compendium that clearly and concisely captures the required forms and processes to set up EVCI across public, captive (own fleets) and or home/ domestic charging categories. In response to this, TSREDCO is introducing this well-structured compendium that would serve as a valuable resource benefitting all potential adopters of EV Charging Infrastructure such as government departments, corporates, industries, commercial establishments, real estate developers, residential welfare associations as well as individuals. By providing comprehensive details and step-by-step instructions, the compendium empowers stakeholders with a clear understanding of the requirements and procedures.

I wish to acknowledge the contribution of our knowledge partners Administrative Staff College of India (ASCI) and the International Copper Association India (ICAI) for their invaluable contributions and support in bringing out this compendium.

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#### **MESSAGE**



Shri. N. JANAIAH
Vice Chairman & Managing Director,
Telangana State Renewable Energy
Development Corporation Ltd.,

The Electric Vehicle (EV) and Energy Storage Policy 2020-2030, represents a visionary stride taken by the Government of Telangana towards shaping a sustainable and technologically advanced future for the state that focuses on clean mobility transition. With a steadfast commitment to environmental stewardship, economic growth, and innovation, this policy is bringing forth transformative changes in the realms of transportation and energy management.

As responsible stewards of our environment, multiple stakeholders have to come together to provide an ease of implementation to support the clean transition in mobility. Telangana State Renewable Energy Development Corporation (TSREDCO), as the nodal agency for EV Charging Infrastructure (EVCI) roll out has conducted various capacity-building programs such as seminars, technical talks, and workshops to address concerns, generate wider public awareness and to seek inputs on various initiatives from diverse stakeholders. TSREDCO's focus areas covering renewable energy, energy conservation, energy efficiency in built environment as well as, electric vehicle charging infrastructure stands as a striking emblem of a multi-faceted approach towards contributing to state level climate action plans and India's international commitments via Nationally Determined Contributions (NDCs). This much needed compendium would help further support the above endeavours to scale-up adoption of electric mobility and roll out of electric vehicle charging infrastructure including where necessary larger integration of renewable energy to power this charging infrastructure.

I wish to acknowledge the contribution of our knowledge partners Administrative Staff College of India (ASCI) and the International Copper Association India (ICAI) for their effortless and timely contributions and support in bring out this compendium.

N. Janaiah

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# **ABBREVIATIONS**

ASCI : Administrative Staff College of India

BSS : Battery Swapping Station

CCS : Captive Charging Station

CEA : Central Electricity Authority

CEIG : Chief Electrical Inspectorate to Government

CPO : Charge Point Operator

EV : Electric Vehicles

EVCI : Electrical Vehicle Charging Infrastructure

EVCS : Electric Vehicle Charging Station

EVSE : Electric Vehicle Supply Equipment

EV PCS : Electric Vehicle Public Charging Stations

GO : Government Order

HCS : Home Charging Station

ICA : International Copper Association

MoHUA : Ministry of Housing and Urban Affairs

MoP : Ministry of Power

NOC : No Objection Certificate

NRDC : Natural Resources Defense Council

PCS : Public Charging Station

SCIC : State Level Standing Charging Infrastructure Committee

TSREDCO : Telangana State Renewable Energy Development Corporation



# BACKGROUND AND INTRODUCTION



The Government of Telangana brought out the Telangana Electric Vehicle and Energy Storage Policy 2020 – 2030 in 2020 and has been working proactively to scale up the adoption of Electric Vehicle Charging Infrastructure (EVCI) and E-mobility in the state. As part of the execution of the policy components relating to EVCI, the Government of Telangana appointed the Telangana State Renewable Energy Development Corporation (TSREDCO) as the state nodal agency for roll out of EVCI. The government has also appointed TSREDCO to act as implementation agency for implementation of electric vehicle programme through a Single Window Clearance (SWC) Mechanism for successful implementation of EVCI in the state.

Further, during the setting up of EVCI, various guidelines need to be complied with depending on the type of charging infrastructure being set up – Public Charging Station (PCS), Home Charging Station (HCS) and Captive Charging Station (CCS).

**Public Charging Station (PCS):** As per the Ministry of Power (MoP) guidelines, public charging means a charging station where any electric vehicle can get its battery charged and is operated on a commercial basis with appropriate service charges.

**Captive Charging Stations (CCS):** As per the Ministry of Power (MoP) guidelines, CCS shall mean an EVCS exclusively for electric vehicles owned by/ or under the control of the owner of the charging station and operated under a non-commercial basis.

**Home Charging Station (HCS)/ Domestic Charging:** As per the Ministry of Power (MoP) guidelines, HCS is an EVCS set up for individual/private use in own parking space on a non-commercial basis.

**Battery Swapping Station (BSS):** As per the Ministry of Power (MoP) guidelines, BSS shall mean a station where an electric vehicle with swappable batteries can get its discharged/partially discharged battery replaced by a charged battery. These are operated on a commercial basis.

The Central Government guidelines include the Ministry of Power (MoP) guidelines, the Central Electricity Authority (CEA) guidelines such as Measures Relating to Safety and Electric Supply Regulations 2010 and Technical Standards for Connectivity of Distributed Generation Resources Regulations as amended from time to time, the Ministry of Housing and Urban Affairs (MoHUA) guidelines, the Urban and Regional Development Plan Formulation and Implementation (URDPFI) 2014 guidelines. The state-level guidelines include government orders, acts and memos brought out by various state departments related to Telangana EV policy implementation. The policies are explained in detail below:

#### A.1 Policies and Guidelines

#### A.1.1 Central Electricity Authority (CEA) Guidelines:

The CEA guidelines covers aspects such as safety standards required for grid, technical standards for electric vehicles, EV Charger (AC & DC), connectors, communication standards between EV and EVSE and between EVSE and Charging Management System/ Software, testing and verification of equipment with respect to standards, and strengthening of sub transmission/distribution network to supply the load of electric vehicles as well as energy performance standards of chargers.

For the complete set of CEA guidelines, please refer Chapter H and I



#### A.1.2 Ministry of Power (MoP) Guidelines:

"The Ministry of Power (MoP) first issued the Guidelines and Standards on Setting up Charging Infrastructure for Electric Vehicles to be installed at every PCS on 14-12-2018 and thereafter has amended these from time to time". The MoP guidelines highlight the public charging infrastructure requirements in terms of standards, regulations, compliance with guidelines, type testing, deployment densities, need for information sharing, timelines for permits/ approvals by state departments/ agencies and so on. For example, MoP guidelines suggest that the EVSE for public charging Infrastructure should have been type tested by an agency/lab accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) from time to time.

For the complete set of MoP guidelines, please refer Chapter J

"It also suggests that post the submission of an application for PCS setup that is complete in all aspects, a new connection shall be provided within time period not exceeding seven days in metro cities and fifteen days in municipal areas. Appropriate state commissions may further specify a time limit for providing such connection to a PCS which may be less than the aforementioned specified time limit as well.

Further, Ministry of Power, Government of India notified amendments on 27.04.2023 and 07.11.2022, to the "Revised Consolidated Guidelines and Specifications Regarding Charging Stations for EVs" dated 14.01.2022.

# A.1.3 Amendments to Ministry of Housing and Urban Affairs (MoUHA) Model Building Bye-Laws 2016 for EVCI, 2019

MoHUA Model Building Bye-Laws 2016 were amended in 2019 for EVCI set up and they present model guidelines for the buildings sector to adopt when installing EV Charging Station such as charger type for different vehicle types and so on.

For the complete set of Amendments to MoHUA Building Bye-Laws guidelines, please refer Chapter K

#### A.1.4 Telangana EV Policy

Telangana Electric Vehicle and Energy Storage Policy 2020 – 2030, was brought out in 2020 with a vision to make Telangana a hub for Electric Vehicles and Energy Storage Systems. Telangana EV Policy states that 100% exemption of road-tax and registration fee for the first 2,00,000 2-wheeler electric vehicles, first 5,000 4-wheeler electric vehicles and first 500 electric buses that will be purchased and registered within Telangana. It also states that the government will facilitate the setting up of an initial batch of fast charging stations in Hyderabad and other towns in a phased manner and TSREDCO (State Nodal Agency) shall evaluate to establish PCS directly or under license/ franchise/ PPP model.

Further, TSREDCO in coordination with the State DISCOM will ensure the supply of Renewable Energy for EVCS and setting up of solar rooftop plants as per Net Metering Policy as per the Telangana State Electricity Regulatory Commission (TSERC) guidelines. The policy also has provisions on other aspects such as use of parking spaces for set up of EVCI, 3W retro-fitments, supply side incentives as well as encouraging EV in shared mobility and public transport.

For the complete set of Telangana EV Policy, please refer Chapter L





GOVERNMENT ORDERS
IN TELANGANA
RELATING TO
ELECTRIC VEHICLE
CHARGING
INFRASTRUCTURE

# **B**Government Orders in Telangana Relating to Electric Vehicle Charging Infrastructure

The Government of Telangana has come out with various Government Orders to effectively implement the Telangana EV and Energy Storage Policy 2020 and to encourage roll out of EVCI. Below is the non exhaustive list of G.Os that have come out to support the implementation of Telangana EV policy.

**G.O.Rt.No.7:** Government of Telangana came out with the G.O.Rt.No.7 on 7th February 2019, on nomination of TSREDCO as State Nodal Agency (SNA) and State Implementation Agency for setting up of EVCI in the State of Telangana.

**G.O.Ms.No.12:** Government of Telangana came out with the G.O.Ms.No.12 on 29th October 2020, and released the Telangana Electric Vehicles and Energy Storage Policy 2020-2030 given the advent of new breakthroughs and improvements in energy storage in transforming vehicular technology and energy solutions. The G.O stated that the vision of the Government is to make Telangana a hub for Electric Vehicles and Energy Storage Systems. It also stated that the policy's mission, policy objectives, implementation strategy, policy period, policy measures, demand-side incentives, charging infrastructure, supply-side incentives, EV in shared mobility and public transport, support for manufacturing, stakeholder responsibilities and so on.

**G.O.Ms.No.12 (Energy Department):** Government of Telangana came out with the G.O.Ms.No.12 on 3rd December 2021, for fixing the ceiling cost of service charges to be charged by the Electric Vehicle Public Charging Stations (EV PCS) installed with government incentives as per the revised standards & guidelines for EVCI issued by MoP, Government of India. Administrative Staff College of India (ASCI) supported TSREDCO in determining the ceiling cost of service charges to be charged by PCS set up under government subsidy. Further the G.O states that TSREDCO has notified to consider fixation of ceiling cost of service at Rs. 12.06 per kWh (+ applicable GST), service charges to be charged at such PCS.

NOTE: The SNA may revise this tariff from time to time.

**G.O.Rt.No.18:** Government of Telangana came out with the G.O.Rt.No.18 on 11th April 2022, appointing TSREDCO as the State Nodal Agency for promotion and implementation of EVCI and to act as Single Window Clearance (SWC) agency for setting up EVCS in Telangana. The G.O states that TSREDCO will act as the coordination agency and interface with the entrepreneur for all the clearances. It also states that TSREDCO will receive the necessary application and payments from the EVCS implementing agencies and disburse them to the relevant departments.

**G.O.Ms.No.16:** Government of Telangana came out with the G.O.Ms.No.16 on 18th July 2022, on constitution of a State Level Standing Charging Infrastructure Committee (SCIC) to facilitate and support necessary coordination among different agencies to improve the ease of doing business and mitigate the challenges that are hindering the growth of EVCI in Telangana.

**G.O.Ms. No. 31:** Government of Telangana came out with the G.O.Ms.No.31 on 20th July 2022, appointing TSREDCO as the nodal agency for retro-fitment of existing auto-rickshaws as electric 3-seater auto rickshaws. The G.O. states that the registration fee is exempted in respect of electric 3-seater autorickshaws for first 20,000 vehicles and a retrofitment incentive of 15% would be provided for the retrofitment cost for the first 5,000 vehicles. The G.O. also states that permits would be provided to 1000 electric 3-seater auto rickshaws and 250 retrofitted existing auto-rickshaws to ply with the Greater Hyderabad Municipal Corporation (GHMC) limits.



**Memo No. 11452:** Government of Telangana came out with the Memo No.11452/Plg.III/2021 on 13th October 2021, mandating IT buildings to provide 25% of available parking lots to set up EVCI. In this regard, the Memo directed that while granting building permissions to IT Buildings, a special condition in the building plans and proceedings shall be insisted that necessary provisions shall be made for EV charging to be set up in 25% of parking lots and the same shall also be insisted for the existing IT buildings giving a timeline of 15 months.

**G.O.Ms.No. 49:** Government of Telangana came out with the G.O.Ms.No.49 on 31st March 2023 to make the provisions for EVCS in Building Rules issued in G.O. Ms. No 168, MA & UD. GO states that parking places in buildings shall be provided with EVCS as per CEA and MoP Guidelines and Standards for EVCI, and as amended from time to time.

Memo.No.10294/GHMC-II/2021-2: Government of Telangana came out with the Memo.No.10294/GHMC-II/2021-2 on 22nd June 2023 regarding the installation of public electric vehicle charging stations alongwith provisions for food courts and refreshments in GHMC jurisdiction and HMDA purview ULBs, providing locations to TSREDCO on revenue sharing model. Memo also states that government accorded permission to GHMC/ HMDA to provide the locations for installation of public electric vehicle charging stations in GHMC jurisdiction by M/s EESL under National e-mobility program of EESL to TSREDCO on revenue sharing model as mutually agreed with TSREDCO. Further, government has directed Director of Municipal Administration to instruct the Municipal Commissioner's of ULB's surrounding GHMC to allocate locations minimum of about 200 sq.yards per each location for installing of EVCS & additional space of about 100-200 sq.yards for construction of amenities to TSREDCO on revenue sharing model.



#### G.O.Rt.No.7

The state government nominated TSREDCO as SNA for setting up **EVCI in Telangana** 

#### **GOVERNMENT OF TELANGANA** ABSTRACT

ENERGY DEPARTMENT- Nomination of Telangana State Ru Development Corporation of India (TSREDCO) as State No ency for setting up of Charging Infrastructure for Electric Vehicle in e State of Telangana - Orders - Issued.

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ENERGY (PR.A2) DEPARTMENT

#### G.O.Rt.No. 7

Dated: 07-02-2019

Read the following:

- 1) From the Under Secretary, Ministry of Power, Government of India, No.12/2/2018-EV, Date: 14.12.2018.
- From the Under Secretary to Govt. of India, Ministry of Power, Government of India, No.12/2/2018-EV, Date: 23.1.2018

#### ORDER:

The following Notification shall be published in the Extra-ordinary issue of the Telangana State Gazette.

#### **NOTIFICATION**

In exercise of the powers conferred under para 10.2 of the "Charging Infrastructure for Electric Vehicle - Guidelines and Standards" issued by the Ministry of Power vide reference No.12/2/2018-EV, Dated: 14.12.2018, the Government of Telangana, hereby nominate Telangana State Renewable Energy Development Corporation (TSREDCO) as the State Nodal Agency for "Setting up of Charging Infrastructure for Electric Vehicles" in the State of Telangana.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

#### AJAY MISRA SPECIAL CHIEF SECRETARY TO GOVERNMENT

To

The Commissioner of Printing, Govt. of Telangana, Govt. Central Press, Chenchalguda, Hyderabad (with a request to publish the Notification in the Extraordinary issue of the Telangana Gazette and supply 10 copies).

The Vice Chairman & Managing Director, TSREDCO, Hyderabad.

The Chairman & Managing Director, TSTRANSCO, Hyderabad.
The Chairman & Managing Director, TSSPDCL/TSNPDCL, Hyderabad/Warangal

The Chief Electrical Inspectorate to Government, Hyderabad.

The Secretary, Telangana State Electricity Regulatory Commission, Hyderabad The Under Secretary to GoI, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi.

The Secretary, Ministry of New and Renewable Energy, GoI, Block 14, CGO Complex, Lodhi Raod, New Delhi.

The Director General, Bureau of Energy Efficiency, MoP, GoI.

The Principal Secretary, Municipal Administration and Urban Development Department.

#### Copy to

P.S. to Principal Secretary, Transport, Roads & Buildings Department. P.S. to Principal Secretary, Industries and Commerce Department.

P.S. to the Hon'ble Chief Minister

P.S. to the Chief Secretary to Government

P.S. to Principal Secretary to Government, Finance Department.

P.S. to Joint Secretary to Government, Forest Department

The P.A to Spl.C.S. to Govt., Energy Department. SF/SC.



#### G.O.Ms.No.12

#### **GOVERNMENT OF TELANGANA**

#### **ABSTRACT**

The state government released the **Telangana Electric Vehicles and Energy Storage Policy 2020-2030** ITE&C Department - Telangana Electric Vehicle & Energy Stora Orders - Issued.

INFORMATION TECHNOLOGY, ELECTRONICS & COMMUNICATIONS (Electron

G.O.Ms.No. 12

Dated: 29-1 -- 2020 Read

#### **ORDER:**

The advent of new breakthroughs and improvements in energy storage is transforming vehicular technology and energy solutions.

- Electric Vehicles (EVs) are a promising alternative to ICE (Internal Combustion Engine) vehicles. Innovations in battery technology, reduction in moving parts, and zero tailpipe emissions make EVs an economically viable and sustainable mobility solution that is finding global support from Policymakers and Industry leaders alike.
- Energy Storage Solutions (ESS) provide alternative to energy backup for home, enterprises & businesses, and are ideal for integrating renewable energy into the electricity grid.
- In March 2019, The Government of India (GoI) has launched the National Mission on "Transformative Mobility and Energy Storage" committed to develop a complete ecosystem domestically around EVs, including manufacturing of batteries and all other components to make Electric Vehicle and Energy Storage Solutions sector competitive in the near term.
- Further, India is committed to reducing emissions upto 33-35% by 2030 from the 2005 level and has set the target of 40% non-fossil-based electricity generation in the energy mix. This requires radical measures to scale up the share of renewable energy, besides the ongoing program of 175 GW RE by 2022.
- According to data compiled by IESA, the electric vehicle industry consumed over 5 GWh of batteries in 2018 in India. This number is likely to be over 36 GWh by 2025. During 2020-2027 period, the EV sector is estimated to consume about 250 GWh of batteries.
- The 'Telangana Electric Vehicle & Energy Storage Policy 2020-2030' builds upon FAME II scheme being implemented since April 2019 by Department of Heavy Industries, Govt. of India, where it also suggested States to offer fiscal and non-fiscal incentives to further improve the use case for adoption of EVs.
- 8. Vision, Mission, Policy Objectives & Implementation Strategy

#### Vision:

To make Telangana a hub for Electric Vehicles & Energy Storage Systems.

#### Mission:

- To make the State an attractive investment destination for this sector
- To promote R&D and manufacturing in Electric Vehicle & Energy Storage Systems' sector
- To ensure faster adoption of Electric Vehicles & Energy Storage Systems in the State
- To achieve substantial reduction in total cost of transportation for personal and commercial purposes, supported by a world-class infrastructure



#### **Policy Objectives:**

- a) Make Telangana state the preferred destination for Electric Vehicle, ESS and component manufacturing.
- Generate demand for battery storage solutions by driving EV adoption incentives and supply side incentives for battery manufacturing.
- c) To proactively support creation of EV charging Infrastructure.
- d) Promote Recycle and Cascading of Batteries
- e) Develop Telangana as a global center for cutting-edge research and innovation in Electric vehicles, battery technologies and other emerging technologies such as Autonomous/Connected vehicles.

#### Implementation Strategy:

- a) Incentives shall be made available for Manufacturing of Electric Vehicles, Energy Storage Systems & related components in Telangana. Incentives shall include Capital Subsidies, SGST reimbursements, power tariff subsidies, etc.
- b) Incentives shall be made available for 2 & 3 Wheelers, 4 wheelers, Light Commercial Vehicles, Shared Transport & Public Transport. The incentives shall include waiver on Road Tax & Registration Charges
- c) Incentives shall be provided for charging infrastructure
- d) Ride hailing services shall be encouraged to operate electric 2, 3 & 4 wheelers through incentivization.
- e) Battery operated feeder shuttle services at all Hyderabad Metro Stations for last mile connectivity shall be made available.
- f) Existing state self-employment schemes shall be extended to provide financial assistance for purchase of Electric Vehicles for commercial purposes.
- g) Adoption of EVs at Institutional Level shall be promoted starting with Government entities.
- Preferential parking slots with required charging infrastructure shall be made available for Electric Vehicles.
- Preferential Procurement to Make in Telangana Electric Vehicles and Energy Storage Systems for Government Orders shall be provided.
- State Govt shall facilitate in dovetailing with Govt. of India (GoI) schemes and encourage state stakeholders to avail benefits available under GoI schemes.

#### 9. Policy Period

This policy is applicable for a period of 10 years from the date of notification of this policy. The policy shall be reviewed by the Steering Committee as notified in this policy.

#### 10. Policy Measures:

The policy aims to build on the policy objectives & strategies to encourage growth of EV & ESS sector in the state and to attract private sector investments in this sector. The framework consists of promoting EV adoption for end users, setting up of Charging Infrastructure and Promoting Manufacturing of EV & ESS Components in the State.

#### 11. Demand Side Incentives

Following are the demand side incentives proposed under the Telangana State Electric Vehicle and Energy Storage Policy 2020 – 2030 to incentivize usage of Electric Vehicles in the state of Telangana.

#### A. Incentives for Electric Two Wheelers

 i) 100% exemption of road tax & registration fee for the first 2,00,000 Electric 2 Wheelers purchased & registered within Telangana.

#### B. Incentives for Three-Seater Auto-Rickshaws

- i) 100% exemption of road tax & registration fee for first 20,000 Electric 3 Wheelers purchased & registered within Telangana
- ii) Retro-fitment incentive at 15% of the retro-fitment cost capped at Rs. 15,000 per vehicle for first 5,000 retrofit 3 seater auto rickshaws in Telangana.



iii) Financing Institutions shall be encouraged to provide a hire-purchase scheme at discounted interest rates.

#### Incentives for Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc.

 i) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc. purchased & registered within Telangana

#### D. Incentives for Light Goods Carriers - including Three Wheelers (goods)

 i) 100% exemption of road tax & registration fee for first 10,000 Electric threewheeler (goods), e-carriers as well as electric Light Goods carriers purchased & registered within Telangana

#### E. Incentives for Private Cars

 i) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler private vehicles purchased & registered within Telangana

#### F. Incentives for Buses

- i) 100% exemption of road tax & registration fee for the first 500 Electric buses purchased & registered within Telangana.
- ii) State Transport Units shall also be encouraged to purchase Electric buses.

#### G. Incentives for Tractors

 100% exemption of road tax & registration fee shall be applicable for electric tractors purchased and registered in the state of Telangana as per the existing rules/guidelines applicable for tractors by Transport Department, Govt. of Telangana.

#### 12. Charging Infrastructure:

Availability and accessibility of EV charging infrastructure is a pre-requisite for the penetration of Electric Vehicles.

#### A. Support for Charging Infrastructure

- Government shall facilitate setting of up initial batch of fast charging stations in Hyderabad and other towns in a phased manner, by state entities and private players.
- Telangana State Electricity Regulatory Commission shall provide special Power Tariff category for Electric Vehicle Charging Stations.
- iii) TSREDCO (State Nodal Agency) shall evaluate to establish public charging stations directly or under licensee/franchise/PPP model. Various public places such as airports, railway/ metro stations, parking lots, bus depots, markets, petrol stations, malls & electric poles shall be examined for the same.
- iv) A viable business model shall be developed for private players to set up ARAI compliant EV charging/swapping infrastructure. Specifications for charging infrastructure shall be defined by the Transport Department/ TSREDCO/ITE&C
- v) TSREDCO (State Nodal Agency) in coordination with State DISCOMS shall ensure Supply of Renewable energy for EV charging stations & setting up of solar rooftop plants as per net metering policy and captive power plants shall be encouraged as per the TSREC Guidelines.
- vi) Existing Residential Townships with 1000+ families shall be encouraged to develop charging stations lots.
- vii) Charging/ swapping station for every 50 km within state boundaries on highway to cities like Bengaluru, Mumbai, and Chennai, followed by other national/state highways shall be encouraged.
- viii)HMR stations and TSRTC Bus depots (across the state) shall provide reserved parking and charging points for two-wheelers in their parking zones to encourage EVs for last mile commute.
- ix) Government shall develop Night time community parking with charging facility in PPP mode for e- Autos, Shared mobility taxis and public transport vehicles within Industrial zones.
- x) A battery disposal infrastructure model shall be created to facilitate deployment of used EV batteries.



#### 13. EV in Shared Mobility & Public Transport:

- Government shall encourage EV adoption in Shared Mobility, Public Transport, Institutional Transport, Logistics & Delivery Services.
- ii) Govt shall facilitate aggregators involved in public transportation with regulatory support to enable them to convert their fleet to EVs.

#### 14. Supply Side Incentives

Telangana aspires to be the forerunner in Electric Mobility and Energy Storage space in the country. Local manufacturing and R&D are key to reaching price/performance parity between Electric and ICE Vehicles. Hence, support shall be extended to EV & ESS, ancillary & charging infrastructure & swapping infrastructure manufacturers through policy interventions and Incentives.

#### 15. Support for Manufacturing

- i) EV & ESS sectors shall be incentivized as per the subsidies and incentives available under the Electronics Policy 2016.
- ii) Government shall extend tailor-made benefits to Mega and Strategic Projects on case to case basis. Investment of more than Rs.200 crores in plant and machinery or providing employment to more than 1000 persons shall be categorized as mega project.
- iii) The highlights of the Electronics policy are as below:
  - a. Capital Investment Subsidy: 20% of investment capped at 30 Cr. for Mega Enterprises.
  - SGST Reimbursement: 100% net SGST reimbursement capped at 5 Cr. per year with a cumulative cap of 25 Cr. over a period of 7 years for Mega Enterprises.
  - c. Power Tariff Discount: 25% for 5 years capped at 5 Cr. for Mega Enterprises.
  - d. Electricity Duty Exemption: 100% for 5 years capped at 0.5 Cr.
  - e. Interest Subvention: 5.25% for 5 years capped at INR 5 Cr.
  - f. Transportation Subsidy: 60% with 10% reduction YoY for 5 years; capped at INR 5 Cr.
  - g. Stamp Duty/ Transfer Duty/ Registration Fees Reimbursements: 100% on first, 50% on second transaction
  - Lease Rental Assistance, Assistance in Patent Filing, Reimbursement of Quality Certification costs, Cleaner Production cost reimbursement, Exhibition Cost Reimbursements, Skill Development Assistance.
- iv) Electronics Manufacturing Clusters (EMC) and Industrial Parks are identified for promotion of EV & Energy Storage manufacturing companies. Currently EMCs exist at Raviryal and Maheshwaram, a designated industrial park at Divitapally for Energy Storage manufacturing, with additional parks being designated.
- v) Batteries and related components make up a substantial part of EV. Manufacture and assembly of EV related batteries and cells shall be encouraged in the State through Electronics Manufacturing Policy and Incentives.
- vi) The Government shall promote reuse of EV batteries in stationary energy storage applications. The government shall enable collaborating between cell/battery manufacturers, EV manufacturers, energy storage operators & energy ensure efficient reuse & recycling of batteries.
- vii) Urban Mining of rare materials and cell/ battery recycling shall be incentivized on par with EV & ancillary manufacturing.



#### 16. Other Initiatives

#### A. EV & ESS Cluster

A mega EV & ESS cluster with global standard infrastructure shall be developed. The cluster shall cater to EV & ESS and related component manufacturing. The EV cluster shall have common facilities as given below.

- i) Support infrastructure like roads, power, and water shall be provided at doorstep of the industry;
- Built-Up Space with ready factory sheds shall be developed to be used mainly by MSME units;
- iii) A common facility for Design, prototyping, and testing available to all units in the cluster;
- iv) Common infrastructure such as Drainage/ Common Effluent Treatment Plant (CETP)/Sewage Treatment Plant (STP) and utilities such as Power, Gas and Water:
- v) A State-of-art Business environment with facilities such as Convention and exhibition centres;
- vi) Shared facilities to meet staffing and training requirements;
- vii) A Logistics Hub shall provide with multimodal transport for safe and efficient handling of cargo;

#### **B. Preferential Market Access**

The policy of GoI on preferential market access in Government procurement for domestically manufactured electronics products shall be implemented in all Government of Telangana departments. Special preference shall be given to Telangana-based manufacturers.

#### C. Research & Development

- i) EV Research Hub: A dedicated facility shall be developed to house EV R&D centers by domestic and global EV Majors. Hyderabad's strength in Technology domain shall be leveraged to provide quality manpower for such centers. This hub is also expected to attract global R&D activities on other emerging mobility trends such as connected and autonomous vehicles.
- ii) Centers of Excellence: State Government shall partner with premier Technical Institutes and research establishments across the state to establishing Centers of Excellence for conducting market-focused research on Battery Technologies, battery management, motors, and controllers. State Government shall seek Industry participation and leverage GOI EV policy to provide grant to these centers. NFTDC (Non-Ferrous technologies Development center) at Hyderabad is running one such COE on electric vehicle technologies, under GOI FAME scheme.
- iii) T- Fund: The Government shall offer financial support to Start-ups for research and innovation in EV & Battery technologies. Yearly awards shall be instituted to recognize breakthrough work in Battery Technologies in separate categories for OEM's, ancillaries and start-ups.
- iv) T-Works Automotive Prototyping Center: Recognized as India's largest Prototyping Centre, T- WORKS shall have a dedicated wing for prototyping of Electric Vehicle components/assembly & battery. Industry partnership in the same shall be invited from EV OEMs and large component manufacturers. The facility shall serve start-ups and MSME units in the EV space at subsidized rates.



#### 17. Stakeholders & Responsibilities

S. No	Department	Responsibility		
1.	Electronics Wing, ITE&C Dept., Govt. of Telangana			
2.	Transport Dept., Govt. of Telangana	EV categorization, Administration of End User Rebates & Subsidies		
3.	TSREDCO, Govt. of Telangana	Setting up of Public Charging facilities – airports, metro stations, parking lots, etc., Fixing of Ceiling Cost of Service for EV Charging, Guidelines for charging stations – Public & Private Provision of Renewable Energy for Charging Stations as per Grid related provisions with support of TSDISCOMS		
4.	TSSPDCL/ TSNPDCL, Govt. of Telangana	Electricity Tariff Administration for Public & Private Charging as per TSERC guidelines.		
5.	MAUD Dept., Govt. of Telangana	Adoption of EV in Urban Areas. Identification of sites for EV parking & Public Charging Stations. Infrastructure for EV mobility – Preferential Parking, Charging infra in malls, apartment complexes, etc, with the support of TSREDCO (State Nodal Agency).		
6.	TSRTC	Electrification of TSRTC Fleet, Setting up of Charging Infrastructure for TSRTC fleet with the support of TSREDCO (State Nodal Agency).		

#### Steering Committee

A Steering Committee comprising of senior officials from relevant departments shall be constituted. The steering committee shall work towards time- bound EV demand creation and charging network development in Hyderabad City followed by other towns in the State. The Steering committee shall also be responsible for periodic review of EV policy.

#### 19. Conclusion

The rapid growth in urbanization and the surge in the number of vehicles on roads has led to an immediate need for a sustainable model for personal and public mobility in urban centers to address the rising pollution & mobility costs. Electric Vehicles have emerged as one such mobility solution that holds best promise in terms of sustainability and mass adoption with its pace of technology advancement and cost rationalization. Electric Vehicle technology integrations with the community transport and shared mobility make the promise even stronger. Telangana State Electric Vehicle and Energy Storage Policy 2020-2030 strives to create a policy framework for the accelerated development of an Electric Vehicle and Energy Storage Systems' ecosystem, comprehensively addressing both the demand and supply side gaps and laying emphasis on charging infrastructure creation. This policy is designed to make Telangana State the Electric Vehicle capital and Energy Storage Systems Manufacturing hub of India.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

JAYESH RANJAN
PRINCIPAL SECRETARY TO GOVERNMENT

To
All the Departments of Secretariat
The Transport Commissioner, Transport Department
The Vice Chairman & Managing Director, TSREDCO Ltd., Hyderabad



:: 7 ::

The Chairman & MD, TSSPDCL, Hyderabad
The Chairman & MD, TSNPDCL, Hyderabad
The Chairman & MD, TSGENCO
The Commission Secretary, TSERC
The Managing Director, TSRTC
The Commissioner, GHMC
The Metropolitan Commissioner, HMDA
The Commissioner of Industries, Hyderabad
The Vice Chairman and Managing Director, TSIIC, Hyderabad
The Managing Director, Hyderabad Metro Rail Limited
The Addl. Commissioner of Police, Traffic

Copy to:

The PS to Hon'ble Minister for IT The PS to Chief Secretary SF/SC

// FORWARDED :: BY ORDER //

SECTION OFFICER



### **G.O.Ms.No.12 (Energy Dept.)**

The state government fixed the ceiling cost of service charges for subsidized Public Charging Stations at INR 12.06 / kWh

#### GOVERNMENT OF TELANGANA ABSTRACT

Energy Department – Charging Infrastructure for Electric Cles – Electric Vehicle Charging Stations- ceiling cost of service — wards EV Charges installed by the State/Central Subsidy, fixed at Rs.12.06/kWh+applicable GST - approved – Orders – Issued.

\_\_\_\_\_\_

ENERGY (POWER.I) DEPARTMENT

G.O.Ms.No. 12

Dated: 03-12-2021 Read the following:

- 1) Guidelines & Standards for charging infrastructure for Electric Vehicle issued by Ministry of Power, Dated. 14.12.2018.
- 2) G.O.Rt.No.7, Energy (PR.I) Department, Dated. 06.02.2019
- 3) Revised Guidelines & Standards for charging infrastructure for EVs from Ministry of Power, Govt. of India, No.12/2/2018-EV, Dated. 01.10.2019.
- From the Vice Chairman & Managing Director, TSREDCO, Lr.No.TSREDO/ PBDS/61/Determination of ceiling Tariff/2020-21, Dated. 06.09.2021 and 06.11.2021.

888

#### ORDER:

In reference 2<sup>nd</sup> read above, the Telangana State Renewable Energy Development Corporation Limited (TSREDCO) has been appointed as State Nodal Agency for Implementation of Electric Vehicle Charging Infrastructure (EVCS) in the State of Telangana.

- 2. In the reference 3<sup>rd</sup> read above, the Ministry of Power, Government of India, has issued revised Standards & Guidelines for Charging infrastructure of Electric Vehicles. In the Guidelines, the State Nodal Agency/State Government/Appropriate Commission shall fix the ceiling cost of service charges to be charged by the Electric Vehicle Public Charging Stations installed with Government Incentives (financial or otherwise).
- 3. In the reference 4<sup>th</sup> read above, the VCMD, TSREDCO, the State Nodal Agency for EVCs, has informed that they have requested, Administrative Staff College of India (ASCI) for preparing draft proposal towards determination of ceiling of service charges to be charged by the Electric Vehicle Public Charging Stations. Accordingly, ASCI has submitted a draft proposal for ceiling tariff for Public Electric Vehicle Charging Stations in the State. He has further stated that the proposal was examined and found that all the major criteria's were required for arriving of ceiling cost of services have been covered. Hence, he has requested to consider and accord approval for fixation of ceiling cost of service at Rs. 12.06/kWh+ the applicable GST, for service charges, to be charged by the Electric Vehicle Public Charging Stations which are installed with Government Incentives (Financial or otherwise).

(p.t.o.)



- The Government after careful consideration of the matter, hereby approves the proposal of the Vice Chairman & Managing Director, TSREDCO and fixes the ceiling Cost of Service towards Electric Vehicle installed under Charges, State/Central Subsidy Rs.12.06+applicable GST.
- The Vice Chairman & Managing Director, TSREDCO may take the approval of the TSERC, if required, at appropriate stage as per Ministry of Power Guidelines.
- The Vice Chairman & Managing Director, TSREDCO shall take necessary further action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

#### **SUNIL SHARMA**

Special Chief Secretary to Government

То

The Vice Chairman & Managing Director, TSREDCO, Hyderabad

The Chairman & Managing Director, TSTRANSCO, Hyderabad

The Chairman & Managing Director, TSSPDL, Hyderabad. The Chairman & Managing Director, TSNPDCL, Warangal.

The Chief Electrical Inspectorate to Government, Hyderabad.

The Secretary, Telangana State Electricity Regulatory Commission, Hyderabad

The Secretary, Ministry of Power, Govt. of India.

The Secretary, Ministry of New and Renewable Energy, GoI, New Delhi.

The Director General, Bureau of Energy Efficiency, Govt., of India.

#### Copy to:-

The Finance Department

The Revenue Department

The ITE & C Department

The Transport, Roads & Building Department

The I&C Department

The MA & UD Department

The PR & RD Department

P.A., to Spl. Chief Secretary to Government, Energy Department.

File (C.No.Energy-P1/MNRE/30/2021/P1)

SC/SF.

//FORWARDED :: BY ORDER//

SECTION OFFICER



#### **G.O.Rt.No.18**

#### GOVERNMENT OF TELANGANA A B S T R A C T

The state government appointed TSREDCO as SNA for promotion and mplementation of EVCI and to act as

Energy Department – Implementation of Electric Vehic implementation of EVCI and to act as the State of Telangana – TS REDCO State Nodal Age a Single Window Clearance Agency Implementation for Electric Vehicle Charging infrastruc window clearance agency for setting up of Electric Vehicle

- Modalities concerned under Single window clearance med -m -Orders -

# Energy (Power.I) Department

G.O.Rt.No. 18

Dated: 11-04-2022 Read the following:

- 1) G.O.Rt.No.7, Energy (PR.A2) Department, Dated. 06.02.2019
- 2) Govt., Letter.No.579/PR.A2/2018, Dated. 04.04.2019
- From the Vice Chairman & Managing Director, TSREDCO, Letter. No. TSREDCO/EVI/79/ 2021-22, Date: 21.02.2022

888

#### ORDER:

Government vide orders in the reference  $1^{\rm st}$  read above, have nominated Telangana State Renewable Energy Development Corporation Ltd., (TSREDCO) as State Nodal Agency for Setting up of Charging Infrastructure for Electric Vehicle in the State of Telangana.

- 2. In the reference 2<sup>nd</sup> read above, Government have also appointed TSREDCO to act as Implementation Agency for Implementation of Electric Vehicle Programme through Single Window Clearance Mechnanism for successful implementation of the EVCS in the State.
- 3. The Vice Chairman & Managing Director, TSREDCO have requested to issue modalities to carry out its activities by TSREDCO, under single window clearance system for EVCS and also requested to accord approval to TSREDCO to act as single window clearing agency for implementation of Electric Vehicle Charging Stations in the State of Telangana.
- 4. Government considering the circumstance reported by the Vice Chairman & Managing Director, TSREDCO and after careful examination of the matter hereby permits the TSREDCO, State Nodal Agency for Setting up of Charging Infrastructure for Electric Vehicle for implementation of the Electric Vehicle Charging Stations in the State under single window clearance system with the following modalities:
  - TSREDCO to act as the coordination agency and interface with the entrepreneur for all clearance.
  - (ii) TSREDCO to receive necessary application & payments from the Electric vehicle charging station implementing agencies and disbursement them to the relevant departments.
  - (iii) TSREDCO will process and issue all required / relevant clearance.
  - (iv) TSREDCO to handover documents specifically related to Energy Department (TSDISCOMS/TSTRANSCO and CEIG) for further processing of clearances.
  - (v) TSREDCO to facilitate the revenue sharing agreement with land owning agencies ( Govt organization Lands) as per the guideline issued by GOI



- (vi) EV Charging Stations setting up either under fame scheme with Government subsidiaries or under PPP mode selected through TSREDCO have to submit the application through TSREDCO Electric Vehicle mobile App or web portal for obtaining the approval for locations, Electrical connectivity approval from DISCOMs etc.
- (vii) EV Charging Stations setting up in private lands needs to take NOC from TSREDCO for obtaining the electrical connectivity approval from DISCOMs.
- (viii) All the Electric Vehicle Charging Station operators in Telangana State should report to TSREDCO on monthly basis, for future planning purpose and also to report to CEA.
- (ix) All the Electric Vehicle Charging Station operators in Telangana State should provide linkage with the TSREDCO developed Mobile App & web link.
- (x) All the Government Departments/corporations have to provide the locations to TSREDCO on revenue sharing basis to TSREDCO for installation of Electric Vehicle public charging stations.
- (xi) All the private agencies / companies who wish to provide locations for installation electric vehicle public charging station may provide location to TSREDCO on mutually agreed revenue sharing basis.
- (xii) For Public Charging station either under LT category or HT category may opt for separate Electricity connection under EV Tariff in addition to the existing HT & LT connection if any available in the same premises.
- (xiii) Chargers for captive consumption of only self under EV cars in domestic or commercial category can be connected to the existing domestic or commercial connection subject to meeting the connected Load and contracted demand if the consumer wants to have a separate connection under EV category the same can be obtained additionally.
- (xiv)TSREDCO will issue suitable guidelines from time to time for implementation of EV Charging Stations and all the agencies will have to follow the same.
- 5. The Vice Chairman & Managing Director, TSREDCO shall take further necessary action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

# SUNIL SHARMA SPECIAL CHIEF SECRETARY TO GOVERNMENT

To
The Vice Chairman & Managing Director, TSREDCO, Hyderabad
All the Departments of Secretariat.
The Chairman & Managing Director, TSTRANSCO, Hyderabad
The Chairman & Managing Director, TSSPDCL/TSNPDCL, Hyderabad/
Warangal
The CEIG, Hyderabad
The Secretary, TSERC, Hyderabad
The Under Secretary, Ministry of Power, Government of India.
P.S. to Hon'ble Minister, Energy Department
P.A. to Special Chief Secretary, Energy Department
File (C.No.579/PR.I/2018)

//FORWARDED BY ORDER//

SECTION OFFICER



sf/scs

#### G.O.Ms.No.16

#### **GOVERNMENT OF TELANGANA** ABSTRACT

**Government of Telangana** constituted a State Level Standing **Charging Infrastructure Committee (SCIC)** 

Energy Department - Electric Vehicle Charging Infrastructu a State Level Standing Charging Infrastructure Committee of Telangana - To facilitate and support necessary coorc different agencies, to improve the Ease of Doing Business challenges hindering the growth of the Charging Infrastructure Issued

orders -\_\_\_\_\_\_

#### **ENERGY (POWER.I) DEPARTMENT**

G.O.Ms.No. 16

Dated: 18-07-2022 Read the following:

- 1) G.O.Rt.No.7, Energy (PR.A2) Department, Dated. 07.02.2019.
- 2) G.O.Ms.No.12, IT, E&C(Electronics) Department, Dated. 29.10.2020
- 3) From the Chief Executive Officer, National Institution for Transforming India, NITI Aayog, New Delhi, Dated. 11.10.2021
- 4) From the Vice Chairman & Managing Director, Telangana State Renewable Energy Development Corporation Ltd., Lr.No.TSREDCO/ EVI/ 79/SCIC/2020-21/597, Dated. 26.11.2021.

Government in the reference 1st read above, have nominated Telangana State Renewable Energy Development Corporation (TSREDCO) as State Nodal Agency for setting up of Charging Infrastructure for Electric Vehicle in the State of Telangana.

- Government in the reference 2<sup>nd</sup> read above, have issued the Telangana Electric Vehicle & Energy Storage Policy 2020-2030 for the State of Telangana.
- The Chief Executive Officer, NITI Aayog vide reference 3<sup>rd</sup> read above have informed that they have identified major impediments to a massive installation drive of charging infrastructure i.e., (i) Availability of land at cost effective rates (ii) Obtaining a connection for EV charging and (iii) Absence of uniform EV power tariffs among various other challenges. Multiple State and local government bodies will have to come together to resolve the aforementioned issues. Hence, suggested to set up a State Level Standing Charging Infrastructure Committee (SCIC) that could facilitate and support necessary coordination among different Government departments along with the functions of SCIC.
- The Vice Chairman & Managing Director, TSREDCO vide reference 4<sup>th</sup> read above have requested to accord approval for formation of State Level Standing Charging Infrastructure Committee (SCIC) for the State of Telangana, in line with the above NITI Aayog advice and to issue suitable orders.
- Government after careful examination of the matter, hereby constitutes a State Level Standing Charging Infrastructure Committee (SCIC) for the State of Telangana, under the chairmanship of Chief Secretary, Government of Telangana, with the following composition and functions:

S. No	Department	Responsibility
1.	Chief Secretary to Government	Chairman
2	Special Chief Secretary to Government, Energy Department, GoTs	Vice Chairman
3	Vice Chairman & Managing Director, TSREDCO	Member/Convenor



4	Project Director (EVI),TSREDCO	Member
5	One member representing TSERC	Member
6	One member representing Industries & Commerce Department	Member
7	One member representing ITE&C Department	Member
8	One member representing Transport Department	Member
9	One member representing MA&UD Department	Member
10	One member representing GHMC	Member
11	One member representing HMDA,	Member
12	One member representing TSSPDCL	Member
13	One member representing TSNPDCL	Member
14	One member representing each ULB's of the State	Member
15	One member representing Hyderabad Metro Rail Ltd	Member
16	One member representing Tourism Department	Member
17	One member representing R & B Department	Member
18	One member representing Pollution Control Board (PCB)	Member

#### **FUNCTIONS:**

- Take a holistic view of opportunities and challenges for rollout of EV charging infrastructure and recommend strategies to accelerate progress towards the same, in keeping with the State EV Policy.
- Identify and address coordination issues between various departments and agencies concerned with the rollout of charging infrastructure.
- 3. Monitor the progress of rollout of charging infrastructure in the state at various stages of implementation and
- 4. Deal with any other policy or coordination issues to accelerate the rollout of EV charging infrastructure.
- 6. The Departments mentioned in SCIC Committee are requested to nominate a suitable senior level officer as member of the committee.
- 7. The Vice Chairman & Managing Director, TSREDCO is requested to take further necessary action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

## SUNIL SHARMA SPECIAL CHIEF SECRETARY TO GOVERNMENT

All the Concerned Departments of the Committee.
The Vice Chairman & Managing Director, TSREDCO,
The Chief Executive Officer, NITI Aayog, New Delhi
Copy to:
OSD to Chief Secretary, Government of Telangana.
OSD to Hon'ble Minister for Energy
P.A. to Spl.C.S., Energy
File (C.No.Energy-P1/othr/121/2021-P1)
sf/scs

//FORWARDED BY ORDER//

SECTION OFFICER



#### **G.O.Ms.No.31**

#### GOVERNMENT OF TELANGANA ABSTRACT

The state government appointed TSREDCO as nodal agency for Retrofitment of existing auto-rickshaws

Transport Department – Telangana Electric Vehicle & Energy Storage – Telangana State Renewable Energy Development Corporation Lir appointed as Nodal Agency for Retro-Fitment of existing Auto-Rick Auto-Rickshaws – Orders – Issued.

TRANSPORT, ROADS & BUILDINGS (Tr.I) DEPARTMENT

#### G.O.Ms.No.31

Dated:20.07.2022.
Read the following:-

1) G.O.Ms.No.12,ITE & C Dept., dt.29.10.2020.

2) G.O.Ms.No.11, T,R&B(Tr.I) Dept., Dt.02.02.2021

3) G.O.Ms.No.13, T,R&B(Tr.I) Dept.,Dt.02.02.2021
4) From the Joint Transport Commissioner(IT),O/o T.C., Hyderabad.

Lr.No.6027/R/2017, dated:30.06.2022.

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#### ORDER:

In the G.O. 1st read above, the ITE&C Dept., has issued Telangana Electric Vehicle & Energy Storage Policy 2020-2030 to encourage the Electric Vehicles in the State by providing the incentives i.e., exemption of Road Tax, Registration Fee and Retro-Fitment incentive for the first few Electric Vehicles purchased & registered with in the Telangana State.

- 2. In the G.O. 2<sup>nd</sup> read above, Registration fee was exempted in respect of Electric Three-Seater Auto-Rickshaws for first 20,000 vehicles and Retro-fitment incentive 15% of the retro-fitment cost (capped at Rs.15,000 per vehicle) for first 5,000 vehicles and Electric Light Goods Carries including Three Wheeled Goods Vehicles for first 10,000 vehicles and Electric Tractors purchased and registered in the Telangana State.
- 3. In the G.O. 3<sup>rd</sup> read above, permit to the Electric Three-Seater Auto Rickshaws for 1000 vehicles and Retro-fitment of existing Auto Rickshaws for 250 vehicles and Electric Light Goods Carriers (Three Wheelers goods) for 500 vehicles to ply within the Greater Hyderabad Municipal corporation limits in relaxation of G.o.Ms.No.137, T,R&B(Tr.I)Department, dated:06.08.2002.
- 4. In the letter 4<sup>th</sup> read above, the Joint Transport Commissioner, O/o the Transport Commissioner, Telangana State, Hyderabad, has requested to appoint Telangana State Renewable Energy Development Corporation Limited (TSREDCO) as Nodal Agency for Retro-Fitment of existing Auto Rickshaws as Electric Three Seater Auto Rickshaws.
- 5. Government after careful examination of the matter hereby appoint the Telangana State Renewable Energy Development Corporation Limited (TSREDCO) as Nodal Agency for retro fitment of existing Auto Rickshaws as Electric Three Seater Auto Rickshaws.
- 6. The Transport Commissioner, Telangana State, Hyderabad and the Managing Director, Telangana State Renewable Energy Development Corporation Limited, Hyderabad are requested to take necessary action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

K.S.SREENIVASA RAJU SECRETARY TO GOVERNMENT

To

The Transport Commissioner. Telangana State. Hvderabad.



-2-

The Managing Director,
Telangana State Renewable Energy Development Corporation Ltd., Hyderabad.

Copy to:
The PS to Hon'ble Minister for Transport.
The PS to Secretary to Government, TR&B Dept.

//FORWARDED:: BY ORDER//

SECTION OFFICER



#### Memo No.11452

The state government mandated IT buildings to provide 25% of available parking lots to setup EVCI

#### GOVERNMENT OF TELANGANA MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT DEPARTMENT Memo No.11452/Plg.III/2021 Dated:13.10.2021

Sub: MA & UD Dept., - Mandating IT Parks to provide 25% parking lots with Electric Vehicle Charging - Instructions - Issued - Reg.

Ref: D.O Letter From Principal Secretary to Govt., ITE&C Dept., Do.Lr.No.544/Prl.Secy/ITE&C/2021, Dated: 17.07.2021.

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The attention of Metropolitan Commissioner, HMDA / Commissioner, GHMC / VCs of all UDAs and Director of Town and Country Planning is invited to the reference cited. In this regard they are directed that while granting building permissions to IT Buildings a special condition in the building plans and proceedings shall be insisted that necessary provisions shall be made for EV charging to 25% of parking lots and the same shall also be insisted for existing IT Buildings giving a timeline of 15 months.

Metropolitan Commissioner, HMDA / Commissioner, GHMC / VCs of all UDAs and DT&CP shall take further action accordingly.

#### ARVIND KUMAR SPECIAL CHIEF SECRETARY TO GOVERNMENT

To

The Metropolitan Commissioner, HMDA, Hyderabad,

The Commissioner, GHMC, Hyderabad,

The Director of Town & Country Planning, Hyderabad.

The VCs of all UDAs (through DTCP)

Copy to:

The PS to Principal Secretary to Chief Minister.

The P.S. to Minister( M.A).

The P.S. to Principal Secretary to Government (MA&UD Dept)

S.F/S.C

//FORWARDED ::BY:: ORDER//





#### G.O.Ms.No.49

#### GOVERNMENT OF TELANGANA ABSTRACT

Municipal Administration & Urban Development Department – Amena 2012 - AMRUTH 2.0 - Orders – Issued.

MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (PLC

The state government made amendments in building rules notifying that parking places in buildings shall be provided with EVCS as per Standards and Guidelines

Re: e following:-

- 1. G.O.Ms.No.168, MA Dated: 07-04-2012 read with its subsequent amendments.
- 2. Proposal from DTCP, Hyd., Lr.Roc.No.1080/2023/P, Dated:28.03.2023.

#### ORDER:-

G.O.Ms.No.49

In pursuance of the reforms to be implemented under AMRUT 2 launched by the Government of India, after careful examination of the matter Government hereby issue the following notification making provisions for Dual Piping, Electrical Vehicle Charging Stations and Wi-Fi Infrastructure in Building Rules issued in G.O.Ms.No.168, MA&UD (M) Dept., dt.07.04.2012.

#### NOTIFICATION

In exercise of the powers conferred by section 585 read with section 592 of the Greater Hyderabad Municipal Corporation Act. 1955; provision under sub-section (1) read with sub-section (2) of sections 14, 32, 46 and 58 of the Telangana Urban Areas (Development) Act, 1975, section 56(1) of the Hyderabad Metropolitan Development Authority Act. 2008, section 18 of the Telangana Municipal Corporations Act, 1994, section 238 of the Telangana Municipalities Act, 2019, the Government of Telangana hereby makes the following amendments in the Building Rules issued in G.O.Ms.No.168, MA, Dated07.04.2012, read with its subsequent amendments for making provisions for Dual Piping, Electrical Vehicle Charging Stations and Wi-Fi Infrastructure.

#### **AMENDMENT-1**

In Rule 2 following shall be added as Rule (I)

Rule (I) A dual piping system is a type of plumbing system where two separate sets of pipes are installed to distribute water in a building. One set of pipes carries potable or drinking water, while the other set of pipes carries non-potable or reclaimed water. The potable water pipes are connected to the main water supply and distribute water for drinking, cooking, and bathing. The non-potable or reclaimed water pipes carry water that has been treated and recycled from sources like rainwater, greywater from sinks and showers, or treated wastewater.

#### **AMENDMENT-2**

In Rule 15 following shall be added as Rule 15(f), 15(g) and 15(h)

**15(f)** Parking places in buildings shall be provided with Electric Vehicle Charging Infrastructure as per Central Electricity Authority (CEA) Technical Requirements for Connection of Distributed Generation Sources, CEA Measures of Safety Regulations, 2010 and Ministry of Power Consolidated Guidelines and Standards for EV Charging Infrastructure, as amended from time to time".

15(g) For Constructions over 10,000 Sq.mt and above and in case of Group Housing Buildings where there are 100 units and above, the plumbing arrangement shall be made in a way that the potable water shall be used for drinking, cooking and bathing only and for rest of the uses, provision for dual piping system shall be made.

15(h) New building constructions shall have to properly demarcate sections within buildings and on rooftops for housing Broadband/digital connectivity infrastructure / antenna. These areas should have access to power supply for reliable, always on services. Further, Computer Telephony Integration (CTI) of a building shall include the common duct to access the common space used as telecom room inside the building.



#### <u>:: 2 ::</u>

#### **AMENDMENT-3**

In Rule 26 following shall be added as Rule 26(m)

**26(m)** Occupancy Certificate to a building shall be granted only after ensuring that the CTI as per the prescribed standards is in place and an undertaking is given by the Architect or Engineer certifying that building has ensured common access to all digital infrastructure to all Service providers in accordance with plan of creation of CTI.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

# ARVIND KUMAR SPECIAL CHIEF SECRETARY TO GOVERNMENT

To

The Commissioner and Director, Printing, Stationery and Stores Purchase Telangana Hyderabad (in duplicate, with a request to publish the Notification in the Extraordinary Gazette of Telangana, and furnish 100 copies to Government, Dt:01.04.2023) The Metropolitan Commissioner, Hyderabad Metropolitan Development Authority, Hyderabad.

The Commissioner, Greater Hyderabad Municipal Corporation, Hyderabad

The Commissioner and Director of Municipal Administration, Telangana .Hyderabad.

The Director of Town and Country Planning, Telangana. Hyderabad.

The Director General, Fire Serves Department, Hyderabad

The Commissioners of all Municipal Corporations/ Municipalities in the State, through CDMA.

The Vice chairman of all Urban Development Authorities in the State All Departments of Secretariat

Copy to:

The Principal Secretary to Chief Minister

The OSD to Minister (MA&UD).

The P.S. to Principal Secretary to Government, MA&UD Department. SF/SC

//FORWARDED ::BY:: ORDER//

SECTION OFFICER

#### Memo.No.10294/GHMC-II/2021-2

GOVERNMENT OF TELANGANA MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (

Memo.No.10294/GHMC-II/2021-2

Sub: MA&UD Dept., - GHMC - Installation of Refreshments in GHMC Jurisdiction and HML refreshments and food courts Providing Locations to TSREDCO on revenue Permission - Accorded - Orders - Issued.

The state government directs GHMC & HMDA as well as ULBs surrounding GHMC limits to provide lands for installation of Public EVCS along with amenities like

Ref: 1. Govt.Memo.No.10294/GHMC.II/2021, dt.30.08.2021.

2. From the Chairman, Telangana State Renewable Energy Development Corporation Limited (TSREDCO), Hyd., TSREDCO/EVCS/68/Installation of EVCS/2022, dated. 31.05.2023.

000

In the reference 1st read above, Government accorded permission to GHMC/ HMDA to provide the locations for installation of public Electric Vehicle charging stations in GHMC Jurisdiction by M/s. Energy Efficiency Services Limited (EESL) under National e-mobility program of EESL to TSREDCO on revenue sharing model as mutually agreed with TSREDCO.

- In the circumstances reported by the Chairman, Telangana State Renewable Energy Development Corporation Limited (TSREDCO), Hyd., in the reference 2nd cited above, after careful examination of the matter, Government hereby direct the GHMC & HMDA to allocate additional space of about 100 - 200 Sq. Yards for construction of amenities like recreation centre in the locations already provided to TSREDCO for installation of Public EV Charging Stations along with permission for operating food courtson revenue sharing model as mutually agreed with TSREDCO.
- Government, further direct the Director Municipal Administration(DMA) to instruct the Municipal Commissioners' of ULBs surrounding GHMC to allocate locations @ minimum of about 200 Sq. Yards per each location, for installation of EV Charging Stations & additional space of about 100 - 200 Sq. Yards for construction of amenities to TSREDCO, on revenue sharing model as mutually agreed with TSREDCO.
- The Commissioner & Director of Municipal Administration, Hyderabad / Commissioner, Greater Hyderabad Municipal Corporation, Hyderabad / the Metropolitan Commissioner, Hyderabad Metropolitan Development Authority, Hyderabad shall take further necessary action accordingly...

ARVIND KUMAR SPECIAL CHIEF SECRETARY TO GOVERNMENT

The Commissioner & Director of Municipal Administration, Hyderabad. The Commissioner, Greater Hyderabad Municipal Corporation, Hyderabad. The Metropolitan Commissioner, Hyderabad Metropolitan Development Authority, Hyderabad Copy to: The Chairman, TSREDCO, Khairathabad, Hyderabad

// FORWARDED :: BY ORDER //





# EXISTING PROCESS FOR EVCS INSTALLATION AND ENERGIZATION



## **Existing Process for EVCS Installation and Energization**

- TSREDCO has come out with an offline application form which is available for installing EVCS in the state. In the existing application process, the application form is used for approvals/ permits for Public Charging Stations only but has provisions for Home Charging Stations (HCS)/ Domestic Charging and Captive Charging Stations (CCS) as well. The form also includes aspects such as company details, location of the proposed site with details of the registration fee remitted, estimated cost of the project proposed, financing arrangement, details of registration fee remitted, declaration.
- The permits/ approval process for installation of PCS in government land/ property is largely similar to
  the process involved for PCS set up in private land/ property with one small difference. In case of PCS
  set up in government land/ property, the lease agreement is not required as TSREDCO has an
  agreement with the government organizations in Telangana for land allotment towards the setting up of
  PCS.

Below are list of different documents needed for set up of different types of charging stations in Telangana.

Table 1 : List of Documents Required for the Various Steps of Application to Set up PCS, CCS and HCS in Telangana

	PCS	CCS and HCS
Application to TSREDCO for NOC for EV meter	CPO / Property Owner (Govt. or Private) / Developer / RWA submits the offline application form to TSREDCO with following documents:  1. Letter of request on company letterhead to TSREDCO identifying the land parcel (in case of public/ government land parcel)  2. Lease / ownership document (as applicable)  3. Registration fee by way of Demand Draft, drawn in favor of TSREDCO Ltd, payable at Hyderabad  4. Certified copy of the Memorandum & Article Association of the company/partnership deed  5. Certified copy of the Registration Certification  6. Copy of PAN Card / CIN  7. Copy of GST Registration (if applicable)  8. Certified copy of the Authority confirming powers on the person(s) who are competent to execute the MOU / the agreement with TSREDCO / DISCOM  9. Certificate from the Chartered Accountant showing the "Net Worth" of the company  10. ARAI Certificate	For CPO / Govt or Private Property Owner / Developer / RWA keen to avail special EV tariff & meter, an offline application form needs to be submitted to TSREDCO with following documents:  1. Registration fee by way of Demand Draft, drawn in favor of TSREDCO Ltd, payable at Hyderabad 2. Copy of address (latest electricity bill/water bill) 3. Copy of PAN Card / Aadhar Card No 4. Technical data sheet of the specific charger  Note: For CPO / Govt or Private Property Owner / Developer / RWA willing to go with existing meter and tariff, an application can be directly made to DISCOM and CEIG for new load addition/ load enhancement (as applicable)



	PCS	CCS and HCS
	CPO / Developer / RWA / Property Owner, submits the application to the relevant area DISCOM with the following documents for seeking EV meter and special EV tariff:	CPO / Developer / RWA / Property Owner submits the application to relevant DISCOM with the following documents for EV Meter:
	For availing special EV Tariff and Meter: Application form: TSSPDCL – https://www.tssouthernpower.com/newservice registrations TSNPDCL – http://210.212.223.83:7001/J2S/j2s/websiteLo ginUsers.action	For availing special EV Tariff and Meter: Application form: TSSPDCL – https://www.tssouthernpower.com/ newserviceregistrations TSNPDCL – http://210.212.223.83:7001/J2S/j2s /websiteLoginUsers.action
Application to DISCOM for availing special tariff and meter		For Existing Connection and to add new load/ enhance sanctioned load:  Application form:  TSSPDCL – (online form)  http://210.212.220.126:8080/TSSP  DCL/LeftMenu/Downloads/CSC.pd  f  TSNPDCL – (offline form)  https://tsnpdcl.in/Menu/ServiceRequest
	Documents needed by DISCOM:  1. Application form for power connection 2. NOC by TSREDCO 3. Lease agreement / Revenue sharing from owner + sale deed if needed 4. Nearest Service Number 5. Authorized person ID proof / photo	Documents needed by DISCOM:  1. Application form for load upgradation / load enhancement  2. Lease agreement / Revenue Sharing agreement from owner + sale deed if needed  3. Nearest Service Number  4. Authorized person ID proof / photo

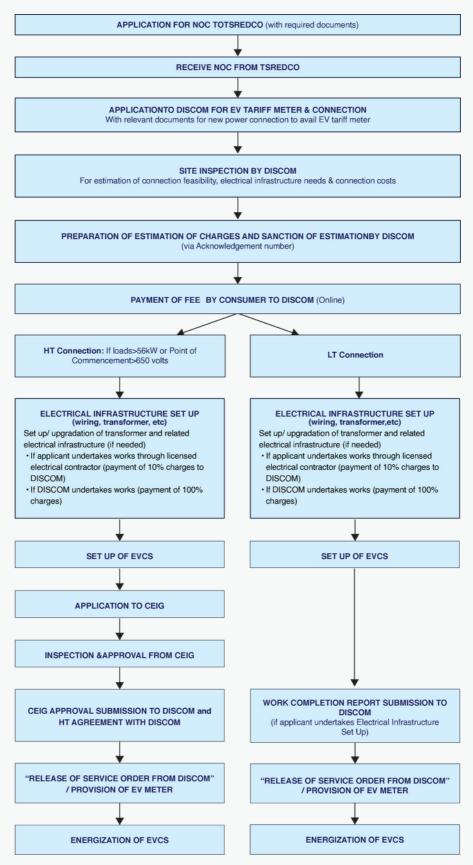


	PCS	CCS and HCS
Inspection and approval by CEIG (only applicable to HT loads)	For HT Loads, applicant seeks approval from and relevant documents as follows:  NOTE: HT loads>56 kW or Point of Commence  1. Agreement letter between contractor & own  2. Contractor license copy  3. Contractor / project electrical supervisor pe  4. Feasibility report from the DISCOMS  5. Electrical single line diagram from point of     use of electrical energy (clearly showing th     in yellow colour)  6. The structural layout showing plan and     clearances (clearly showing the additions     colour)  7. General arrangement of the equipment dra     equipments (clearly showing the additions     colour)  8. The earthing layout diagram (clearly show     deletions in yellow colour)  9. Site layout (clearly showing the additions     colour)	ement > 650 volts only er  rmit copy  commencement of supply to the end e addition in red colour and deletions  elevations with sectional and safe in red colour and deletions in yellow  awing showing the location of various in red colour and deletions in yellow  wing the additions in red colour and



Below is the figure representing the flow chart of the existing process for installation and energization of PCS in Telangana:

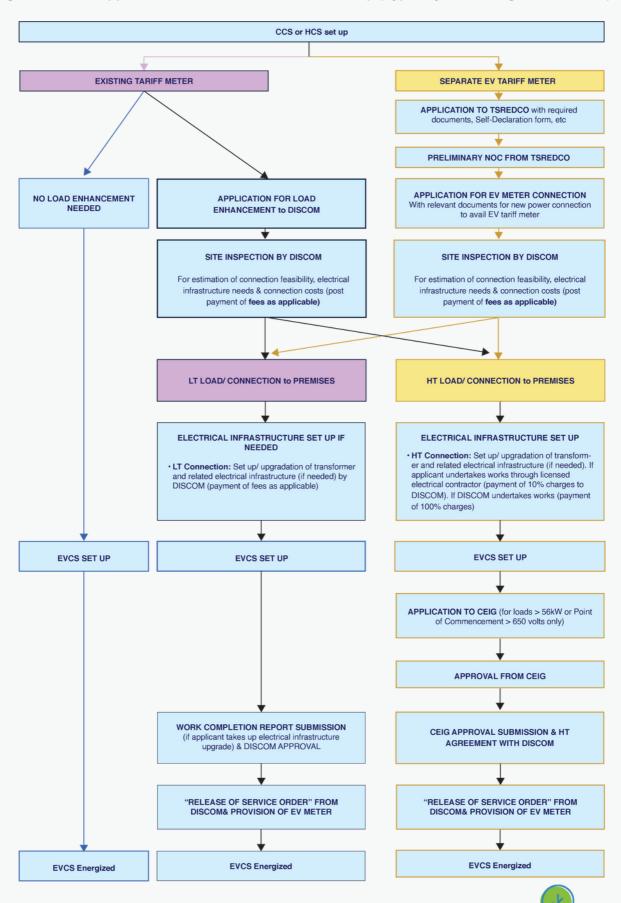
Figure : Permit/ Approval Process for PCS Set up in All Types of Public Locations Including
Buildings





Below is the figure representing the flow chart of the existing process for installation and energization of CCS/HCS in Telangana:

Figure: Permit/ Approval Process for CCS and HCS Set Up (Typically in Buildings/ Estates etc.)



## FREQUENTLY ASKED QUESTIONS

#### **Frequently Asked Questions**

Below are the relevant list of frequently asked questions:

#### a) What is a Public Charging Station (PCS)?

As per the Ministry of Power (MoP) guidelines, public charging means a charging station where any electric vehicle can get its battery charged and is operated on a commercial basis with appropriate service charges.

#### b) What is a Captive Charging Stations (CCS)?

As per the Ministry of Power (MoP) guidelines, CCS shall mean an EVCS exclusively for electric vehicles owned by or under the control of the owner of the charging station and operated under a non-commercial basis.

#### c) What is a Home Charging Station (HCS)/ Domestic Charging?

As per the Ministry of Power (MoP) guidelines, HCS is an EVCS set up for individual/private use in own parking space on a non-commercial basis.

#### d) What is a Battery Swapping Station (BSS)?

As per the Ministry of Power (MoP) guidelines, BSS shall mean a station where an electric vehicle with swapable batteries can get its discharged/partially discharged battery replaced by a charged battery. These are operated on a commercial basis.

## e) When is NOC required from the nodal agency TSREDCO and what documents are required for obtaining NOC from TSREDCO?

NOC is mandatorily required from TSREDCO for availing special EV tariff meter from DISCOM. Therefore PCS have to manditorily obtain NOC from TSREDCO while CCS and HCS may obtain NOC only if they want to install a special EV tariff meter.

The following are the documents required to obtain NOC from TSREDCO:

- 1. Offline/ Online application form
- 2.Lease agreement from owner (not needed when EVCS are being set up by government entities in government-owned land/ property)
- 3. Registration fee by way of Demand Draft, drawn in favor of TSREDCO Ltd, payable at Hyderabad
- 4. Certified copy of the Memorandum & Article Association of the company/partnership deed
- 5. Certified copy of the Registration Certification
- 6. Copy of PAN Card/CIN
- 7. Copy of GST Registration (if applicable)
- 8. Certified copy of the Authority confirming powers on the person(s) who are competent to execute the MOU/the agreement with TSREDCO/DISCOM
- 9. Certificate from the Chartered Accountant showing the "NetWorth" of the company.
- 10. ARAI Certificate

## f) Do HCS for individual self use being set up in individual parking lots of apartments/ homes need permits/ approvals or NOC from TSREDCO?

As of today, HCS is not included in the permits/ approval process. However, if a separate EV meter is



sought for HCS, an application has to be made to TSREDCO. Going forward, TSREDCO is considering setting up a SWC process which will have permits/ approvals depending on the load/ capacity as well as the deployment location (ex: high rise buildings., basements etc.).

Note: Individuals keen to set up Home Charging Stations but not being provided the permission from RWA/GHS may also seek NOC from TSREDCO without mandatorily opting for EV tariff meter.

#### g) What documents are required for application for power connection to DISCOM?

- Application form for Power Connection (format available in chapter C)
- Applications to TSSPDCL/ TSNPDCL can also be made online.
- NOC by TSREDCO
- Lease agreement from owner + sale deed (where applicable)
- · Nearest service number
- Authorized person ID Proof/ photo

#### h) What is the process for government entities keen to set up Public Use Charging Stations?

For government entities that are keen to set up PCS, in their own government land/ property, the agency needs to submit the application form with relevant documents as mentioned in the table above. TSREDCO will then enter into a Revenue Sharing Agreement with the government organization. Thereafter, an NOC will be provided by TSREDCO, followed by the rest of the permits/ approval process. The government entity may seek guidance from TSREDCO on identifying Charger Point Operators (CPO) empanelled (if any) with TSREDCO for the same or approach the open market on their own.

Private entities (CPOs), interested to set up a PCS in government land/ property, need to submit an application form (including all documents as mentioned in the table above) along with a letter on its company letterhead to TSREDCO identifying the land parcel and requesting approval. TSREDCO will then enter into a Revenue Sharing Agreement with the government land-owning agency/ department. Thereafter, an NOC will be provided by TSREDCO, followed by the rest of the permits/ approval process.

#### i) What is the process for government entities keen to set up Captive Use Charging Stations?

Government entities keen to set up CCS, in their own government land/ property, an application needs to be made to TSREDCO with the relevant documents as mentioned in the Table above. Thereafter, an NOC will be provided by TSREDCO, followed by the rest of the permits/ approval process. The government entity may seek guidance from TSREDCO on identifying CPOs empanelled (if any) with TSREDCO or approach the open market on their own. For private entities (CPOs), keen to set up CCS, in government land/ property, an application needs to be made with relevant documents as mentioned in the table above.

**Note:** TSREDCO plans to empanel a list of EVSE providers/ technology providers, which will help both government organizations and private organizations to identify technology providers to set up PCS or CCS.

## j) For private entities interested to set up PCS in government land/ property, are there any permissions needed from Directorate of Town and Country Planning (DTCP) and/ or relevant Municipal Authorities?

TSREDCO has already identified 100-150 sites owned by GHMC and/ or other municipal authorities. Therefore, interested private entities may directly approach TSREDCO to identify preferred sites for them to set up PCS.



## k) Is it mandatory to avail additional load enhancement for HCS (domestic charging points) for individual house/ self-use?

Scenario 1: If the sanctioned load meets the load demand (including charging of EV), then no load enhancement is required.

Scenario 2: If the sanctioned load is lesser than the load demand, then load enhancement may be obtained and the consumer may approach the uility (TSSPDCL/ TSNPDCL) for sanctioned load enhancement.

#### **Example:**

Sanctioned Load (kW)	Additional Load Required	Total Load (including EV Charging requirement)	Remarks
7 kW (3 Phase)	3.3 kW	10.3 kW	Application may be submitted to relevant distribution utility (TSSPDCL/TSNPDCL) for load enhancement. Utility will also check and communicate on electrical infrastructure upgrade requirements like wiring/transformer/main utility energy meter for the building premise

## <u>I)</u> Is it required to submit any documents for availing additional load enhancement for setting up EV Charging Stations (HCS/ CCS)?

The relevant documents that are mentioned in Table 1 for load enhancement need to be submitted along with the application to the relevant DISCOMs

#### m) What are High Tension (HT) category connections?

As per prevailing norms, HT category connections are those with loads greater than 56 kW or point of commencement greater than 650 volts.





## DOCUMENTS REQUIRED TO OBTAIN NOC FROM TSREDCO

#### **Application Form for NOC from TSREDCO**

For latest/updated application form, please visit TSREDCO office



#### Telangana State Renewable Energy Development Corporation Ltd (TSREDCO)

(A Government of Telangana Undertaking)
D.No. 6-2-910, Visvesvaraya Bhavan, II floor, The Institution of Engineers Building,
Khairatabad, Hyderabad - 500 004.Telangana State, India.

Tel Nos. 040 - 2320 1502, 2320 1503, Fax No. 040 - 2320 1504

E-mail: pdprojects@tsredco.telangana.gov.in

Web site: www.tsredco.telangana.gov.in

Application for issuing of Approval/NOC for public EV charging station.

PURPOSE OF EV Charging Stations
(Strike off whichever is not applicable)

a) Captive Charging
b) Public Charging
c) Domestic Charging

#### I. COMPANY DETAILS

1	Name of the applicant / organization	
2	State whether the applicant /organization is a	
	a) Company registered under Indian Companies Act; b) Co-operative Society; c) Any other corporate entity ROC to be attached along with Memorandum of Articles d) Individual	
3	Address	
i)	Office Address	
	Office Phone	
	Office Email ID	
ii)	Authorized Person  1) Prime Contact Person Name: Designation: Mobile Number: Phone Number: E-Mail id:	
	2) Alternate Contact Person Name: Designation: Mobile Number: Phone Number: E-Mail id:	



4	PAN No of the Company/Proprietor (copy to be enclosed)	
4	CIN No of the Company (copy to be enclosed)	
5	GST Number (copy to be enclosed)	
6	Present activity/business carried on by the applicant/ organization.	
7	Give details of the average turnover of the organization in last three years. In case of new Company, a fulfillment certificate obtained from Charted Accountant shall be furnished.	

#### II. Location of the proposed site with details

1	a)Location of proposed site with details	
	b) Land details of the Charging Station site	
	<ul> <li>i) is the Land/Location is already allotted (Name of the land owning agency is to be mentioned along with proof)</li> </ul>	
	ii) Is it Govt. land or Pvt. Land	
	iii) Name of village/area	
	iv) Mandal	
	v) District	
	vi) Survey Nos.	
	vii) Area Extent	
	viii) Geo-graphical co-ordinates of Location	
2	Nearest sub-station details of DISCOM with voltage details of sub- station and the distance from the proposed Charging Station site.	
3	a) Proposed Gross Capacity Charging Station (KW)	
	<ul> <li>b) Applied Contracted Demand from DISCOM (KVA)</li> </ul>	
	c) Category ( LT IX /HT IX)	
	d) Name of the DISCOM	
	e) Nearest Available Electricity Service Connection	



	1) Number of Slow Chargers (AC)-	
	Capacity of each charger	
	Number of Guns for each charger	
	2) Number of Fast Chargers (DC)	
	Capacity of each Charger	
	Number of Guns for each	
	charger	
	Charger	
	3) Number of CCS& CHAdeMO chargers	
	Capacity of each Charger Number of Guns for each charger	
	Number of Guns for each charger	
	4) Details of Swapping	
	equipment/Bulk charging	
	equipment	
	Number of Swapping	
	Stations Capacity of	
	Swapping Stations.	
	5) Details of certificate from designated testing	
	labs to the charging infrastructure.	
	C) D	
	Details of Network Service Provider(NSP)	
4	Any Renewable Energy is utilized (Solar, Wind etc.),	
_	If yes then please mention their capacity and	
	technologies used	
	100,111,010,010,010	
5	Estimated cost of the project proposed	
	0 0 00 0	
6	Financing Arrangement	
	a) Equity	
	b) Financial Institution / Commercial Banks	
	c) Other sources if any (specify)	
	1.00	
7	Planned duration for commissioning of the project.	





#### IV. DETAILS OF REGISTRATION FEE REMITTED

1	S.No	Type of Charger	Capacity	, 0	f	Registration fee proposed per single
			Charger			gun basis
	1	Slow Charger	Bharat A	AC 001	T	
			10 KW		-	
	2	Fast Charger	Bharat D	C 001	П	
			15 KW			
	3	Slow Charger	Type2 A	С	٦	
			22 KW		╝	Rs.2,000 + GST per charger
	4	Fast Charger	CCS	11 8	į.	
			CHAdeN	10	-	
			50 KW		╛	
	5	Fast Chargers more	>50 KW	1	1	
		than 50 KW	-		_	
	6	Domestic charger	< 10 KW	1		Rs.1,000 + GST per Charger (only if
8	-	Committee Charlison			4	separate tariff connection is required)
	7	Swapping Stations			$\perp$	Rs.25,000 + GST per unit
2	Amount	Drawn				
3	Demand	Draft no.				
	Date Ba address	nker name &				
4	Layout o	of Charging Infrastructu	ıre			

#### V. ANY OTHER RELEVANT INFORMATION:

#### V. DECLARATION

- (i) I/We certify that all information furnished is true to the best our knowledge.
- (ii) I/We abide by the rules and regulations, terms and conditions laid down by TSREDCO, CEIG, TSDISCOM, Local Urban/Rural Government or any other Government departments.
- (iii) We submit the required information will be shared periodically to TSREDCO and give access to the our charging station online data if required.

Place:	Signature of the authorized
Date:	Signatory of the
	Organization with Sea



#### I. DOCUMENTS TO BE ENCLOSED for Captive/private/public Charging:

- Registration fee by way of Demand Draft, drawn in favour of TSREDCO Ltd, payable at Hyderabad.
- A certified copy of the Memorandum & Article Association of the company / partnership deed.
- 3. Certified copy of Registration Certificate.
- 4. Copy of PAN Card / CIN
- 5. Copy of GST Registration (if applicable)
- 6. Certified copy of the Authority confirming powers on the person(s) who are competent to execute the MOU/the agreement with TSREDCO/DISCOM.
- 7. Certificate from the Chartered Accountant showing the "Net Worth" of the company.
- 8. Any other relevant information related to proposed Charging Stations.

#### II. DOCUMENTS TO BE ENCLOSED for Domestic (for availing the special EV Tariff only):

- Registration fee by way of Demand Draft, drawn in favour of TSREDCO Ltd, payable at Hyderabad.
- 2. Copy of address i.e., (latest electricity bill/water bill).
- 3. Copy of PAN Card / Aadhar Card No.
- 4. Technical data sheet of the specific Charger.



## Revenue Sharing Agreement Format Between TSREDCO and Government Entities

Revenue Sharing Agreement Between	
Detween	
And Telangana State Renewable Energy Development Corporation Limited (TSREDCO) For deployment of Public Electric Vehicle Charging Stations	
This agreement is entered into day of Month,Year at Hyderabad, Telangana State India.	>,
BETWEEN	
(herein after referred to as "") represented by its Vi	ce
repugnant to the context or meaning thereof, include successors and assigns of the FIRSTPART.	
AND  Telangana State Renewable Energy Development Corporation Limited (herein after referred to 'TSREDCO') being the State Nodal cum Implementing agency appointed by Govt of Telangana f installation of Electric Vehicle Charging Stations (EVCS) in the State of Telangana Vice Chairman Managing Director Sri N. Janaiah Which expression shall mean and include its successor(administrator(s) and assigns) of the SECOND PART.	or &
1	



VHEREAS:				
	having	its	Head	office
Telangana State Renewable Energy De Corporate Cum Regd. office at D.No. 6-2 Engineers Building, Khairatabad, Hyderaba	-910, Visvesvaray	a Bhava	n, The Inst	
below) for charging of electric vehicles at id by and intends to grant /p. Charging Stations at identified Locations (TSEV) and the required operation and empanelled and authorized Charge Point of TSREDCO from time to time.	dentified sites (attacermission to TSR belonging to and operate the maintenance w	Ached at EDCO (he same thr	Annexure- to set up P ereinafter re rough its M xecuted thi	I) owned ublic EV eferred as obile app rough its
. In consideration of the above, this Agreeme the said proposal.	ent sets out the inte	ent of the	Parties in r	elation to
OW THERE FORE, in consideration of the inderstandings set forth in this Agreement, the				and
Definitions The following capitalized terms wherever use given hereunder:	ed in this AGREEN	MENT sł	nall have the	e meaning
51 ven nerednaer.			olies power	
"Public EV Charging Stations(s)" means a the batteries of an Electric vehicle.	device or station	that supp		to charge
"Public EV Charging Stations(s)" means a the batteries of an Electric vehicle.	device or station	that supp		to charge
"Public EV Charging Stations(s)"means a	a device or station	that supp		to charge
"Public EV Charging Stations(s)" means at the batteries of an Electric vehicle.  "CPO" means Charge Point Operator  "TSREDCO" mean State Nodal Agency.		that supp		to charge
"Public EV Charging Stations(s)" means a the batteries of an Electric vehicle.  "CPO" means Charge Point Operator	zing.	that supp		to charge



h)	"KW" shall mean rating of public EV Charger;		
i)	"Operating Cost" shall include direct electricity energy charge payment through payment gateway service provider appointed by TSREDCO or its authorized Charge Point operators, salary of supervisor or equivalent level person designated for managing the backend system, salary for semi-skilled/skilled workers appointed by TSREDCO / or its authorised Charge Point operator for maintenance of chargers, annual maintenance cost of chargers, telecommunication cost, IT System cost and customer support;		
j)	$\hbox{\bf ``Charging Stations Locations shall have a meaning ascribed in above Annexure-I \ hereof;}$		
k)	"Term" shall mean 10 years (can be extendable ) with Annual Maintenance Cost (AMC) starting from the earlier of: (a) six months from the Effective Date, or (b) the date of installation of the last EV Charger at the allocated locations by as per this Agreement.		
1)	Effective Date: 16/11/2022		
m)	"System" includes the EV Charger, assemblies, converters, switches, wiring devices and wiring, and all other material/civil works comprising the Installation Work.		
2.	Proposal		
a.	M/s TSREDCO has proposed to establish and operate of Electric vehicle Public Charging stations at Locations (List attached at Annexure-I) owned by For Setting up of such Public EV charging stations by M/s TSREDCO, would provide the required suitable space at for a period of 10 years initially with an option to extend further on mutual agreed terms and conditions. The details of locations are annexed as Annexure-I to this agreement understands that TSREDCO will intern allocate these locations to the selected agency as per FAME-II and PPP model here after commonly referred as Charge Point Operators (CPO's)		
b.	The Parties are keen to develop partnership for the Public EV Charging Stations at provided locations and may discuss further expansion at other locations, at the discretion of M/s TSREDCO & jointly.		
c.	The Parties has identified the selected locations (as per attached annexure) based on availability of space and feasibility of operation of the Public Charging Stations without affecting regular operation of the identified locations if any.		
d.	M/s TSREDCO has proposed to establish and operate Electric vehicle Public Charging stations at Locations owned/ provided by The Charging Station shall have chargers in accordance with Guidelines notified by the Ministry of Power, Government of India. The charging infrastructures installed shall comply with the government/ministry of power Government of India guidelines vide reference 12/2/2018-EV (Comp No.244347), 14-01-		



**E8** 

 $\boldsymbol{2022}$  and regulations for performance, safety & quality from time to time.

e.	M/s TSREDCO agrees to invest in setting up and operating the public charging stations including separate power connection, transformer and meter, if required ,at its own cost or through its empanelled Charge point Operators, and shall upgrade and refurbish the Public Charging Stations, in line with the technology advancements and business needs, from time to time. The cost of electricity including surcharge, duty, contingency for power purchase adjustment charges, etc. and all operating and maintenance expenses related to Charging stations shall be borne by M/s TSREDCO or its authorised Charge Point Operators (CPO's).
f.	The Parties agree that the Public Charging Stations may be operated through a cloud- based solution technology developed and owned by $M/s$ TSREDCO and manpower deployed at the identified locations by $M/s$ TSREDCO or through its CPOs and access to can also be facilitated.
g.	The Parties agree that all applicable statutory approvals/ permissions from the respective authorities for the Public Charging Stations shall be procured and obtained by M/s TSREDCO or its authorized CPOs shall provide all assistance to M/s TSREDCO or to its authorized CPOs to obtain the consents, clearances and permits, and the governmental approvals in a timely manner in connection with the Project. Further, agrees to assist in obtaining separate power connection or enhancing the power supply at each location, if required by M/s TSREDCO or its authorised Charge Point Operators (CPO's) in connection with the Project.
h.	M/s TSREDCO or through its authorized CPOs shall arrange deployment of qualified and suitable manpower and required necessary tools, logistics, spares & consumables during installation, commissioning and O&M of Public EV charging stations at locations hereby grants to M/s TSREDCO a right, co-terminus with the term to ingress and egress the location and access to electrical panels and conduits to interconnect or disconnect the System with the Electric Vehicle Charger, electrical wiring in coordination with electrical Wing concerned.
i.	Safety is of paramount importance and M/s TSREDCO shall take all safety precautions in connection with the setting up and operation of the Public EV Charging Stations to ensure safety to the user agrees to ensure to provide safe and secure environment to install and operate the System. In the event of any damage to the facilities, property due to any fault in the M/s TSREDCO or its authorized CPOs equipment, M/s TSREDCO or its authorized CPOs will be liable to compensate the losses for which M/s TSREDCO or its authorized CPOs is directly responsible. The TSREDCO or its authorised CPOs shall ensure and take comprehensive insurance policy in order to cover the damages, Compensation in the event of damage to the charging station and/or to facilities/property.
j.	agrees and confirms that the Public Charging Locations (including the unfettered access to the identified space for the respective shall be free from encumbrances or hindrances, and if during the installation and operation period, the same is identified by M/s TSREDCO or its authorised Charge Point Operators (CPO's), then the M/s will have to take care of the expenses / cost against clearance the encumbrance or hindrance or



provide space/ site.

k.	The Parties agree to jointly undertake the planning, design, setting-up and implementing the Projects/Public Charging Stations at the respectivelocations. The Parties, interalia, agree to ensure; (a) Planning and designing the charging infrastructure in relation to the Projects; (b) Investment in the Projects by M/s TSREDCO or its authorised Charge Point Operators (CPO's); (c) Operating and maintaining the Projects by TSREDCO or its authorised Charge Point Operators (CPO's; and (d) Managing the Projects using cloud-based solution system software.
1.	shall not directly or indirectly cause, create, incur, assume, or suffer to exist any lien on or with respect to the System or any interest therein. The Project and the System shall remain the property of M/s TSREDCO and shall not attach to or be deemed a part of, or fixture to the Neither nor its lessees or tenants or any other Person shall have any right, benefit, or interest in the Project Except for the revenue share as defined herein after.
m.	Wherever a separate power connection to Public EV Charging Stations is not feasible,  may extend the required power from the existing power connection available in those locations to M/s TSREDCO only if found feasible that to without any expenditure to including additional transformer cost if any or any expenses for providing the power, the same shall be incurred by M/s TSREDCO or its authorized Charge Point operator only. TSREDCO shall pay the consume Energy and demand charges if any to before the due date for making the payment to the DISCOM power bill.
n.	Wherever it is mandated/required to take Separate Electricity Connection from TSDISCOM on the name of M/s TSREDCO or its authorized Charge Point operator in the locations provided by for operation of Electric Vehicle Charging Stations, here with accords approval to M/s TSREDCO or to its authorized Charge Point operator to obtain Separate Electricity Connection from TSDISCOMS in the locations provided considering this agreement as lease deed.
0.	Any other activities considered necessary for setting up Public Charging Stations for electric vehicles at provided locations or other suitable locations on mutually agreed covenants/ commercials arrangements, which are not specifically set out herein, but which may be identified at a later date, shall be included by mutual discussion and consent of Parties.
p.	The number of identified locations considered for Public EV Charging Stations would not be a binding number and could be amended seeing the potential, increase in business volume, less vehicle turn around etc., if any.
q.	The number of Public EV Charging Stations in a cluster would be tentative and could increase /decrease subject to joint agreement between and M/s. TSREDCO. The addition or deletion of EV Charging Stations could be subsequently conveyed to each other in writing.



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۲.	Branding: M/s. TSREDCO shall do required branding	g of the EV Charging Stations so as to
	create positive long-term association, market penet	ration, to create synergies based on
	unique strengths of each parties/brand, gain market si	hare and increase revenue and also to
	boost the reputation of the parties in this project.	logo also should be included the
	size of branding shall be with the approval of	only at locations provided by
	will authorize TSREDCO to pron	note branding / advertisement in these
	locations.	

#### Payment of Revenue Share and Billing Cycle raising of invoices, release of payments, etc.

- a. M/s TSREDCO or its authorised Charge Point Operators (CPO's) to pay agreed revenue share fixed at Rs. 1.00/ kWh plus applicable GST (used for charging only) payable to \_\_\_\_\_\_ on quarterly basis for a period of 2 years from the date of installation and commissioning of the EV charging Stations with provision for revising the revenue share Minimally after 2 years period if any for the left over period.
- b. For the purpose of revenue sharing, M/s TSREDCO shall furnish the complete details of accounting of the billed units to \_\_\_\_\_\_ for transparency and shall be governed by confidentiality under this Agreement.

#### 4. Payment of Taxes

M/s TSREDCO or its authorised Charge Point Operators (CPO's) shall pay all the statutory levies and taxes imposed by the Government or any other authorities present or future on the operation of EV charging stations directly.

#### 5. Insurance

M/s TSREDCO or its authorised Charge Point Operators (CPO's) shall at all times and from time to time at its own cost and expense take out adequate and proper insurance during the continuance of this agreement from a well reputed insurance company against all risks including third party risk to persons and properties, fire and explosion risk and riot risks etc. covering operation of the Public Charging stations installed at SOL.

#### 6. Standard Indemnification

Each party (indemnifying party) agrees to indemnify, defend and hold the other party (indemnified party) harmless from and against:

a. Any third party claim (including intellectual property infringement claim), liability, obligation, loss, damage, deficiency, assessment, judgment, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character, arising out of or in any manner solely attribute able to any failure of the indemnifying Party to perform its obligations described hereunder, gross negligence or willful misconduct in the fulfillment of its obligations hereunder or for infringing the intellectual property rights of any third party.





- b. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgment, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character arising from claims or sanctions or penalties imposed by any regulatory authority for failure by a Party or any of its respective officers, directors, employees, servants, sub-contractors or agents to comply with any applicable laws, rules and regulations.
- c. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgment, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character with respect to any damage to or loss of property of a third party arising out of acts or omissions by a Party or any of its respective officers, directors, employees, servants, sub-contractors, or agents in the performance of its obligations under this agreement.

#### 7. Term & Termination

- 7.1 This Agreement shall come into force from the Effective Date of this agreement and remain in force during the 'Term' as defined under Definitions above. The agreement shall be further extended for a period as decided and agreed mutually in writing by the Parties. The Agreement may be terminated / exited by the Parties prior to the scheduled validity period by giving 3 months advance notice to the other party due to any one of the following reasons:
  - Any misrepresentation, breach or violation of the terms of this Agreement by either of the Parties;
  - b. If \_\_\_\_\_\_ fails to provide the Charging Locations for locating the Charging Points at the identified Locations or M/s TSREDCO failing to install the charging Points at the identified Locations within a reasonable time as agreed mutually; and
  - c. With mutual consent of both the parties without assigning any reason.
- 7.2 Upon such early termination, M/s TSREDCO or its authorised Charge Point Operators (CPO's) shall have the right to dismantle all the System, equipment and Charging Points and take control in its custody, the Charging Points, System and equipment. \_\_\_\_\_shall have no right to claim and recover any of the Charging Points and the System from any Charging Locations at the identified locations and the equipment/infrastructure establishment by M/s TSREDCO.

#### 8. Representations and Warranties Each Party represents and warrants to the other Parties that:

(a) It has power to execute, deliver and perform its obligations under the Agreement and all necessary corporate and other actions have been taken to authorize such execution, delivery and performance;



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- (b) It has all requisite power and authority, and does not require the consent of any third party to enter into this AGREEMENT and grant the rights provided herein;
- (c) It is in compliance with all applicable laws and regulations, as may be applicable toit.
- (d) The execution, delivery and performance of its obligations under the Agreement does not and will not: (i) contravene any applicable law, or any judgment or decree of any court having jurisdiction over it; or (ii) conflict with or result in any breach or default under any agreement, instrument, regulation, license or authorization binding upon it or any of its assets.
- (e) violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof; and
- (f) There is no litigation pending or, to the best of such Party's knowledge, threatened to which it is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this AGREEMENT.

#### 9. Confidentiality

During the subsistence of this Agreement and after termination or expiration of this Agreement for any reason whatsoever, the Party receiving any information and/or document which are marked as Confidential (hereinafter referred to as the "Confidential Information")shall:

- a. Keep the confidential Information confidential;
- b. Do not disclose the Confidential Information to any other person without the prior written consent of the Party disclosing such information (herein after referred to as the "Disclosing Party") except to its employees, agents, shareholders, investors, partners and advisors on a strictly need-to-know basis, and upon such person executing an on-disclosure undertaking in respect of the Confidential Information in a format reasonably satisfactory to the Disclosing Party;
- c. Do not use the Confidential Information for any purpose other than the performance of its obligations under this Agreement; Without the prior written consent of the Disclosing Party, not to make a public announcement or any other disclosure of the Confidential Information except as required by any legal stipulation applicable to it. In case of such disclosure required by legal stipulation, a Party which is required to make such disclosure shall, as soon as practicable after it is made aware of the requirement to make such disclosure, inform the Disclosing Party of the need to disclose such Confidential Information, the content there of and the legal stipulation which requires disclosure of such Confidential Information.

The obligations contained in the relevant clauses above shall not apply to any Confidential Information which:



- a. Is at the date of this Agreement or at any time after the date of this Agreement comes into the public domain other than through breach of this Agreement by such Party; can be shown by the Party receiving the information to the reasonable satisfaction of the Disclosing Party that the same was known to such Party prior to the disclosure;
- b. subsequently comes lawfully into the possession of the Party receiving such information from a person other than the Disclosing Party; or
- c. such information which any Party is required to disclose by law, by a court of competent jurisdiction or by another appropriate regulatory body, provided that the Party required to disclose shall use reasonable endeavors to consult with the Disclosing Party and take into consideration is reasonable requests in relation to such disclosure.

#### 10. Notice

All communication, demand and notices required to be sent under this Agreement shall be sent or delivered to the receiving Party at the address set forth herein, or at such other address as the Parties may from time to time designate in writing:

### TELANGANA STATE RENEWABLE ENERGY DEVELOPMENT CORPORATION LIMITED:

Address: D.No. 6-2-910, Visvesvaraya Bhavan, 2<sup>nd</sup> Floor The Institution of Engineers Building, Khairatabad, Hyderabad -500 004. Telangana

Email id: - vc@tsredco.telangana.gov.in

Address:			
Email id: -			

Any Notice, demand or other communication shall be sent by registered post/ hand delivery.

#### 11. Intellectual Property Rights

Intellectual Property Rights owned by each respective Party shall remain the property of such Party and nothing in this AGREEMENT shall be taken to represent an assignment, license or grant of other rights in or under such Intellectual Property Rights to the other Party. All right, title and interest to all Intellectual Property of each Party as of the Effective Date of this AGREEMENT, including that which is or may become protectable by patent, copyright, trademark, trade secret or similar law, shall remain exclusively with that Party.

#### 12. Governing Law and Jurisdiction

This AGREEMENT shall be governed by and construed in accordance with the laws of India. Courts at Hyderabad, Telangana, India shall have exclusive jurisdiction in respect of matters arising out of or in relation to this AGREEMENT.



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#### 13. Dispute Settlement

The Parties hereby agree that they shall work together to resolve any disputes that may arise under, in relation to or in connection with this Agreement (referred to in this clause as a "Dispute"). In the event such Dispute is not resolved amicably within 60(sixty) days of the date of receipt of notice issued by disputing party with respect to same by the non-disputing party then in such case all Dispute shall be settled by referring the matter to the top managements of the Companies, and/or to the respective principal secretaries of the departments. The settlement reached in between \_\_\_\_ and TSREDCO is final and the same is binding on the charging point operators.

#### 14. Limitation of Liability

Not with standing anything in this AGREEMENT to the contrary and to the extent permitted by applicable law, in no event shall either Party, its officers, directors, or employees be liable for any form of incidental, consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss, whether such damages arise in contract, tortor otherwise, irrespective of fault, negligence or strict liability or whether such Party has been advised in advance of the possibility of such damages. A Party will not be in breach of the AGREEMENT or be liable to the other Parties if it fails to perform or delays the performance of an obligation as a result of an event beyond its reasonable control, including, legislation, regulation, order or other act of any Government or Governmental agency.

#### 15. Waiver

Failure of a Party to require performance of any provision of this Agreement shall not affect such Party's right to full performance thereof at any time thereafter, and any waiver by a Party of a breach of any provision here of shall not constitute a waiver of a similar breach in the future or of any other breach. No waiver shall be effective unless in writing and duly executed by the concerned Party.

#### 16. Assignment

Except as provided in this Agreement, none of the Parties shall be entitled to assign their rights and obligations under the Agreement to a third party without the prior written consent of the other Party, except to its affiliate companies.

#### 17. Amendment

No modification or amendment to this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by the Parties

#### 18. Severability

If any provision of this Agreement is held to be invalid, illegal or un enforceable, such provision will be struck from the Agreement and the remaining provisions of this Agreement shall remain in full force and effect. Further, the Parties shall Endeavour to replace such provision with a valid, legally enforceable provision that reflects the original intent of the Parties.

#### 19. Entire Agreement



This Agreement supersedes all prior discussions and agreements (whether oral or written, including all correspondence) if any, between the Parties with respect to the subject matter of this Agreement, and this Agreement contains the sole and entire understanding and agreement between the Parties hereto with respect to the subject matter contained herein.

#### 20. Force Majeure

Neither Party shall be held responsible for non-fulfillment of their respective obligations under this AGREEMENT due to the exigency of one or more of the force majeure events which are beyond the reasonable control of the Party concerned such as but not limited to acts of God, wars, floods, earthquakes, lawful strikes not confined to the premises of the Party, lockouts beyond the control of the Party claiming force majeure, epidemics, riots, civil commotions etc. provided on the occurrence and cessation of any such event, the Party affected there by shall give a notice in writing to the other Party within one (1) month of such occurrence or cessation. If the force majeure conditions continue beyond six (6) months, the Parties shall jointly decide about the future course of action.

#### 21. Survival

Those Clauses that by its nature should survive expiration or termination of this Agreement shall remain in effect after the expiration or termination of this Agreement. It specifically clarified that the provisions of Clauses 8 (Representations and Warranties), Clause 9 (Confidentiality), Clause 11 (Intellectual Property Rights), Clause 12 (Governing Law and Jurisdiction) and Clause 13 (Dispute Settlement) shall survive expiration or termination of this Agreement.

#### 22. Counterparts

This Agreement may be signed in counterparts, each of which shall be deemed to be an original, and all of which together shall constitute the same instrument.

#### 23. Miscellaneous

- a. It is agreed and understood by the Parties that this Agreement is a legally binding contract and under no circumstances shall stand terminated, except in terms of Clause 7 of this Agreement.
- b. This Agreement is on a principal-to-principal basis between the Parties here to Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer-employee relationship or principal-agent relationship in any manner whatsoever between the Parties.
- c. The Parties shall not use each other's name and/or trademark/logo or publicize or release any information about this Agreement or its contents or market, publish, advertise in any manner any information without prior written consent of the other Party.

#### 24. Rules of Interpretation

a. Irrelevance of Gender and Plurality. The definitions in this Agreement shall apply



- equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.
- b. Internal References. All references here into Clauses and Annexure shall be deemed to be references to Clauses of and Annexure to, this Agreement unless the context shall otherwise require. All Annexure attached hereto shall be deemed incorporated herein as if set forth in full herein. The terms "clause(s)" and "sub-clause(s)" shall be used herein interchangeably. The words "hereof," "herein" and "here under" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words "include", "includes", and "including" shall be deemed to be followed by the words "without limitation".
- c. Default Rules. Unless expressly contradicted or otherwise qualified,(i) all references to a Person also refer to that Person's successors and permitted assigns, including permitted transferees, and (ii) all references to and definitions of any agreement, instrument or statute herein or in any agreement or instrument referred to herein mean such agreement, instrument or statute, including the Articles, as from time to time may be amended, modified, supplemented or restated, including(in the case of agreements or instruments) by waiver or consent and (in the case of statutes) by succession of comparable successor statutes and references to all attachments there to an instruments incorporated therein.
- d. Drafting. The Parties have participated jointly in the negotiation and drafting of this Agreement; accordingly, in the event an ambiguity or a question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or dis favoring any Party by virtue of the authorship of any provisions of this Agreement.
- e. Clause Heading: The clause heading contained in this Agreement are for the convenience of the Parties and shall not affect the meaning or interpretation of this Agreement.

#### 25. GENERALPROVISIONS

- a. If any provision of this AGREEMENT is held to be invalid or unenforceable to any extent, the remaining provisions of this AGREEMENT shall not be affected thereby and each remaining provision of this AGREEMENT shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this AGREEMENT shall be replaced with a provision which is valid and enforceable and reflects, to the maximum extent possible, the original intent of the unenforceable provision.
- b. Each Party will be solely responsible for its own acts and omissions (and the acts and omissions of its employees and other agents) and neither Party will have the authority



nor will purport to act for, or legally binding, the other Party in any transactions with at third party except as agreed in writing by the Parties.

- c. The release of any information and of all public announcements (other than when such disclosure is required under any applicable law) related to such projects by a Party shall be subject to the prior written approval of the other Party, unless required under stock exchange regulations/SEBI.
- d. This Agreement shall not be amended, modified or supplemented without prior written consent of the other Party.

	is Here to Have Signed This Agreement In Duplicate On h and <u>2022</u> Year Here in Above Written In The Presence
For	For M/S TSREDCO

Signed & Sealed
WITNESS:
WITNESS:

1. 1.

2.



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## Revenue Sharing Agreement Format Between Land Owning Agency and Charge Point Operator (CPO)

#### Annexure IV

Model Revenue Sharing Agreement between Land-Owning Agency (LOA) and Charge Point Operator (CPO) for deployment of Public EV Charging Stations

This agreement is entered into this ..... day of ........... <YYYY> at ......., India.

#### BETWEEN

M/s. <Insert Name of Land Owning Agency>which expression shall unless repugnant to the context or meaning thereof, include successors and assigns of the FIRST PART.

#### AND

M/s. <Name of CPO>a Company registered under the 1956 Act, having its registered Office at <CPO registered address> (hereinafter referred to as "<CPO>" which expression shall mean and include its successor(s), administrator(s) and assigns) of the SECOND PART.

<LAND OWNING AGENCY> and <CPO> are hereinafter individually referred to as the "Party" and collectively as the "Parties".

#### WHEREAS:

- A. < Details of <LAND OWNING AGENCY> (Name & Address)>.
- B. <Details of CPO (Name & Address)>,
- D. In consideration of the above, this Agreement sets out the intent of the Parties in relation to the said proposal.

NOW THEREFORE, in consideration of the mutual covenants, terms, conditions and understandings set forth in this Agreement, the Parties hereby agree as follows:



#### 1. Definitions

The following capitalized terms wherever used in this AGREEMENT shall have the meanings given hereunder:

"Public EV Charging Stations(s)" means a device or station that supplies power to charge the batteries of an electric vehicle;

"CPO" mean Charger Point Operator.

"AC" shall mean Alternating Current Charging;

"DC" shall mean Direct Current Charging;

"GST" shall mean Goods and Services Tax;

"Installation Work" means the construction and installation of the Public Charging stations and upstream supply, (if required) System and the operation and maintenance thereof, all performed by or for <CPO NAME> at the identified site.

"KW" shall mean rating of public EV Charger;

"Operating Cost" shall include direct electricity energy charge payment through payment gateway service provider appointed by <CPO NAME>, salary of supervisor or equivalent level person designated for managing the backend system, salary for semi-skilled/ skilled workers appointed by <CPO NAME> for maintenance of chargers, annual maintenance cost of chargers, telecommunication cost, IT System cost and customer support;

"Projects/ Charging Locations shall have a meaning ascribed in above Recital C hereof;

"SOL" means sites owned and/or operated by <LAND OWNING AGENCY>.

"Term" shall mean 10 years with Annual Maintenance Cost (AMC) starting from the earlier of: (a) six months from the Effective Date, or (b) the date of installation of the last Charging Point at the identified SOL in terms of this Agreement.

Effective Date: DD/MM/YYYY

"System" includes the Charging Points, assemblies, converters, switches, wiring devices and wiring, and all other material/civil works comprising the Installation Work.

#### 2. Proposal



- b. The Parties are keen to develop partnership for the Projects/ Public EV Charging Locations at <Location Address> and may discuss further expansion at other locations, at the sole discretion of M/s <CPO Name>.
- c. The Parties shall jointly select the identified locations based on availability of space and feasibility of operation of the Public Charging Stations without affecting regular operation of the identified locations.
- d. M/s <CPO NAME> agrees to establish, setup and operate ......... nos. of charging points at each public charging station. The Charging Station shall have chargers in accordance with Guidelines notified by the Ministry of Power. The charging infrastructure so installed shall comply with the government/ministry of power guidelines and regulations for performance, safety & quality from time to time.
- e. M/s <CPO NAME> agrees to invest in setting up and operating the public charging stations including separate power connection, transformer and meter, if required, at its own cost, and shall upgrade and refurbish the Public Charging Stations, in line with the technology advancements and business needs, from time to time. The cost of electricity including surcharge, duty, contingency for power purchase adjustment charges, etc. and all operating and maintenance expenses related to Charging Points shall be borne by M/s <CPO NAME>.
- f. The Parties agree that the Public Charging Stations may be operated through a cloud-based solution technology developed and owned by M/s <CPO NAME> and manpower deployed at the identified locations by M/s <CPO name>
- g. The Parties agree that all applicable statutory approvals/ permissions from the respective authorities for the Public Charging Stations shall be procured and obtained by M/s <CPO NAME>. <LAND OWNING AGENCY> shall provide all assistance to M/s <CPO NAME> to enable M/s <CPO NAME> to obtain the consents, clearances and permits, and the governmental approvals in a timely manner in connection with the Project. Further, <Land owning agency> agrees to assist in obtaining separate power connection or enhancing the power supply at each location, if required by M/s <CPO NAME> in connection with the Project.
- h. M/s <CPO NAME> shall arrange deployment of qualified and suitable manpower and required necessary tools, logistics, spares & consumables during installation, commissioning and O&M of Public EV charging stations at SOL. <LAND OWNING AGENCY> hereby grants to M/s <CPO NAME> a right, co-terminus with the term to ingress and egress the location and access to electrical panels and conduits to interconnect or disconnect the System with the SOL electrical wiring.
- i. Safety is of paramount importance and M/s <CPO NAME> shall take all safety precautions in connection with the setting up and operation of the Public Charging Stations to ensure safety to the user. <LAND OWNING AGENCY> agrees to ensure to provide safe and secure environment to install and operate the System. In the event of any damage to the land-owning agency facilities, property due to any fault in the M/s <CPO NAME>'s equipment, M/s <CPO NAME> will be liable to make good the losses to SOL for the same. <LAND OWNING AGENCY> shall be responsible for the loss incurred by M/s <CPO NAME> limited to Public Charging Stations and established infrastructure due to gross negligence or willful default on the part of <LAND OWNING AGENCY> or their agents/ employees.



- j. <LAND OWNING AGENCY> agrees and confirms that the Public Charging Locations (including the unfettered access to the identified space for the respective <LAND OWNING AGENCY>) shall be free from encumbrances or hindrances, and if during the installation and operation period, the same is identified by M/s <CPO NAME>, then <LAND OWNING AGENCY> shall remove the encumbrance or hindrance or provide suitable space for the System within the same location at the cost and expense of <LAND OWNING AGENCY> with immediate effect.
- k. The Parties agree to jointly undertake the planning, design, setting-up and implementing the Projects/ Public Charging Stations at the respective <LAND OWNING AGENCY>. The Parties, inter-alia, agree to ensure; (a) Planning and designing the charging infrastructure in relation to the Projects; (b) Investment in the Projects by M/s <CPO NAME>; (c) Operating and maintaining the Projects by <CPO Name>; and (d) Managing the Projects using cloud-based solution system software.
- <LAND OWNING AGENCY> shall not directly or indirectly cause, create, incur, assume, or suffer to exist any lien on or with respect to the System or any interest therein. The Project and the System shall remain the property of M/s <CPO NAME> and shall not attach to or be deemed a part of, or fixture to the <LAND OWNING AGENCY>. Neither <LAND OWNING AGENCY> nor its lessees or tenants or any other Person shall have any right, benefit, or interest in the Project.
- m. <LAND OWNING AGENCY> shall provide sufficient space at the provided location for the temporary storage and staging of tools, materials, equipment and facilities reasonably necessary during the Installation Work, or Project removal, and access for rigging and material handling.
- n. Wherever separate power connection to Public EV Charging Stations is not mandated/
  not provided, <LAND OWNING AGENCY> shall provide required power to M/s
  <CPO NAME> for the maintenance and operation of its System at the rate <LAND
  OWNING AGENCY> is paying to the distribution utility at the relevant SOL and M/s
  <CPO NAME> shall reimburse the same to <LAND OWNING AGENCY> on actuals.
  In case, requires additional transformer or any expenses for providing the power, the
  same shall be incurred by M/s <CPO NAME>. In the event of the Govt. announcing a
  policy for subsidized power charges for EV charging stations, then M/s <CPO NAME>
  shall make necessary arrangements including separate meter and approvals as required
  at their own cost to avail the lower tariff.
- o. Any other activities considered necessary for setting up Public Charging Stations for electric vehicles at provided locations or other suitable locations on mutually agreed covenants/commercials arrangements, which are not specifically set out herein, but which may be identified at a later date, shall be included by mutual discussion and consent of Parties.
- p. The number of identified locations considered for Public EV Charging Stations would not be a binding number and could be amended seeing the potential, increase in business volume, less vehicle turnaround etc., if any.
- q. The number of Public EV Charging Stations in a cluster would be tentative and could increase / decrease subject to joint agreement between <LAND OWNING AGENCY> and M/s. <CPO NAME>. The addition or deletion of EV Charging Stations could be subsequently conveyed to each other in writing.



r. Branding: <LAND OWNING AGENCY> and M/s. <CPO NAME> shall do joint branding of the venture so as to create positive long-term association, market penetration, to create synergies based on unique strengths of each parties/brand, gain market share and increase revenue and also to boost the reputation of the parties in this project.

### 3. Payment of License Fee, Revenue Share and Billing Cycle raising of invoices, release of payments, security deposit etc.

- (a) M/s. <CPO NAME> to pay <LAND OWNING AGENCY> Rs. xxx/kWh which shall be ₹ 1.0 / kWh in case of such CPO being a Government/Public Entity or at discovered price through bidding with floor price of ₹ 1 / kWh in case CPO being a private entity of billed units(kWh) from charging business starting from 1<sup>st</sup> year, of billed units from charging business to <LAND OWNING AGENCY> within .... days after end of Quarter.
- (b) For the purpose of revenue sharing, M/s < CPO NAME> shall furnish the complete details of accounting of the billed units to <LAND OWNING AGENCY> for transparency and shall be governed by confidentiality under this Agreement.

M/s <CPO NAME> shall promptly pay the bill on monthly basis within 10 days of demand for electrical energy consumed for charging electric vehicles at the said locations as per actual minimum charges /as per actual. The charges should be paid to the <LAND OWNING AGENCY> till such time a separate meter is obtained in the name of <CPO NAME>. After obtaining a separate meter in the name of <CPO NAME>, the electricity charges shall be directly paid by <CPO NAME> based on the electrical energy consumed for charging EVs at each SOL. Dispute resolution mechanism of electricity bills, if any, to be taken up with relevant Discom with support from land owning agency.

#### 4. Payment of Taxes

M/s <CPO NAME> shall pay all the statutory levies and taxes imposed by the Government or any other authorities present or future on the operation of EV charging stations. Further, M/s <CPO NAME> shall also pay to <LAND OWNING AGENCY> increase in the taxes and/or any levies on the land area used specifically for Public EV charging station, by any local authority including Municipal corporation/municipality/gram panchayat or any other statutory authority or by the government except property tax. <LAND OWNING AGENCY> shall pay property tax.

#### 5. Insurance

M/s <CPO NAME> shall at all times and from time to time at its own cost and expense take out adequate and proper insurance during the continuance of this agreement from a well reputed insurance company against all risks including third party risk to persons and properties, fire and explosion risk and riot risks etc. covering operation of the Public Charging stations installed at SOL.

#### 6. Standard Indemnification



Each party (indemnifying party) agrees to indemnify, defend and hold the other party (indemnified party) harmless from and against:

- a. Any third party claim (including intellectual property infringement claim), liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character, arising out of or in any manner solely attributable to any failure of the indemnifying Party to perform its obligations described hereunder, gross negligence or wilful misconduct in the fulfilment of its obligations hereunder or for infringing the intellectual property rights of any third party.
- b. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character arising from claims or sanctions or penalties imposed by any regulatory authority for failure by a Party or any of its respective officers, directors, employees, servants, sub-contractors or agents to comply with any applicable laws, rules and regulations.
- c. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character with respect to any damage to or loss of property of a third party arising out of acts or omissions by a Party or any of its respective officers, directors, employees, servants, subcontractors, or agents in the performance of its obligations under this agreement.

#### 7. Term & Termination

- 7.1 This Agreement shall come into force from the Effective Date of this agreement and remain in force during the 'Term' as defined under Definitions above. The agreement shall be further extended for a period as decided and agreed mutually in writing by the Parties. The Agreement may be terminated / exited by the Parties prior to the scheduled validity period due to any one of the following reasons:
  - Any misrepresentation, breach or violation of the terms of this Agreement by either of the Parties;
  - b. If <LAND OWNING AGENCY> fails to provide the Charging Locations for locating the Charging Points at the identified SOL or M/s <CPO NAME> failing to install the charging Points at the identified SOL within a reasonable time as agreed mutually; and
  - c. With mutual consent of both the parties without assigning any reason.
- 7.2 Upon such early termination, M/s <CPO NAME> shall have the right to dismantle all the System, equipment and Charging Points and take control in its custody, the Charging Points, System and equipment. <LAND OWNING AGENCY> shall have no right to claim and recover any of the Charging Points and the System from any



Charging Locations at the identified locations and the equipment/ infrastructure establishment by M/s <CPO NAME>.

#### 8. Representations and Warranties

#### Each Party represents and warrants to the other Parties that:

- (a) it has power to execute, deliver and perform its obligations under the Agreement and all necessary corporate and other actions have been taken to authorise such execution, delivery and performance;
- (b) it has all requisite power and authority, and does not require the consent of any third party to enter into this AGREEMENT and grant the rights provided herein;
- (c) it is in compliance with all applicable laws and regulations, as may be applicable to
- (d) the execution, delivery and performance of its obligations under the Agreement does not and will not: (i) contravene any applicable law, or any judgment or decree of any court having jurisdiction over it; or (ii) conflict with or result in any breach or default under any agreement, instrument, regulation, license or authorisation binding upon it or any of its assets.
- (e) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof; and
- (f) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfilment of its obligations under this AGREEMENT.

#### 9. Confidentiality

- 9.1. During the subsistence of this Agreement and after termination or expiration of this Agreement for any reason whatsoever, the Party receiving any information and/or document which are marked as Confidential (hereinafter referred to as the "Confidential Information") shall:
  - a. Keep the confidential Information confidential;
  - b. Do not disclose the Confidential Information to any other person without the prior written consent of the Party disclosing such information (hereinafter referred to as the "Disclosing Party") except to its employees, agents, shareholders, investors, partners and advisors on a strictly need-to-know basis, and upon such person executing a non-disclosure undertaking in respect of the Confidential Information in a format reasonably satisfactory to the Disclosing Party;



- c. Do not use the Confidential Information for any purpose other than the performance of its obligations under this Agreement; Without the prior written consent of the Disclosing Party, not to make a public announcement or any other disclosure of the Confidential Information except as required by any legal stipulation applicable to it. In case of such disclosure required by legal stipulation, a Party which is required to make such disclosure shall, as soon as practicable after it is made aware of the requirement to make such disclosure, inform the Disclosing Party of the need to disclose such Confidential Information, the content thereof and the legal stipulation which requires disclosure of such Confidential Information.
- 9.2. The obligations contained in the relevant clauses above shall not apply to any Confidential Information which:
  - a. is at the date of this Agreement or at any time after the date of this Agreement comes into the public domain other than through breach of this Agreement by such Party; can be shown by the Party receiving the information to the reasonable satisfaction of the Disclosing Party that the same was known to such Party prior to the disclosure;
  - subsequently comes lawfully into the possession of the Party receiving such information from a person other than the Disclosing Party; or
  - c. such information which any Party is required to disclose by law, by a court of competent jurisdiction or by another appropriate regulatory body, provided that the Party required to disclose shall use reasonable endeavors to consult with the Disclosing Party and take into consideration is reasonable requests in relation to such disclosure.

# 10. Notice

All communication, demand and notices required to be sent under this Agreement shall be sent or delivered to the receiving Party at the address set forth herein, or at such other address as the Parties may from time to time designate in writing:

M/s <cpo name="">:</cpo>
Address : -
Fax No.:
Email id :-
LOA:
Address:
Email id:-

Any Notice, demand or other communication shall be sent by registered post / hand delivery.



### 11. Intellectual Property Rights

Intellectual Property Rights owned by each respective Party shall remain the property of such Party and nothing in this AGREEMENT shall be taken to represent an assignment, license or grant of other rights in or under such Intellectual Property Rights to the other Party. All right, title and interest to all Intellectual Property of each Party as of the Effective Date of this AGREEMENT, including that which is or may become protectable by patent, copyright, trademark, trade secret or similar law, shall remain exclusively with that Party.

# 12. Governing Law and Jurisdiction

This AGREEMENT shall be governed by and construed in accordance with the laws of India. Courts at <City, State>, India shall have exclusive jurisdiction in respect of matters arising out of or in relation to this AGREEMENT.

## 13. Dispute Settlement

The Parties hereby agree that they shall work together to resolve any disputes that may arise under, in relation to or in connection with this Agreement (referred to in this clause as a "Dispute"). In the event such Dispute is not resolved amicably within 60 (sixty) days of the date of receipt of notice issued by disputing party with respect to same by the non-disputing party then in such case all Dispute shall be settled by binding arbitration pursuant to the Arbitration and Conciliation Act, 1996, as amended ("Arbitration Act"), in following manner:

If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with or arising out of this agreement, such dispute or difference shall be resolved through arbitration as per the procedure mentioned herein below:

- a. The dispute or difference shall be referred to a sole arbitrator.
- b. The arbitration shall be through High Court Mediation and Arbitration Centre at High Court of Judicature at <city name> for the state of <state name>.
- c. The rules of the above mentioned Institutional Arbitration Forum shall be applicable to the arbitral proceedings.
- d. The Indian Arbitration & Conciliation Act 1996 and Arbitration and Conciliation (amendment) Act 2015 or any statutory modification or re-enactment thereof and the rules made there under for the time being in force shall apply to the arbitration proceedings under the clause.
- e. The seat of arbitration shall be at <city name>, <state name>, India.
- f. The proceedings shall be conducted in English language.
- g. The cost of the proceedings shall be equally borne by the parties, unless otherwise directed by the sole arbitrator.
- h. The following shall not be referred to arbitration:

Disputes having financial claims less than Rs. 5 Lakhs.



Notwithstanding anything contained herein above (except 'h') upon arising of dispute the parties may agree to refer the same to arbitration of mutually acceptable sole arbitrator.

### 14. Limitation of Liability

Notwithstanding anything in this AGREEMENT to the contrary and to the extent permitted by applicable law, in no event shall either Party, its officers, directors, or employees be liable for any form of incidental, consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss, whether such damages arise in contract, tort or otherwise, irrespective of fault, negligence or strict liability or whether such Party has been advised in advance of the possibility of such damages. A Party will not be in breach of the AGREEMENT or be liable to the other Parties if it fails to perform or delays the performance of an obligation as a result of an event beyond its reasonable control, including, legislation, regulation, order or other act of any Government or Governmental agency.

### 15. Waiver

Failure of a Party to require performance of any provision of this Agreement shall not affect such Party's right to full performance thereof at any time thereafter, and any waiver by a Party of a breach of any provision hereof shall not constitute a waiver of a similar breach in the future or of any other breach. No waiver shall be effective unless in writing and duly executed by the concerned Party.

### 16. Assignment

Except as provided in this Agreement, none of the Parties shall be entitled to assign their rights and obligations under the Agreement to a third party without the prior written consent of the other Party, except to its affiliate companies

### 17. Amendment

No modification or amendment to this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by the Parties.

### 18. Severability

If any provision of this Agreement is held to be invalid, illegal or unenforceable, such provision will be struck from the Agreement and the remaining provisions of this Agreement shall remain in full force and effect. Further, the Parties shall endeavour to replace such provision with a valid, legally enforceable provision that reflects the original intent of the Parties.

# 19. Entire Agreement

This Agreement supersedes all prior discussions and agreements (whether oral or written, including all correspondence) if any, between the Parties with respect to the



subject matter of this Agreement, and this Agreement contains the sole and entire understanding and agreement between the Parties hereto with respect to the subject matter contained herein.

### 20. Force Majeure

Neither Party shall be held responsible for non-fulfillment of their respective obligations under this AGREEMENT due to the exigency of one or more of the force majeure events which are beyond the reasonable control of the Party concerned such as but not limited to acts of God, wars, floods, earthquakes, lawful strikes not confined to the premises of the Party, lockouts beyond the control of the Party claiming force majeure, epidemics, riots, civil commotions etc. provided on the occurrence and cessation of any such event, the Party affected thereby shall give a notice in writing to the other Party within one (1) month of such occurrence or cessation. If the force majeure conditions continue beyond six (6) months, the Parties shall jointly decide about the future course of action.

### 21. Survival

Those Clauses that by its nature should survive expiration or termination of this Agreement shall remain in effect after the expiration or termination of this Agreement. It specifically clarified that the provisions of Clauses 9 (Representations and Warranties), Clause 10 (Confidentiality), Clause 12 (Intellectual Property Rights), Clause 13 (Governing Law and Jurisdiction) and Clause 14 (Dispute Settlement) shall survive expiration or termination of this Agreement.

# 22. Counterparts

This Agreement may be signed in counterparts, each of which shall be deemed to be an original, and all of which together shall constitute the same instrument.

# 23. Miscellaneous

- a. It is agreed and understood by the Parties that this Agreement is a legally binding contract and under no circumstances shall stand terminated, except in terms of Clause 3 of this Agreement.
- b. This Agreement is on a principal-to-principal basis between the Parties hereto. Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer-employee relationship or principal-agent relationship in any manner whatsoever between the Parties.
- c. The Parties shall not use each other's name and/or trademark/logo or publicize or release any information about this Agreement or its contents or market, publish, advertise in any manner any information without prior written consent of the other Party.

# 24. Rules of Interpretation



- a. Irrelevance of Gender and Plurality. The definitions in this Agreement shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.
- b. Internal References. All references herein to Clauses and Annexure shall be deemed to be references to Clauses of and Annexure to, this Agreement unless the context shall otherwise require. All Annexure attached hereto shall be deemed incorporated herein as if set forth in full herein. The terms "clause(s)" and "subclause(s)" shall be used herein interchangeably. The words "hereof," "herein" and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words "includes", "includes", and "including" shall be deemed to be followed by the words "without limitation".
- c. Default Rules. Unless expressly contradicted or otherwise qualified, (i) all references to a Person also refer to that Person's successors and permitted assigns, including permitted transferees, and (ii) all references to and definitions of any agreement, instrument or statute herein or in any agreement or instrument referred to herein mean such agreement, instrument or statute, including the Articles, as from time to time may be amended, modified, supplemented or restated, including (in the case of agreements or instruments) by waiver or consent and (in the case of statutes) by succession of comparable successor statutes and references to all attachments thereto and instruments incorporated therein.
- d. Drafting. The Parties have participated jointly in the negotiation and drafting of this Agreement; accordingly, in the event an ambiguity or a question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any provisions of this Agreement.
- e. Clause Heading: The clause heading contained in this Agreement are for the convenience of the Parties and shall not affect the meaning or interpretation of this Agreement.

### 25. GENERAL PROVISIONS

a. If any provision of this AGREEMENT is held to be invalid or unenforceable to any extent, the remaining provisions of this AGREEMENT shall not be affected thereby and each remaining provision of this AGREEMENT shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this AGREEMENT shall be replaced with a provision which is valid and enforceable and reflects, to the maximum extent possible, the original intent of the unenforceable provision.



- b. Each Party will be solely responsible for its own acts and omissions (and the acts and omissions of its employees and other agents) and neither Party will have the authority nor will purport to act for, or legally binding, the other Party in any transactions with a third party except as agreed in writing by the Parties.
- c. The release of any information and of all public announcements (other than when such disclosure is required under any applicable law) related to such projects by a Party shall be subject to the prior written approval of the other Party, unless required under stock exchange regulations/SEBI.
- d. This Agreement shall not be amended, modified or supplemented without prior written consent of the other Party.

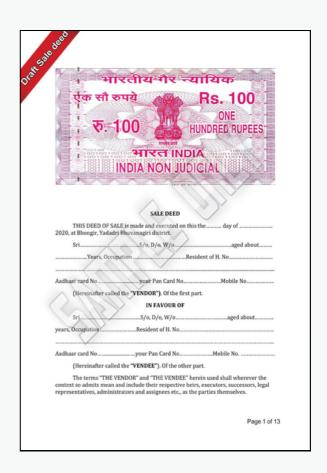


Day,	Month and	Year Herein Above Written In The
Presence Of:		
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For M/S <cp< td=""><td>O NAME&gt;</td><td></td></cp<>	O NAME>	
Signed & Sealed		Signed & Sealed
WITNESS:		WITNESS:
	1.	



# Lease Agreement / Sale Deed (as applicable)





Lease Agreement or Sale Deed



# Copy of the Memorandum & Articles of Association of the Company

		SCHED	ITEI	
		(See section		
TAR	LE-A	Geeschin	5 4 desi 2)	
		F ASSOCIATION OF	A COMPANY	LIMITED BY SHARES
İst	The name of the co	mpony is "	Limited	/Private Limited".
2nd	The registered office	e of the company will	be situated in the S	State of
3rd	(a) The objects to	be pursued by the cor	npany on its inco	orporation are:—
	(b) Matters which are:—	are necessary for furth	erance of the obj	jects specified in clause :
4th		member(s) is limited the shares held by the		y is limited to the amo
5th		al of the company i		rupees, divi
6th	We, the several per	rsons, whose names a	nd addresses are	subscribed, are desirou
	being formed into a respectively agree against our respect	to take the number of tive names:—	e of this memora of shares in the	subscribed, are desirou ndum of association, and capital of the company
Na des	being formed into a respectively agree	to take the number	e of this memora of shares in the Signature of	ndum of association, and
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AII C.I. E.F. G.F. I.J. K.I.	being formed into a respectively agree against our respect mes, addresses, scriptions and aupations of oscribers  B. of	a company in pursuance to take the number of	e of this memora of shares in the Signature of	ndum of association, and capital of the company Signature, names, addresses, description and occupations of witnesses. Signed before me: Signature. Signature Signature. Signature Signature. Signature. Signature Sig

# ARTICLES OF ASSOCIATION OF A COMPANY LIMITED BY SHARES

### Interpretation

L(1) In these regulations-

(a) "the Act" means the Companies Act, 2013,

(b) "the seal" means the common seal of the company.

Q) Unless the context otherwise requires, words or expressions contained in these regulations shall bear the same meaning as in the Act or any statutory modification thereof in force at the date at which these regulations become binding on the company.

# Share capital and variation of rights

II. 1. Subject to the provisions of the Act and these Articles, the shares in the capital of the company shall be under the control of the Directors who may issue, allot or otherwise dispose of the same or any of them to such persons, in such proportion and on such terms and conditions and either at a premium or at pur and at such time as they may from time to time think fit.

,

THE GAZETTE OF INDIA EXTRAORDINARY

[Purt II-

2.6) Every person whose name is entered as a member in the register of members shall be entitled to receive within two months after incorporation, in case of subscribers to the memorandum or after allotment or within one month after the application for the registration of transfer or transmission or within such other period as the conditions of issue shall be provided,—

(a) one certificate for all his shares without payment of any charges; or

(b) several certificates, each for one or more of his shares, upon payment of twenty rupees for each certificate after the first.

(ji) Every certificate shall be under the seal and shall specify the shares to which it relates and the amount paid-up thereon.

(iii) In respect of any share or shares held jointly by several persons, the company shall not be bound to issue more than one certificate, and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all such holders.

3.(i) If any share certificate be worn out, defaced, mutilated or torn or if there be no further space on the back for endorsement of transfer, then upon production and surrender thereof to the company, a new certificate may be issued in lieu thereof, and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company deem adequate, a new certificate in lieu thereof shall be given. Every certificate under this Article shall be issued on payment of twenty rupees for each certificate.

(ii) The provisions of Articles (2) and (3) shall mutan's mutawai's apply to debentures of the company.

4.Except as required by law, no person shall be recognised by the company as holding any share upon any trust, and the company shall not be bound by, or be compelled in any

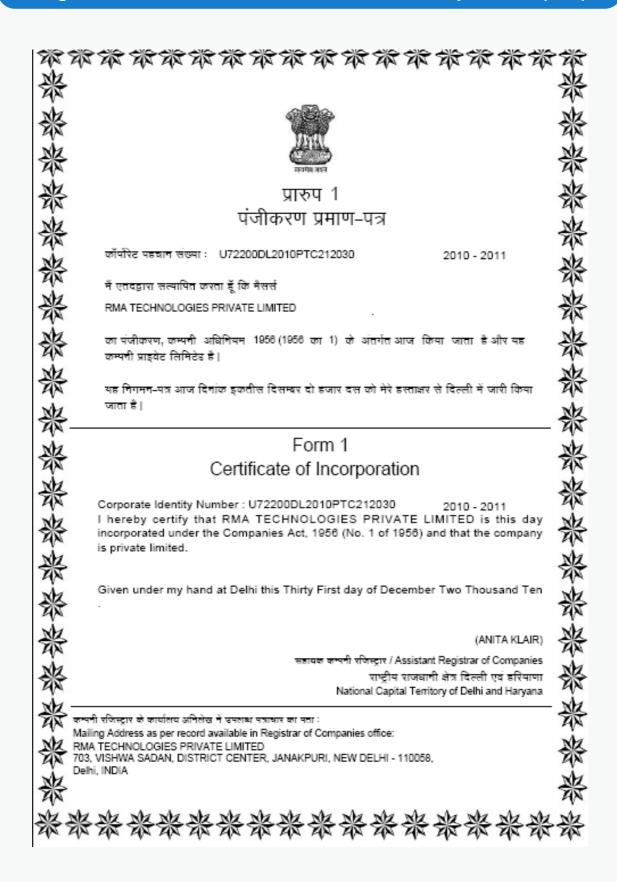
# Memorandum of Association of company

and

# Articles of Association of Company

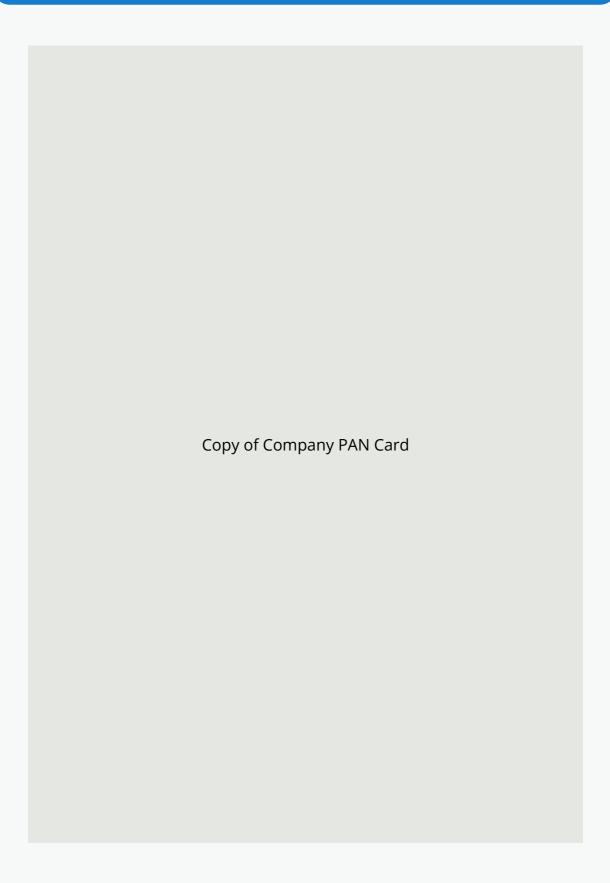


# **Registration Certificate or Certificate of Incorporation (CIN)**





# Company PAN Card





# **Copy of Company GST Certificate**



# Government of India Form GST REG-06

[See Rule 10(1)]

# Registration Certificate

# Registration Number: 37,

1.	Legal Name		PRIVATE LIMITED				
2.	Trade Name, if any Constitution of Business Address of Principal Place of Business		' PRIVATE LIMITED				
3.			Private Limited Company				
4.							
5.	Date of Liability						
6.	Period of Validity		From	03/02/2018	To	NA	
7.	Type of Registration		Regular				
8.	Particulars of Approving	Authority	Andhra Pradesh				
Signa	thure		Not Versed ligned by 25 6 tviCES-TAX N 8.04.11-21.25	GOODS ETWORK 1 x12 IST			
Name varigond		da girija					
	Designation GST Offi		ficer				
	gnation	GST Of	ficer				
Desig	gnation dictional Office	GST Of					



# **Indemnity Bond or Certifying Copy of Authority**

### **Indemnity Bond**

1. The Deed of Indemnity bond executed this day the

(Herein after called the "EXECUTANT") who is premises in favour of the Southern Power Distribution Company of T.S. Ltd (Herein after called the Company) having its Distribution Office at Gachibowli

2.

Whereas the indemnifier has requested the Company for supply of Electricity to the above premises in the name of , Rep. by

4. Now, therefore it is hereby agreed between the parties as follows:

The executant agrees that in the event of the of the premises or his legal heirs of dependents or any one calming through or under his raising any objections or any loss caused to the company by the applicant (who is the of the premises) arising out of the release of a service to electricity connection to the above premises and in the event of the company being made liable to pay any costs of compensation as per clause 5.2.3 of GTCS in respect thereof, executants hereby indemnifies and agrees to pay the company the said costs or compensation within one week on demand by the company.

Where, subsequent to commencement of supply of electricity by the company, orders are passed under any law for avecting the consumer from the premises to which supply has been given and such eviction is carried out, the Designated Officers of the Company in this regard may discontinue supply of electricity to such premises and remove its installion and equipment as per GTCS clause 17.1.1 and its action shall not be liable to be questioned as a breach of Agreement or otherwise. He shall without prejudice to the other rights of company recover from such consumers the expenses incurred for dismantling its installion and removing its equipment.

Stamps and Signatures

Indemnity Bond or Certified Copy of Authority confirming powers on the person who are competent to execute the MOU/the agreement with TSREDCO/DISCOM

# **ARAI Test Report / Certificate**



# The Automotive Research Association of India

(Research Institute of the Automotive Industry with Ministry of Heavy Industries & Public Enterprises, Govt. of India)

CONFIDENTIAL

# TEST REPORT

Report No. . Dated:

1.0	Name and Address of the Customer		
2.0	Customer Letter Reference		
3.0	Test Objective		
4.0	Condition of the Test Component	The test compon	ents were received in good condition.
5.0	Description of the Device Under Test (DUT)		
v5.1	Charger	Make	
		Туре	142kW DC Combo EV Charger
		No. of outputs	Three
		Type of Output	1. CCS 2. AC Type 2 3. CHAdeMO
		Sr. No.	
		Model No.	·
			Charger image

Signatures





Report No.	CONFIDENTIAL
6.0 DUT Details:	
DUT is a DC EV charger with a maximum output cal charger that operates on 3 phase, 5 wire AC supporting and one AC output:	
<ol> <li>CCS2 – 200-750* Vdc, 120kW max.</li> </ol>	
2. CHAdeMo - 200-750* Vdc, 120kW max.	

All guns can be used in Parallel for charging. In case of DC output for parallel operation each gun can deliver output power up to 60kW.

The charger will be supplied with Offline and Online authentication modes.

In Online mode, each charge point is authenticated by RFID card or through mobile app and

makes the charger available for use.

In Offline mode, the charge point can be plugged to the vehicle without a mobile app. RFID cards or Fixed password may be provided to start the charging process.

The charger is equipped with a surge protection device and an RCD which prevents leakage current above 30mA.

The charger has an in-built metering system for the DC and AC outlets. The charging session details from Charge Initiation to Charge Termination along with energy consumption details are sent via OCPP 1.6J.

The charger is provided with a touch panel of resolution 800x480 pixels.

Charger is provided with 5 LED Indicators (1 for status, 1 each for 3 output guns and 1 for fault):

- 1. First LED out of the 5 LED's is Green and always on: Standby state
- 2. Each gun LED's are Yellow and always on: Charger gun connected and charging
- 3. Fault Red light is always on: Fault state

3. AC Type 2 - 22kW Max.

Signatures
Page 2 of 13





Report No. Dated: CONFIDENTIAL

# 7.0 Clause verification as per tender

Clause No.		Requi	Observation		
		equirements ement for Publ	lic Charging S	station (PCS) is as	
	Charger	Charger Connectors*	Rated Voltage (V)	No. of Charging Points/No. of Connector guns (CG)	
	PCS - Fast	CCS 2.0 (Min 50 kW)	200- 1000	1/1 CG	
	Charger	CHAdeMO (Min 50 kW)	200- 1000	1/1 CG	
		Type-2 AC (Min 22 kW)	380- 480	1/1 CG	
-	use, the constant of the cons	nductive energy rgy transfer mode: type: CCS 2.0 of outputs: 3 rging mode: a. CHAdeMO — [DC charging per IEC6185 b. Type-2/Combo AC Type-2, Marger shall be Compared to the co	transfer function le: Conductive 0 + CHAdeMO  Mode 4 - DC ( 1 is defined as N 1-1 section6.2] 100-2 CCS 100-3	Charging Mode 4 as	
	c. AC Type-2, Mode-3 e) Charger shall be Compact Pillar charger  System Structure The System requirement parameters are derived from Table D1 of Annex DD of IEC 61851-23. a) Regulation: Regulated DC EV Charging station with combination of the modes: controlled voltage charging (CVC) and controlled current charging (CCC) b) Isolation: Isolated DC EV charging station, according to the type of insulation between input and output: a) Basic insulation, b) Reinforced insulation, c) Double insulation c) Each DC output should be isolated from each other [Section				

# Signatures

Page 3 of 13





Repor		CONFIDENT
Dated		
	7.5.101 of IEC 61851-23].	
	d) Environmental conditions; Outdoor use. EVSEs classified for	
	outdoor use can be used for indoor use, provided ventilation	
	requirements are satisfied.	
	e) Power supply: AC mains to EVSE charging station	
	f) DC output voltage rating: 200-1000 V	
	g) AC output voltage rating: 380-480 V	
	h) Charge control communication: Communicate by digital and	
	analog signals	
	i) Output Current: 200A	
	j) Interface Inter-operability: Interoperable with any EV	
	supporting CCS or CHAdeMO protocols, or AC Type-2 (for	
	each gun respectively).	
	Input Requirements	
	a) Rating of the AC supply voltage	
	The AC supply system would be 3-Phase, 5 Wire AC	
	system (3Ph+N+E) Nominal Input Voltage is 415V (+6%	
4.1.3	and -10%) as per IS 12360	
	The Rated value of the frequency is 50 Hz ± 1.5Hz.	
	b) Battery back-up: The Input supply system to have a battery	
	backup for minimum 1 hour for control and billing unit. The	
	data logs should be synched with CMS during back-up time,	
	in case battery drains out.  Output Requirements	
	The chargers should allow charging of one vehicle with power	
	50 kW CCS and CHAdeMO, and minimum 22 kW AC Type-2	
	as per the output configurations types given below.	
	a) DC Output voltage: 200-1000 V	
4.1.4	b) AC Output Voltage: 380-480 V	
	c) Output current: 200A	
	d) Converter Efficiency: > 92% at nominal output power	
	e) Power factor: > 0.90 (Full Load)	
	The service life of coupler and breaking capacity of the	
	coupler as defined in Section 9 of IEC 61851- 23.	
	Cable Requirements	
	Charging Cable Assembly: The functional characteristics are	
	defined below	
	a) Functional characteristics: The maximum cord length will be	
	5 meter, straight cable	
4.1.5	b) Cable Connection Type: supply cable will be with EVSE as	
	per Case C defined in section 6.3.1 of IEC61851-1.	
	c) Cord Extension Set: No extension cord to be used	
	d) Adaptors: No adapters to be used	
	e) Storage means of the cable assembly and vehicle	
	connector: EVSE should have storage for cable and	

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24101	connector when not in use, at a height between 0.4m to 1.5m above ground level, as per IEC 61851-23 Section 101.1.3	
4.1.6	Environmental Requirements  a) Ambient Temperature Range: -10°C to 55°C  b) Ambient Humidity: 5% to 95%  c) Ambient Pressure: 86 kpa to 106 kpa as  d) Storage Temperature:0°C to 60°C	
4.1.7	Mechanical Requirements  a) Ingress Protection: The minimum IP degrees for ingress of objects is IP 65  b) Mechanical Impact: As per IEC 61851-1 Section 11.11.2  c) Mechanical Stability: As per section 11.11.2 of IEC 61851-1  d) Cooling: Air cooled or forced cool for protection and safety of equipment from any fire hazards	
4.1.8	Protection Requirements a) Protection against Electric Shock: As per IEC 61851 b) Effective earth continuity between the enclosure and the external protective circuit, As per IEC 61851	

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4.1.9	Specific Requirements EVSE shall have provision of emergency switching, protection against uncontrolled reverse power flow from vehicle, Output current regulation in CCC, Output voltage regulation in CVC, Controlled delay of charging current in CCC, limited periodic and random deviation (current ripple) and limited periodic and random deviation (voltage ripple in CVC), as per Section 102.2 of IEC 61851-23.  The specific requirements defined in Section 102.2 of IEC 61851-23 except for the functions provided with descriptions: a) Rated outputs and maximum output power: The clause from Section 101.2.1.1 of IEC 61851- 23 is applicable except for the ambient temperature range to be 0 °C to 55 °C for Indian climatic conditions. b) Descending rate of charging current: In case of normal condition, EVSE should be able to reduce the descending current at a rate of 100A per second or more as per Section 101.2.1.4 IEC 61851-23. c) Load dump: In any case of load dump, voltage overshoot shall not exceed 110% of the maximum voltage limit of the battery systems, as per Annex BB 3.8.3 of IEC61851-23. d) EMI/EMC as per IEC 61000	
4.1.10	Functional Requirements The functional requirements should be as per Section 6.4.3 of IEC 61851-1 and Section 6.4.3 of IEC 61851-23 except for the following functions, to be implemented as follows.  a) Measuring current and voltage: The accuracy of output measurement of system B shall be within the following values:  1. Voltage measurement: ±0,5% 2. Current measurement: ±1 A if the actual current is less than or equal to (≤) 50 A  b) ±2 % if the actual current is above (>) 50 A Protection against overvoltage at the battery: The DC EV charging station shall reduce the DC output current to less than 5 A within 2 s, to prevent overvoltage at the battery, if the output voltage exceeds the maximum voltage limit of the battery system for 1 s.	

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4.1.11	Communication Requirements EV – EVSE Communication The EV-EVSE communication would be as follows:  PLC Communication (CCS)  CAN Communication (CHAdeMO)  PWM Control (AC Type 2)  EVSE – CMS Communication The EVSE should be able to communicate with CMS using Open Charge Point Protocol (OCPP) 1.6 or higher versions compatible to OCCP1.6.  a) Communication interface: Reliable Internet connectivity b) Should enable handshaking between EVSE and CMS for its discovery, firmware version, vendor Version, vendor etc. It should authorize the operation, before electric vehicle can start or stop charging. EVSE should respond to CMS for the queried parameters. Reservation, cancellation addition and deletion of EVSE should be possible from CMS. c) Metering: Grid responsive metering as per units consumption of the vehicle. d) Should be upgradable to next version of OCPP whenever it is released.	
4.1.12	Billing and Payment Requirements The expected to provide an all-inclusive software solution for billing and payment, with CMS and 'User App' a) Billing: Based on grid responsive metering b) Payment: BHIM / Bharat QR or UPI compliant mobile payment c) Metering: As per Indian metering standard d) Billing and metering system shall be separate for each of CCS, CHAdeMO and AC Type-2 systems. Meter box to be within 10 metres of the charger.	

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# 4.1.15 Summary of EVSE Specification

Sr. No	Parameters	Requirements	Observation
	General Requirements	•	
1	EVSE Type	CCS + CHAdeMO + Type 2 AC	
2	Energy Transfer Mode	Conductive	
3	Charging mode	CHAdeMO - Mode 4, CCS - Type-2/Combo-2, AC - Type -2 Mode-3	
4	Reliability and Serviceability	Modularity, self-diagnostic features, fault codes and easy serviceability in the field	
	System Structure		
1	Regulation Method	Regulated D.C. EV charging station with combination of CVC or CCC but not simultaneously	
2	Isolation	Each output isolated from each other with proper insulation	
3	Environmental conditions	Outdoor use	
4	Power supply	D.C. EV charging station connected to A.C. mains	
5	DC output voltage rating	200-1000 V	
6	AC output voltage rating	380-480 V	
7	Charge control communication	Communicate by digital and analog signals	
8	Interface inter-operability	Inter-operablewith any EV supporting CCS or CHAdeMO or AC Type-2 (for each gun respectively)	
9	Operator	Operated by a trained person or EV Owner	
	Input Requirements		
1	AC Supply System	3-Phase, 5 Wire AC system (3Ph+N+E)	
2	Nominal Input voltage	3Ø, 415V (+6% and -10%) as per IS 12360	
3	Input Frequency	50Hz, ±1.5Hz	
4	Input Supply Failure backup	Battery backup for minimum 1 hour for control system and billing unit, to enable activities such as billing, to be provided.	
	Output Requirements		
1	Output Details	As per table under Section 4.2.1	
2	Number of Outputs	3	
3	Output Connectors	3 output connectors	

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4	Output Connector Compatibility	CCS: IEC 61851-23 / -24, IEC 62196-3, DIN 70121 CHAdeMO: IEC 61851-23 / -24, JEVS G 105, Rev. 1.2 compliant AC: IEC-61851-22, IEC 62196-2 Mode 3, Type 2
5	Converter Efficiency	> 92 % at nominal output power
6	Power factor	≥ 0.90 (Full load)
_	Cable Requirements	
1	Charging Cable Length	5 Meter, Straight Cable
2	Cable Type	Charging cable and connector permanently attached to EVSE (liquid cooled)
	Environmental Require	ements
1	Ambient Temperature Range	-10°C to 55°C
2	Ambient Humidity	5 to 95%
3	Ambient Pressure	86 kpa to 106 kpa
4	Storage Temperature	0 to 60°C
	Mechanical Requireme	ents
1	Ingress Protection	IP 65
2	Mechanical Stability	Shall not be damaged by mechanical impact as defined in Section 11.11.2 of IEC 61851-1
3	Cooling	Air Cooled
4	Mechanical Impact	Shall not be damaged by mechanical impact as defined in Section 11.11.3 of IEC 61851-1
5	Dimension(W*H*D) / Weight	Will be informed later
	User Interface & Display	Requirements
1	ON- OFF (Start-Stop) switches	Mandatory
2	Emergency stop switch	Mushroom headed type
3	Visual Indicators	Error indication, Presence of input supply indication, State of charge process indication

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4	Display	Minimum 3.5" inches with 720 x 480 pixels TFT LCD Screen, user interface with touch screen or keypad.  Toughened unbreakable glass for to be used for display screen.
5	Support Language	English (with provision for additional regional languages including Hindi).
6	Display Messages	EVSE should display appropriate messages for user during the various charging states like:  • Vehicle plugged in / Vehicle plugged out • Duration since start of charge, kWh.  • User authorization status • Idle / Charging in progress: SOC • Fault conditions • Metering Information: Consumption Units
7	Authentication	As per OCPP 1.6 or higher (through mobile application)
	Performance Requirer	nents
1	DC Output voltage and current tolerance	DC Output current regulation in Constant Current Charging (CCC): ± 2.5 A for the requirement below 50 A, and ± 5 % of the required value for 50 A or more DC Output voltage regulation in Constant Voltage Charging (CVC): Max. 2 % for the max rated voltage of the EVSE
2	Control delay of charging current in CCC	DC output current Demand Response Time: <1 s Ramp up rate: 20 A/s or more Ramp Down rate: 100 A/s or more
3	Descending rate of charging current	EVSE should be able to reduce DC current with the descending rate of 100 A/s or more
4	Periodic and random deviation (current ripple)	DC output current ripple limit of EVSE: 1.5 A below 10 Hz, 6 A below 5kHz, 9A below 150 kHz
5	Periodic and random deviation (voltage ripple)	Max. ripple voltage: ±5 V. Max slew rate: ±20 V/ms

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	Communication Requirem	ents
1	Communication between EVSE and Vehicle	As specified by CCS and CHAdeMO protocols
2	Communication interface between charger and central management system(CMS)	All of: Ethernet, Wi-Fi, and 2G/3G/4G
3	Communication between EVSE and Central Server	Open Charge Point Protocol (OCPP) 1.6: protocol or higher versions compatible to OCPP 1.6. Metering: Grid responsive metering
	Billing Requirements	
1	Software Solution	CMS and User App
2	Billing	Grid responsive metering (Billing and metering system shall be separate for each of CCS, CHAdeMO and AC Type-2 systems)
3	Payment	BHIM / Bharat QR or UPI compliant mobile application payment
	Protection & Safety Requi	rements
1	Safety Parameters	Over current, under voltage, over voltage, Residual current, Surge protection, Short circuit, Earth fault at input and output, Input phase reversal, Emergency shut-down with alarm, Over temperature, Protection against electric shock
	Marking of EVSE	
1	Marking Requirements	

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# 8.0 Test Results:

Sr. No	Test Title	Annex No.	Complies (Yes/No/ N/A)	Result
1.0	Safety functions Verification			
	Earth Presence Detection(Socket-EVSE)	1		
	Earth Continuity Check(EVSE-EV)			
	Over Current and Short-Circuit Protection	01		
	Leakage Current Protection (RCD)			
	Dielectric Withstand Voltage			
2.0	Mechanical Stability			
	Mechanical impact			
	IP Testing			
3.0	Climatic Environmental Tests			
	Ambient air temperature			
	Ambient humidity	02		
4.0	EMC Verification			
	General Compliance			
	Immunity to electrostatic discharge			
	Electrical Fast Transient/Burst Immunity Test			
	Surge Immunity Test			
	Limitation of voltage changes, voltage fluctuations and flicker in public low voltage supply system. Limitation for harmonic current produced by equipment connected to public low voltage charging systems.	-		

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	ARAI® Progratu through Research	
Report No. , Dated:		CONFIDENTIAL
9.0 Result:		
- 1		
r	×	
-	Signatures	



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# DOCUMENTS REQUIRED TO OBTAIN EV TARIFF METER/ LOAD ENHANCEMENT FROM DISCOM

# **Links for Application Forms to DISCOM**

# For availing special EV Tariff and Meter: Application form:

TSSPDCL -

https://www.tssouthernpower.com/newserviceregistrations

TSNPDCL -

http://210.212.223.83:7001/J2S/j2s/websiteLoginUsers.action

# For Existing Connection and to add new load/ enhance sanctioned load: Application form:

TSSPDCL - (online form)

http://210.212.220.126:8080/TSSPDCL/LeftMenu/Downloads/CSC.pdf

TSNPDCL - (offline form)

https://tsnpdcl.in/Menu/ServiceRequest



# NOC Format by TSREDCO

	TSREDCO Letter	Head
Ref: TSREDCO/EV/SW/NOC/20 To,	)22-23/	Date:
Sir,		
•	NO OBJECTION CER	TIFICATE
	No Objection Certifica f Electric Vehicle Public	te (NOC) under Single window clearance
Ref: 1. GO RT No.18, Dated: 11. for EV Public Charging St		EDCO as Single Window Clearance agency gana.
2. Revenue Sharing Agreem	ent signed with	
	*****	
Electricity Connection under (LT I	Mechanism for issuit	has applied to TSREDCO ng No Objection Certificate for obtaining lic Charging Stations vide reference to the 1st
Cited above .	coreful evention of	he application submitted by the applicant i.e.
District Manager R.R.Dist, TSREDO	O herewith accords No o	bjection Certificate for releasing the Electricity
connection by DISCOM based on the		ion furnished by
	hich is as follows.	KOCIJAAAA AA IDIMBIDI
NOC Approval No. PURPOSE OF EV Charging Stations		OC/2022-23/DM/RR/ Station
. COMPANY DETAILS	p toward 2 to to tom going	
Name of the applicant / organizati	ion	
2 State whether the applicant /organ		
a) Company registered unde	r Indian	
Companies Act; b) Co-operative Society;		
c) Any other corporate entity	7 ROC	
to be attached along with	100	
Memorandum of Articles		
d) Individual		
3 Address		



4	PAN / DIN No's of Company /Association of Persons	T
"	/ Individual	
5	GST Number	
	GS1 Number	
II.	LOCATION OF THE PROPOSED SITE WITHDET	AILS
1	a)Location of proposed site with details	
	b) Land details of the Charging Station site	
	i) Name of village/area	
	ii) Mandal	
	iii) District	
	iv) Survey Nos.	
	v) Land Extent survey No. wise	
	vi) Geo-graphical co-ordinates of Location	
	vii) Is it Govt. land or Pvt. land	
	viii) Own land / Leased land	
	Details / copy of the Land documents submitted	
III.	DETAILS OF THE ELECTRICITY CONNECTION	APPLIED FOR
1	Name of the DISCOM	
2	DISCOM Circle	
3	Proposed Category	
4	Load Applied for	
5	Nearest sub-station details of DISCOM	
6	Nearest DISCOM Service Connection No.	
7	Estimate Sanction required or Not	
8	ARAI Certificate Mandatory	
9	ARAI Certification Number & Date	
IV.	DETAILS OF THE PROPOSED EV CHARGERS	
1	a) Proposed Gross Capacity of Charging Station	
*	(KW)	
	Number of Chargers	
	Type of the Charger (AC/DC)	
	Capacity of each charger	
	Number of Guns for each charger	
	Make & Model	
	2) Details of Battery Swapping	
	equipment/Bulk charging equipment	
	Number of Battery Swapping Stations	
	Capacity of Battery Swapping	
_	Stations.	
2	Planned duration for commissioning of the project.	
	This NOC is issued to The	, with the approval of competent authority



for obtaining the electrical connection from DISCOM only. However the applicant has to obtain the required statutory approvals if any in this regard towards installation of EV Public Charging Stations.

# Lease Agreement/ Revenue Sharing from Owner + Sale Deed (if required)



### REVENUE SHARING AGREEMENT

This REVENUE SHARING AGREEMENT (this "Agreement"), dated as of December 31, 2011 (the "Effective Date") is entered into by and among Deutsche Bank AG, a German Aktiengesellschaft ("DBAG"), and Deutsche Bank Financial LLC, a Delaware limited liability company ("Affiliate" and together with DBAG, the "Partier").

### RECITALS

WHEREAS, DBAG is a stock corporation organized under the laws of Germany and is engaged in a wide range of banking and other financial activities;

WHEREAS, DBAG conducts some of its business activities through its New York Branch ("DBAY") and other of its business activities through corporate subsidiaries organized under the laws of various States of the United States;

WHEREAS, Taunus Corporation, a Delaware corporation ("Taunus"), is the ultimate United States parent company of substantially all of DBAG's United States subsidiaries (together with Taunus, the "Taunus Group");

WHEREAS, Taunus is a bank holding company within the meaning of the U.S. Bank Holding Company Act of 1956, as amended, and is subject to regulatory oversight by the United States Federal Reserve System and the New York State Banking Department;

WHEREAS, certain regulatory developments pursuant to the "Basel II" rules would require Taunus to change the method with which it reports bank regulatory capital;

WHEREAS, certain regulatory developments pursuant to the proposed "Basel III" rules will affect the way regulators will measure a bank's capital, which developments will require DBAG to take certain actions with respect to its United States banking operations conducted through DBNY;

WHEREAS, the Collins Amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") will require Taunus to take certain actions with respect to its ownership of DiALG's United States banking chain in order to avoid certain adverse regulatory capital consequences;

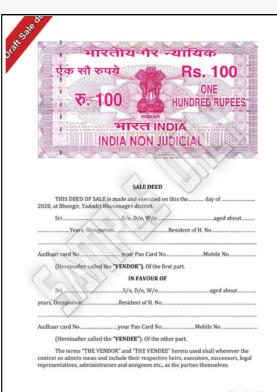
WHEREAS, certain actions required to be taken by DBAG as a result of Dodd-Frank could result in further adverse affects to DBAG as a result of other bank regulatory developments:

WHEREAS, DBAG has concluded that certain of the adverse consequences resulting from compliance with Dodd-Frank and other regulatory developments would be mitigated by entering into transactions with Affiliate that would result in a tax grouping of DBNY and the Taunus Group as a single taxpayer for United States federal income tax and state and local tax purposes;

# **Lease Agreement**

or

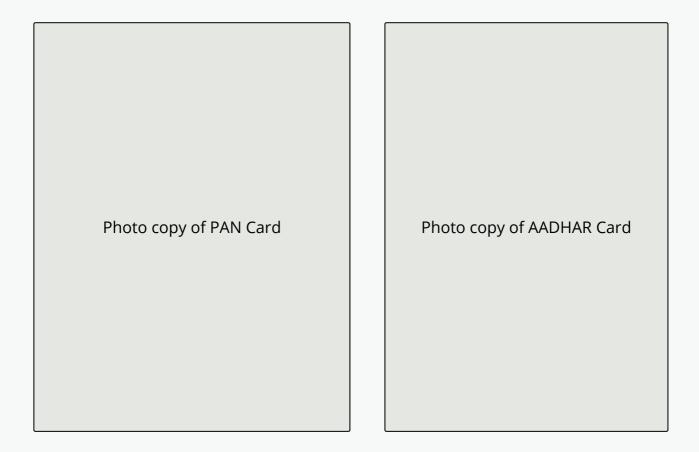
# Revenue Sharing Agreement from Owner



# Sale Deed (if required)



# **Authorized Person ID Proof**







DOCUMENTS
REQUIRED FOR
APPROVAL FROM CEIG
(APPLICABLE FOR HT
LOADS ONLY)

# Agreement b/w Contractor and Owner

### AGREEMENT BETWEEN OWNER AND CONTRACTOR

This Agreement between Owner and Contractor (the "Agreement") is effective [DATE],

BETWEEN: [YOUR COMPANY NAME] (the "Contractor"), a company organized and existing

under the laws of the [State/Province] of [STATE/PROVINCE], with its head

office located at:

[YOUR COMPLETE ADDRESS]

[OWNER NAME] (the "Owner"), an individual with his main address located at AND:

OR a company organized and existing under the laws of the [State/Province] of [STATE/PROVINCE], with its head office located at:

[COMPLETE ADDRESS]

WHEREAS, Owner finds that the Contractor is qualified to perform the work, all relevant factors considered, and that such performance will be in furtherance of Owner's business.

NOW, THEREFORE, in consideration of the mutual covenants set forth herein and intending to be legally bound, the parties hereto agree as follows:

# 1. MATERIAL AND LABOR PROVIDED

The Contractor agrees to provide all of the material and labor required to perform the following work for:

[DESCRIBE WORK TO BE PERFORMED]

as shown by the drawing(s) and described in the specifications prepared by [NAME] and provided by the Owner, which are identified by the signatures of the parties to this agreement and which form a part of this agreement.

The Contractor agrees to provide and pay for all materials, tools and equipment required for the prosecution and timely completion of the work. Unless otherwise specified, all materials shall be new and of good quality.

In the prosecution of the work, the Contractor shall employ a sufficient number of workers skilled in their trades to suitably perform the work.

# 2. PAYMENT

The Owner hereby agrees to pay the Contractor, for the aforesaid materials and labor, the sum of [AMOUNT], in the following manner:

[DESCRIBE METHOD AND TIMING OF PAYMENT]

Agreement Between Owner and Contractor

Page 1 of 3



# **Contractor License Copy**



Photograph Stamp Signature

తెలంగాణ చిరుత్వము GOVERNMENT OF TELANGANA తెలంగాణ ఎల్మక్షింద్ లైవచ్చింగ్ లో రై TELANGANA ELECTRICAL LICENSING BOARD

నమూనా- హద్.ఎ FORM – HA

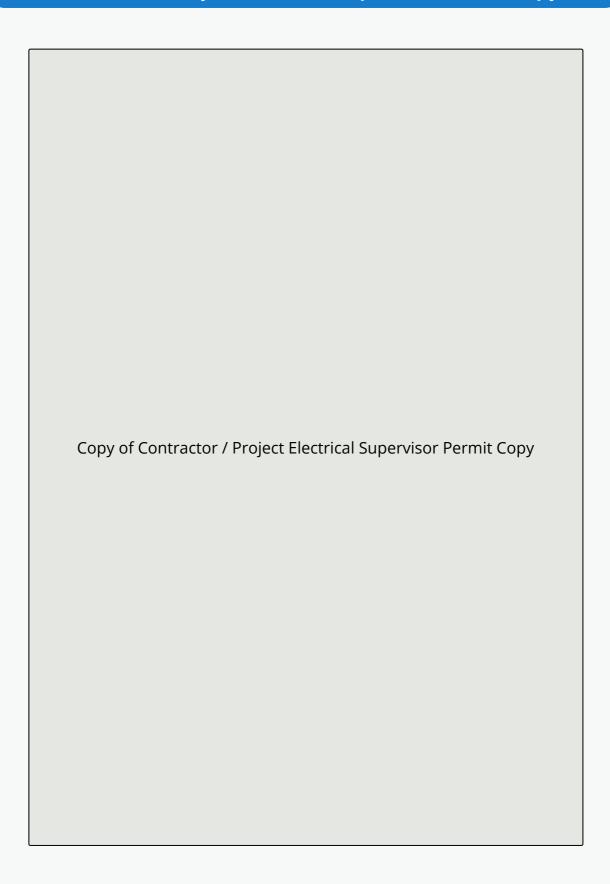
తెలంగాణ స్టేట్ ఎలక్టికల్ లైసెన్సింగ్ నియమావళి – 2018 లోని 33(సి) వ నియమము క్రింద UNDER REGULATION 33(c) OF TELANGANA STATE ELECTRICAL LICENSING REGULATIONS-2018 ఎలక్టికల్ కాంట్రాక్టర్ లైసెస్స్ – గ్రేట్ 'ని'

ELECTRICAL CONTRACTOR'S LICENSE - GRADE 'A'

వారు, మెసర్స్ : 	
విద్యుత్ స్థాపరములకు సంబందించిన పమలను చేయుటకు అనుమరించడమైనది. తెలంగాణ	esorres redicion de
DOMESTO - 2018 (CD Devicios) trendos transcourá em detucido acelerá	
నియమావిళి – 2018 లోని నిలంధనల ప్రకారము ప్రభుత్వమినే జారీ చేయబడిన ఎలక్టికల్ మరియు పర్మిట్లు కరిగిన సూపరవైజర్ కనిష్ణముగా ఒక్కరికి తర్మువ కాకుండా మరియు వైర్మికి	
తక్కువ కాకుండా వారి పర్యవేకణలో మాత్రమే సైన లెలిపిన చోలైద పరకు గల విద్యుత్ స్టాపికు	
అనిమతించడమైనది.	
Sri	
Upder the name and style	
Under the name and style	
	is he
authorized to carry out electrical works of Electrical Installations of the above menti-	oned voltage, subje
supervision by an appropriate permit holder not lower in such than a Supervisor and	two Winemen hold
pertificate of Competency and permit in the Sate of Telangono, Subject to the cond	itions montional i
Felangana State Electrical Licensing Regulations -2018.	itions incidence i
congain seac circular circularig regulations -2016.	
VALID FROM 1	
VALID PROW!	
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Supervisor Permit No: beyond and up to      Wiremen Permit No: beyond and up to	10
Supervisor Permit No:	.0
1. Supervisor Permit No: beyond and up to 2. Wiremen Permit No: beyond and up to 3. Wiremen Permit No: beyond and up to and up to and up to beyond and up to be	o
3. Wiremen Permit No: beyond and up artners: Private Company.	ig Board

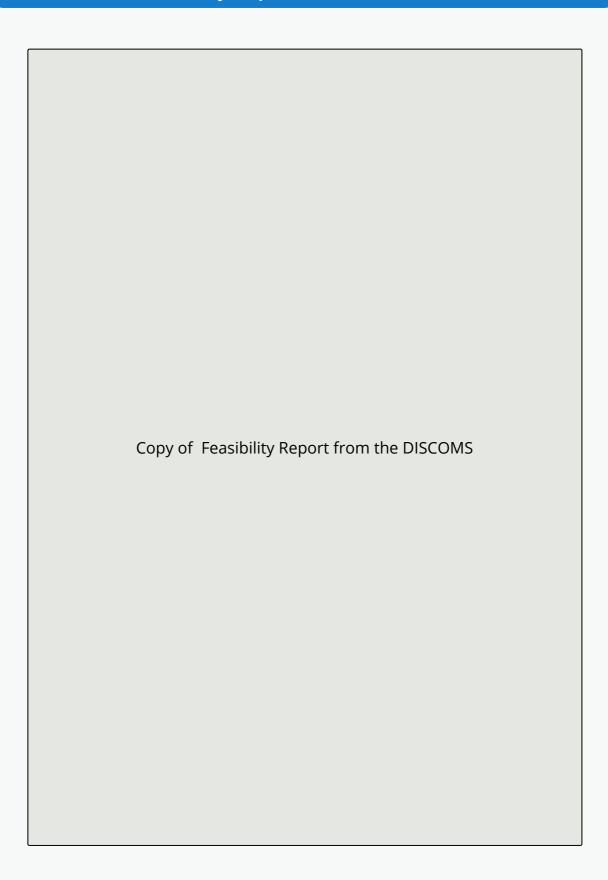


# **Contractor / Project Electrical Supervisor Permit Copy**



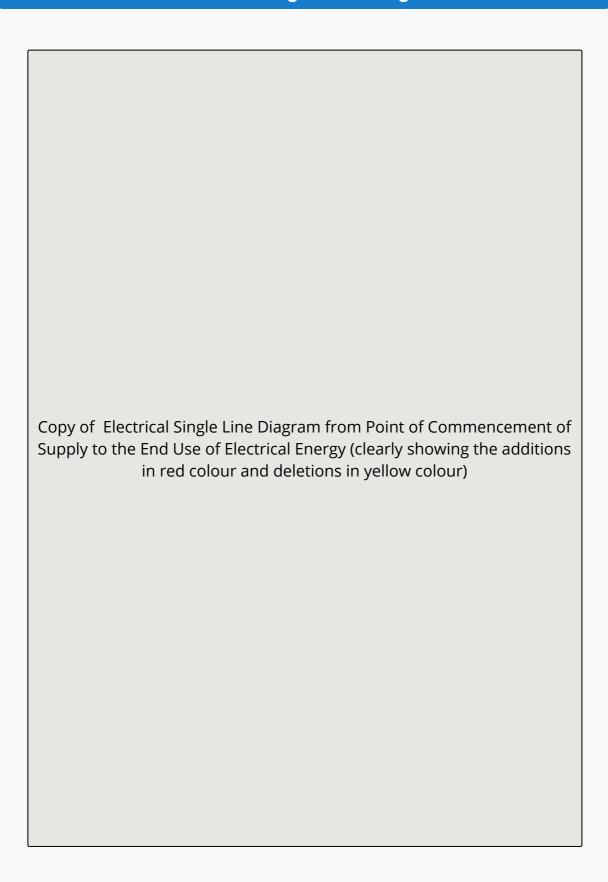


# **Feasibility Report from the DISCOMS**



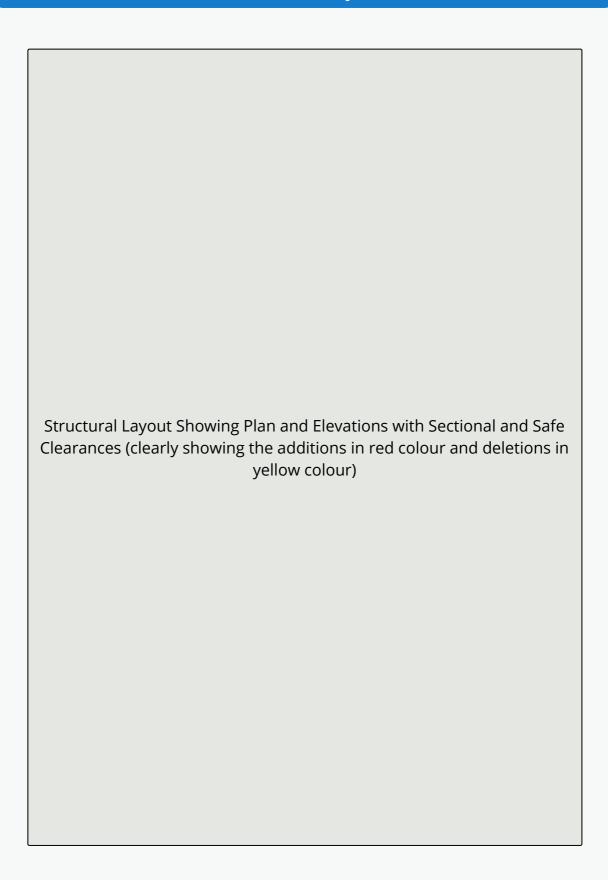


# **Electrical Single Line Diagram**



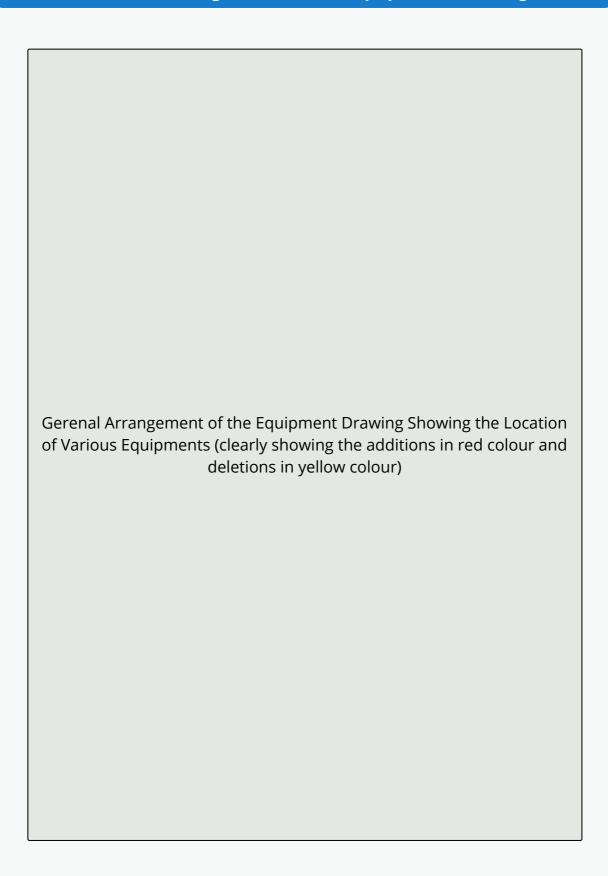


# **Structural Layout**





# **General Arrangement of the Equipment Drawing**



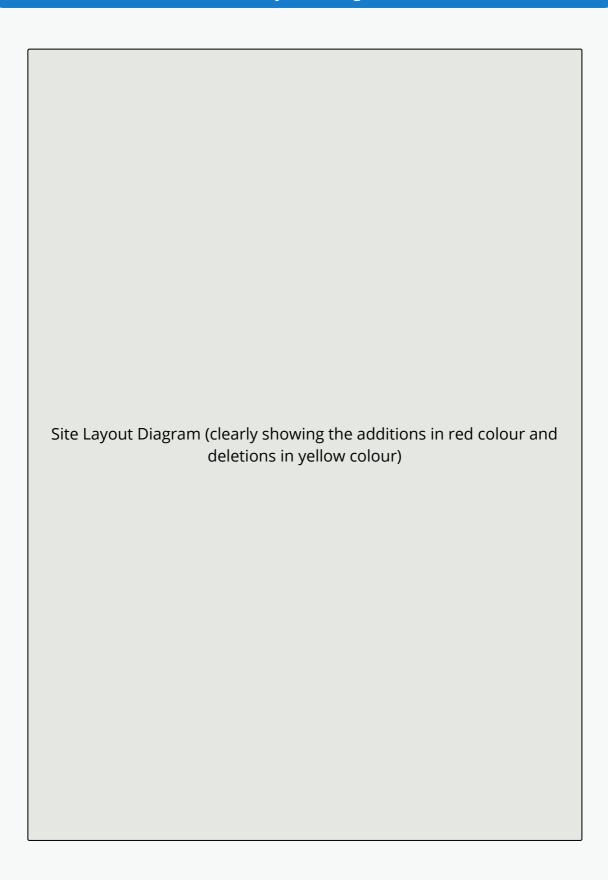


# **Earthing Layout Diagram**

Earthing Layout Diagram (clearly showing the additions in red colour a	na
deletions in yellow colour)	



# Site Layout Diagram







CEA (MEASURES
RELATING TO SAFETY
AND ELECTRIC
SUPPLY) AMENDMENT
REGULATIONS, 2019

# CEA Safety and Electric Supply Regulations (Amendment), 2019

For the latest amendments/ regulations, please visit here: <a href="https://cea.nic.in/regulations-category/measures-relating-to-safety-and-electric-supply/?lang=en">https://cea.nic.in/regulations-category/measures-relating-to-safety-and-electric-supply/?lang=en</a>

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



असाधारण

EXTRAORDINARY

भाग III—खण्ड 4

PART III-Section 4

प्राधिकार से प्रकाशित PUBLISHED BY AUTHORITY

ਜਂ. 230] No. 230] नई दिल्ली, शुक्रवार, जून 28, 2019/ आषाढ़ 7, 1941 NEW DELHI, FRIDAY, JUNE 28, 2019/ASHADHA 7, 1941

### केंद्रीय विद्युत प्राधिकरण

### अधिसूचना

नई दिल्ली, 28 जून, 2019

सं. सीईआई/1/2/2018.—िवद्युत (पूर्व प्रकाशन के लिए प्रक्रिया) नियम, 2005 के नियम 3 के उप-नियम (2) के साथ पिठत विद्युत अधिनियम, 2003 (2003 का 36) की धारा 177 की उप-धारा (3) द्वारा यथापेक्षित केन्द्रीय विद्युत प्राधिकरण (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय) विनियम, 2010 का और संशोधन करने के लिए प्रारूप विनियम छह दैनिक समाचार-पत्रों में प्रकाशित किया गया था, जिसमें उक्त प्रकाशनों में अंतर्विष्ट समाचार-पत्रों की प्रतियाँ जनता को उपलब्ध कराई गई तारीख से 30 दिनों की अवधि के समाप्त होने से पहले इसके द्वारा प्रभावित होने वाले सभी संभावित व्यक्तियों से आपत्ति और सुझाव मांगे गए थें;

और उक्त विनियमों वाले उक्त समाचार पत्रों की प्रतियाँ 2 मई, 2018 को जनता को उपलब्ध करा दी गई थीं;

और उक्त प्रारूप विनियमों पर जनता से प्राप्त आपत्तियों और सुझावों पर केंद्रीय विद्युत प्राधिकरण द्वारा विचार कर लिया गया था;

अतः अब विद्युत अधिनियम, 2003 की धारा 177 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, केंद्रीय विद्युत प्राधिकरण (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय) विनियम, 2010 में आगे संशोधन करने हेतु निम्नलिखित विनियम बनाता है. अर्थात: -

- 1. (1) इन विनियमों का संक्षिप्त नाम केंद्रीय विद्युत प्राधिकरण (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय) (संशोधन) विनियम, 2019 है।
  - (2) ये विनियम राजपत्र में उनके प्रकाशन की तारीख से प्रवृत्त होंगे।

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- केन्द्रीय विद्युत प्राधिकरण, (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय) विनियम 2010 (इसके पश्चात उपरोक्त विनियम कहा गया है), में विनियम 2, के उप-विनियम (1) में –
  - (i) अनुच्छेद (चक) के पश्चात निम्नलिखित अंत:स्थापित किया जाएगा, अर्थात्:
    - '(चख)' "चार्जिंग प्वाइंट" से केंद्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) विनियम, 2013 के विनियम 2, के उप-विनियम (1) के खंड (घक) में यथा परिभाषित अभिप्रेत हैं;
    - '(चग) ''चार्जिंग स्टेशन'' से केंद्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) विनियम, 2013 के विनियम 2, के उप-विनियम (1) के अनुच्छेद (घख) में यथा परिभाषित अभिप्रेत है;'
  - (ii) खंड (धक) के पश्चात निम्नलिखित खंडों को अंत:स्थापित किया जाएगा, अर्थात्: -
    - '(धख) "विद्युत वाहन (विद्युत वाहन)", से किसी रिचार्जेवल बैटरी अथवा किसी अन्य पोर्टेवल ऊर्जा भंडारण उपकरणों (रिचार्जेवल, वाहन के बाहर किसी स्रोत जैसे कि आवासीय या सार्वजनिक विद्युत सेवा से ऊर्जा का उपयोग कर) से करेन्ट लेते हुए किसी विद्युत मोटर द्वारा आंशिक रूप से या पूर्णत: प्रचालित वाहन अभिप्रेत है;'
    - '(धग) "विद्युत वाहन आपूर्ति उपकरण", से फेस, न्यूट्रल और सुरक्षात्मक अर्थ चालक सहित चालकों, विद्युत वाहन कप्लर्स, लगाव प्लग और अन्य सभी सहायक उपकरण, पॉवर आउटलेट, सुरक्षा उपकरण, या विद्युत वाहन को परिसर के तारों से विद्युत आपूर्ति देने और यदि आवश्यक हो तो उनके बीच संचार करने के लिए विशेष रूप से स्थापित किए गए विद्युत उपकरण अभिप्रेत है;'
  - (iii) खंड (यबक) के पश्चात निम्नलिखित खंड अंत:स्थापित किया जाएगा, अर्थात्: -
    - '(यबख) " सॉकेट-आउटलेट " से किसी ऐसे स्थान पर, जहां बिछाई गई वायरिंग समाप्त हो जाती है, स्थापित किए जाने वाला बिद्युत उपकरण अभिप्रेत हैं; और यह प्लग के पिनों की सहायता से अलग किए जा सकने योग्य कनेक्शन प्रदान करता है; और इसमें दो या दो से अधिक कान्टैक्ट्स होते हैं; तथा लचीली कॉर्ड से जुड़ा हुआ एक कॉर्ड एक्सटेंशन सॉकेट भी सम्मिलित होता है, जो स्थायी रूप से इन्स्टालेशन वायरिंग से जुड़ा होता है;'
  - (iv) खंड (यभ) के पश्चात निम्नलिखित खंड अंत:स्थापित किया जाएगा, अर्थात्: -
    - '(यभक) "आपूर्ति लीड" से विद्युत वाहन और किसी सॉकेट-आउटलेट या चार्जिंग पॉइंट के बीच कनेक्शन स्थापित करने के लिए उपयोग किए जाने वाले एक उपकरण से अभिप्रेत है'
- उक्त विनियम में, विनियम 116 के पश्चात, निम्नलिखित अध्याय एवं विनियम अंत:स्थापित किया जाएगा, अर्थात: -

### अध्याय XI

### विद्युत वाहन चार्जिंग स्टेशनों के लिए सुरक्षा उपबंध

- 117. विद्युत वाहन चार्जिंग स्टेशनों के लिये सामान्य सुरक्षा अपेक्षा : (1) सभी विद्युत वाहन चार्जिंग स्टेशन इस अध्याय के उपबंधों के अनुसार डिजाइन, स्थापित, परीक्षित, प्रमाणित, निरीक्षित किए जाएंगे और जोड़े जाएंगे।
  - (2) सभी विद्युत वाहन चार्जिंग स्टेशनों को इनपुट आपूर्ति और आउटपुट आपूर्ति फिटिंग के अधिभार के विरुद्ध सुरक्षा प्रदान की जाएगी।



- (3) सभी विद्युत वाहन चार्जिंग पॉइंट्स इस प्रकार स्थापित किए जाएंगे कि विद्युत आपूर्ति का कोई भी सॉकेट-आउटलेट तैयार जमीन के स्तर से कम से कम 800 मि.मी. ऊपर हो।
- (4) विद्युत वाहन चार्जिंग प्वाइंट के साथ ईवी के कनेक्शन के लिए केवल असेंवली के अतिरिक्त किसी कॉर्ड एक्सटेंशन सेट या दूसरी केवल असेंवली का उपयोग नहीं किया जाएगा। केवल असेंवली इस प्रकार बनाई जाएगी कि इसे कॉर्ड एक्सटेंशन सेट के रूप में उपयोग न किया जा सके।
- (5) वाहन कनेक्टर को वाहन इनलेट से जोड़ने के लिए एडाप्टर का उपयोग नहीं किया जाएगा।
- (6) विद्युत वाहन पार्किंग स्थान ऐसा होना चाहिए कि चार्ज करने के लिए खड़े किए गए वाहन का कनेक्शन ईवी चार्जिंग प्वाइंट से 5 मीटर के भीतर होगा।
- (7) विद्युत वाहन चार्जिंग के लिए पोर्टेबल सॉकेट-आउटलेट का उपयोग करने की अनुमति नहीं है।
- (8) विद्युत वाहन चार्जिंग स्टेशनों के लिए (आईएस)/आईईसी 62305 के अनुसार उपयुक्त तृडित विद्युत सुरक्षा प्रणाली उपलब्ध कराई जाएगी।
- (9) विद्युत वाहन चार्जिंग स्टेशन, वाहन से अनियंत्रित उल्टे विद्युत प्रवाह को रोकने के लिए सुरक्षात्मक उपकरण से लैस होंगे।
- (10) विद्युत वाहन को विद्युत आपूर्ति (मेन्स) से डिस्कनेक्ट करने के एक सेकंड बाद, सुलभ प्रवाहकीय भागों या किसी भी सुलभ प्रवाहकीय भाग और जमीन (अर्थ) के बीच वोल्टेज 42.4 वोल्ट, पीक (30 वोल्ट आरएमएस), या 60 वोल्ट डीसी से कम या बराबर होगा, और संग्रहीत ऊर्जा उपलब्ध 20 जूल से कम होगी (आईईसी 60950 के अनुसार)। यदि वोल्टेज 42.4 वोल्ट पीक (30 वोल्ट आरएमएस) या 60 वोल्ट डीसी से अधिक है, या ऊर्जा 20 जूल या उससे अधिक है, तो चार्जिंग स्टेशनों में उचित स्थान पर एक चेतावनी लेवल लगाया जाएगा।
- (11) यदि वोल्टेज 60 वोल्ट डायरेक्त करेंट (डीसी) से अधिक है तो डीसी चार्जिंग के लिए उपयोग किए जाने वाले वाहन कनेक्टर को वाहन इनलेट पर लॉक किया जाएगा। चार्जिंग के पूर्ण होने के बाद या जब चार्जिंग प्रक्रिया के माध्यम से खतरनाक वोल्टेज का पता चलता है, तो वाहन कनेक्टर को अनलॉक नहीं किया जाएगा (यदि लॉकिंग मेकेनिज्म लगा है) चार्जिंग प्रणाली खराब होने पर, सुरक्षित डिस्कनेक्शन के लिए साधन उपलब्ध कराए जाएंगे।
- (12) यदि आउटपुट वोल्टेज, वाहन द्वारा भेजी गई अधिकतम वोल्टेज सीमा से अधिक हो तो बैटरी पर ओवरवोल्टेज को रोकने के लिए (डीसी) विद्युत वाहन चार्जिंग पॉइंट विद्युत आपूर्ति को डिसकनेक्ट कर देगा।
- (13) वाहन कनेक्टर अनलॉक होने पर विद्युत वाहन चार्जिंग पॉइंट, चार्जिंग केवल को एनर्जाइज नहीं करेगा और जिस वोल्टेज पर वाहन कनेक्टर अनलॉक होगा, वह 60 वोल्ट से कम होना चाहिए।
- 118. चार्जिंग स्टेशनों के लिए अर्थ सुरक्षा प्रणाली: (1) विद्युत वाहनों में विद्युत आपूर्ति की सुरक्षा के लिए सभी रेसिडुअल करेन्ट डिवाइस (आरसीडी)-
  - (क) 30 मि.ए. से अधिक की रेसिड्अल ऑपरेटिंग करेन्ट नहीं होगी;
  - (ख) वह न्यूट्रल सहित सभी लाइव चालकों को बाधित करने के लिए संचालित होगी; और
  - (ग) उसका कार्य निष्पादन न्यूनतम टाइप ए के बराबर और आईएस 732-2018 के अनुरूप होगा।
  - (2) विद्युत वाहनों में विद्युत आपूर्ति की सुरक्षा के लिए उपयोग की जाने वाली सभी आरसीडी पर उनके कार्य और उनके द्वारा सुरक्षा प्रदान किए जाने वाले चार्जिंग स्टेशन या सॉकेट आउटलेट की पहचान के लिए उनपर स्थायी रूप से चिह्नित किया जाएगा।



- (3) प्रत्येक विद्युत वाहन चार्जिंग पॉइंट्स को एक विशेष रूप से निर्धारित अंतिम उप-सर्किट द्वारा अलग से आपूर्ति की जाएगी जो आईईसी 60947-2, आईईसी 60947-6-2 या आईईसी 60269 श्रृंखला का अनुपालन करते हुए एक ओवर करेन्ट सुरक्षा उपकरण द्वारा संरक्षित होगा। ओवर करेंट सुरक्षा उपकरण स्विचवोर्ड का हिस्सा होगा।
- (4) विभिन्न सुरक्षा उपकरणों का समन्वय करना आवश्यक होगा।
- (5) जहां अनुरक्षण के लिए जरूरी हैं, वहां कनेक्टिंग पॉइंट को सुरक्षा प्रदान करने वाले आरसीडी और पहले (अपस्ट्रीम) स्थापित किए गए आरसीडी के बीच अंतर (चयनशीलता) बनाए रखा जाएगा।
- (6) सभी विद्युत वाहन चार्जिंग स्टेशनों को एक बोल्टेज स्वतंत्र आरसीडी द्वारा संरक्षित उप-सर्किट से विद्युत आपूर्ति की जाएगी और यह किसी विद्युत वाहन के लिए चार्जिंग आपूर्ति के अनुकूल एक व्यक्तिगत सुरक्षा भी प्रदान करेगी।
- (7) सभी विद्युत वाहन चार्जिंग स्टेशनों को अर्थ कन्टीन्यूटी निगरानी प्रणाली उपलब्ध कराई जाएगी, जो वाहन से अर्थ कनेक्शन अप्रभावी होने पर विद्युत आपूर्ति को रोक देती है।
- (8) सभी विद्युत वाहन चार्जिंग स्टेशनों की अर्थिंग, आईएस 732 के अनुसार होगी।
- (9) केवल को अर्थ से जुड़े धातु की शील्डिंग के साथ लगाया जा सकता है। केवल का इन्सुलेशन रगड़ प्रतिरोधी होगा और तापमान की पूरी सीमा पर लचीलापन बनाए रखेगा।
- (10) विद्युत आपूर्ति के अर्थ टर्मिनल और वाहन के प्रवाहकीय भागों के बीच एक समान विभव वाला (इक्वीपोटेन्शियल) कनेक्शन स्थापित करने के लिए एक सुरक्षात्मक अर्थ चालक उपलब्ध कराया जाएगा, जो आईईसी 60364-5-54 की आवश्यकताओं के अनुरूप पर्याप्त रेटिंग वाला होगा।
- 119. विद्युत वाहन चार्जिंग स्टेशनों के लिए आग से सुरक्षा की आवश्यकता. (1) विद्युत वाहन चार्जिंग स्टेशनों के लिए अग्निशामक प्रणाली उक्त विनियमों के सुसंगत उपबंधों के अनुरूप होगी।
  - (2) चार्जिंग स्टेशनों का घेरा स्वयं अग्निशामक विशेषता वाली अग्निरोधी सामग्री से तैयार किया जाएगा और हैलोजन से मुक्त होगा।
  - (3) आग का पता लगाना, चेतावनी और नियंत्रण प्रणाली सुसंगत आईएस के अनुसार उपलब्ध की जाएगी।
  - (4) चार्जिंग स्टेशन/चार्जिंग पॉइंट्स में उपयोग की जाने वाली विद्युत आपूर्ति केबल्स आईईसी 62893-1 और इसके प्रासंगिक भागों के अनुरूप होंगी।
- 120. चार्जिंग स्टेशनों का परीक्षण: (1) चार्जिंग स्टेशनों के सभी उपकरणों का इन्सुलेशन प्रतिरोध मान सुसंगत आईईसी 61851-1 में यथानिर्धारित होगा।
  - (2) चार्जिंग स्टेशनों का स्वामी यह सुनिश्चित करेगा कि अविशष्ट करंट डिवाइस और चार्जिंग स्टेशन के लिए निर्माता के निर्देशों में निर्दिष्ट परीक्षण किया गया है।
- 121. चार्जिंग स्टेशनों का निरीक्षण और आवधिक मूल्यांकन: (1) प्रत्येक चार्जिंग स्टेशन का स्वामी या इलेक्ट्रिकल निरीक्षक या चार्टर्ड इलेक्ट्रिकल सेफ्टी इंजीनियर द्वारा चार्जिंग स्टेशनों के ऊर्जाकरण से पहले परीक्षण और निरीक्षण किया जाएगा।
  - (2) चार्जिंग स्टेशन के स्वामी, यह सुनिश्चित करेंगे कि चार्जिंग स्टेशन के ऊर्जाकरण के बाद पहले 3 वर्ष की प्रारंभिक अवधि में प्रत्येक वर्ष और उसके बाद प्रत्येक चार वर्षों में एक बार आवधिक परीक्षण/ निरीक्षण किया जा रहा है।



- (3) वह स्वामी चार्जिंग स्टेशनों की विद्युत सुरक्षा के नियमित मूल्यांकन के लिए एक सुरक्षा मूल्यांकन कार्यक्रम बनाएगा और उसे कार्यान्वित करेगा।
- 122. अभिलेखों का रखरखाव: (1) चार्जिंग स्टेशनों के स्वामी चार्जिंग स्टेशन के 50 हर्ट्ज की मामूली आवृत्ति पर मानक वोल्टेज की आपर्ति के साथ संगत होने के लिए डिजाइन, निर्माण और लेबलिंग के संबंध में रिकॉर्ड रखेगा।
  - (2) चार्जिंग स्टेशनों के स्वामी इन विनियमों में यथाउल्लिखित और आईईसी 61851 मानक के अनुसार सुसंगत परीक्षण प्रमाण पत्र का रिकॉर्ड रखेगा।
  - (3) चार्जिंग स्टेशनों के स्वामी प्रत्येक निरीक्षण, परीक्षण और आवधिक मूल्यांकन और आकलन के दौरान पाए गए किसी भी महे के क्योरे और उन महों के संबंध में की जाने वाली किसी भी कार्रवाई के रिकॉर्ड को रखेंगे।
  - (4) चार्जिंग स्टेशनों के स्वामी जैसा कि उपरोक्त उप विनियमन (1), (2) और (3) में निर्दिष्ट है, न्यूनतम सात वर्षों तक सभी अभिलेखों की एक प्रति, कागजी या इलेक्ट्रानिक रूप में रखेगा और निरीक्षण के दौरान अधिकारियों को एक प्रति उपलब्ध कराएगा।
- **123. चार्जिंग स्टेशनों के लिए अंतर्राष्ट्रीय मानक: (**1) प्रत्यावर्ती धारा चार्जिंग स्टेशनों के सुरक्षा उपबंध आईईसी 61851-1, आईईसी 61851-21 और आईईसी 61851-22 के अनुरूप होंगे।
  - (2) सभी दिष्ट धारा चार्जिंग स्टेशनों के सुरक्षा उपबंध आईईसी 61851-1, आईईसी 61851-21, आईईसी 61851-23 और आईईसी 61851-24 के अनुरूप होंगे।
  - (3) जहां कनेक्शन बिंदु बाहर या किसी नम स्थान पर स्थापित किया गया है, वहां उपकरण आईईसी 60529 के अनुसार कम से कम आईपीएक्स 4 (इन्ग्रेस प्रोटेक्शन कोड) सुरक्षा वाले होंगे।

पीसी कुरील, सचिव

[विज्ञापन-III/4/असा./116/19]

टिप्पण: मूल विनियम, अधिसूचना सं. सीईआई/1/59/सईए/ईआई द्वारा तारीख 24 सितंबर, 2010 को भारत के राजपत्र, असाधारण, भाग III, खंड 4 में प्रकाशित किए गए थे और तत्पश्चात अधिसूचना सं. सीईआई/1/2/2015 तारीख 13 अप्रैल 2015 द्वारा और अधिसूचना सं. सीईआई/1/2/2017 द्वारा तारीख 1 मार्च, 2018 को संशोधित किए गए थे।

# CENTRAL ELECTRICITY AUTHORITY NOTIFICATION

New Delhi, the 28th June, 2019

No. CEI/1/2/2018.—Whereas the draft regulation further to amend the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010, was published in six newspaper dailies, as required by subsection (3) of section 177 of the Electricity Act, 2003 (36 of 2003) read with sub-rule (2) of rule 3 of the Electricity (Procedure for Previous Publication) Rules, 2005, inviting objections and suggestions from all persons likely to be affected thereby, before the expiry of the period of thirty days, from the date on which the copies of the newspaper containing the said publications were made available to the public;

And whereas copies of the said newspapers containing the said regulations were made available to the public on the  $02^{nd}$  May, 2018;

And whereas the objections and suggestions received from the public on the said draft regulations were considered by the Central Electricity Authority;



Now therefore, in exercise of the powers conferred by section 177 of the Electricity Act, 2003, the Central Electricity Authority hereby makes the following regulations further to amend the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010, namely: --

- (1) These regulations may be called the Central Electricity Authority (Measures relating to Safety and Electric Supply) (Amendment) Regulations, 2019.
  - (2) They shall come into force on the date of their publication in the Official Gazette.
- In the Central Electricity Authority (Measures relating to Safety and Electric Supply), Regulations 2010, (hereinafter refer to as the said regulations), in regulation 2, in sub-regulation (1),—
  - (i) after clause (fa), the following shall be inserted, namely:
    - '(fb) "charging point" has the meaning assigned to in clause (da) of sub-regulation (1) of regulation 2 of the Central Electricity Authority (Technical Standarad for Connectivity of the Distributed Generation Resources) Regulations, 2013;';
    - '(fc) "charging stations" has the meaning assigned to in clause (db) of sub-regulation (1) of regulation 2 of the Central Electricity Authority (Technical Standarad for Connectivity of the Distributed Generation Resources) Regulations, 2013;';
  - (ii) after clause (sa), the following clauses shall be inserted, namely:
    - '(sb) "electric vehicle" means any vehicle propelled, partly or wholly, by an electric motor drawing current from a rechargeable storage battery, or from other portable energy storage devices (rechargeable, using energy from a source off the vehicle at a residential or public electricity service);
    - '(sc) "electric vehicle supply equipment" means a conductor, including the phase, neutral and protective earth conductor, the electric vehicle couplers, attachment plugs and all other accessory, devices, power outlets, safety function equipment, or apparatus installed specifically for the purpose of delivering energy from the premises wiring to the electric vehicle and allowing communication between them, if required;';
  - (iii) after clause (zwa), the following clause shall be inserted, namely:
    - '(zwb) "socket-outlet" means an electrical device that is for fixing at a point where fixed wiring terminates, and provides a detachable connection with the pins of a plug, and has two or more contacts and includes a cord extension socket attached to a flexible cord that is permanently connected to installation wiring;';
  - (iv) after clause (zx), the following clause shall be inserted, namely:
    - '(zxa) "supply lead" means a piece of equipment used to establish the connection between the electric vehicle and either a socket-outlet or a charging point;'.
- 3. after regulation 116 of the said regulations, the following chapter and regulations shall be inserted, namely: -

### "Chapter XI

### Safety Provisions for Electric Vehicle Charging Stations

- 117. General safety requirement for electric vehicle charging stations. (1) All electric vehicle charging stations shall be designed, installed, tested, certified, inspected and connected in accordance with the provisions of this chapter.
  - (2) All electric vehicle charging stations shall be provided with protection against the overload of input supply and output supply fittings.
  - (3) All electric vehicle charging points shall be installed so that any socket-outlet of supply is at least 800 millimeter above the finished ground level.
  - (4) A cord extension set or second supply lead shall not be used in addition to the supply lead for the connection of the electric vehicle to the electric vehicle charging point and it shall be so constructed so that it cannot be used as a cord extension set.
  - (5) An adaptor shall not be used to connect a vehicle connector to a vehicle inlet.
  - (6) The electric vehicle parking place shall be such that the connection on the vehicle when parked for charging shall be within five meter from the electric vehicle charging point.
  - (7) Portable socket-outlets are not permitted to be used for electric vehicle charging.
  - (8) Suitable lightning protection system shall be provided for the electric vehicles charging stations as per Indian Standards Code IS/ IEC 62305.



[भाग III—खण्ड 4] भारत का राजपत्र : असाधारण

- (9) The electric vehicle charging station shall be equipped with a protective device against the uncontrolled reverse power flow from vehicle.
- (10) One second after having disconnected the electric vehicle from the supply (mains), the voltage between accessible conductive parts or any accessible conductive part and earth shall be less than or equal to 42.4 V peak (30 V rms), or 60 V D.C., and the stored energy available shall be less than 20 J (as per IEC 60950) and if the voltage is greater than 42.4 V peak (30 V rms) or 60 V D.C., or the energy is 20 J or more, a warning label shall be attached in an appropriate position on the charging stations.
- (11) A vehicle connector used for Direct Current (D.C.) charging shall be locked on a vehicle inlet if the voltage is higher than 60 V D.C. and the vehicle connector shall not be unlocked (if the locking mechanism is engaged) when hazardous voltage is detected through charging process including after the end of charging and in case of charging system malfunction, a means for safe disconnection shall be provided.
- (12) The Direct Current (D.C.) electric vehicle charging point shall disconnect supply of electricity to prevent overvoltage at the battery, if output voltage exceeds maximum voltage limit sent by the vehicle.
- (13) The electric vehicle charging points shall not energize the charging cable when the vehicle connector is unlocked and the voltage at which the vehicle connector unlocks shall be lower than 60V.
- 118. Earth protection system for charging stations. (1) All residual current device for the protection of supplies for electric vehicle shall, -
  - (a) have a residual operating current of not greater than 30 mA;
  - (b) interrupt all live conductors, including the neutral; and
  - (c) have a performance at least equal to Type A and be in conformity with IS 732-2018.
  - (2) All residual current devices used for the protection of supplies to electric vehicle shall be permanently marked to identify their function and the location of the charging station or socket outlet they protect.
  - (3) Each electric vehicle charging points shall be supplied individually by a dedicated final sub-circuit protected by an overcurrent protective device complying with IEC 60947-2, IEC 60947-6-2 or the IEC 60269 series and the overcurrent protective device shall be part of a switchboard.
  - (4) Co-ordination of various protective devices shall be required.
  - (5) Where required for service reasons, discrimination (selectivity) shall be maintained between the residual current device protecting a connecting point and a residual current device installed upstream.
  - (6) All electric vehicle charging stations shall be supplied from a sub-circuit protected by a voltage independent residual current device and also providing personal protection that is compatible with a charging supply for an electric vehicle.
  - (7) All electric vehicle charging stations shall be provided with an earth continuity monitoring system that disconnects the supply in the event that the earthing connection to the vehicle becomes ineffective.
  - (8) Earthing of all electric vehicle charging stations shall be as per IS 732.
  - (9) The cable may be fitted with an earth-connected metal shielding and the cable insulation shall be wear resistant and maintain flexibility over the full temperature range.
  - (10) A protective earth conductor shall be provided to establish an equipotential connection between the earth terminal of the supply and the conductive parts of the vehicle which shall be of sufficient rating to satisfy the requirements of IEC 60364-5-54.
- 119. Requirement to prevent fire for electric vehicle charging stations. (1) Firefighting system for charging stations shall be provided in accordance with the provisions of these regulations.
  - (2) Enclosure of charging stations shall be made of fire retardant material with self-extinguishing property and free from Halogen.
  - (3) Fire detection, alarm and control system shall be provided as per relevant Indian Standards.
  - (4) Power supply cables used in charging station or charging points shall conform to IEC 62893-1 and its relevant parts.



- 120. Testing of charging stations.- (1) All apparatus of charging stations shall have the insulation resistance value as stipulated in the relevant IEC 61851-1.
  - (2) The owner of the charging station shall ensure that the tests as specified in the manufacturer's instructions for the residual current device and the charging station have been carried out.
- 121. Inspection and periodic assessment of charging stations. (1) Every charging station shall be tested and inspected by the owner or the Electrical Inspector or Chartered Electrical Safety Engineer before energisation of charging stations.
  - (2) The owner of the charging station shall ensure that test and inspection of charging station is being carry out every year in the initial period of first three years after the energisation of charging station and in every four years thereafter.
  - (3) The owner of the charging station shall establish and implement a safety assessment programme for regular periodic assessment of the electrical safety of charging station.
- 122. Maintenance of records. (1) The owner of the charging station shall keep records in regard to design, construction and labelling to be compatible with a supply of standard voltage at a nominal frequency of 50 Hertz of the charging station.
  - (2) The owner of the charging station shall keep records of the relevant test certificate as indicated in these regulations and as per IEC 61851.
  - (3) The owner of the charging station shall keep records of the results of every inspection, testing and periodic assessment and details of any issues observed during the assessment and any actions required to be taken in relation to those issues.
  - (4) The owner of the charging station shall retain a copy of all records, as specified in sub regulation (1), (2) and (3) of above, either in hard form or in electronic form, for at least seven years and shall provide a copy of the records to the officials during the inspection.
- 123. International Standard for charging stations. (1) The safety provisions of all Alternating Current charging stations shall be in accordance with IEC 61851-1, IEC 61851-21 and IEC 61851-22.
  - (2) The safety provisions of all Direct Current charging stations shall be in accordance with IEC 61851-1, IEC 61851-21, IEC 61851-23 and IEC 61851-24.
  - (3) Where the connection point is installed outdoors, or in a damp location, the equipment shall have a degree of protection of at least IPX4 (Ingress Protection Code) in accordance with IEC 60529.".

P. C. KUREEL, Secy.

[ADVT.-III/4/Exty./116/19]

Note: The principal regulations were published in the Gazette of India, Extraordinary, Part III, Section 4 vide notification number CEI/1/59/CEA/EI, dated the 24<sup>th</sup> September, 2010 and subsequently amended vide notification numbers CEI/1/2/2015 dated the 13<sup>th</sup> April, 2015 and CEI/1/2/2017, dated the 1<sup>st</sup> March 2018.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064 and Published by the Controller of Publications, Delhi-110054.

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CEA (TECHNICAL STANDARDS FOR CONNECTIVITY OF THE DISTRIBUTED GENERATION RESOURCES) AMENDMENT REGULATIONS, 2019

# CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019

For the latest amendments/ regulations, please visit here:

https://cea.nic.in/regulations-category/connectivity-of-distributed-generation-resources/?lang=en

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



असाधारण

EXTRAORDINARY

भाग III—खण्ड 4

PART III—Section 4

PUBLISHED BY AUTHORITY

सं. 53] नई दिल्ली, शुक्रवार, फरवरी 8, 2019/माघ 19, 1940 No. 53] NEW DELHI, FRIDAY, FEBRUARY 8, 2019/MAGHA 19, 1940

### (केंद्रीय विद्युत प्राधिकरण)

### अधिसूचना

नई दिल्ली, 6 फरवरी, 2019

सं.12/एक्स/एसटीडी(सी.ओ.एन.एन)/जीएम/सीईए/2018.—िवद्युत (पूर्व प्रकाशन के लिए प्रक्रिया) नियम, 2005 के नियम (3) के उप-नियम (2) के साथ पठित विद्युत अधिनियम, 2003 (2003 का 36) की धारा 177 की उप-धारा (3) द्वारा यथापेक्षित केन्द्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) विनियम, 2013 का संशोधन करने के लिए प्रारूप विनियम का प्रस्ताव छह दैनिक समाचार-पत्रों में प्रकाशित किया गया था, जिसमें उक्त प्रकाशनों से अनर्विष्ट समाचार-पत्रों की प्रतियाँ जनता को उपलब्ध कराई गई तारीख से तीस दिनों की अवधि के समाप्त होने से पूर्व इसके द्वारा प्रभावित होने वाले सभी संभावित व्यक्तियों से आक्षेप और सुझाव मांगे गए थे;

और उक्त विनियमों में अंतर्विष्ट उक्त समाचार पत्रों की प्रतियाँ 02 मई, 2018 को जनता को उपलब्ध करा दी गईं थीं; और उक्त प्रारूप विनियमों पर जनता से प्राप्त आक्षेपों और सुझावों पर केंद्रीय विद्युत प्राधिकरण द्वारा विचार कर क्या गया था;

अतः अव केंद्रीय विद्युत प्राधिकरण, विद्युत अधिनियम 2003 की धारा 177 की उपधारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, केन्द्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) विनियम, 2013 का संशोधन करने के लिए निम्नलिखित विनियम बनाता है, अर्थात् -

- (1) इन विनियमों का संक्षिप्त नाम केंद्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) संशोधन विनियम, 2019 है।
  - (2) ये विनियम राजपत्र में उनके प्रकाशन की तारीख से प्रवृत्त होंगे।
- 2. केंद्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) विनियम, 2013 (जिसे इसमें इसके पश्चात उक्त विनियम कहा गया है), के विनियम 1 के उप-विनियम (1) में, "वितरित विद्युत उत्पादन संसाधनों के संयोजन" शब्दों के स्थान पर, "33 किलोबोल्ट से कम संयोजन" शब्द रखे जाएंगे।

909GI (1)



- 3. उक्त विनियमों के विनियम 2 के उप-विनियम (1) में :-
  - (i) खंड (ख) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात: -
  - '(ख) "आवेदक", से उत्पादन कंपनी, चार्जिंग स्टेशन, प्रोजूमर या 33 केवी वोल्टेज से कम स्तर पर विद्युत प्रणाली से संयोजन के इच्छक व्यक्ति अभिप्रेत है:':
  - (ii) खंड (घ) के पश्चात, निम्नलिखित खंड अंत:स्थापित किया जाएगा, अर्थात्: -
  - '(घक) "चार्जिंग पॉइंट", से निजी या सार्वजनिक गैर-वाणिज्यिक उपयोग के लिए इलेक्ट्रिक यान की बैटरी रिचार्ज करने की 415/220 वोल्ट से जड़ी सर्विधा अभिप्रेत है:
  - (घख) "चार्जिंग स्टेशन", से वाणिज्यिक उपयोग के लिए इलेक्ट्रिक यान की बैटरी रिचार्ज करने की सुविधा अभिप्रेत है और इसमें गैर-वाणिज्यिक सार्वजनिक उपयोग के लिए कई चार्जिंग पॉइंट भी सम्मिलित होंगे तथा इलेक्ट्रिक यान से विद्युत को ग्रिड में स्थानांतरित करने में सक्षम होंगे;';
  - (iii) खंड (ञ) के स्थान पर, निम्नलिखित खंड अंत: स्थापित किया जाएगा, अर्थात्: -
  - '(ञक) "प्रोजूमर", से ऊर्जा भंडारण प्रणाली सहित किसी ऐसे व्यक्ति अभिप्रेत है, जो ग्रिड से विद्युत का उपभोग करता है तथा संयोजन के उसी बिंद का उपयोग कर ग्रिड में विद्युत को इंजेक्ट भी कर सकता है;';
  - (iv) खंड (ढ) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्: -
  - '(ढ) "उपयोगकर्ता", से चार्जिंग स्टेशन, प्रोजूमर या कोई ऐसा व्यक्ति अभिप्रेत है जो विद्युत प्रणाली से जुड़ा हुआ है या उत्पादक कंपनी जिसका वितरित उत्पादन संसाधन विद्युत प्रणाली से जुड़ा हुआ है;';
- उक्त विनियम के विनियम 3 के स्थान पर, निम्नलिखित विनियमों को रखा जाएगा, अर्थात: -
  - "3. इन विनियमों का लागू होना ये विनियम उन सभी उत्पादक कंपनियों या वितरित उत्पादन संसाधनों के स्वामित्व वाले व्यक्तियों, चार्जिंग स्टेशनों, प्रोजूमरों या उन व्यक्तियों पर लागू होंगे जो 33 केवी वोल्टेज स्तर से नीचे विद्युत प्रणाली से जुड़े हैं या जुड़ने के इच्छुक हैं:
  - परंतु ऐसे किसी मामलों में जिसमें कि अनुज्ञतिधारक के पास वितरित विद्युत उत्पादन संसाधनों, चार्जिंग स्टेशन या प्रोजूमर का भी स्वामित्व हो, जिससे इसे जोड़ा जाना है, में विनियम यथोचित परिवर्तनों सहित लागू होंगे।"
- उक्त विनियमों के विनियम 4 में, उप-विनियम (8) के पश्चात निम्नलिखित उप-विनियम अन्त: स्थापित किया जाएगा, अर्थात: -
  - "(9) आवेदक और उपयोगकर्ता केंद्र सरकार द्वारा समय-समय पर जारी साइवर सुरक्षा दिशानिर्देशों का पालन करेंगे।"
- 6. उक्त विनियम के विनियम 11 में "वितरित विद्युत उत्पादन संसाधनों के लिए मानक" शब्दों के स्थान पर" वितरित विद्युत उत्पादन संसाधनों और उत्पादक के रूप में कार्य करते समय प्रोजूमरों के लिए मानक" शब्दों को रखा जाएगा।
- 7. उक्त विनियम के विनियम 11 के पश्चात, निम्नलिखित विनियम अन्तःस्थापित किया जाएगा, अर्थात्:
  - "11क चार्जिंग स्टेशन, प्रोजूमर या विद्युत् प्रणाली से जुड़े व्यक्ति अथवा संयोजन के इच्छुक व्यक्ति के लिए मानक-
  - (1) आवेदक विभिन्न दोषों और असामान्य स्थितियों का पता लगाने के लिए एक विश्वसनीय सुरक्षा प्रणाली प्रदान करेगा और दोषपूर्ण उपकरण या प्रणाली को स्वत: अलग करने के लिए उचित साधन प्रदान करेगा।
  - (2) आवेदक यह सुनिश्चित करेगा कि उसके उपकरण या प्रणाली के दोष से ग्रिड पर प्रतिकूल प्रभाव न पड़े ।



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- (3) उपयुक्त अनुज्ञप्तिधारक अपने विद्युत् प्रणाली के साथ संयोजन की अनुमति देने से पहले नेटवर्क की पर्याप्तता और स्थिरता का अध्ययन करेगा।
- (4) उपयोगकर्ता द्वारा कामन कपलिंग बिंदु पर करंट हार्मोनिक्स को इंजेक्ट करने की सीमा, हार्मोनिक माप की विधि तथा अन्य ऐसे मामलों में समय-समय पर यथासंशोधित आई.ई.ई.ई. 519-2014 मानकों के अनुसार होंगे।
- (5) आई.ई.सी. 61000-4-30 क्लास ए के उपबंधों का अनुपालन करते हुए पॉवर क्वालिटी मीटर के द्वारा हार्मोनिक्स का माप और मापन एक सतत प्रक्रिया होगी।
- (6) उप-विनियम (5) में उल्लिखित माप व मीटर किये गये आंकड़ें, वितरण अनुज्ञप्तिधारक के पास उपलब्ध होंगे और उपभोक्ता के साथ समय-समय पर साझा किये जाएंगे।
- (7) 11 केवी या इससे अधिक के संयोजन के इच्छुक आवेदक पॉवर क्वालिटी मीटर स्थापित करेंगे और रिकॉर्ड किए गए आंकड़ों को वितरण अनुज्ञप्तिधारक के साथ इस तरह की आवधिकता के साथ साझा करेंगे, जैसा उपयुक्त विद्युत विनियामक आयोग द्वारा निर्धारित किया जा सकता है:

परंतु यह कि 11 केवी और उससे अधिक स्तर पर जुड़े हुए उपयोगकर्ता, केंद्रीय विद्युत प्राधिकरण (वितरित विद्युत उत्पादन संसाधनों के संयोजन के लिए तकनीकी मानक) संशोधन विनियम, 2018 के लागू होने की तारीख से बारह महीनों के भीतर इस उप-विनियम के उपबंध का पालन करेंगे।

- (8) हार्मोनिक्स के अतिरिक्त, बोल्टेज सैग, स्वैल, उतार-चढ़ाव, अवरोधों जैसे अन्य विद्युत् गुणवत्ता मानकों की आवधिक माप प्रासंगिक आई.ई.सी. मानक के अनुसार वितरण अनुज्ञप्तिधारक द्वारा की जाएगी और इसकी रिपोर्ट उपभोक्ता के साथ साझा की जाएगी "।
- उक्त विनियम के विनियम 13 के स्थान पर निम्नलिखित विनियम अन्तःस्थापित किया जाएगा, अर्थात्:
  - "14 प्राधिकरण द्वारा बनाई गई रजिस्ट्री में रजिस्ट्रीकरण उपयोगकर्ता या आवेदक, जैसा भी मामला हो, अपनी ऐसी क्षमता वाली उत्पादन इकाई और स्टेशन को उस प्रभावी तारीख से जो कि प्राधिकरण द्वारा विनिर्दिष्ट की जाएगी, प्राधिकरण द्वारा रजिस्ट्रीकरण कराएगा और विशिष्ट पंजीकरण संख्या (यूनिक रजिस्ट्रीकरण नंबर) प्राप्त करेगा

परंतु कि किसी भी उत्पादन इकाई या उत्पादन स्टेशन को प्राधिकरण द्वारा निर्दिष्ट प्रभावी तारीख से रिजस्ट्रीकरण के विना ग्रिङ से संयोजन नहीं दिया जाएगा।

- 15. विनियमों का अनुपालन (1) यह सुनिश्चित करने की ज़िम्मेदारी संबंधित अनुज्ञप्तिधारक की होगी कि ग्रिड से संयोजन के पहले, उक्त विनियमों में निर्धारित संयोजन से संबंधित सभी उपबंधों का अनुपालन आवेदक द्वारा कर लिया गया है।
- (2) उपयुक्त विद्युत विनियामक आयोग को सूचित करते हुए, अनुज्ञप्तिधारक द्वारा उपयोगकर्ता का इन विनियमों के किसी भी उपबंध के गैर-अनुपालन के लिए ग्रिड से विच्छेदन किया जा सकता है।"
- 16. विनियमों में शिथिलता- प्राधिकरण, उसके समक्ष प्रस्तुत किए गए किसी मामले के संबंध में लिखित आदेश के द्वारा उसका कारण दर्ज करते हुए इन विनियमों के किसी भी उपबंध में शिथिलता प्रदान कर सकता है।

पी.सी. क्रील, सचिव

[विज्ञापन-III/4/असा./529/18]

टिप्पण- मूल विनियमों को भारत के राजपत्र भाग III, खंड 4 में तारीख 7 अक्टूबर 2013 की अधिसूचना संख्या 12/एक्स/एसटीडी (सी.ओ.एन.एन)/जीएम/ सीईए/2018 द्वारा प्रकाशित किया गया था।



# CENTRAL ELECTRICITY AUTHORITY NOTIFICATION

New Delhi, the 6th February, 2019

No.12/X/STD(CONN)/GM/CEA/2018.—Whereas the draft regulation proposing to amend the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 was published in six newspaper dailies, as required by sub-section (3) of section 177 of the Electricity Act, 2003 (36 of 2003) read with sub-rule (2) of rule (3) of the Electricity (Procedure for previous Publication) Rules, 2005, inviting objections and suggestions from all persons likely to be affected thereby, before the expiry of the period of thirty days, from the date on which the copies of the newspaper containing the said publications were made available to the public;

And whereas copies of the said newspapers containing the said regulations were made available to the public on the  $02^{nd}$  May, 2018;

And whereas the objections and suggestions received from the public on the said draft regulations were considered by the Central Electricity Authority;

Now, therefore, in exercise of the powers conferred by sub-section (1) of section 177 of the Electricity Act, 2003, the Central Electricity Authority hereby makes the following regulations to amend the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, namely: -

- (1) These regulations may be called the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019.
  - (2) They shall come into force on the date of their publication in the Official Gazette.
- In the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 (hereinafter referred to as the said Regulations), in regulation 1, in subregulation (1), for the words "Connectivity of the Distributed Generation Resources", the words "Connectivity below 33 kilovolts" shall be substituted.
- In regulation 2 of the said regulations, in sub-regulation (1).
  - (i) for clause (b), the following clause shall be substituted, namely: -
    - (b) "applicant" means a generating company, charging station, prosumer or a person seeking connectivity to the electricity system at voltage level below 33 kV;";
  - (ii) after clause (d), the following clauses shall be inserted, namely: -
    - '(da)" charging point" means a facility for recharging of batteries of electric vehicle for private or public non-commercial use, connected at 415/220 Volts;
    - (db) "charging station" means a facility for recharging of batteries of electric vehicles for commercial use and shall also include multiple charging points for non-commercial public use and capable of transferring power from electric vehicle to the grid;";
  - (iii) after clause (j), the following clause shall be inserted, namely: -
    - '(ja) "prosumer" means a person, including energy storage system, which consumes electricity from the grid and can also inject electricity into the grid, using same point of connection;';
  - (iv) for clause (n), the following clause shall be substituted, namely: -
    - '(n) "user" means a charging station, prosumer or a person who is connected to the electricity system or a generating company whose distributed generation resource is connected to the electricity system;";
  - 4. For regulation 3 of the said regulation, the following regulations shall be substituted, namely: -
    - "3. Application of these regulations These regulations shall apply to all generating companies or persons owning distributed generation resources, charging stations, prosumers or persons who are connected to or seeking connectivity with the electricity system below 33 kV voltage level:

Provided that in case, a licensee owning the electricity system to which connection is to be made, also owns the distributed generation resources, charging station or prosumers, these regulations shall apply mutatis mutandis.".



- In regulation 4 of said regulations, after sub-regulation (8), the following sub-regulation shall be inserted, namely:-
  - "(9) The applicant and the user shall comply with the cyber security guidelines issued by the Central Government from time to time."
- In regulation 11 of the said regulations, for the words "Standards for distributed generation resources", the
  words "Standards for distribution generation resources and prosumers, when acting as a generator"
  shall be substituted.
- 7. After regulation 11 of the said regulations, the following regulation shall be inserted, namely:-
  - "11A. Standards for charging station, prosumer, or a person connected or seeking connectivity to the electricity system. -
    - (1) The applicant shall provide a reliable protection system to detect various faults and abnormal conditions and provide an appropriate means to isolate the faulty equipment or system automatically.
    - (2) The applicant shall ensure that fault of his equipment or system does not affect the grid adversely.
    - The appropriate licensee shall carry out adequacy and stability study of the network before permitting connection with its electricity system.
    - (2) The limits of injection of current harmonics at the point of common coupling by the user, method of harmonic measurement and other such matters, shall be in accordance with the IEEE 519-2014 standards, as amended, from time to time.
    - (3) The measuring and metering of harmonics shall be a continuous process with power quality meters complying with the provisions of IEC 61000-4-30 Class A.
    - (6) The data measured and metered as mentioned in sub-regulation (5), shall be available with the distribution licensee and be shared with the consumer periodically.
    - (7) The applicant seeking connectivity at 11 kV or above shall install power quality meters and share the recorded data thereof with the distribution licensee with such periodicity as may be specified by the appropriate Electricity Regulatory Commission:

Provided that the user connected at 11 kV and above shall comply with the provision of this sub-regulation within twelve months from the date of commencement of the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2018.

- (8) In addition to harmonics, periodic measurement of other power quality parameters such as voltage sag, swell, flicker, disruptions shall be done by the distribution licensee as per relevant IEC standard and the reports thereof shall be shared with the consumer".
- 8. After regulation 13 of the said regulations, the following regulation shall be inserted, namely :-
  - "14. Registration in Registry maintained by the Authority. The user or the applicant, as the case may be, shall get its generating unit and station of such capacity and with effect from such date as may be fixed by the Authority, registered and obtain an online generated Unique Registration Number from the Authority:

Provided that no generating unit or generating station shall be granted connectivity with the grid without the unique registration number with effect from such date as may be fixed by the Authority.

- 15. Compliance of regulations. (1) It shall be the responsibility of concerned licensee to ensure that before connectivity to the grid, all the provisions with regard to the connectivity stipulated in these regulations are complied with by the applicant.
  - (2) The user may be disconnected from the grid by the licensee for non-compliance of any provision of these regulations, under report by the licensee to the appropriate Electricity Regulatory Commission.".



[PART III—SEC. 4]

16. Relaxation of Regulations. - The Authority, by order in writing and the reason to be recorded, may relax any provision of these regulations in respect of any matter referred to the Authority on the case to case basis.".

P. C. KUREEL, Secy.

[ADVT.-III/4/Exty./529/18]

Note:- The principal regulations were published in the Gazette of India, Extraordinary, Part III, Section 4, vide notification No.12/X/STD(CONN)/GM/CEA/2018, dated the 7<sup>th</sup> October, 2013.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064 and Published by the Controller of Publications, Delhi-110054.

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# MINISTRY OF POWER (MOP) GUIDELINES

# **MoP Guidelines**

For the latest guidelines, please visit here: <a href="https://powermin.gov.in/en/content/electric-vehicle">https://powermin.gov.in/en/content/electric-vehicle</a>

No. 12/2/2020-EV-Part(5)-Part(1) (Comp No. 267590)

Government of India

Ministry of Power

Shram Shakti Bhawan, Rafi Marg, New Delhi, the 27th April, 2023.

To.

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

Subject: Amendment in the revised consolidated Guidelines & Standards regarding Charging Infrastructure for Electric Vehicles (EV) issued by the Ministry of Power on 14.01.2022 (amended on 07.11.2022) -reg

Sir/Madam,

- I am directed to refer to Charging Infrastructure for Electric Vehicles- the revised consolidated Guidelines & Standards dated 14.01.2022 (copy enclosed) and to say that after deliberation, it has been decided to make the following additions in these guidelines:
- (a) Under the heading" 7. Tariff for supply of electricity to EV Public Charging Stations", para 7.1A has been added as under:
- 7.1.A. The cost of supply by DISCOM to a public charging station will be 0.8 times of Average Cost of Supply (ACoS) during solar hours and 1.2 times ACoS during non-solar hours. Solar hours mean 9 AM to 4 PM time and non-solar hours mean the remaining period of the day.
- (b) Under the heading "8. Service charges at PCS", para 8.4 has been added as under:-
- 8.4. The ceiling limit for the service charges for serving the capital expenditure as recommended by the Committee formed in CEA shall be as under:

	Cost for serving of capital investment excluding GST (Rs/unit)
AC (Slow) Charging .	
During solar hours (9.00 AM to 4.00 PM)	2.5
During non solar hours (For remaining part of the day)	3.5
DC (Fast) Charging	
During solar hours (9.00 AM to 4.00 PM)	10
During non solar hours (For remaining part of the day)	12

The above ceiling limit shall be applicable up to 31.03.2026 (subject to annual review, if required).

2. This issues with the approval of Hon'ble Minister of Power and NRE.

Yours sincerely,

(Govind Kumar)

Under Secretary to the Govt. of India

Copy to:

- 1. Prime Minister's Office/Cabinet Secretariat.
- 2. CEO, NITI Aayog
- 3. Pr Secretary (Energy) of all States and UTs/The Secretaries of the CERC/State Commissions/JERCs.
- 4. Chairperson. CEA
- 5. DG. BEE
- 6. CE(R&R), Ministry of Power

(Govind Kumar) Under Secretary to the Govt. of India



### No. 12/2/2020-EV-Part(5) (Comp No. 259314) Government of India Ministry of Power Shram Shakti Bhawan, Rafi Marg,

New Delhi, the 07th November, 2022

To.

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

Subject: Amendment in Charging Infrastructure for Electric Vehicles (EV)- the revised consolidated Guidelines & Standards issued by Ministry of Power on 14.01.2022-reg Sir/Madam.

The undersigned is directed to refer to Charging Infrastructure for Electric Vehicles- the revised consolidated Guidelines & Standards dated 14.01.2022 (copy enclosed) and to say that after careful consideration, it has been decided to make the following additions in these guidelines:

- (a) <u>Under the heading "3. Public Charging Infrastructure (PCI) Requirements"</u>, para 3.1 (xi) has been added as under:
- xi. The public charging stations shall have the feature of prepaid collection of service charges with the time of the day rates and discount for solar hours.
- (b) Under the heading "8. Service charges at PCS", para 8.3 has been added as under:
- 8.3 A Committee under Central Electricity Authority (CEA) will periodically recommend to the State Government the ceiling limit of service charges to be levied under para 8.2 above. This Committee shall also recommend "time of the day rate" for service charges as well as the discount to be given for charging during solar hours.

This issues with the approval of Hon'ble Minister of Power and NRE.

(Anoop Singh Bisht) Deputy Secretary to the Govt. of India

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

6. CE (R&R), Ministry of Power

(Anoop Singh Bisht)

Deputy Secretary to the Govt. of India



- 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.
- 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:

- 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: -

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- 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:
  - 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



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- Standards for eBus Charging Station (Level-4: 250 to 500 kW) as provided under ANNEXURE III (6)) with single connector gun each.
- 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:
  - 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 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.



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### 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 31<sup>st</sup> 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)



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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

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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.

(S. Majumdar) Under Secretary to the Govt. of India Tel: 23356938

Email:suman.m@nic.in

### 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

(S. Majumdar) Under Secretary to the Govt. of India Tel: 23356938

Email: suman.m@gov.in

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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

\*\*\*\*\*\*\*



ANNEXURE II

<u>Electric Vehicle Chargers as provided under Para 3.1 (vi) of the Guidelines</u>

Charger Type	S. No.	Charger Connectors*	Rated OutputVoltage(V)	No. of No. of Connector guns (CG)	Charging vehicle type(W=wheeler)
	1	Combined Charging System(CCS) (min 50 kW)	200-750or higher	1 CG	4W
Fast	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
	4	Bharat DC-001 (15 kW)	48	1 CG	4W, 3W, 2W
Slow/	5.	Bharat DC-001 (15 kW)	72 or higher	1 CG	4W
Moderate	6.	Bharat AC-001 (10 kW)	230	3 CG of 3.3 kW each	4W, 3W, 2W

\*\*\*\*\*\*



### ANNEXURE III

### Indian Standards EV Charging notified by BIS of 01.11.2021

1. Light EVAC Charge Point

Power	Charging	EV-EVSE	Charge Point	Vehicle Inlet/
Level 1	Device	Communication	Plug/ Socket	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	Charging	EV-EVSE	Charge Point Plug/	Vehicle Inlet/
Level 1	Device	Communication	Socket	Connector
Up to 7 kW	IS-170	017-25 [CAN]	Combined Socket under development	IS-17017-2-6

3. Parkbay AC Charge Point

Power Level-	Device/	EV-EVSE	Infrastructure	
2	Protocol	Communications	Socket	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	Device/	EV-EVSE	Infrastructure	Vehicle
Level-2	Protocol	Communications	Socket	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)

6. EDUS CHUI ging Stution (Eeret-4. 250 to 500 Km)			
Power Level 4 DC High Power (250 kW>	Charging Device	EV-EVSE Communication	Connector
500 kW)	IS-17017-23-2		IS-17017-2-3
Dual Gun Charging Station		IS-15118 [PLC]	
Automated Pantograph Charging Station	IS-17017-3-1		IS-17017-3-2

\*\*\*\*\*\*





# MINISTRY OF HOUSING AND URBAN AFFAIRS (MOHUA) GUIDELINES

# **MoHUA Guidelines**

For the latest guidelines, please visit here: <a href="https://evyatra.beeindia.gov.in/central-govt-initiative-details/mohua/">https://evyatra.beeindia.gov.in/central-govt-initiative-details/mohua/</a>

ANNEXURE V

Amendments in

Model Building Bye-Laws

(MBBL - 2016)

for

Electric Vehicle Charging Infrastructure

Town and Country Planning Organization Ministry of Housing and Urban Affairs Government of India

February, 2019



#### Preamble

To address the quantum of emissions from the "Transport" sector powered by fossil fuels, "electric vehicle" is considered a viable option for short distance / inter-city trips with adequate "charging stations" available. It is necessary to make provisions for establishing Public Charging Stations (PCS) in the local areas including urban CBDs for vehicle re-fuelling / recharging.

Hence, amendments are required for addition of norms for charging Infrastructure provisions in Development Control Regulations and enabling provisions for installing "Charging Infrastructure" in the building premises and core urban areas of the cities.

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 are made in the relevant sections (Chapter 10) of the Model Building Bye-laws, 2016.



#### Amendments to Model Building Bye-Laws, 2016

#### In Chapter 10: Sustainability and Green Provisions After section 10.3 "Various Guidelines for Green Rating Systems".

Provision of "Electric Vehicle Charging Infrastructure" to be added at clause 10.4

10.4 Electric Vehicle Charging Infrastructure (EVCI):

Based on the occupancy pattern and the total parking provisions in the premises of the various building types, charging infrastructures shall be provided only for EVs, which is currently assumed to be 20% of all 'vehicle holding capacity' parking capacity' at the premise.

Additionally, the building premise will have to have an additional power load, equivalent to the power required for all charging points (in a PCS) to be operated simultaneously, with a safety factor of 1.25 (refer *Explanatory Note- Annexure III*).

#### 10.4.1 Residential Buildings (plotted house)

Table 1: Charging Infrastructure requirements for individual house/ 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	Min. 1 SC and additional provisions as per the owner individual.

Note:

 The charging infrastructure installed by a home owner shall be construed as a Private CI meant for self-use (non-commercial basis) as per the note at clause no 4 of the explanatory note at Annexure III.

#### 10.4.2 All other buildings (including Group Housing)

Any PCS installed at Public/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 and shall have to install the minimum requirements of chargers as specified in the Guidelines dated 14.12.2018 of Ministry of Power (refer Annexure IV for MoP Guidelines. However, in order to provide sufficient charging points for the EV share in all vehicles (refer clause 3 of the *Explanatory Note- Annexure III*), ratio of types of chargers is recommended in the table below -

Table 2: Charging Infrastructure requirements for PCS (commercial use)

Building Type	Any building type					
Ownership of Station	Service provider					
Connection and Metering	Commercial Meterin	Commercial Metering and Payment				
Types of Charger	as per min. requirer	as per min. requirements specified in MoP Guidelines (refer Annexure IV)				
Additional chargers	PCS service providers shall install additional number of kiosk/chargers bey 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	4Ws 1 SC - each 3 EVs 1 FC - each 10EVs	1 SC - each 2 EVs		PV (Buses) 1 FC - each 10 EVs		

#### Note:

- Charging bays shall be planned currently at 20% capacity of all vehicles including 2Ws and PVs(cars)
- · Open metering and on-spot payment options to be available for all users.
- Provision of FCB CS and BS shall not be mandatory, and will be at the discretion of the service provider.



# Abbreviations used:

2Ws Two wheelers 3Ws Three wheelers

4Ws **PVs** EV

SC

FC

Three wheelers
Four wheelers / PV(cars)
Passenger Vehicles
Electric Vehicle
Slow Charger / Slow Charging (AC)
Fast Charger / Fast Charging (DC and a few AC ones)
Public Charging Stations
Model Building Bye-Laws, 2016
Fluid Cooled Battery Charging Station
Battery Swan PCS MBBL FCB CS

BS Battery Swap



Annexure III (MBBL 2016)

# Explanatory Note on Electric Vehicle Charging Infrastructure (For MBBL, 2016)

Town and Country Planning Organization Ministry of Housing and Urban Affairs Government of India

February, 2019



#### Abbreviations:

UNFCC - United Nations Framework Convention on Climate Change

IPCC - Intergovernmental Panel on Climate Change

GHG - Green House Gases 2Ws - Two wheelers 3Ws - Three wheelers

4Ws - Four wheelers / PV(cars)
PVs - Passenger Vehicles
CVs - Commercial Vehicles
EV - Electric Vehicle

EVSE - Electric Vehicle Supply Equipment SC - Slow Charger / Slow Charging (AC)

FC - Fast Charger / Fast Charging (DC and a few AC ones)

BS - Battery Swap

PCS - Public Charging Stations
PCI - Public Charging Infrastructure
Private CI - Private Charging Infrastructure
MBBL - Model Building Bye-Laws, 2016

URDPFI - Urban and Regional Development Plan Formulation and

Implementation Guidelines, 2014

NSP - Network Service Provider (information network)

SP - Service Provider



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# Contents

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2.	EV Charging Technology5
3.	Options for EV Charging6
4.	Charger Specifications and PCS Infrastructure7
5.	Location of PCS/FCB CS in local area/Building Precincts7





#### 1. Rationale for EVCI establishment

Rapid urbanization coupled with adoption of mechanized transportation modes has resulted in high emissions of Green House Gases that goes on to impact Global warming. Unless, the global surface temperature rise is restricted to no more than 2°C compared with pre-industrial levels, the IPCC has warned that the world will see irreversible catastrophic climate change.

India being a signatory to the UNFCCC, has pledged for efforts to assess the Greenhouse Gas Emissions (GHG) of anthropogenic origin and removal by sinks. India's per capita emissions are still considered low at 1.9 tonnes (2013), but its total emissions are next only to China and the US and is likely to overtake those of the EU by 2019.

While comparing the Indian cities for their emission scores, Delhi is on top as the biggest emitter at over 38 38 million tonnes of carbon dioxide equivalent overall emissions, followed by Greater Mumbai at 22.7 million tonnes and Chennai at 22.1 million tonnes, Kolkata at 14.8 million tonnes, Bangalore at 19.8 million tonnes, Hyderabad at 13.7 million tonnes and Ahmedabad at 9 million tonnes were the other cities whose emissions for the year were calculated sector wise.

As per the statistics of Transport Department (GNCTD), total number of vehicles in Delhi is more than the combined total vehicles in Mumbai, Chennai and Kolkata. Delhi has 85 private cars per 1000 population against the national average of 8 cars per 1000 population. In terms of CO2 emissions due to motor vehicles, Delhi emits about 12.4 million tonnes while the city of Bengaluru emits about 8.6 million tonnes.<sup>[1]</sup>

Therefore, addressing the quantum of emissions from the "Transport" and "Domestic" sector emerges to be the high priority subjects under the overarching umbrella of "Climate change mitigation" as committed to the UNFCC.

Encouraging "Electric Vehicles" as a viable option for phased transportation in terms of short and long distance trips with appropriate "Charging Infrastructure" is therefore, the pre-condition for this paradigm shift / phased migration to sustainable transportation.

For this changes are required in Infrastructure provisions (at Regional and City levels) and in Development Control Regulations (in terms of provisions therein) to include the formulations of norms and standards for "Charging Infrastructure" in the said Mater Plan Regulations and State Bye-Laws for adoption across the country suiting local conditions.



#### 2. EV Charging Technology

#### 2.1 Electric Vehicle Supply Equipment (EVSE):

An EVSE is a wall mounted box that supplies electric energy for recharging of electric vehicle batteries. Also EVSEs 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 can be customized with added features like:

- Authentication
- Integrated payment gateways
- · Software for remote monitoring.

As electric vehicle charging technology continues to advance, several standards and guidelines have become widely accepted across the industry. This section gives a brief overview of charging infrastructure technology, standards, and terminology.

#### 2.2 Different types of EVSE:

Charging speeds- Charging power, which determines the time required to charge a vehicle, can 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).

(Source: "Emerging Best Practices for Electric Vehicle Charging Infrastructure", Oct' 2017)

#### **Private Charging**

Charging batteries of privately owned cars through domestic charging points. Billing is mostly part of home/domestic metering.

# AC "Slow" Charging:

The home 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 converts the AC power to DC allowing the battery to be charged.

#### **Public Charging**

For charging outside the home premises, electric power needs to be billed and payment needs to be collected. The power drawn by these chargers may need to be managed from time to time.

#### DC "Fast" Charging:

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



К9

#### 3. Options for EV Charging

There is an urgent need to offer flexible charging infrastructure for different vehicle segments to drive adoption of EVs. Charging infrastructure is the most crucial enabler in the entire EV value chain. The exploration of different charging models according to the local conditions shall enable faster deployment of electric vehicles in the country.

EV share in all vehicles - It has been broadly projected that by the current rate of adoption of EVs, about 15% of all vehicles in the country would be EVs by the year 2020. Therefore, while assuming percentage composition of all proposed capacities in Public facilities of vehicle holding capacity, the Metropolitan and 'Tier I' cities will be assumed to have a higher percentage share of EVs, say 20% for now. The charging infrastructure prescriptions in all urban development guidelines shall, therefore, be in consonance with the said percentage.

Power Load sanction to premises - While adding these Charging Infrastructures to the proposed set of building types of the Indian cities, enhanced Power Load shall have to be had for each such building type by the Power DISCOMs, commensurate to the total additional power requirement of simultaneous operation of all the prescribed charging points in the premise. With further advancement of charging technologies and the enhanced capacity of chargers to draw more power, it is advised that the load capacity assigned to each premise should be kept with a safety factor of 1.25 with a long-term vision of 30 years.

Table 1: EVs charging "modes" and 'availability'

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

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

# Note:

- The option of Battery Swapping (BS) for privately owned 2Ws and PV(Cars) is limited to Private CI.
- For 3 Ws the BS is proposed to be made available in PCS, for faster recharge experience only
- For PV (Buses), Captive Fast charging infrastructure for 100% internal use for fleets may be adopted by privately owned Depots/Garages.

Based on the above stated EV charging technologies available and the current trend of evolving technologies of faster charging experience, the Ministry of Power has issued Guidelines and Standards for setting up Charging Infrastructure for Electric Vehicles [Ministry of Power (MoP) Guidelines dated 14.12.2018] for charging infrastructure to be installed at every Public Charging Station (PCS). 'Connectivity regulations and Safety norms' shall be defined by respective authorities such as Central Electric Authority/MoP for grid access to such PCS / any other charging station/infrastructure.





#### 4. Charger Specifications and PCS Infrastructure

Any installed PCS shall have one or more electric kiosk/boards with installation of all charger models as prescribed in the *Guidelines and Standards notified by Ministry of Power, dated 14 December 2018* for "Charging Infrastructure for EVs" (at Annexure II), with other necessary arrangements as deemed necessary.

Public Charging Station service providers shall be free to create charging hubs and to install additional number of kiosk/chargers in addition to the minimum chargers prescribed vide the MoP Guidelines, including options for installation of additional chargers, if required.

#### Note

- Minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).
- Captive charging infrastructure for 100% internal use for a company's own fleet will not be required to install all type of chargers and to have NSP tie ups.

#### 5. Location of PCS / FCB CS in local area / building precincts

In accordance with the Guidelines issued by the *Ministry of Power (MoP)*, 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 BBL-2016

#### 1. At the Local levels (within the urban area):

 At least 1Public Charging Station is to be available within a grid of 3Km x 3Km.

#### 2. At the Building premise levels (for various building types)

- · Private charging infrastructure (non-commercial use) for individuals.
- For all commercial modes of charging EVs, at least 1PCS, as per minimum specifications laid under MoP guidelines.
- Standalone Battery Swapping Stations may be added with the PCs.



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

New Delhi, the 14th December, 2018

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 - Guidelines and Standards -reg.

Sir/Madam,

Government of India have undertaken multiple initiatives to promote manufacturing and adoption of electric vehicles in India. With support of the Government, electric vehicles have started penetrating in the Indian market. However, availability of adequate Charging Infrastructure is one of the key requirements for accelerated adoption of electric vehicles in India. It is proposed to encourage this by laying down an enabling framework.

#### Objectives

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

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

- Private charging at residences / offices shall be permitted. DISCOMs may facilitate
  the same.
- 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 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 from time to time.



1



- 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.

## 3. Public Charging Infrastructure (PCI)- Minimum Requirements:

- 3.1 Every Public Charging Station (PCS) shall have the following minimum infrastructure:
  - An exclusive transformer with all related substation equipment including safety appliance.
  - 33/11 KV line/cables with associated equipment including as needed for line termination/metering etc.
  - iii. Appropriate civil works.
  - iv. Adequate space for Charging and entry/exit of vehicles.
  - v. Current international standards that are prevalent and used by most vehicle manufacturers internationally are CCS and CHadeMO. Hence, Public Charging Stations shall have, one or more electric kiosk/boards with installation of all the charger models as follows:

Charger Type	Charger Connectors*	Rated Voltage (V)	No. of Charging Points/No. of 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	
	Bharat DC-001 (15 kW)	72-200	1/1 CG	
Slow/Moderate	Bharat AC-001 (10 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.

- The kiosk/board may have options for installation of additional chargers if required.
- vii. The Public Charging Station Providers are free to create Charging Hubs and to install additional number of Kiosk/Chargers in addition to the minimum number of chargers prescribed above.
- 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/availableetc.
- ix. Share charging station data with appropriate DISCOM and to maintain appropriate protocols as prescribed by such DISCOM for this purpose. CEA shall have access to this database.
- x. Appropriate public amenities.





- xi. Where, in addition to the above, fast charging facility is also planned to be provided at the PCS by the PCI provider, the following additional infrastructure must be provided:
  - Appropriate Liquid Cooled cables if High Speed Charging Facility for onboard charging of Fluid Cooled Batteries (FCBs) is also planned.
  - Appropriate Climate Control Equipment for Fast Charging of Batteries to be used for swapping (i.e. not onboard)
- 3.2 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/technical personnel designated specifically by the respective DISCOM for this purpose. DISCOMs may also empanel one or more third party authorized technical agencies for this purpose.
- 3.3 Electric Vehicle Service Equipment (EVSE) shall be type tested by an appropriate reputed authority.
- 3.4 The above minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).
- 3.5 Captive charging infrastructure for 100% internal use for a company's own/leased fleet for its own use will not be required to install all type of chargers and to have NSP tie ups.
- 3.6 Public Charging Station can also have the option to add Standalone battery swapping facilities in addition to the above mandatory facilities, provided space/other conditions permit.

#### Public charging Infrastructure (PCI) for long distance EVs and/or heavy duty EVs:

- 4.1 Public charging stations for long distance EVs and/or heavy duty EVs (like trucks, busses etc.) shall have the following minimum requirements:
  - At least two chargers of minimum 100 kW (with 200-1000 V) each of different specification (CCS & Chademo) and with single connector gun each in addition to the minimum charging infrastructure requirements as mandated for Public Charging Stations in para 3.
  - Appropriate Liquid Cooled Cables for high speed charging facility for onboard charging of Fluid Cooled Batteries (currently available in some long range EVs).
  - iii. In addition to 4.1 (i) and (ii) 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 and para 4.1(i)&(ii) above. It is notable that Fluid Cooled Batteries (FCBs) are generally necessary for Fast Charging / Long Distance use of EVs and/or for Heavy Duty Vehicles like buses/trucks etc. FCBs will have higher charging rate and longer life.
- 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 minimum requirements are laid down with regard to density/distance between two charging points:
  - At least one Charging Station should be available in a grid of 3 Km X 3 Km. Further, one Charging Station be set up at every 25 Km on both sides of highways/roads.
  - ii. For long range EVs (like long range SUVs) and heavy duty EVs like buses/trucks etc., there should be at least one Fast Charging Station with Charging Infrastructure Specifications as per para4.1 at every 100 Kms, one on each side of the highways/road located preferably within/alongside the stations laid in para3 above. Within cities, such charging facilities for heavy duty EVs shall be located within Transport Nagars, bus depots. Moreover, swapping facilities are also not mandatory within cities for Buses/trucks.
- 5.2 Additional public charging stations shall be set up in any area only after meeting the above requirements.
- 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 including 'firewalls' etc.) to meet the requirements as laid above. Further, within such ROs, Company Owned and Company Operated (COCO) ROs may be given higher preference.
- 5.5 Any deviation from above norms shall be admissible only after specific approval of State Nodal Agency in consultation with the Central Nodal Agency.

#### 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/BCS. This database shall have restricted access as finalised between 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, provided however that the tariff shall not be more than the average cost of supply plus 15 (fifteen) percent.
- 7.2 The tariff applicable for domestic consumption shall be applicable for domestic charging.

# 8. Service charges at PCS/BCS:

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.

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8.2 The State Nodal Agency shall fix the ceiling of the Service Charges to be charged by the Public Charging Stations.

## 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 shall 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 shall be covered for distributed and demonstrative effect. Further, important Highways connected with each of these Mega Cities shall be taken up for coverage.

9.3 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 of EVs, including for declaring further incentives/subsidies for such infrastructure and for such other purposes.

#### 10. Implementation Mechanism for Rollout:

- 10.1 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.
- 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 above phasing, in consultation with the respective State Governments.
- An Implementation Agency shall be selected by the respective 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 laid down in this document and as entrusted by the concerned Nodal Agency. The Implementation Agency can be an Aggregator as mutually decided between Central and State Nodal Agencies. However, they can also decide to choose different PCS/FCS providers for bundled packages or for individual locations as mutually decided. Further, whenever bundled packages are carved for bidding, such packages shall necessarily include atleast one identified expressway/highway or part thereof Jep prepare a

.



- cohesive regional package; the selected identified cities may be divided into one or more parts as necessary for such purposes.
- 11.3 Where Implementing Agency is selected by bidding, all bidding shall be conducted by the State Nodal Agency.
- 11.4 There shall be an upper cap on the Service Charges declared by the State Nodal Agency as per para 8.2 above. Subsidy, if admissible from Central/State governments, shall be suitably factored in such calculations of Upper Cap/Bid Variable.

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

(Anoop Singh Bisht)
Under Secretary to the Govt. of India
Tel:23766236
Email:anoopsingh.bisht@nic.in

#### Copy to:

- 1. Prime Ministers Office/Cabinet Secretariat.
- 2. CEO, NITI Aayog
- 3. The Secretaries of the CERC/State Commissions/JERCs.

(Anoop Singh Bisht)
Under Secretary to the Govt. of India
Tel:23766236
Email:anoopsingh.bisht@nic.in



Copy for information to:

1. PS to MoS (IC) for Power and NRE
2. PPS to Secretary (Power)
3. PPS to Addl Secretary (SNS)
4. PPS to Joint Secretary (Thermal), MoP
5. PPS to Director (UMPP), MoP (Anoop Singh Bisht)
Under Secretary to the Govt. of India
Tel:23766236
Email:anoopsingh.bisht@nic.in

# 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
)	Eastern Peripheral Expressway
10	Delhi-Agra NH2 Expressway
11	Hyderabad ORR expressway
12	5 connected highways to each megacity

13 Mile

8



# Amendments in

Urban and Regional Development Plans Formulation and Implementation Guidelines

(URDPFI - 2014)

for

**Electric Vehicle Charging Infrastructure** 

Town and Country Planning Organisation Ministry of Housing and Urban Affairs Government of India

February, 2019



#### Preamble

To encourage "Electric Vehicles" as a viable option for long distance trips / inter regional trips with adequate "charging stations", it is necessary to make provisions for establishing Public Charging Stations (PCS) in the regional facilities for refuelling/recharging of vehicles.

Hence, amendments are required for addition of norms for charging Infrastructure provisions in Development Control Regulations and provide "Charging Infrastructure" in the City Mater Plans / Regional Plans.

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 as regional facilities and with the long term vision of implementing 'electric mobility' during the next 30 years, amendments are made **Under Chapter 8:**Infrastructure Planning, at section 8.4.7 "Distribution Services", Table 8.57 – "Norms for Distribution Services" of URDPFI Guidelines, 2014 (Volume I) as detailed in clause 3 of this document.



# 2. Existing provision in Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI, 2014) Chapter 8: Infrastructure Planning (Volume I of URDPFI Guidelines 2014) At section 8.4.7 "Distribution Services".

Sr. No.	Population Served per unit		Land Area Requir	Land Area Requirement		Other Control	
		um,	Type of facility	Area requirement			
1.	Petrol/Diesel filling and Service Centre						
	Permitted in:		i. Only filling station	30m x 17m	•	Shall not be located on road having Right	
	Central District Sub central district		ii. Filling cum service station	36m x 30m		of Way less than 30m.	
	District centres			45 x 36m	•	Special cases in old city areas may be	
	Community Centres (Only Filling Station)		<li>iii. Filling cum service station cum workshop</li>			considered based or the approval by statutory authorities.	
				18m x 15m		statutory authornes.	
	Residential & industrial Use Zone in Urban Areas		<ul> <li>Filling station only for two and three wheelers</li> </ul>		•	Shall be approved by the explosive/ fire	
	Along National and State Highways					department.	
	Villages identified as growth centres						
	Freight Complex						
	Proposed major roads						
	Police/security forces services (for captive use only) (MPD, pg 125)						
2.	Compressed Natural Gas (CNG)/filling centre						
	Permitted in:		CNG mother station	1080 sqm		Shall not be located on road having Right	
	All use zones (except in Regional Parks and Developed District Parks)		(Including building component - control room/office/dispensing room/store, pantry and	(36m x 30m)		of Way less than 30m.	
	Along National and State Highways		W.C.)		٠	Shall be approved by the explosive/fire department.	
	Villages identified as growth centres						
	Freight Complex						
	Proposed major roads						
3.	LPG Godown/GasGodown	40,000 to 50,000	Capacity = 500 cylinders or 8000 kg of LPG	520 sqm	•	The major concern for its storage and	
			Area (inclusive of guard room)	(26m x 20m)		distribution is the location, which shall be away from the residential areas and shall have open spaces all around as per the Explosive Rules.	
١.	Milk Distribution	5000	Areas inclusive of service	150sqm		-	



 Amendments to URDPFI Guidelines 2014:- Necessary provisions for EV Charging have been incorporated at Sr. No. 1 and Sr. No. 3 of table 8.57. The revised table will be as under:

Table 8.57 - "Norms for Distribution Services":

. No. Category	Population served per unit	Land Area rec	(un entrent	Other controls
		Type of Facility	Area required	
1. Petrol/Diesel filling/	EV charging* and serv		- Inda Inda	
Permitted in:		i. Only filling station	30m x 17m	Shall not be
		, , , ,		located on road
Central District				having Right of
Sub central		ii. Filling cum service	36m x 30m	Way less than
district		station		30m.
District centres		iii. Filling cum service	45 x 36m	Special cases in
		station cum workshop		old city areas may
Community				be considered
Centres (Only		1. mm		based on the
Filling Station)		iv. Filling station only	18m x 15m	approval by
The second second		for two and three wheelers		statutory
Residential &		wneelers		authorities.
industrial Use				
Zone in Urban				Shall be approved
Areas		Dublic Chamina	Min. 13.5m x	by the explosive/
		v. Public Charging Station (PCS)		fire department.
Along National		(minimum	5.5m	
and State		requirement as per		Charging station
Highways		MoP guidelines)		and all equipmen
A CHANGE CHANGE OF		mor guidennes)		layout with
Villages identified				respect to neares
as growth centres				dispensing unit
Freight Complex		vi. FCB CS	Min. 15m x 7m	(DU)/fuel tank to
r leight Complex		1 CCS	rem a rm	be as per PESO
Proposed major		1 CHAdeMO		rules.
roads				
Iodus				Equipped with
Police/security				CCE and LCC, as
forces services		vii. Battery Swapping	Earmarking area	required in
(for captive use		Station (optional)	for "battery	addition to
only) (MPD, pg			fitting"	requirements of
125)				PCS.
				Optional addition
				PCS by the SP
Compressed Natura	I Gas (CNG)/filling cen	tre		
Permitted in:		CNG mother station	1080 sqm	Shall not be
6.20.00		(Including building		located on road
All use zones		component - control	(36m x 30m)	having Right of
(except in Regional		room/office/dispensing		Way less than
Parks and		room/store, pantry and		30m.
Developed District Parks)		W.C.)		
rains)				Shall be approved
Along National and				by the explosive/
State Highways				fire department
Villages identified				
as growth centres				
Feelphi Commit				
Freight Complex	1			
Proposed major	1			
roads				
	1			



Sr. No	. Category	Population served per unit	Land Area requester Type of Facility	uirement Area required	Other controls
3.	Standalone Public	Charging Stations (P		nica required	December 1 in white the production of the
A	Public Charging Stations	Every 25 Kms, both sides along the highways/roads	PCS with charger ratio (minimum requirements of PCS, as per MoP) - 1 FC for every 10 EVs 1 SC for every 3 EVs	as per total	Equipped with CCE and LCC, as may be required for fast charging
В	Fast Charging facility / FCB CS (for Long Distance & Heavy Duty EVs)	Every 100 Kms, both sides along the highways/roads	At least 2 chargers 1 CCC type 1 CHAdeMO type (min 100KW each)	Min. 15m x 7m	May be coupled with the PCS at item A above, with CCE and LCC.
С	Battery Swapping Station	ttery Swapping Optional provisions as per MoP Guidelines.	Standalone	Min 5.5m x 2.75m	May be coupled with PCS at item A or FCB CS at item B above.
			Provided along with FBC charging Stations		
4	LPG Go down/ Gas Go down	40,000 to 50,000	Capacity = 500 cylinders or 8000 kg of LPG Area (inclusive of guard room)	520 sqm (26m x 20m)	The major concern for its storage and distribution is the location, which shall be away from the residential areas and shall have open spaces all around as per the Explosive Rules
5	Milk Distribution	5000	Areas inclusive of service area	150 sqm	

<sup>\*</sup> A detailed explanation is given at *Appendix 'P' – "Explanatory Note on EVCI"* and *Appendix 'Q' –* "Guidelines issued by Ministry of Power on EVCI, dated 14.12.2018" (in Volume IIA & IIB).

#### Notes:

- Super Kerosene Oil/Light Diesel Oil storage for industrial uses shall be given separately.
- Large petrol/diesel storage centers to be located outside city limits.
- To be organized by a service provider for connection and metering, available 24x7for all users.
- Provision of FCB CS & BS shall not be mandatory, and will be at the discretion of the service provider.
- Size recommended for FCB CS is subject to variance as per technical specifications of the SP.
- Fuel filling stations (including COCO outlets) shall conform to specifications and safety norms as per the amendment in Petroleum Rules or, PESO Act and obtain clearances as maybe necessary from the 'Competent Authority', for adding PCS to Retail outlets/ Fuel filling stations.

#### For Standalone PCS:

- The ratio of provision of charging points (FC/SC) with respect to total parking capacity will be considered for only 20% (i.e. 20% of total parking capacity will be considered EVs & ratio will be applied on them)
- Land allocation is preferably to be contiguous/in close proximity to commercial land of the Mid-way Restaurant.
- "General Conditions of Siting" of Standalone PCS shall follow clause 4.1-4.4 of IRC:12 (latest revision) except for the distance between stations which shall be as per the Guidelines issued by MoP, dated Dec, 2018.



#### Abbreviations used:

2Ws - Two wheelers 3Ws - Three wheelers

- Four wheelers / PV(cars) 4Ws - Passenger Vehicles - Commercial Vehicles PVs CVs

EV - Electric Vehicle

SC - Slow Charger / Slow Charging (AC)

FC

BS

PCS

- Fast Charger / Fast Charging (DC and a few AC ones)
- Battery Swap
- Public Charging Stations
- Urban and Regional Development Plans Formulation and Implementation URDPFI

Guidelines, 2014

CCS - Combined Charging System
CHAdeMO - A DC Fast charging standard
FCB CS - Fluid Cooled Battery Charging Station

CCE - Climate Control Equipment LCC - Liquid Cooled Cables

NSP - Network Service Provider (information network)

SP - Service Provider



Appendix P (URDPI Guidelines Vol IIA and II B)

# Explanatory Note on Electric Vehicle Charging Infrastructure

(For URDPFI Guidelines 2014)

Town and Country Planning Organization Ministry of Housing and Urban Affairs

Government of India

February, 2019



#### Abbreviations:

UNFCC United Nations Framework Convention on Climate Change

Intergovernmental Panel on Climate Change **IPCC** 

GHG Green House Gases 2Ws Two wheelers 3Ws Three wheelers

Four wheelers / PV(cars) 4Ws Passenger Vehicles **PVs** Commercial Vehicles **CVs** Electric Vehicle EV

Electric Vehicle Supply Equipment
Slow Charger / Slow Charging (AC)
Fast Charger / Fast Charging (DC and a few AC ones) **EVSE** SC

FC

BS Battery Swap

**Public Charging Stations** PCS PCI Public Charging Infrastructure Private CI Private Charging Infrastructure MBBL Model Building Bye-Laws, 2016

**URDPFI** Urban and Regional Development Plans Formulation and

Implementation Guidelines, 2014

NSP Network Service Provider (information network)

SP Service Provider



-2 -

# Contents

1.	Rationale for EVCI establishment
2.	EV Charging Technology
3.	Options for EV Charging
4.	Charging Specifications and PCS Infrastructure



#### 1. Rationale for EVCI establishment

Rapid urbanization coupled with adoption of mechanized transportation modes has resulted in high emissions of Green House Gases that goes on to impact Global warming. Unless, the global surface temperature rise is restricted to no more than 2°C compared with pre-industrial levels, the IPCC has warned that the world will see irreversible catastrophic climate change.

India being a signatory to the UNFCCC, has pledged for efforts to assess the Greenhouse Gas Emissions (GHG) of anthropogenic origin and removal by sinks. India's per capita emissions are still considered low at 1.9 tonnes (2013), but its total emissions are next only to China and the US and is likely to overtake those of the EU by 2019.

While comparing the Indian cities for their emission scores, Delhi is on top as the biggest emitter at over 38 38 million tonnes of carbon dioxide equivalent overall emissions, followed by Greater Mumbai at 22.7 million tonnes and Chennai at 22.1 million tonnes, Kolkata at 14.8 million tonnes, Bangalore at 19.8 million tonnes, Hyderabad at 13.7 million tonnes and Ahmedabad at 9 million tonnes were the other cities whose emissions for the year were calculated sector wise.

As per the statistics of Transport Department (GNCTD), total number of vehicles in Delhi is more than the combined total vehicles in Mumbai, Chennai and Kolkata. Delhi has 85 private cars per 1000 population against the national average of 8 cars per 1000 population. In terms of CO2 emissions due to motor vehicles, Delhi emits about 12.4 million tonnes while the city of Bengaluru emits about 8.6 million tonnes.<sup>[1]</sup>

Therefore, addressing the quantum of emissions from the "Transport" and "Domestic" sector emerges to be the high priority subjects under the overarching umbrella of "Climate change mitigation" as committed to the UNFCC.

Encouraging "Electric Vehicles" as a viable option for phased transportation in terms of short and long distance trips with appropriate "Charging Infrastructure" is therefore, the pre-condition for this paradigm shift / phased migration to sustainable transportation.

For this changes are required in Infrastructure provisions (at Regional and City levels) and in Development Control Regulations (in terms of provisions therein) to include the formulations of norms and standards for "Charging Infrastructure" in the said Mater Plan Regulations and State Bye-Laws for adoption across the country suiting local conditions.



# 2. EV Charging Technology

# 2.1 Electric Vehicle Supply Equipment (EVSE):

An EVSE is a wall mounted box that supplies electric energy for recharging of electric vehicle batteries. Also EVSEs 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 can be customized with added features like:

- Authentication
- · Integrated payment gateways
- · Software for remote monitoring.

As electric vehicle charging technology continues to advance, several standards and guidelines have become widely accepted across the industry. This section gives a brief overview of charging infrastructure technology, standards, and terminology.

#### 2.2 Different types of EVSE:

Charging speeds- Charging power, which determines the time required to charge a vehicle, can 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).

(Source: "Emerging Best Practices for Electric Vehicle Charging Infrastructure", Oct 2017)

#### **Private Charging**

Charging batteries of privately owned cars through domestic charging points. Billing is mostly part of home/domestic metering.

## AC "Slow" Charging:

The home 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 converts the AC power to DC allowing the battery to be charged.

#### **Public Charging**

For charging outside the home premises, electric power needs to be billed and payment needs to be collected. The power drawn by these chargers may need to be managed from time to time.

#### DC "Fast" Charging:

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



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#### 3. Options for EV Charging

There is an urgent need to offer flexible charging infrastructure for different vehicle segments to drive adoption of EVs. Charging infrastructure is the most crucial enabler in the entire EV value chain. The exploration of different charging models according to the local conditions shall enable faster deployment of electric vehicles in the country.

**EV** share in all vehicles - It has been broadly projected that by the current rate of adoption of EVs, about 15% of all vehicles in the country would be EVs by the year 2020. Therefore, while assuming percentage composition of all proposed capacities in Public facilities of vehicle holding capacity, the Metropolitan and 'Tier I' cities will be assumed to have a higher percentage share of EVs, say 20% for now. The charging infrastructure prescriptions in all urban development guidelines shall, therefore, be in consonance with the said percentage.

Power Load sanction to premises – While adding these Charging Infrastructures to the proposed set of building types of the Indian cities, enhanced Power Load shall have to be had for each such building type by the Power DISCOMs, commensurate to the total additional power requirement of simultaneous operation of all the prescribed charging points in the premise. With further advancement of charging technologies and the enhanced capacity of chargers to draw more power, it is advised that the load capacity assigned to each premise should be kept with a safety factor of 1.25 with a long-term vision of 30 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	

#### Note:

- The option of Battery Swapping (BS) for privately owned 2Ws and PV(Cars) is limited to Private CI.
- For 3 Ws the BS is proposed to be made available in PCS, for faster recharge experience only
- For PV (Buses), Captive Fast charging infrastructure for 100% internal use for fleets may be adopted by privately owned Depots/Garages.

Based on the above stated EV charging technologies available and the current trend of evolving technologies of faster charging experience, the Ministry of Power has issued *Guidelines and Standards for setting up Charging Infrastructure for Electric Vehicles* [Ministry of Power (MoP) Guidelines dated 14.12.2018] for charging infrastructure to be installed at every Public Charging Station (PCS). 'Connectivity regulations and Safety norms' shall be defined by respective authorities such as Central Electric Authority/MoP for grid access to such PCS / any other charging station/infrastructure.





#### 4. Charger Specifications and PCS Infrastructure

Any installed PCS shall have one or more electric kiosk/boards with installation of all charger models as prescribed in the *Guidelines and Standards notified by Ministry of Power (MoP), dated 14 December 2018 for "Charging Infrastructure for EVs"* (at *Annexure II)*, with other necessary arrangements as deemed necessary.

Public Charging Station service providers shall be free to create charging hubs and to install additional number of kiosk/chargers in addition to the minimum chargers prescribed vide the MoP Guidelines, including options for installation of additional chargers, if required.

#### Note:

- Minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).
- Captive charging infrastructure for 100% internal use for a company's own fleet will not be required to install all type of chargers and to have NSP tie ups.

#### 5. Regional location of PCS / FCB Charging Stations

In accordance with the Guidelines issued by the *Ministry of Power*, following minimum standards with regard to density of / distance between PCS in regional level facilities shall be followed as and regulated by the URDPFI Guidelines-

#### 1. Along Highways and inter-city corridors:

- At every 25 Kms on both sides of highways/roads, at least 1PCS is to be set
- At every 100 Kms on both sides of highways/roads, at least 1 Fast Charging/FCB Charging Station as per specifications. (may be coupled with PCS)
- Standalone Battery Swapping Stations may be added with the PCS.

#### 2. In Regional level Industrial SEZs / other Industrial Parks/Estates

 Land for at least 1PCS is to be reserved within a grid of 10 Km x 10 Km of the designated industrial area/park/estates.



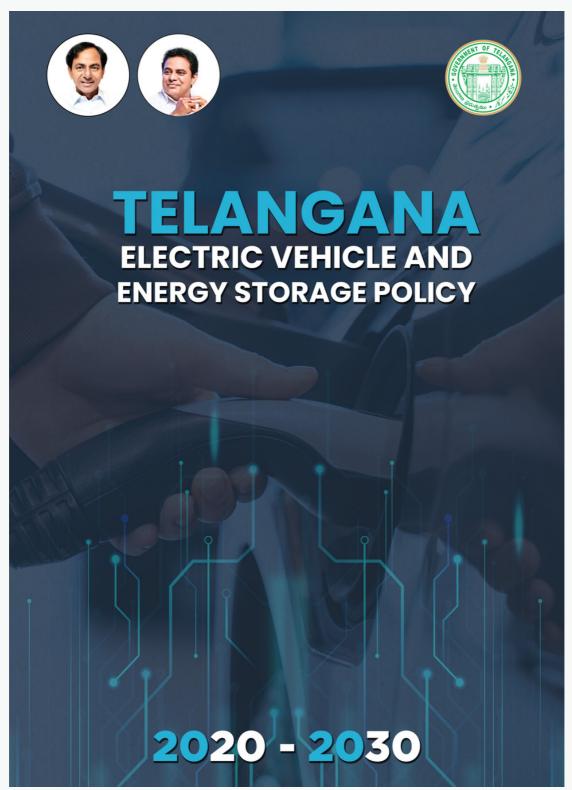
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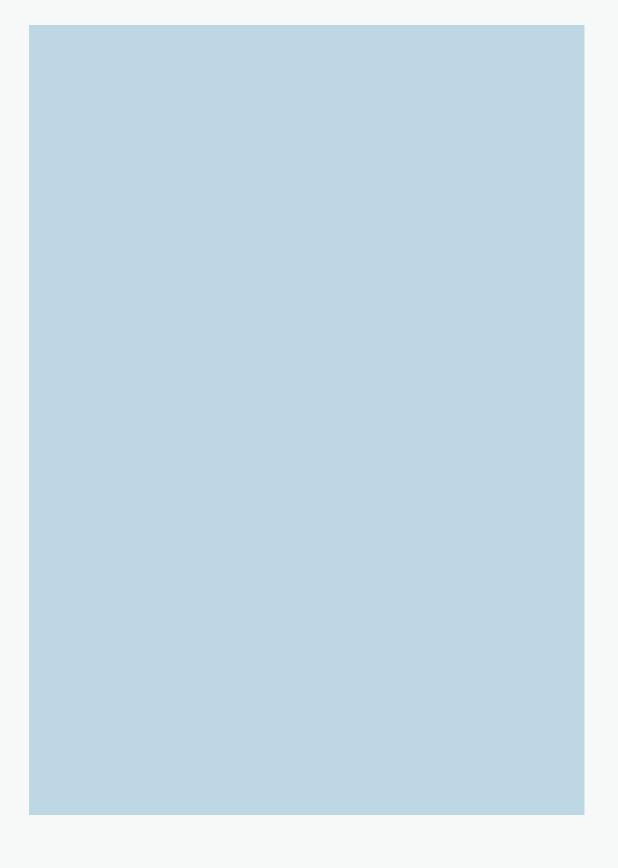
TELANGANA ELECTRIC VEHICLE AND ENERGY STORAGE POLICY 2020-2030

# **Telangana EV Policy**

For Telangana Electric Vehicle and Energy Storage Policy, please visit here: <a href="https://tsredco.telangana.gov.in/Updates">https://tsredco.telangana.gov.in/Updates</a> 2020/Telangana EVES policy 2020 30.pdf











KT RAMA RAO Hon'ble Minister for IT, MA&UD, Industries, Mines and NRI Affairs Government of Telangana

### **MESSAGE**

With the advent of clean technology and high-density energy storage solutions, a shift to a cleaner transportation is inevitable and Electric Vehicles are no doubt the future of mobility. The State of Telangana, being a pioneer in adopting Sustainability, aims to spearhead the Electric Vehicle revolution in the country.

Since the formation of the State in 2014, Telangana has transformed into a power surplus state from being a power deficit state in less than 5 years and is among the top states in the country in the renewable energy production. The State now ensures uninterrupted power to Industries and provides round the clock free power for agricultural purposes. The state has set aggressive targets in clean energy production, which compliments the Electric Vehicle charging infrastructure. The state strives to ensure a clean and healthy environment for its citizens by bringing down carbon emissions

As the state drives the faster adoption of Electric Vehicles, it aspires to be not just self-sufficient, but also a global hub for Electric Vehicles' and Energy Storage Systems' Manufacturing. It is our vision to become the most electrified state in the country. The Telangana Electric Vehicle and Energy Storage Policy 2020-2030 is the first step in this direction. The policy also intends to achieve substantial reduction in total cost of transportation for personal and commercial purposes. The policy builds upon the FAME II scheme being implemented by Govt. of India to promote Adoption and Manufacturing of Electric Vehicles in the country.

The State is home to several players in the EV sector and intends to leverage its strengths in Automotive, Electronics, Aerospace, Defence and Information Technology Sectors, creating synergies and thereby becoming a centre for research and innovation in Electric Vehicles, Battery Technologies and other Emerging Technologies such as Autonomous & Connected Vehicles. Through this policy, we hope to promote Local manufacturing and make Electric Vehicles affordable to the common man.



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# **PREAMBLE**



The advent of new breakthroughs and improvements in energy storage is transforming vehicular technology and energy solutions. Electric Vehicles (EVs) are a promising alternative to ICE (Internal Combustion Engine) vehicles. Innovations in battery technology, reduction in moving parts, and zero tailpipe emissions make EVs an economically viable and sustainable mobility solution that is finding global support from Policymakers and Industry leaders alike.

Energy Storage Solutions (ESS) provide alternative to energy backup for home, enterprises & businesses, and are ideal for integrating renewable energy into the electricity grid.

In March 2019, The Government of India (GoI) has launched the National Mission on "Transformative Mobility and Energy Storage" committed to develop a complete ecosystem domestically around EVs, including manufacturing of batteries and all other components to make Electric Vehicle and Energy Storage Solutions sector competitive in the near term. Further, India is committed to reducing emissions up to 33-35% by 2030 from the 2005 level and has set the target of 40% non-fossil-based electricity generation in the energy mix. This requires radical measures to scale up the share of renewable energy, besides the ongoing program of 175 GW RE by 2022.

According to data compiled by IESA, the electric vehicle industry consumed over 5 GWh of batteries in 2018 in India. This number is likely to be over 36 GWh by 2025. During 2020-2027 period, the EV sector is estimated to consume about 250 GWh of batteries.

The 'Telangana Electric Vehicle & Energy Storage Policy 2020-2030' builds upon FAME II scheme being implemented since April 2019 by Department of Heavy Industries, Govt. of India, where it also suggested States to offer fiscal and non-fiscal incentives to further improve the use case for adoption of EVs.





# 1.VISION

To make Telangana a hub for Electric Vehicles & Energy Storage Systems

# 2. MISSION

- a) To make the State an attractive investment destination for this sector
- b) To promote R&D and manufacturing in Electric Vehicle & Energy Storage Systems' sector
- c) To ensure faster adoption of Electric Vehicles & Energy Storage Systems in the State
- d) To achieve substantial reduction in total cost of transportation for personal and commercial purposes, supported by a world-class infrastructure





# 3. POLICY OBJECTIVES

a) To reduce the total cost of mobility by increasing the adoption of Electric Vehicles in public transportation, 2 & 3 Wheelers, 4 wheelers, Light Commercial Vehicles & Shared Transportation.

> b) Promoting a shift from dependence on fossil fuels which are mostly imported and expensive with unreliable supply during times of crisis, to reliable domestically produced renewable energy which is less expensive.

 Make Telangana state the preferred destination for Electric Vehicle, ESS and component manufacturing.

> d) To make Telangana a major base for EV & ESS sectors and to attract investments worth \$ 4.0 Billion and create employment for 120,000 persons by year 2030 through EVs in shared mobility, charging infrastructure development and EV & ESS manufacturing activities.

 Generate demand for battery storage solutions by driving EV adoption incentives and supply side incentives for battery manufacturing.

f) To proactively support creation of EV charging Infrastructure in the initial phase and eventually create market for commercially viable EV Charging business.

g) Promote Recycle and Cascading of Batteries

> Develop Telangana as a global center for cutting-edge research and innovation in Electric vehicles, battery technologies and other emerging technologies such as Autonomous/Connected vehicles.





## 4. IMPLEMENTATION STRATEGY

- Incentives shall be made available for Manufacturing of Electric Vehicles, Energy Storage Systems & related components in Telangana. Incentives shall include Capital Subsidies, SGST reimbursements, power tariff subsidies, etc.
- b) Incentives shall be made available for 2 & 3 Wheelers, 4 wheelers, Light Commercial Vehicles, Shared Transport & Public Transport. The incentives shall include waiver on Road Tax & Registration Charges
- c) Incentives shall be provided for charging infrastructure
- Ride hailing services shall be encouraged to operate electric 2, 3 & 4 wheelers through incentivization.
- Battery operated feeder shuttle services at all Hyderabad Metro Stations for last mile connectivity shall be made available.



- f) Existing state self-employment schemes shall be extended to provide financial assistance for purchase of Electric Vehicles for commercial purposes.
- g) Adoption of EVs at Institutional Level shall be promoted starting with Government entities.
- h) Preferential parking slots with required charging infrastructure shall be made available for Electric Vehicles.
- Preferential Procurement to Make in Telangana Electric Vehicles and Energy Storage Systems for Government Orders shall be provided.
- State Govt shall facilitate in dovetailing with Govt. of India (GoI) schemes and encourage state stakeholders to avail benefits available under GoI schemes.





# **5. POLICY PERIOD**

This policy is applicable for a period of 10 years from the date of notification of this policy. The policy shall be reviewed by the Steering Committee as notified in this policy.

# 6. POLICY MEASURES

The policy aims to build on the policy objectives & strategies to encourage growth of EV & ESS sector in the state and to attract private sector investments in this sector. The framework consists of promoting EV adoption for end users, setting up of Charging Infrastructure and Promoting Manufacturing of EV & ESS Components in the State.





### 7. DEMAND SIDE INCENTIVES

Following are the demand side incentives proposed under the Telangana State Electric Vehicle and Energy Storage Policy 2020 – 2030 to incentivize usage of Electric Vehicles in the state of Telangana.

#### A. Incentives for Electric Two Wheelers

 100% exemption of road tax & registration fee for the first 2,00,000 Electric 2 Wheelers purchased & registered within Telangana.

#### B. Incentives for Three-Seater Auto-Rickshaws

- i) 100% exemption of road tax & registration fee for first 20,000 Electric 3 Wheelers purchased & registered within Telangana
- ii) Retro-fitment incentive at 15% of the retro-fitment cost capped at Rs. 15,000 per vehicle for first 5,000 retrofit 3 seater auto rickshaws in Telangana
- Financing Institutions shall be encouraged to provide a hire-purchase scheme at discounted interest rates.

#### C. Incentives for Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc.

i) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc. purchased & registered within Telangana

#### D. Incentives for Light Goods Carriers - including Three Wheelers (goods)

 i) 100% exemption of road tax & registration fee for first 10,000 Electric three-wheeler (goods), e-carriers as well as electric Light Goods carriers purchased & registered within Telangana

#### E. Incentives for Private Cars

 1) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler private vehicles purchased & registered within Telangana

#### F. Incentives for Buses

- 1) 100% exemption of road tax & registration fee for the first 500 Electric buses purchased & registered within Telangana.
- ii) State Transport Units shall also be encouraged to purchase Electric buses.

#### G. Incentives for Tractors

 100% exemption of road tax & registration fee shall be applicable for electric tractors purchased and registered in the state of Telangana as per the existing rules/guidelines applicable for tractors by Transport Department, Govt. of Telangana.







### 8. CHARGING INFRASTRUCTURE

Availability and accessibility of EV charging infrastructure is a pre-requisite for the penetration of Electric Vehicles.

#### A. Support for Charging Infrastructure

- Government shall facilitate setting of up initial batch of fast charging stations in Hyderabad and other towns in a phased manner, by state entities and private players.
- Telangana State Electricity Regulatory Commission shall provide special Power Tariff category for Electric Vehicle Charging Stations.
- iii) TSREDCO (State Nodal Agency) shall evaluate to establish public charging stations directly or under licensee/franchise/PPP model. Various public places such as airports, railway/ metro stations, parking lots, bus depots, markets, petrol stations, malls & electric poles shall be examined for the same.
- iv) A viable business model shall be developed for private players to set up ARAI compliant EV charging/swapping infrastructure. Specifications for charging infrastructure shall be defined by the Transport Department/ TSREDCO/ITE&C Dept.
- v) TSREDCO (State Nodal Agency) in coordination with State DISCOMS shall ensure Supply of Renewable energy for EV charging stations & setting up of solar rooftop plants as per net metering policy and captive power plants shall be encouraged as per the TSREC Guidelines.
- vi) Existing Residential Townships with 1000+ families shall be encouraged to develop charging stations lots.
- vii) Charging/ swapping station for every 50 km within state boundaries on highway to cities like Bengaluru, Mumbai, and Chennai, followed by other national/state highways shall be encouraged.
- viii) HMR stations and TSRTC Bus depots (across the state) shall provide reserved parking and charging points for two-wheelers in their parking zones to encourage EVs for last mile commute.
- ix) Government shall develop Night time community parking with charging facility in PPP mode for e- Autos, Shared mobility taxis and public transport vehicles within Industrial zones.
- A battery disposal infrastructure model shall be created to facilitate deployment of used EV batteries.

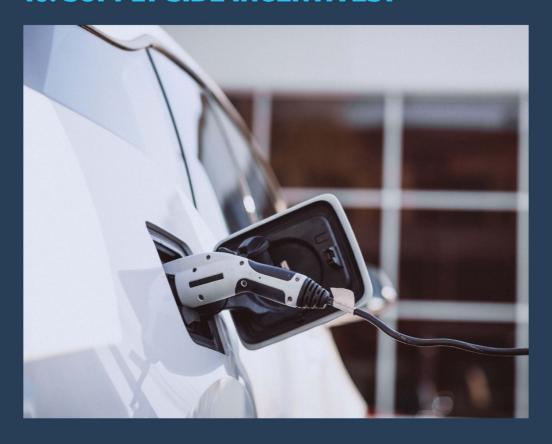




# 9. EV IN SHARED MOBILITY & PUBLIC TRANSPORT

- Government shall encourage EV adoption in Shared Mobility, Public Transport, Institutional Transport, Logistics & Delivery Services.
- Govt shall facilitate aggregators involved in public transportation with regulatory support to enable them to convert their fleet to EVs.

# **10. SUPPLY SIDE INCENTIVEST**



Telangana aspires to be the forerunner in Electric Mobility and Energy Storage space in the country. Local manufacturing and R&D are key to reaching price/performance parity between Electric and ICE Vehicles. Hence, support shall be extended to EV & ESS, ancillary & charging infrastructure & swapping infrastructure manufacturers through policy interventions and Incentives.





# 11. SUPPORT FOR MANUFACTURING

- EV & ESS sectors shall be incentivized as per the subsidies and incentives available under the Electronics Policy 2016.
- ii) Government shall extend tailor-made benefits to Mega and Strategic Projects on case to case basis. Investment of more than Rs.200 crores in plant and machinery or providing employment to more than 1000 persons shall be categorized as mega project.
- iii) The highlights of the Electronics policy are as below:
  - a. Capital Investment Subsidy: 20% of investment capped at 30 Cr. for Mega Enterprises.
  - b. SGST Reimbursement: 100% net SGST reimbursement capped at 5 Cr. per year with a cumulative cap of 25 Cr. over a period of 7 years for Mega Enterprises.
  - c. Power Tariff Discount: 25% for 5 years capped at 5 Cr. for Mega Enterprises.
  - d. Electricity Duty Exemption: 100% for 5 years capped at 0.5 Cr.
  - e. Interest Subvention: 5.25% for 5 years capped at INR 5 Cr.
  - f. Transportation Subsidy: 60% with 10% reduction YoY for 5 years; capped at INR 5 Cr.
  - g. Stamp Duty/ Transfer Duty/ Registration Fees Reimbursements: 100% on first, 50% on second transaction
  - h. Lease Rental Assistance, Assistance in Patent Filing, Reimbursement of Quality
    Certification costs, Cleaner Production cost reimbursement, Exhibition Cost
    Reimbursements, Skill Development Assistance
- iv) Electronics Manufacturing Clusters (EMC) and Industrial Parks are identified for promotion of EV & Energy Storage manufacturing companies. Currently EMCs exist at Raviryal and Maheshwaram, a designated industrial park at Divitapally for Energy Storage manufacturing, with additional parks being designated.
- V) Batteries and related components make up a substantial part of EV. Manufacture and assembly of EV related batteries and cells shall be encouraged in the State through Electronics Manufacturing Policy and Incentives.
- vi) The Government shall promote reuse of EV batteries in stationary energy storage applications. The government shall enable collaborating between cell/ battery manufacturers, EV manufacturers, energy storage operators & recyclers to ensure efficient reuse & recycling of batteries.
- vii) Urban Mining of rare materials and cell/ battery recycling shall be incentivized on par with EV & ancillary manufacturing.





### 12. OTHER INITIATIVES

#### A. EV & ESS Cluster

A mega EV & ESS cluster with global standard infrastructure shall be developed. The cluster shall cater to EV & ESS and related component manufacturing. The EV cluster shall have common facilities as given below.

- Support infrastructure like roads, power, and water shall be provided at doorstep of the industry;
- ii) Built-Up Space with ready factory sheds shall be developed to be used mainly by MSME units;
- iii) A common facility for Design, prototyping, and testing available to all units in the cluster;
- iv) Common infrastructure such as Drainage/ Common Effluent Treatment Plant (CETP)/Sewage Treatment Plant (STP) and utilities such as Power, Gas and Water;
- v) A State-of-art Business environment with facilities such as Convention and exhibition centers;
- vi) Shared facilities to meet staffing and training requirements;
- vii) A Logistics Hub shall provide with multimodal transport for safe and efficient handling of cargo;

#### B. Preferential Market Access

The policy of GoI on preferential market access in Government procurement for domestically manufactured electronics products shall be implemented in all Government of Telangana departments. Special preference shall be given to Telangana-based manufacturers.

#### C. Research & Development

- EV Research Hub: A dedicated facility shall be developed to house EV R&D centers by domestic and global EV Majors. Hyderabad's strength in Technology domain shall be leveraged to provide quality manpower for such centers. This hub is also expected to attract global R&D activities on other emerging mobility trends such as connected and autonomous vehicles.
- ii) Centers of Excellence: State Government shall partner with premier Technical Institutes and research establishments across the state to establishing Centers of Excellence for conducting market-focused research on Battery Technologies, battery management, motors, and controllers. State Government shall seek Industry participation and leverage GOI EV policy to provide grant to these centers. NFTDC (Non-Ferrous technologies Development center) at Hyderabad is running one such COE on electric vehicle technologies, under GOI FAME scheme.
- iii) T- Fund: The Government shall offer financial support to Start-ups for research and innovation in EV & Battery technologies. Yearly awards shall be instituted to recognize breakthrough work in Battery Technologies in separate categories for OEM's, ancillaries and start-ups
- iv) T-Works Automotive Prototyping Center: Recognized as India's largest Prototyping Centre, T- WORKS shall have a dedicated wing for prototyping of Electric Vehicle components/ assembly & battery. Industry partnership in the same shall be invited from EV OEMs and large component manufacturers. The facility shall serve start-ups and MSME units in the EV space at subsidized rates.





# 13. STAKEHOLDERS

S. No	Department	Responsibility
1.	Electronics Wing, ITE&C Dept., Govt. of Telangana	EV Policy & Operational Guidelines, EV Policy Administration
2.	Transport Dept., Govt. of Telangana	EV categorization, Administration of End User Rebates & Subsidies
3.	TSREDCO, Govt. of Telangana	Setting up of Public Charging facilities – airports, metro stations, parking lots, etc.,  Fixing of Ceiling Cost of Service for EV Charging, Guidelines for charging stations – Public & Private  Provision of Renewable Energy for Charging Stations as per Grid related provisions with support of TSDISCOMS
4.	TSSPDCL/TSNPDCL, Govt. of Telangana	Electricity Tariff Administration for Public & Private Charging as per TSERC guidelines.
5.	MAUD Dept., Govt. of Telangana	Adoption of EV in Urban Areas. Identification of sites for EV parking & Public Charging Stations. Infrastructure for EV mobility – Preferential Parking, Charging infra in malls, apartment complexes, etc, with the support of TSREDCO (State Nodal Agency).
6.	TSRTC	Electrification of TSRTC Fleet, Setting up of Charging Infrastructure for TSRTC fleet with the support of TSREDCO (State Nodal Agency).

# **14. STEERING COMMITTEE**

A Steering Committee comprising of senior officials from relevant departments shall be constituted. The steering committee shall work towards time- bound EV demand creation and charging network development in Hyderabad City followed by other towns in the State. The Steering committee shall also be responsible for periodic review of EV policy.





# 15. CONCLUSION

The rapid growth in urbanization and the surge in the number of vehicles on roads has led to an immediate need for a sustainable model for personal and public mobility in urban centers to address the rising pollution & mobility costs. Electric Vehicles have emerged as one such mobility solution that holds best promise in terms of sustainability and mass adoption with its pace of technology advancement and cost rationalization. Electric Vehicle technology integrations with the community transport and shared mobility make the promise even stronger. Telangana State Electric Vehicle and Energy Storage Policy 2020-2030 strives to create a policy framework for the accelerated development of an Electric Vehicle and Energy Storage Systems' ecosystem, comprehensively addressing both the demand and supply side gaps and laying emphasis on charging infrastructure creation. This policy is designed to make Telangana State the Electric Vehicle capital and Energy Storage Systems Manufacturing hub of India.

# CONSTITUTION OF STEERING COMMITTEE

A Steering Committee comprising of senior officials from relevant departments has been constituted to work towards time - bound EV demand creation, charging network development in Hyderabad City followed by other towns in the State and for periodic review of EV policy.

The Steering committee comprises of the following members:

S. No	Department	Responsibility
1.	Principal Secretary, ITE&C Dept., Govt. of Telangana	Chairman
2.	Director - Electronics Wing, ITE&C Dept., Govt. of Telangana	Nodal Officer
3.	Project Director – EV, TSREDCO	Member Convener
4.	Transport Commissioner, Govt. of Telangana	Member
5.	Managing Director, HUMTA - HMDA	Member
6.	Executive Director – Engineering, TSRTC	Member
7.	Director - IPC & RAC, TSSPDCL	Member
8.	Director – IPC & RAC, TSNPDCL	Member
9.	Chief City Planner, GHMC	Member
10.	Joint Commissioner of Police Department	Special Invitee
11.	Managing Director – Hyderabad Metro Rail Ltd.	Special Invitee
12.	Representative - HMWSSB	Special Invitee





# DEPARTMENT VIEWS / SUGGESTIONS RECEIVED FOR ELECTRIC VEHICLE & ENERGY STORAGE POLICY

addition to Public Charging Stations at Airports, Metro Stations, Parking lots mentioned in the EV policy; the EV Charging Infrastructure should be installed at Major Railway terminals, MMTS stations, Major terminals of South Central Railways (Hyderabad, Secunderabad, Kachiguda, etc.), TSRTC Depots, Inter State Bus Terminals (ISBT), Intra City Bus Terminals (ICBT), Truck terminals, Multi-modal hubs, etc.

Public EV Charging Stations: In

Planning interventions for promotion of E- mobility and faster adoption of E Vehicles: through amendments and updating building Bye-Laws/ Regulations/Policies/ Guidelines.

Approval of building layouts and plans within its jurisdiction by performing technical scrutiny to ensure the fulfilment of the building permit provisions for Electric Vehicle Charging Infrastructure.

Preferential parking for EV vehicles can be proposed at commercial buildings and multi-modal hubs.

Development of App: with features covering – locations of EV charging stations, descriptions of its technical infra, status of availability of charging port, swapping facility, etc.

Extensive promotion in adoption of EV through various print media/ electronic media/ related Govt. platforms, workshops, awareness program, information on the App under development, etc.









# **ACKNOWLEDGEMENT**

We are highly grateful to the Energy Department, Government of Telangana and State Nodal Agency (SNA), Telangana State Renewable Energy Development Corporation (TSREDCO) for all the support in preparing this compendium of documents, forms, processes, government orders/memos related to set up of electric vehicle charging stations in buildings in Telangana.

We thank Shri Sunil Sharma (IAS), Spcl Chief Secretary, Energy Department, Govt of Telangana; Shri Arvind Kumar (IAS), Special Chief Secretary, MA & UD & DG, NIUM; Shri Raghuma Reddy, Chairman and Managing Director, TSSPDCL; Shri Swamy Reddy, Director (IPC & RAC), TSSPDCL; Shri Vidyadhar, Director (Planning), HMDA (then Director, DTCP); Shri Devender Reddy, Director, DTCP (then Chief City Planner, GHMC); Shri Y. Sathish Reddy, Chairman, TSREDCO; Shri N. Janaiah, Vice Chairman and Managing Director, TSREDCO; Shri D.V. Rama Krishna, Project Director (EV), TSREDCO; Shri N. Linga Reddy, Chief Engineer, Roads & Buildings (then Executive Engineer (Electrical), Roads & Buildings); Shri Rajendra Nayak, Director, Planning, GHMC; Shri Tulasiram, Deputy City Planner, GHMC; Shri Jagan Mohan, Deputy Director, DTCP; Smt N. Malathi, ADE (IPC), TSSPDCL; Mr. Anil, Development Officer, TSREDCO; Mr. Nikhil, Consultant, TSREDCO; Mr. Lukesh, Field Officer, TSREDCO.

This work wouldn't have been successful without the constant guidance and support from Shri K. Padmanabhaiah (Retd IAS), Chairman, ASCI; Shri Nirmalya Bagchi, DG, ASCI; Shri Gopalakrishnan, Director - Automotive and EV, Govt of Telangana and Shri Mayur Karmarkar, Director, ICA India.

We would also like to express our gratitude to Charge Point Operators representatives such as Raj Kumar, FORTUM; Akshay Galagali, FORTUM; Ranjan Kumar Dodda, JOULE POINT and Sai Kumar Yada, JOULE POINT, Shri Srinivas, CEO, Synergy Infra Consultants Pvt Limited; Shri Rama Krishna Rao, CREDAI Hyderabad Chapter; Shri Rajshekhar Reddy, General Secretary, CREDAI Hyderabad Chapter; Shri Ram Reddy, Vice President; CREDAI Hyderabad Chapter; Shri Sunil Chandra Reddy, President, NAREDCO; Shri Shekhar Reddy, Chairman, CII IGBC; Shri Dr SP Anchuri, Chief Architect, A & A Associates, Shri Sahu, AGM - MEP, Cyber City Developers and Builders for their inputs towards the existing process for permits/ approvals of EVCS in Telangana.

We would like to thank International Copper Association India (ICA India) for supporting this work.



A member of Copper Alliance, the International Copper Association India (ICA India) works as the Indian arm of the International Copper Association Limited (ICA), the leading not-for-profit organisation for the promotion of copper worldwide. ICA was set up in 1959 and has been working with the objective to grow the markets for copper based on its superior technical properties. Since its formation in 1998, ICA India has built an active association with the growing number of copper users through its Programs. ICA India Program is committed to improving the quality of life through better Electrical Safety, Energy Efficiency, Clean Energy and Sustainability.

Right to Charge campaign was set up by ICA India and the Administrative Staff College of India (ASCI) to develop a Public-Private Partnership (PPP) between the state government/ local municipal authorities and private entities to set up EVCS in public and private parking spaces in buildings so as to encourage and influence accelerated adoption of e-mobility. The campaign aims to ensure faster deployment of EVCI in public parking lots, municipal buildings, and urban housing societies. The campaign have already committed to the Government of India's Go Electric campaign and state-based intended targets towards developing a low-carbon transportation network. This campaign will primarily provide facilitation between the identified stakeholders to participate in the necessary development of a framework for the installation of the EVCI in the above-identified parking spaces.



ASCI is an institution of national importance established in Hyderabad in the year 1956, by the Government of India and Indian industry. ASCI has pioneered post-experience management training in India. With its synergistic blend of Management, Development, Consultancy and Research, ASCI made a significant contribution towards professionalizing Indian management. Over the years, ASCI has carved a niche for itself on the strength of its domain expertise for management development, policy advice to governments and technical assistance to government organizations, institutions and industry.

The Centre for Energy Studies (formerly Energy Area) at ASCI has contributed to various national building measures starting from the drafting of the Electricity Regulatory Act, regulatory and tariff analysis in the power sector, reforms for various states in the power sector, implementation of the mandatory ECBC compliance framework in the states of Telangana and Andhra Pradesh, various policy impact assessment studies for central government ministries as well as a host of other capacity building programs for government officials and private sector professionals. CES has also worked for power systems planning, distribution management, corporate planning of power sector companies, environmental issues in the power sector, benchmarking of distribution capital costs, benchmarking capital costs of NTPC, etc.., In the past two decades, CES provided support to various governments and institutions in India and abroad on reforms and restructuring, tariff analysis and regulations, developing power markets, electricity distribution management, rural electrification, energy efficiency, and energy conservation, etc.

# **PROJECT TEAM**

Prof. Rajkiran V Bilolikar, Director, Centre for Energy Studies, ASCI; Prof. Amartya Awasthi, Assistant Professor, Centre for Energy Studies, ASCI; Shri. Hemanth Kumar, Director, E-Mobility, ICA India; Ms. Bhuvaneshwari Peddi, Consultant, Centre for Energy Studies, ASCI; Mr. Nihankar Rao Kotagiri, Research Associate, Centre for Energy Studies, ASCI; Ms. Aindhri Binayak Basu, Intern, Centre for Energy Studies, ASCI; Ms. Charu Lata, Senior Lead Consultant, E-Mobility & Clean Energy, NRDC India Program.







----KNOWLEDGE PARTNERS-----



