Electric Vehicle Charging Guideline

Energy Efficiency and Conservation Section

Renewable Energy Wing

Power Division

Ministry of Power, Energy, and Mineral Resources

Foreword

To reduce risks associated with climate change and to minimize carbon emissions, importance is being given globally to making transportation systems carbon-free. The fossil fuel-based system used in private vehicles, public transport, and transportation of goods requires revolutionary transformation to make the transportation sector carbon-free. The introduction of electric vehicles is irrefutable for this transformation. The power sector is directly related to the commencement and operation of electric vehicles. Like the rest of the world, electric vehicle use is gradually becoming popular in Bangladesh. Establishing a structural framework to guide activities associated with the installation of charging infrastructure is essential to encourage the use of electric vehicles. Realizing the importance of the subject, Power Division has undertaken the initiative to formulate the Electric Vehicle Charging Guideline.

Issued by Power Division, this Guideline has a total number of 08 (eight) Chapters, 02 (two) Forms, and 05 (five) Annexes. I am hopeful that this Guideline will play a vital role in expanding electric vehicle use and accelerating charging infrastructure installation activities. Clarifying the role of and providing overall direction on rendered support from relevant electricity distribution offices in the charging infrastructure installation activities is also an objective of this Guideline. This Guideline will also play a pivotal role in establishing proper management, attracting private entrepreneurs, and bringing the already existing charging system for 02 (two) and 03 (three) wheeler electric vehicles under a regulatory regime.

Finally, I sincerely thank relevant ministries/divisions, the Sustainable and Renewable Energy Development Authority (SREDA), electricity distribution organizations, and companies for their support in preparing this Guideline. It is indeed required to have an ample number of charging stations installed to make electric vehicles acceptable at all levels. If sufficient charging stations could be installed following the Electric Vehicle Charging Guideline, interest among people to buy and use electric vehicles would naturally increase, which would contribute to guaranteeing a safe and secure environment for humans.

/Sd (15.06.2022)

Md. Habibur Rahman

Secretary

Power Division

Ministry of Power, Energy, and Mineral Resources

Table of Contents

1. Objectives:

To reduce risks due to climate change and deter air pollution, the government has undertaken various initiatives encouraging efficient and affordable use of energy as well as searching for alternative energy sources. Like other countries of the world, it is critically important for the transportation sector of Bangladesh to have a safe, reliable, accessible, and affordable charging infrastructure to facilitate the extensive use of electric vehicles and reduce fossil fuel dependency. Considering the need for an integrated initiative involving relevant entrepreneurs, electric vehicle owners, electricity distribution authorities, etc., the Electric Vehicle (EV) Charging Guideline has been formulated.

Objectives of this Guideline include setting up affordable service charges for electric vehicle owners and charging station operators/owners, creating employment/income opportunities for small entrepreneurs, proactively supporting the creation of EV Charging Infrastructure in the initial phase, and eventually establishing a market for EV charging business. Facilitating the electricity distribution licensees' preparedness to incorporate EV charging infrastructure in the electricity distribution system is also an essential objective of this Guideline.

2. Definition

2.1. Private Charging Infrastructure – An infrastructural facility to recharge electric vehicles (EVs) established by the owners of one or several electric vehicles or by a specific group of users of electric cars, built to be used exclusively by the said owner(s) or group of EV users. This facility shall not remain open for public use.

2.2. Public Charging Infrastructure – An infrastructural facility established through public or private initiatives to recharge electric vehicles, which shall remain open for the general public. This type of facility shall usually remain open for everyone during relevant business hours or at least 12 hours every day. EV charging in these facilities shall be considered a commercial activity. However, if a private charging station offers charging facilities to more than three EV owners, that charging station shall be regarded as a public charging station.

2.3 Electric Vehicle, EV – A vehicle propelled entirely or partially by electricity via an electric motor that uses the stored energy of a rechargeable battery. Apart from Battery Electric Vehicles (BEVs), Plug-in-Hybrid Electric Vehicles (PHEVs) that are propelled through electricity-driven drive along with a secondary propulsion system similar to an internal combustion engine shall be included in this Guideline.

2.4. Charging Device (CD) – An element in the Electric Vehicle Charging Infrastructure that supplies electrical energy for recharging electric vehicles. It is also known as Electric Vehicle Supply Equipment (EVSE).

2.5. Charging Point Operator (CPO) – A person responsible for charging point operation, maintenance, and continuity of charging activities of a specific charging station. Generally, the owner of the charging station and, in some instances, a person contractually appointed by the owner shall be considered as CPO.

2.6. Connection Point – A location most suitable for the charging station to establish connectivity with the nearby power distribution network.

2.7. Electricity Tariff for EV Charging - Tariff determined by Bangladesh Energy Regulatory Commission (BERC), which can not be changed by the Charging Point Operator (CPO).

2.8. Connector/Outlet – It refers to the number of electric vehicles that could be simultaneously recharged with specific connector facilities at a time in the charging station. Types of connectors shall depend on the classification of electric vehicles. For example, CCS (Combined Charging System), CHAdeMO (Charge de Move), and AC Type-2 Standard etc.

2.9. Service Charge – Stipulated service charge for providing electric vehicle charging service. This charge shall include trading costs, storage costs, costs of machinery, charging point operators' profit, parking fees, and incidental costs. The combined price of the electricity tariff and service charge shall be considered the total expenses of the EV Charging process. In the case of charging infrastructure/station, the authority may determine the maximum applicable service charge for EV Charging in accordance with the relevant recommendations of the technical committee.

2.10. Authority – Authority refers to the Sustainable and Renewable Energy Development Authority (SREDA) or any other organization authorized by the government in this regard.

3. General Aspects

3.1. All Charging Infrastructures/Stations, including the public stations, shall mandatorily follow the Safety Standards described in the Annex.

3.2. All charging stations shall include sufficient space within and in front of the stations for the charging process and for the entry/exit of vehicles so that traffic congestion does not arise on the main road. Specific space must be determined based on the types of electric vehicles and the station's location. Space available in a usual parking lot may be considered sufficient.

3.3. Any person or organization willing to set up a charging station shall apply to the authority through Form-1 and with the required documents as per Annex-3. Upon receiving the approval to install charging stations from the authority, the applicant shall then apply to the relevant electricity distribution licensee for electricity connection via Form-2 along with the required documents as stated in Annex-2. After completion of the needful formalities, relevant electricity distribution licensees can provide electricity connections.

> 3.3.1. At all times, authorized electricity load must be maintained at each connection point. If the connection point falls within the existing distribution network, the electricity connection shall be provided directly by the electricity distribution licensee. And, if the connection point is located somewhere distant from the existing distribution network, the charging point operator shall bear the cost of the additional distribution line. The electricity distribution licensee shall supply the transformer up to a load of 80KWh in accordance with BERC's Tariff Order. In cases where the load is more than 80KWh, the charging point operator shall install the transformer with its own investment.

3.3.2. In installing higher capacity EV charging stations, electricity distribution licensees shall formulate suitable strategies in light of prevailing regulatory provisions.

3.4. Provided that until the authority develops its own capability, all technical tests/observation activities of the charging stations shall be conducted once every 3 (three) years by the relevant electricity distribution licensee. Charging stations shall be examined against the specific international safety parameters mentioned in Annex-1. These examinations shall be conducted in laboratories accredited by Bangladesh Accreditation Board (BAB). However, until sufficient relevant laboratory facilities are established in the country, these tests may be undertaken in internationally renowned accredited laboratories. The authority, with the support of the Bangladesh Accreditation Board, shall publish online and update, from time to time, a list of internationally renowned accredited laboratories.

3.5. Re-usage, recycling, or disposal of unusable EV batteries and other defunct electric devices in the charging stations shall follow the provisions laid out in the Hazardous Waste (e-waste) Management Rules, 2021.

4. Private Charging Stations

4.1. Private Charging Station Tariff

4.1.1. Generally, applicable regular household electricity tariff shall be considered the tariff for private charging stations.

4.1.2. If a separate meter is installed and charging facilities are provided to more than 3 (Three) different EV owners, the relevant battery charging tariff as stipulated by BERC may be applied.

4.1.3. Sufficient space must be kept for charging, entry, and exit of the vehicles. If need be, multi-storied lift-included charging infrastructure may be installed.

5. Charging Station for 2(Two)/ 3(Three) Wheelers

5.1. BRTA authorized Two/Three Wheeler battery-driven cars shall fall within the purview of this Guideline.

5.2. With support from the industry sector, initiatives shall be taken to establish general DC charging standards for three-wheeler electric vehicles.

5.3. Upon compliance with the general safety standards stated in Annex-1, these charging stations may be approved for installation. Authority may provide appropriate certification in this regard.

5.4. Upon properly following the technical, required safety and skill standards stated in paragraphs 3.3 and 3.4 of this Guideline, any person or organization may independently install a charging station for three-wheeler electric vehicles.

5.5. Chargers in the charging stations composed of either one or more of the following chargers can be used in the initial phase.:

Charger Type	Charger Connectors	Minimum Rated Power
AC Charger For cars with Lithium Ion Battery	Type-2 AC	11 Kilowatt
AC Charger For 2/3-Wheeler Electric Vehicles	Type-1 AC	1.0-1.9 Kilowatt

6. Public Charging Stations

6.1. Charging infrastructure installed at government organizations, housing associations, shopping malls, office buildings, restaurants, hotels, petrol pumps, etc., aiming to be used by more than three users or user groups shall be considered as Public Charging Stations. However, there shall be sufficient space available for charging.

6.2. Trade license from the relevant local government organization and technical certification from the authority shall be required to install Public Charging Stations. Any individual or entity is free to set up public charging stations provided that such stations meet the technical, safety as well as performance standards and protocols stated in the 'General Aspects' chapter of this Guideline, relevant laws and regulations, and the rules/technical specifications/technical ruling laid down by the ministry from time to time. If a new standard is issued after the installation and commencement of a charging station following the old standards, no retrofitting shall be required for that charging station.

6.3. Public charging stations shall be eligible to apply for all the assistance offered by the government from time to time.

6.4. To charge Four-Wheeler-Electric-Vehicles, chargers composed of either one or more of the following chargers in the public charging stations can be used in the primary phase.:

Charger Type	Charger Connectors	Minimum Rated Power
DC Charger	Combined Charging System (CCS)	50 Kilowatt
	CHAdeMO	50 Kilowatt
AC Charger	Type-2 AC	11 Kilowatt

6.5 For other types of electric vehicles, charging stations may use chargers other than those mentioned above, which are produced by SREDA in accordance with the technical and safety standards mentioned

in Annex-1, or use other internationally recognized chargers. However, in this case, this type of charger can be used only after the release of the Guideline and until the relevant standards are set by the BSTI.

6.6. Subject to approval from the government, the authority shall prepare and preserve a national database (Monitoring Platform) of all public charging stations. Charging Point Operators (CPO) shall regularly provide charging stations' information to the monitoring platform following the table below. In the interest of marketing, the monitoring platform should be developed following the international Open Charge Point Interface (OCPI) protocol to the extent possible. Failing to or delaying in providing information to the monitoring platform shall be subject to suspension from tariff and other facilities or imposition of penalty as determined by the authority; failing to provide information for no more than six months shall lead to the disconnection of the charging station's electricity connection as the final measure.

Information (Parameter)	**Information Submission Deadline** (Time Limit)
Types of plugs	2 Weeks
Number of plugs under each type	2 Weeks
Timetable of the charging power (Kilowatt)	2 Minutes
Location (GPS information)	2 Weeks
Operation Time (Example: 08:00 AM – 08:00 PM)	2 Weeks
In effect (Yes/No)	2 Minutes
Maximum cost of charging without the CPO agreement (KWh)	1 Week
Parking Cost (Minimum)	1 Week
Payment process (Example: Credit Card, Plug, and Charge)	2 Weeks
Green/Renewable electrification (Yes/No)	2 Weeks

6.7. Continuous telephone/mobile connection, supply of clean water, and arrangement of modern and hygienic toilet facilities for men and women shall be made available within the boundary of the charging station. The charging station compound shall stand higher than the road surface to facilitate water drainage. Charging stations shall abstain from over-illuminating decoration. However, these conditions shall not be applicable for charging stations installed in the courtyard of a filling station already having the facilities mentioned above.

6.8. Installation of charging stations shall comply with prevailing rules and regulations. CPO shall arrange the land for the charging station, provide an entry driveway to the charging station and obtain all approvals relating to business operations from relevant authorities.

6.9. No charging stations shall be installed within 08 (eight) kilometer interior of Bangladesh from the zero line border.

6.10. If a charging station is installed within the compound of a Filling/CNG/Diesel/Petrol/Octane/LPG station, regulations relating to that relevant filling station shall be applicable. The minimum distance

between charging stations on the same side of the road for areas within the district town and city corporation shall be 02 (Two) kilometers, and for other areas, 04 (Four) kilometers. The government may relax this distance limit if necessary in special circumstances.

6.11. Charging stations that are seen continually to lack maintenance or are deemed not to follow the defined safety and connection standards shall be subject to fines under the prevailing rules and regulations. In the final stage, the operation shall be temporarily or permanently shut down, including cancellation of the electricity connection of the charging stations.

6.12. Tariffs for Public Charging Stations

6.12.1. Electricity supply tariff for EV Public Charging Stations shall be determined by Bangladesh Energy Regularity Commission (BERC).

6.12.2. Every charging point in a public charging station shall have a separate metering facility; therefore, information on electricity use following the applicable tariff could be stored, and bills could be prepared. The use of wrong calibration and the absence of separate metering systems in the charging station shall lead to fines imposed by BSTI. It may also lead to disconnection/cancellation of the electricity connection by the relevant electricity distribution licensee.

6.12.3 Cost of charging must be displayed clearly via an electronic display board or signboard when the charging process begins.

6.12.4 There shall be at least two bill payment modes available at the charging stations. Apart from charging agreements, at least one of the payment modes (for example, Cash, Credit/Debit card, etc.) shall remain active.

6.13. Service Charges at Public Charging Stations

6.13.1. While determining the service charges at public charging stations, the authority shall fix the ceiling price to guarantee that driving electric vehicles is more affordable than gas-driven ones. The authority shall adjust this ceiling price as and when required.

6.14. Priority for Rollout of EV Public Charging Station

It is essential to create purchase-friendly market demand for four-wheeler vehicles leveraging the installations of EV public charging stations. In light of detailed discussions with different divisions/establishments of the government and considering the national priority, the government infrastructural undertakings for EV charging may be gradually rolled out in phases, as mentioned below. The structure stated below shall only be considered as an example. Electric Vehicle Charging Infrastructure can be installed in any location, provided the site is not stipulated for implementing any specific government activity.

Phase-1 (1-3 Years)

Charging infrastructure shall be installed in all divisional city centers and important highways where the potential for quick introductions of electric vehicles exists. Initially, priority shall be given to installing fast charging infrastructure in CNG/Petrol refueling stations with sufficient space and electricity connection facilities. Besides, initiatives shall be taken to establish charging stations in government compounds to encourage purchasing electric vehicles under government procurement activities.

Phase 2 (3-5 Years)

In this phase, charging stations with an individual capacity of at least 50 kilowatts and within 100 kilometers of the highway having entrances from both sides of the road shall be installed on a priority basis. Against the replacements of vehicles declared unusable and in case of new procurements, electric vehicles shall be progressively purchased on a priority basis.

7. Responsible Ministry

Power Division, Ministry of Power, Energy and Mineral Resources (MPEMR) shall play the principal role in creating and proliferating electric vehicle charging infrastructures. All other relevant entities shall provide the required assistance in this regard. The ministry shall establish a technical committee to recommend installation, development, maintenance, technical support, service charges of public charging infrastructure, recommendations on incentives, and to carry out other relevant subjects. As per committee recommendations, the ministry shall determine service charges and issue other needful directives, including guidelines relating to incentives.

8. Connection Compliance

8.1. Charging stations shall comply with Bangladesh Electricity Distribution Code (subject to receipt) and other conditions as directed by the government.

8.2. Matters relating to charging stations' adherence to required security conditions and compliance with the distribution code shall be assured yearly through electricity distribution licensees and once every two years through the authority.

Form-1: Application to SREDA for Installation of Charging Station

(Letterhead of the relevant organization)

To

Chairman

Sustainable and Renewable Energy Development Authority (SREDA)

I, the undersigned, am applying for the installation of an electric vehicle charging station in the prescribed form.

1.	(a) Full Name of the Applicant (Bangla): (English): (b) Full Address: (c) Nationality: (d) National Identification Number: (e) Present Address: (f) Present Location: (g) If the central location is outside of Bangladesh, then the name and address of the authorized agent in Bangladesh, along with the information mentioned in sub-paragraph (d) and (e) above.	
2.	Description of experience and knowledge of electric vehicle charging systems (if any):	
3.	Name of the region applied for operation and number of and distance from the nearest station	
4.	Details of project-related information on separate sheets A. Description of technical details of the charging station a) Number and measure of moveable properties b) Details of utilities and services c) List of the technical and operational workforce, including the organizational structure d) Probable duration of task completion and commencement date (if the project is new) e) Details of current or estimated capital, source of investment, allocation of local and foreign currency in the following sector (on separate sheets) i. Cost of machinery ii. Size and details of proposed land iii. Details of installation iv. Specifications of electric equipment v. Specifications of Battery, charging plug vi. Fire extinguisher vii. Furniture viii. Vehicles ix. Construction and Engineering (for the new project)	

	x. Description of electrical safety materials of the charging station xi. Copy of ownership or relevant agreement if installed in the compound of existing filling/CNG/petrol/diesel/LPG station xii. Miscellaneous assets	
5.	Details of demand and need for a charging station in the stipulated location (based on market survey, if conducted), no objection letter from neighboring charging station where applicable	
6.	Other needful information relevant to the evaluation of the application	

Attachment: As per Annex-2

Remarks:

I hereby declare that all the information stated above is true and accurate. I do pledge that I will be bound to follow the regulations of the Electric Vehicle Charging Guideline.

I do attest that we shall not sell or mortgage the right, facility, or liability to anyone either directly, indirectly, or through association without prior approval from the government.

The government reserves all rights to cancel this letter of acceptance/electricity connection in the event of violations of this declaration.

Date: Applicant's Name, Designation, and Signature

Form – 2: Application for Electricity Connection

(Every Utility Company Follows Its Own Application Form)

Application form of Palli Biddyut Samity as an example

জেনারেল ম্যানেজার
পাবনা পল্লী বিদ্যুৎ সমিতি-২

এপিডিক্স-বি
পবিস নির্দেশিকা ঃ ৩০০-৪

পাবনা পল্লী বিদ্যুৎ সমিতি-২
পত্র গ্রহণ নং .....
তারিখ .....
সদস্য সেবা বিভাগ

বিদ্যুৎ সংযোগ সংক্রান্ত বিভিন্ন অফেরতযোগ্য সমীক্ষা ফি নিম্নরূপ হারে আবেদনের সহিত জমা প্রদান করিতে হবে ঃ

ক্রমিক নং	বিবরণ	অফেরতযোগ্য সমীক্ষা ফি (টাকা)
০১	বাড়ী/বাণিজ্যিক/দাতব্য প্রতিষ্ঠানে বিদ্যুৎ সংযোগের জন্য একক ও দলগত আবেদনের ক্ষেত্রে ঃ	
	(ক) একক আবেদনের ক্ষেত্রে	১০০.০০
	(খ) ২ হইতে ৯ জন পর্যন্ত আবেদনের (জন প্রতি) ক্ষেত্রে	১০০.০০
	(গ) ১০ হইতে ২০ জন পর্যন্ত গ্রুপ সম্বলিত আবেদনের ক্ষেত্রে (নির্ধারিত)	১৫০০.০০
	(ঘ) ২১ জন ও তদুর্দ্ধের গ্রুপ সম্বলিত আবেদনর ক্ষেত্রে (নির্ধারিত)	২০০০.০০
০২	সেচ সংযোগের জন্য	২৫০.০০
০৩	যে কোন ধরণের অস্থায়ী সংযোগের জন্য	১৫০০.০০
০৪	উপরে বর্ণিত সংযোগ ও শিল্প প্রতিষ্ঠান ব্যতীত অন্য কোন সাময়িক/স্থায়ী সংযোগের জন্য	১৫০০.০০
০৫	পোল স্থানান্তর/লাইন রুট পরিবর্তন/সমিতি কর্তৃক স্থাপিত অন্য গ্রাহকের সার্ভিস ড্রপ স্থানান্তরের আবেদনের জন্য	৫০০.০০
০৬	শিল্প প্রতিষ্ঠানের সংযোগের জন্য (জি,পি)	২৫০০.০০
০৭	বৃহৎ শিল্প প্রতিষ্ঠানের সংযোগের জন্য (এল,পি)	৫০০০/৭৫০০
০৮	লোড বৃদ্ধির জন্য (০-৩ কিঃ ওঃ পর্যন্ত)	৫০০.০০
	লোড বৃদ্ধির জন্য (৩ কিঃ ওঃ উর্দ্ধ হতে ১০ কিঃ ওঃ পর্যন্ত)	১০০০.০০
	লোড বৃদ্ধির জন্য (১০ কিঃ ওঃ উর্দ্ধ হতে ৪৫ কিঃ ওঃ পর্যন্ত)	২০০০.০০
	লোড বৃদ্ধির জন্য (৪৫ কিঃ ওঃ উর্দ্ধে)	৫০০০.০০

নতুন সংযোগের আবেদন ফি (১ ফেজ/৩ ফেজ) .....টাকা

বিষয় ঃ বাড়ী/ক্ষুদ্র বাণিজ্যিক/দাতব্য প্রতিষ্ঠান/সেচ কার্য্য/ অস্থায়ী বিদ্যুৎ সংযোগের জন্য আবেদন।

জনাব,

উল্লিখিত বিষয়ে নিম্নস্বাক্ষরকারী **পাবনা পল্লী বিদ্যুৎ সমিতি-২** এর যাবতীয় নিয়ম প্রতিপালনে সম্মত হইয়া নিম্নলিখিত তথ্যাদি অবহিতকরণ পূর্বক বিদ্যুৎ সংযোগ গ্রহণে আগ্রহী।

এমতাবস্থায় নিম্নবর্ণিত স্থানে বাড়ী/ক্ষুদ্র বাণিজ্যিক/দাতব্য প্রতিষ্ঠান/সেচ কার্য্য/ অস্থায়ী সংযোগের বিষয়ে প্রয়োজনীয় ব্যবস্থা গ্রহণ করিয়া বাধিত করিবেন।

তথ্য সমূহ

১। আবেদনকারীর নাম ও জন্ম তারিখ ঃ ----------

২। পিতা/ স্বামীর নাম ঃ ----------

৩। মাতার নাম ঃ ----------

৪। আবেদনকারীর ঠিকানা (ক) স্থায়ী ঃ গ্রাম ---------- ডাকঘর ----------
ইউনিয়ন ---------- উপজেলা ----------
জেলা ---------- মোবাইল ----------
(খ) অস্থায়ী ঃ গ্রাম ---------- ডাকঘর ----------
ইউনিয়ন ---------- উপজেলা ----------
জেলা ---------- মোবাইল ----------

৫। প্রস্তাবিত সংযোগ স্থলের বর্ণনা ঃ
(ক) সম্পত্তির আইনগত মালিকের নাম ঃ ---------- (খ) থানা ঃ ----------
(গ) ইউনিয়ন ঃ ---------- (ঘ) ডাকঘর ঃ ----------
(ঙ) মৌজা ঃ ---------- (চ) গ্রাম ঃ---------- (ছ) খতিয়ান নং ঃ---------- (জ) দাগ নং ঃ----------
(ঝ) বিদ্যুৎ লাইনের নিকটবর্তী খুঁটি হইতে দূরত্ব ঃ ---------- মিটার/ফুট ঃ ----------

৬। বৈদ্যুতিক লোডের ধরণ ঃ ----------

(পাতা-২)

৮। সংযোগের প্রকৃতি ঃ---------- ফেজ ---------- ভোল্ট ----------সাইকেল।

৯। সেচ কার্য্যের ক্ষেত্রে ঃ ---------- ডিপ-টিউবওয়েল/স্যালো টিউবওয়েল/এল,এল,পি।

১০। সংযোগের তারিখ (প্রস্তাবিত) ঃ ----------

১১। আবেদনকারীর অন্য কোন তথ্য প্রদান করিতে চাহিলে ঃ ----------

তারিখ ঃ ----------

আবেদনকারীর স্বাক্ষর ও পদবী
(প্রতিষ্ঠানের প্রধান কর্তৃক স্বাক্ষরিত হইতে হইবে)

নিম্নের তথ্যাদি অফিস কর্তৃক পূরণীয়

১। প্রাথমিক রিপোর্ট (সদস্য সেবা বিভাগ কর্তৃক) ঃ
(সর্বোচ্চ ৭ দিনের মধ্যে)

২। ষ্টেকিংশীটের সূত্রসহ পরামর্শদাতা প্রকৌশলীর ঃ
মন্তব্য (সর্বোচ্চ ৭ দিনের মধ্যে)

৩। এজিএম (ইঞ্জিনিয়ারিং / ওএন্ডএম) / প্রকল্প ঃ
বিভাগের মন্তব্য (লাইন নির্মাণের তারিখ)

৪। জেনারেল ম্যানেজারের নির্দেশ ঃ

.....
জেনারেল ম্যানেজার

Annex-1: Standards and Safety-Related Matters

1. Safety Standards for Charging Devices

The electrical safety provisions of EV Charging Stations shall follow the following standards:

- IEC 61851-1:2017: Standard for electric vehicle conductive charging system – Part 1: general requirements,
- IEC 61851-23:2014: Electric vehicle conductive charging system - Part 23: DC electric vehicle charging station,
- EC 61851-24:2014: Electric vehicle conductive charging system - Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging; And
- ISO 17409:2020: Electrically propelled road vehicles- Conductive power transfer - Safety requirements

2. General Conditions

- All electric vehicle charging stations shall be provided with protection against the overload of input and output supply fittings.
- Cluster connection of electrical charging wires or cord extension by adjoining one wire with another shall not be used.
- The electric vehicle parking place shall be such that the distance between the electric vehicle charging point and the electric vehicle shall be within 05 meters.
- Suitable lightning protection systems shall be provided for the electric vehicle charging stations as per IEC 62305.
- Electric vehicle charging stations shall be equipped with a protective device against the uncontrolled reverse power flow from the electric vehicles.
- If the voltage is higher than 60 Volt DC and when hazardous voltage is detected through the charging process, including after the end of charging and in case of a charging system malfunction, an alternative method of disconnection shall be applied by dislodging the plug connecting the vehicles (used for DC charging).
- In the case of Direct Current (DC) electric vehicle charging, the charging point may disconnect the electricity supply automatically to prevent overvoltage at the battery if the output voltage exceeds the maximum voltage limit sent by the vehicle.
- The electric vehicle charging points shall not energize the charging cable when the vehicle connector is unlocked. The voltage at which the vehicle connector unlocks shall be lower than 60 Volts.
- Electric vehicle connections in the charging station shall be installed in a way to avoid, as far as practicable, the existing network's unbalance related problems.

3. Earth Protection System for Charging Stations

- All residual current devices for the protection of supplies for electric vehicles shall:
  - have a residual operating current not greater than 30 mA;
  - interrupt all live conductors, including the neutral; and
  - have a performance at least equal to Type A and be in conformity with IEC 60364.

- All residual current devices used for the protection of supplies to electric vehicles shall be permanently marked to identify their function and the location of the charging station or socket outlet they protect.
- Each electric vehicle charging point shall be connected individually to 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.
- Coordination of various protective devices shall be required.
- Where required for service and maintenance reasons, sequence shall be maintained between the residual current device protecting a connecting point and a residual current device installed upstream.
- All electric vehicle charging stations shall be equipped with a sub-circuit protected by a voltage-independent residual current device and provide personal protection compatible with electric vehicles' charging supply.
- All electric vehicle charging stations shall be provided with an earthing continuity monitoring system that disconnects the supply in the event that the earthing connection to the vehicle becomes ineffective.
- Earthing of all electric vehicle charging stations shall be as per IEC 60364.
- The cable may be fitted with an earth-connected metal shielding, and the cable insulation shall be wear-resistant and maintain flexibility over the entire temperature range.
- A protective earth conductor of sufficient rating to satisfy the requirements of IEC 60364-5-54 shall be provided to establish connections between the earth terminal and the conductive parts of the vehicle.
- All charging station apparatus shall have the insulation resistance value stipulated in the relevant IEC 61851-1.

Apart from electric security, a fire-extinguishing facility is required in enclosed buildings or other fire-hazard areas. The enclosure of charging stations shall be made of fire-withstanding material with self-extinguishing properties and free from Halogen. Power supply cables used in charging stations or charging points shall conform to IEC 62893-1.

All charging stations shall be tested and inspected by the relevant prior electricity distribution licensee before connectivity to the grid, and maintenance of security standards shall be ensured through periodic inspection. The owner of the charging station shall keep all test certificates, records related to past inspections, details of any issues observed during the inspection, and any remedial actions taken in relation to addressing those issues. At the time of inspection, the owner of the charging station shall supply all these records.

Where the connection point is installed outdoors or in a damp location, the equipment shall have a degree of protection of at least IP54 (classification of protection through enclosures for electrical equipment having rated voltage not more than 72.5KV) in accordance with IEC 60529.

It is suggested that robust mechanical equipment, without any detachable/separate parts, should be used to defend against vandalism. Charging equipment panels may be supplied with locking systems to prevent unauthorized access.

Annex-2: Required Documents for Electricity Connection

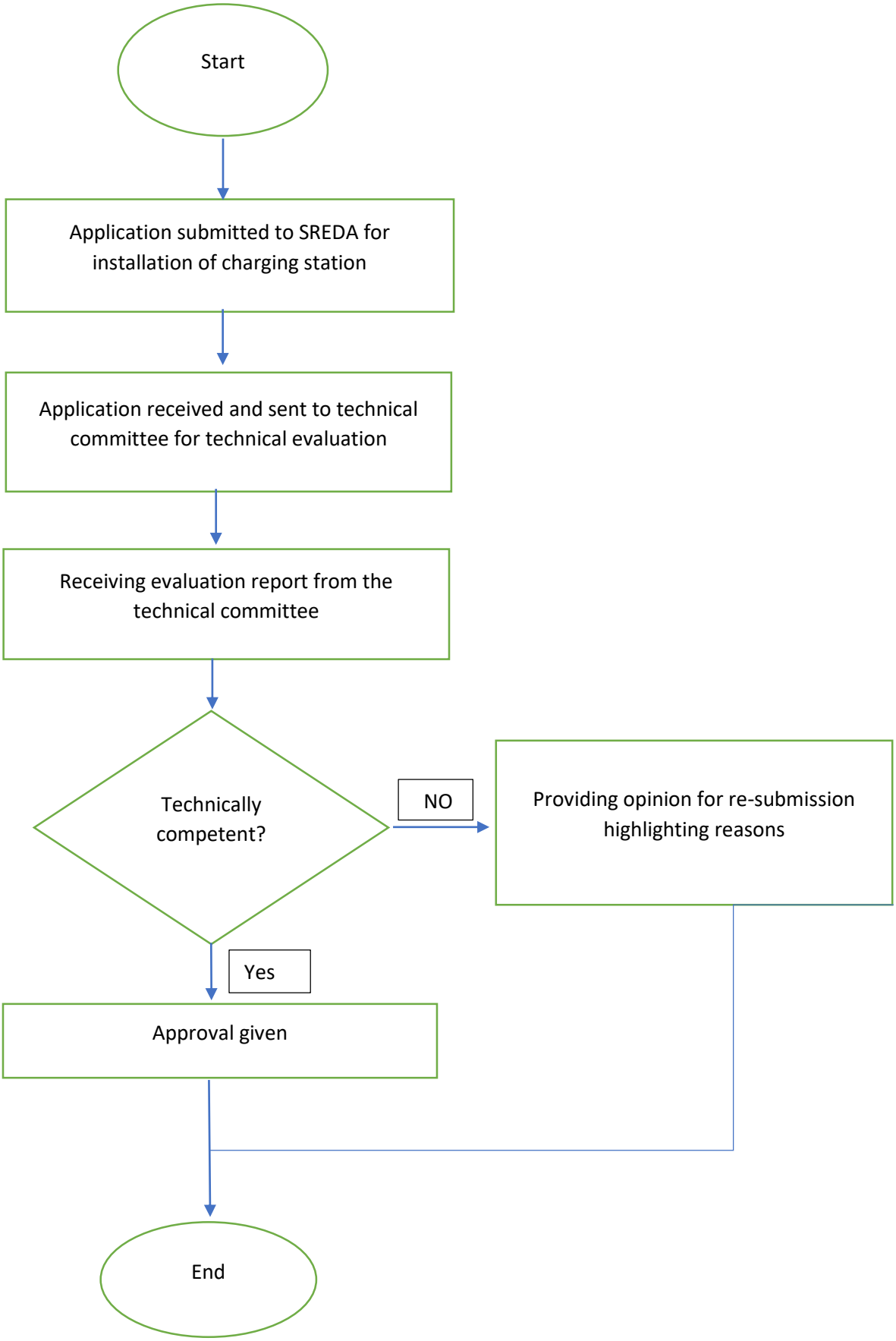
List of required documents for electricity connection

1. National ID/ 01 copy passport size photograph in applicable cases;
2. Land ownership document or Lease deed or mutation record, succession certificate in the absence of original owner;
3. Copy of paid bills in case of existing connection (to avail additional connection with the same name or in the same location, no other document shall be required);
4. Fire extinguishing certificate for commercial building (more than ten-storied);
5. RAJUK/CDA/KDA/RDA or, in other cases, City Corporation/Municipality's approved building plan, holding number (where applicable);
6. Approval on epicenter from the office of the Chief Electric Inspector in case of installation of HT connection;
7. Technical certification/recommendation letter from SREDA.
8. If the required load is more than 50KWh, approval on epicenter from the office of the Chief Electric Inspector and the fire extinguishing certificate shall be required.
    - Transformer specification and copy of manufacturer's test certificate;
    - Detailed description/specification of HT/LT switch gear, PFI plant, Dropout fuse, and Lightning Arrester;
    - Layout drawing of the epicenter (01 copy), including correct measurement in the floor-plan and single-line diagram of the epicenter (04 copy);
    - The latest test report of the Transformer Oil conducted by government authorized organization;
    - Insulation and earth testing report on the epicenter and internal wiring by the task-completing contractor.
    - Attested photocopy of the legitimate license of the contractor completing the task of installing epicenter and electric installation along with an attested photocopy of the certificate of the supervisor employed by the contractor;
    - 01 (one) copy of the layout plan (including the location of the sub-station) of the authorized building as approved by Rajuk/CDA/RDA/City Corporation/Municipality etc., or government-authorized entity.
    - Land document/agreement copy as proof of ownership.
    - For installation of sub-station on any floor other than the ground floor:
        a. Safety certificate from a registered consultant;
        b. Certification from the Department of Fire Service and Civil Defense;
        c. Prescribed commitment letter of the building proprietor on a TK300 (Taka Three Hundred) non-judicial stamp.

Annex - 3: Required Documents for Technical Certification of Charging Station Materials

1. Layout plan of the proposed charging station
2. Electrical connection layout highlighting electric safety materials as per annex-1, for example- overload protection system, lightning protection safety system, safety devices to defend against reverse electricity flow, automated system to protect battery overvoltage, earthing safety system, etc.
3. Certificate or report as per annex-1 on all safety systems, internal insulation, and design specifications, including laboratory examination (where applicable).
4. Trade License for business operation.

Annex -4: Technical Approval Flowchart for Installation of Charging Station



Annex-5: Application Flowchart for Electricity Connection