

**Guidance on Preparation of Specifications for
Employment of Consultants and Contractors for Installation Works
under the EV-charging at Home Subsidy Scheme**

1. Purpose

- 1.1 This “Guidance on Preparation of Specifications for Employment of Consultants and Contractors for Installation Works under the EV-charging at Home Subsidy Scheme” (the “Guidance”) is to be used as reference by applicants of the EV-charging at Home Subsidy Scheme (the “EHSS”) in devising contract specifications for employing consultants and contractors for installation of electric vehicle charging-enabling infrastructure (“EVCEI”) under the EHSS. In particular, it provides guidelines on devising essential terms and conditions in the contract specifications, and sets out requirements of qualifications and experience of consultants and contractors for tendering for the installation contracts under the EHSS.
- 1.2 Applicants of the EHSS shall invite tenders and select and employ the consultants and contractors according to the “Guide to Procurement of Services of Consultants and Contractors for Installation of Electric Vehicle Charging-enabling Infrastructure under the EHSS” in **Annex 2** of the “EV-charging at Home Subsidy Scheme – Application Notes” (“Application Notes”) issued by the Environmental Protection Department (“EPD”).

2. Scope of Services of the Consultant

- 2.1 The consultant to be employed by the applicant shall provide the following services for installation of the EVCEI –
- (a) To carry out feasibility assessment of installation of EVCEI in the car park, including assessment of coverage of parking spaces, technical feasibility of the installation works, including the need to upgrade the power supply capacity;
 - (b) To prepare a proposed design of the EVCEI with reference to “Design Guidelines for EV charging-enabling Infrastructure under the EV-charging at Home Subsidy Scheme” (the

“Design Guidelines”) and “Guide for Consultant Employed by the Applicant of the EV-charging at Home Subsidy Scheme for the Design of Electric Vehicle Charging-Enabling Infrastructure and Associated Installations in the Car Park” (the “Guide for Consultant”) issued by the EPD for consideration by the applicant. The proposed design shall include, but not limited to, the coverage of parking spaces, adequacy of power supply capacity to the car park, and the circuit design to be adopted to support simultaneous medium charging (i.e. with 1-phase 32A power supply) at all the parking spaces to be covered, method statements and work plans for upgrading the power system including any building alterations and additions works (“A&A works”) for the switch room and / or transformer room and details of fixed installations required and associated builder’s works, if needed, circuit arrangement to be shown in schematic diagram and layout, the installation of electricity meters for all the final circuits to the parking spaces to be covered, and quantities and specifications of materials and equipment for the works;

- (c) To estimate the costs of the installation works based on the proposed design for consideration and agreement of the applicant, and advise the applicant if the costs would exceed the funding ceiling;
- (d) With reference to the Design Guidelines, to prepare detailed works specifications for the works for the EVCEI based on the proposed design with modifications as instructed by the applicant and incorporate comments of the EPD’s advisor as appropriate, and to seek agreement of the detailed works specifications from the applicant and approval from the EPD;
- (e) After obtaining approval of the works specifications from the EPD, to prepare the tender documents incorporating the detailed works specifications agreed by the applicant and comments from the EPD for the applicant to employ a contractor for carrying out the installation of the EVCEI in the car park, and assist the applicant in the procurement of the contractor services, including tender analysis, providing responses to queries raised by interested tenderers, making recommendations for the applicant’s consideration, and

preparing the contract documents for employing the selected contractor by the applicant;

- (f) In case re-tendering for contractor service is needed, to revise the detailed works specifications, which may include modification to the scope of works and / or coverage of parking spaces for agreement by the applicant and approval of the EPD, and to perform duties set out in (e) above;
- (g) In case the installation of the EVCEI involves the A&A works, and subject to consent of EPD for proceeding with the A&A works with justifications, to prepare and submit the required building plans of the A&A works for approval of the Buildings Department, and seek approvals from other relevant departments for the works. The preparation and submission of the building plan of the A&A works shall be done by an Authorized Person (“AP”);
- (h) To liaise with the power company, relevant government departments, and any related parties for addressing issues for the works so that the works can be carried out smoothly and in compliance with the relevant laws and regulations and codes of practice, etc.;
- (i) To supervise the performance of the contractor employed by the applicant;
- (j) To assist the applicant in monitoring the contractor’s work to ensure that the works are conducted and completed according to the specifications and programme set out in the contract of the works with the contractor;
- (k) To prepare bi-monthly progress reports of the works for the applicant to submit to the EPD. The progress report shall include the progress of the installation works, causes and mitigation measures if there is slippage to the programme, and remedial measures and plans for rectifying any irregularities found during the reporting period;
- (l) To conduct the acceptance test of the EVCEI and associated installations covered in the works contract, which must meet all statutory regulations and specifications set out in the contract with the contractor, and then issue a Certificate of Satisfactory Completion of the works endorsed by the applicant to the contractor;

- (m) To submit Form of Compliance (Form EE4), if necessary, within two months after completion of the EVCEI installation works by the Registered Energy Assessor;
- (n) To prepare as-built drawings of the works and a management, operation and maintenance manual of the EVCEI and associated installations with inputs from the contractor, for reference and use of the applicant after satisfactory completion of the works; and
- (o) To provide other services as per instructions of the applicant, which are related and necessary for smooth conduct and completion of the installation works.

3. Qualifications of Consultants

- 3.1 To set out in the tender documents for employing the services of a consultant that, to be eligible to submit tenders to provide services as a consultant for installation of EVCEI under the EHSS, the consultancy firm shall meet the following qualifications and experience requirements. That is, the consultancy firm shall –
 - (a) be a Registered Electrical Contractor under the Electricity (Registration) Regulations (Cap. 406 subsidiary legislation);
 - (b) have employed at least one full time Registered Professional Engineer (“RPE”) in either the Electrical or Building Services discipline under the Engineers Registration Ordinance (Cap. 409);
 - (c) have completed at least two projects related to design of fixed electrical installations or design of EV charging facilities within the past 5 years;
 - (d) in case A&A works (including minor works) are required, engage an Authorized Person (“AP”) / Building Professionals to handle the A&A works to comply with the Buildings Ordinance (“BO”) and its allied regulations; and
 - (e) have a local Hong Kong office.

4. Scope of Services of the Contractor

- 4.1 The contractor to be employed by the applicant shall provide the following services for installation of the EVCEI and a fire detection

system (if needed) –

- (a) To carry out and complete the installation works of the EVCEI and associated installations in the car park according to the specifications and programme set out in the contract;
- (b) To co-operate with the consultant, the EPD, and other related government departments for arranging for inspections of the installation works;
- (c) To take actions as instructed by the applicant and the consultant including remedial actions to rectify irregularities / defects observed;
- (d) In case installation of a fire detection system in the car park is included in the works specifications, to design and build the fire detection system with scope and coverage specified in the specifications according to the requirements stipulated in the Fire Services Department (“FSD”) Circular Letter No. 4/2020 – Additional Fire Safety Requirements for Car Parking Facilities installed with Electric Vehicle Charging Facilities (“Circular Letter”) issued on 31 July 2020, and to submit fire service installation plans (FSI/314A) and Certificate of Fire Service Installation and Equipment (FS251) to the FSD after completion of the works according to FSD’s regulations;
- (e) After completion of the works for the EVCEI, to conduct the acceptance test according to the requirements and methods set out by the consultant, and provide a comprehensive test report and the Work Completion Certificate (Form WR1) to the applicant;
- (f) After confirmation of satisfactory completion of all the installation works as certified by the consultant and the applicant, to submit to the applicant all documents related to the works, including but not limited to test reports, certificates, etc., and prepare an operation and maintenance manual (“O&M manual”) for the EVCEI and associated installations, and the fire detection system (if installed) for acceptance by the applicant’s employed consultant; and
- (g) To provide the warranty for the EVCEI, the fire detection system and all associated equipment installed within the defects liability period (“DLP”) specified in the contract (which shall not be less than one year), and to rectify any defects and

malfunction found during the DLP at no cost to the applicant.

5. Qualifications of Contractors

5.1 To set out in the tender documents for employing the services of a contractor that, to be eligible to submit tenders to provide services as a contractor for carrying out the works under the EHSS, the contractor shall meet qualifications and experience requirements. That is, the contractor shall –

- (a) be a Registered Electrical Contractor under the Electricity (Registration) Regulations (Cap. 406 subsidiary legislation);
- (b) have completed at least two projects related to fixed electrical installations or EV charging facilities within the past 5 years;
- (c) possess a minimum positive working capital value that meets the below financial criteria –
 - HK\$0.57M for the contract up to HK\$5.7M, or
 - HK\$3.4M for the contract above HK\$5.7M;
- (d) have a local Hong Kong office;
- (e) in case the A&A works for which approval and consent from the Building Authority are required, have obtained the qualifications of or engaged a Registered General Building Contractor (“RGBC”) in accordance with Section 8B of the BO;
- (f) in case the A&A works classified as minor works are required, have obtained the qualifications of or engaged a Registered Minor Works Contractor (“RMWC”) in accordance with Regulation 10 of the Building (Minor Work) Regulation; and
- (g) in case Fire Service Installation (“FSI”) is required, have obtained the qualifications of or engaged a Registered Fire Services Contractor under the Fire Service (Installation Contractors) Regulations.

6. Terms and Conditions in the Tender Specifications

6.1 The period allowed for the submission of tenders should normally be set at one month and should in no case be less than three weeks or more than six weeks, depending on the scale and scope of the works. All tenders must be deposited into a designated strong double locked tender box located in a prominent place of the

applicant's building before the tender closing time (to be specified in the tendering exercise). The applicant shall ensure the double locked tender box is of a suitable size to receive the expected number and size of tenders to be deposited.

- 6.2 The following documents shall be included in the returned tender –
- (a) documents to prove meeting the qualifications and experience requirements (such as certificates of professional qualifications, awards), relevant job references (include necessary information of the projects and all statutory forms such as the Work Completion Certificate (Form WR1), and Certificate on Completion of Building Works (BA14) if the A&A works is needed), organization chart;
 - (b) Business registration certificate;
 - (c) Certificate of registration of electrical contractor;
 - (d) proposed works programme;
 - (e) breakdown of manpower resources including trades, headcounts and man-hours to be deployed (samples in **Annex A**);
 - (f) statement of financial capability;
 - (g) for tendering for service of a contractor, other offers relevant to maintenance and guarantee of the installation works, and commitment to provide the services according to the specifications, etc.; and
 - (h) two CDs containing all submitted information and documents, which will be retained by the applicant and the EPD accordingly. If the content of hardcopy and the CDs are different, the hardcopy of tender will be regarded as the final appropriate submission for tender evaluation and analysis by the applicant.
- 6.3 The applicant shall formulate and specify a detailed price schedule in the tender documents to cover the installation of EVCEI and optional items, such as a fire detection system. The scope of tasks to be completed by consultants and contractors are attached in **Annex B**, for reference.

6.4 In case the same applicant has submitted more than one application for more than one car park in the development / building, and the applicant chooses to employ the same consultant and / or same contractor for the installations works for all the applications, the applicant shall require the tenderers to provide breakdown of costs for each of the car parks (each of the applications) in the development / building in their tenders.

7. Tender Selection

7.1 In the selection of tenders for employing consultant and contractor, the applicant is advised not only consider the returned tender prices but also try to analyze the tenders from different perspectives, such as relevant job experience, financial status, work programme, manpower resources to be deployed, etc., to ensure that the capability of tenderers have been evaluated through a comprehensive assessment. In addition, if the assessment criteria are determined after the tenders are opened, or the assessments rely on the analysis reports prepared by the consultant employed by the applicant, it may have a chance to bias a tenderer, and which may directly affect the applicant's selection of a suitable tenderer. Therefore, the applicant is advised to assess tenders based on a marking scheme set out before opening the tenders. Sample marking schemes for selection of tenders for consultants and contractors are attached in **Annex C**, for reference. Should a marking scheme be used for selection of tenders, the marking scheme should be included in the tender documents for information of the tenderers.

7.2 The applicant shall specify in the tender documents that tenderers may be required to attend a tender interview, in case such as the tenderer has submitted unreasonably low price, to justify and demonstrate to the reasonable satisfaction of the applicant that such a tenderer is capable of carrying out and completing the contract. If a tenderer fails to provide such justifications or demonstrate to the reasonable satisfaction of the applicant that the tenderer is capable of carrying out and completing the contract, the applicant may reject its tender.

8. Payment Schedule for Consultant and Contractor

- 8.1 The applicant shall devise payment schedules in the contracts for employing the consultant and contractor, and payments should be made by batches according to timing of completion of various tasks taking into account the schedule of release of subsidies from the Government as set out in the Application Notes as appropriate.
- 8.2 For preparation of the tender specifications of installation work for employment of contractor, should the applicant consider it necessary with justifications to make an interim payment between the initial payment and final payment to the contractor, the applicant may claim for an interim release of subsidy, i.e., paragraph 12.2(b)(ii) of the Application Notes, between the initial release of subsidy, i.e., paragraph 12.2(b)(i) of the Application Notes, and the final release of subsidy, i.e., paragraph 12.2(b)(iii) of the Application Notes. In this case, the applicant shall include in the payment schedule of the tender specifications for employment of contractor the tasks that should be completed so that interim payment can be made to the contractor. The sum of initial release and interim release of subsidies shall not exceed 60% of the total contract sum of the contractor contract or where applicable, 60% of the subsidy as calculated by the EPD for payment to the contractor, whichever is the lower.

9. Testing and Commissioning

- 9.1 The applicant shall specify in the tender documents that the contractor shall carry out testing and commissioning (“T&C”) for all installations and equipment required in accordance with the O&M manual and instructions of suppliers or manufacturers.
- 9.2 The contractor appointed by the applicant shall employ qualified electrical workers with appropriate grade to work and test on switchboards, switchgear and other fixed electrical installations. Tests should include but not be limited to the followings –
- Insulation Test

- Control Wiring Test
- Circuit Breakers and Switches Test
- Metering Test
- Current Injection Test
- System Function Test

9.3 All installations and equipment should be able to demonstrate their normal operation, and a comprehensive test report and a Work Completion Certificate (Form WR1) should be provided by the contractor.

9.4 If the whole works is acceptable and all tests have been properly done, a Certificate of Satisfactory Completion of the works shall be endorsed by the applicant and issued to the contractor by the consultant. In this situation, the work site shall be handed over to the applicant and the defect liability period will begin.

10. Health and Safety

10.1 For the sake of health and safety, the applicant shall specify in the tender documents to require the contractor to follow all necessary measures set out in the risk assessment prepared by the consultant. The risk assessment should cover but not be limited to the following

-
- (a) Protection of electrical shock
- (b) Working at height
- (c) Manual handling
- (d) Tipping and falling hazard precautions
- (e) Fire safety
- (f) Handling of adverse weather
- (g) Protection of eyes, hearing and respiratory
- (h) Cleanliness at workplace
- (i) Provision of personal protective equipment (“PPE”) such as safety helmet, highly reflective vest, etc.
- (j) Other safety matters

10.2 The applicant is also advised to include the following safety

measures in the tender documents –

- (i) All road works and works adjacent to the road would create inconvenience and are a potential hazard to the safety of all road users. The contractor should adopt suitable measures complying with the “Code of Practice for the Lighting, Signing and Guarding of Road Works” issued by the Highways Department.
- (ii) If scaffoldings or mobile work platforms are to be used, the contractor should issue relevant statutory certificate(s), such as Form 4 and Form 5, before carrying out the works.
- (iii) On vacating the site and handing it over to the applicant at the end of each works period, the contractor is required to take all necessary measures to protect the works which have been completed. The site shall be cleared and left tidy to the satisfaction of the applicant.

11. Insurances

- 11.1 The applicant shall specify in the tender documents that the contractor shall purchase an Employees’ Compensation (“EC”) insurance and a Contractor’s All Risks (“CAR”) insurance before any works are carried out in the car park and building.

12. Waste Management

- 12.1 The applicant shall ensure that wastes should be handled, treated, and disposed of by the contractor according to the statutory regulations such as Waste Disposal Ordinance (Cap. 354).

13. Acknowledgement of Support

- 13.1 After completion of the installation works, the applicant shall display the EHSS Logo(s) to be provided by the EPD on each floor of the eligible parking spaces covered in the application, at the

entrance(s) of the car park or other prominent locations as considered acceptable by the EPD.

Air Quality Management Division
Environmental Protection Department
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(Version 4)

**Sample Manpower Resources Breakdown
for Submission of Tender under the EHSS**

Manpower to be deployed by the Consultant

Trades	Headcount	Estimated total man-hours
Registered Professional Engineers	1	220
Authorized Person	1	210
Assistant Engineers	1	290
Technical Officers	2	460
Officers	1	100
Total	6	1280

Manpower to be deployed by the Contractor

Trades	Headcount	Estimated total man-hours
Project Manager	1	240
Engineers	1	480
Assistant Engineers	1	640
Technical Officers	1	640
Electrical Workers	10	6850
Builders	3	2100
Tradesmen	3	190
Workmen (Minor Works)	3	180
Workmen (Fire Services)	3	100
Clerks	1	50
Total	27	11470

Proposed Tasks for Consultants to be Completed under the EHSS

Task	Description
1	Completion of feasibility assessment and project cost estimates
2	Completion of the following meetings with applicant: (a) Kick-off meeting (b) Presentation of proposed design (c) Presentation of final proposal (d) Progress meetings if required
3	Completion of the A&A works approved by the BD (if needed)
4	Completion of preparation of tender documents for engaging a contractor
5	Completion of tender invitation and queries
6	Completion of tender analysis
7	Completion of preparation of contract documents for the applicant and the contractor
8	Completion of risk assessment
9	Completion of testing and commissioning
10	Completion of final submission includes as-built drawings, reports, certificates, submission of Form of Compliance (if necessary) and issuance of a Certificate of Satisfactory Completion of the works to the contractor, etc.

Proposed Tasks for Contractors to be Completed under the EHSS

Task	Description
1	Completion of materials delivery to the designated storage area of the applicant's building
2	Satisfactory completion of the installation works and accepted by the consultant, the applicant and the EPD
3	Completion of submission of certificates, test reports, O&M manuals, Form WR1, etc.
4	Completion of design and build a fire detection system, submission of fire service installation plans (FSI/314A) and Certificate of Fire Service Installation and Equipment (FS251) after completion of the works (if installed)
5	End of defects liability period

**Sample Marking Scheme
for Selection of Tenders under the EHSS**

Marking Scheme for Engaging a Consultant

Assessment Criteria		Company Names			
		Company A	Company B	Company C	Company D
1.	Relevant job experience	8/10	7/10	5/10	6/10
2.	Qualifications and experience of professional engineers	5/5	5/5	3/5	4/5
3.	Programme of consultancy services	5/5	4/5	2/5	4/5
4.	Organization chart	4/5	4/5	3/5	4/5
5.	Reference letter, Awards, Certificates (e.g. ISO9001)	0/5	1/5	0/5	3/5
6.	Proposed design, drawings, images, preliminary proposal	4/5	4/5	2/5	4/5
7.	Interview result	4/5	3/5	3/5	4/5
8.	Tender price	48/60	47/60	60/60	55/60
Total score		78/100	75/100	78/100	84/100

Marking Scheme for Engaging a Contractor

Assessment Criteria		Company Names			
		Company W	Company X	Company Y	Company Z
1.	Relevant job experience	4/5	3/5	1/5	3/5
2.	Qualifications and experience of engineers, supervisors and workers	5/5	4/5	2/5	4/5
3.	Programme of installation works	4/5	3/5	2/5	3/5
4.	Organisation chart	5/5	4/5	2/5	4/5
5.	Reference letter, Awards, Certificates (e.g. ISO9001)	2/3	0/3	1/3	2/3
6.	Understanding the scope of works and design planning, material submissions	3/3	2/3	1/3	2/3
7.	Maintenance and other offers	2/2	1/2	1/2	1/2
8.	Interview result	2/2	2/2	1/2	2/2
9.	Tender price	55/70	61/70	70/70	57/70
Total score		82/100	80/100	81/100	78/100

**Guidance on Preparation of Specifications for
Employment of Consultants and Contractors for Installation Works
under the EV-charging at Home Subsidy Scheme**

Summary of Major Amendments

Note:

1. The following summary table includes the major amendments on the Guidance.

2. This serves the purpose of ease of reference only. The Guidance should take preference over any discrepancy if identified.

Section 8 Payment Schedule for Consultant and Contractor	Version 3	Version 4
Allow for an interim payment between the initial payment and final payment to the contractor.	8.2 added.	Reference paragraph numbers updated according to the latest Application Notes of the EHSS (version 2).