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ELECTRIC VEHICLES CHARGING ACT 2022

ELECTRIC VEHICLES CHARGING (STRIDES FRONTIERS PTE LTD AND ECOSWIFT PTE LIMITED — BATTERY CHARGE AND SWAP STATION TRIAL) RULES 2024

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In exercise of the powers conferred by section 28 of the Electric Vehicles Charging Act 2022, the Minister for Transport makes the following Rules:

PART 1
PRELIMINARY

Citation and commencement

1. These Rules are the Electric Vehicles Charging (Strides Frontiers Pte Ltd and Ecoswift Pte Limited — Battery Charge and Swap Station Trial) Rules 2024 and come into operation on 11 June 2024.

Definitions

2. In these Rules —

“approved trial” has the meaning given by rule 3;

“calendar day” includes Saturday, Sunday and every public holiday;

“incident reporting guidelines” means the incident reporting guidelines set out in the Second Schedule;

“special type of EV charger” has the meaning given by rule 2 of the Electric Vehicles Charging (Trials and Special Uses) (General) Rules 2023 (G.N. No. S 791/2023);

“specified area” means the area in Singapore delineated by the black-coloured lines in the map set out in the First Schedule;

“specified period” means the period from 11 June 2024 to 10 June 2028 (both dates inclusive);

“specified person” means the consortium of Strides Frontiers Pte Ltd (UEN 201811175E) and Ecoswift Pte Limited (UEN 202200804R);

“swappable battery system” means a battery system that can be moved or removed from an EV charger by hand or by using a charging station or other device;

“TR25:2022” means the version of Technical Reference 25 for Electric Vehicles Charging System published by the Enterprise Singapore Board on 28 February 2022;

“trial EV charger” means the special type of EV charger the specified person acquires for the purposes of the approved trial.

PART 2

APPROVED TRIAL

Specified person to undertake approved trial

3. The specified person is authorised by the LTA to undertake a trial in respect of a trial EV charger at a battery charge and swap station within the specified area during the specified period (called in these Rules the approved trial).

Other participants of approved trial

4. In addition to the specified person, any person within the following classes of persons may participate in the approved trial:

- (a) any employee, officer or agent of the specified person who is authorised by the specified person to alter, modify, certify, install, test or maintain the trial EV charger;
- (b) any person who is engaged by, or who collaborates with, the specified person to alter, modify, certify, install, test or maintain the trial EV charger;
- (c) any employee, officer, agent or sub-contractor of any person mentioned in paragraph (b) who is authorised by that person to carry out the activities described in that paragraph in respect of the trial EV charger;

- (d) any employee or officer of the specified person who is authorised by the specified person to charge an electric vehicle, or who allows an electric vehicle to be charged, using the trial EV charger;
- (e) any employee or officer of the specified person who is authorised by the specified person to charge a swappable battery system using the trial EV charger.

Acquisition and deployment of trial EV charger for approved trial

5.—(1) For the purposes of the approved trial, during the specified period, the specified person may acquire one trial EV charger, the part number of which must be notified to the LTA within 7 calendar days of the acquisition.

(2) The specified person may only install, deploy, operate and maintain the trial EV charger within the specified area during and for the purposes of the approved trial.

(3) In carrying out any of the activities described in paragraph (2) in respect of the trial EV charger, the specified person must ensure that —

- (a) the trial EV charger does not pose any hazard to, or endanger, any person or property; and
- (b) appropriate measures are taken to abate or minimise any nuisance or inconvenience caused by the installation, deployment, operation or maintenance of the trial EV charger.

Liability insurance

6.—(1) The specified person must —

- (a) before the approved trial starts, have in place liability insurance insuring against any third-party liability in respect of death, bodily injury or damage to property that a person may sustain or incur arising from the approved trial; and

(b) ensure that the liability insurance mentioned in sub-paragraph (a) is in force at all times during the approved trial.

(2) The specified person must ensure that the liability insurance is issued by an insurer who, at the time the liability insurance is issued, is lawfully carrying on an insurance business in Singapore.

(3) The LTA may impose conditions of authorisation in respect of the approved trial requiring the specified person to maintain the liability insurance mentioned in paragraph (1)(a) —

(a) for a minimum amount of \$2 million per claim; and

(b) under one or more approved policies, each of which —

- (i) must not contain any limit on the number of claims that may be made in each calendar year;
- (ii) must state that the specified person is the party solely liable to pay the premiums in respect of the liability insurance; and
- (iii) must contain a term that the contract of the liability insurance policies may not be amended without the written consent of the LTA.

PART 3

DUTIES OF SPECIFIED PERSON

Application of this Part

7. Unless otherwise provided under this Part, the duties of the specified person under this Part apply during and for the purposes of the approved trial.

Duty to operate trial EV charger in compliance with safety and performance standards

8. The specified person must ensure that the operation of the trial EV charger complies with any of the following applicable safety and performance standards:

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- (a) the version of Singapore Standard on Code of practice for electrical installations published by Enterprise Singapore on 17 September 2018 (called SS 638:2018);
 - (b) the version of Singapore Standard on Protection against lightning - All Parts published by Enterprise Singapore on 13 July 2018 (called SS 555:2018);
 - (c) the version of Singapore Standard on Code of practice for earthing published by Enterprise Singapore on 23 September 2022 (called SS 551:2022);
 - (d) the GB/T 27930-2015 Communication protocol between non on-board conductive charger and battery management system for electric vehicles;
 - (e) the GB/T 20234.1-2015 Connection devices for conductive charging of electric vehicles Part 1: General requirements;
 - (f) the GB/T 20234.3-2015 Connection devices for conduction charging of electric vehicles Part 3: DC charging interface;
 - (g) the GB/T 18487.1-2015 Conductive charging systems for electric vehicles Part 1: General requirements;
 - (h) the NB/T 33001-2010 Technical Conditions for non on-board conductive chargers for electric vehicles;
 - (i) the NB/T 33008.1-2013 Specification for inspection and testing of electric vehicle charging equipment Part 1: Off board chargers;
 - (j) the NB/T 33008.3-2013 Specification for inspection and testing of electric vehicle charging equipment Part 3: DC charging stations;
 - (k) the IEC 61000-4-5 1999 Electromagnetic compatibility testing and measurement techniques - Surge (impulse) immunity test;
 - (l) the Q/GDW1235-2014 Communication protocol for off board electric vehicle chargers;

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- (m) the Q/GDW1591-2014 Technical Specification for inspection of off board chargers for electric vehicles;
 - (n) the Q/GDW 1233-2014 General Requirements for off board chargers of electric vehicles;
 - (o) the Q/GDW 1234.1-2014 Electric vehicle charging interface regulations Part 1: General requirements;
 - (p) the Q/GDW 1591-2014 Technical Specification for inspection of off board chargers for electric vehicles;
 - (q) the Q/GDW 1235-2014 Communication protocol for off board electric vehicle chargers;
 - (r) the GB/T2423-2008 Environmental testing for electrical and electronic products;
 - (s) the GB 4208-2008 Housing protection level (IP Code);
 - (t) the GB/T 19826-2005 General technical conditions and safety requirements for DC power supply equipment in power engineering;
 - (u) the GB/T 17626.2-2006 Electromagnetic compatibility testing and measurement techniques - Electrostatic discharge immunity test;
 - (v) the GB/T 17626.3-2006 Electromagnetic compatibility testing and measurement techniques - Radio frequency electromagnetic field radiation immunity test;
 - (w) the GB/T 17626.4-2006 Electromagnetic compatibility testing and measurement techniques - Electrical fast transient pulse group immunity;
 - (x) the GB/T 17626.5-2006 Electromagnetic compatibility testing and measurement techniques - Surge (impulse) immunity test;
 - (y) the GB/T 17626.11-2006 Electromagnetic compatibility testing and measurement techniques - Voltage dips, short-term interruptions, and voltage variations - Immunity tests;

- (z) the GB 7251.1-2005 Low voltage switchgear and control equipment – Part 1: GB 7251.1-2005 Low voltage switchgear and control equipment – Part 3: Special requirements for low-voltage switchgear and control equipment that non professionals can enter the site - Distribution boards;
- (za) the GB/T 13384-2008 General technical conditions for packaging of mechanical and electrical products.

Duty to manage risks and notify incidents, etc.

9.—(1) The specified person must, before the start of the approved trial, submit a safety proposal to the LTA that sets out the measures which the specified person intends to implement to manage and mitigate the risks of the approved trial, for the LTA’s approval.

(2) The specified person must ensure that the measures set out in the safety proposal approved by the LTA are implemented at all times during the approved trial.

(3) Where any accident, emergency or incident (called in this rule the relevant incident) occurs in the course of the specified person undertaking the approved trial that causes, or has the risk to cause, any threat to the health or safety of any person or any damage to any property or vehicle, the specified person must —

- (a) notify the LTA of the relevant incident without delay;
- (b) where the relevant incident is a type of incident specified in the incident reporting guidelines — provide to the LTA an incident report in accordance with the requirements specified in the incident reporting guidelines as applicable to that type of relevant incident —
 - (i) by email to lta_electromobility@lta.gov.sg; and
 - (ii) in Microsoft Word format or portable document format (PDF); and
- (c) comply with any additional requirements that the LTA may require, including providing to the LTA, within 14 calendar days after receiving a written request from the LTA for any clarification in relation to any incident report mentioned in

sub-paragraph (b), the clarification together with any information or documents in support of that clarification.

Duty to provide information upon request

10. The specified person must, upon a written request by the LTA, provide to the LTA any information relevant to the undertaking of the approved trial —

- (a) in the case of any information about any accident arising from the approved trial that has caused, or has posed a risk of, bodily injury to any individual or damage to any property or vehicle — by the date and time specified by the LTA in the written request; or
- (b) in any other case — within 14 calendar days after the date on which the specified person receives the written request.

Duty to seek approval to modify trial EV charger, etc.

11.—(1) The specified person must obtain the LTA's approval for —

- (a) any alteration or modification to the trial EV charger;
 - (b) any change in the location at which the trial EV charger is installed or deployed (as the case may be) within the specified area; or
 - (c) the acquisition of any additional EV chargers for the purposes of the approved trial.
- (2) An application for the LTA's approval under paragraph (1) —
- (a) must be submitted at least 30 calendar days before the change sought to be made is to be implemented; and
 - (b) must, where the change is to be made to the location at which the trial EV charger is installed or deployed, state the address of the new location within the specified area.
- (3) The LTA may request the specified person to provide any other information that the LTA considers relevant to the application mentioned in paragraph (1).

Duty to disconnect and shut down trial EV charger on end of approved trial

12. Upon the cancellation of the authorisation granted to the specified person under rule 8 or 9 of the Electric Vehicles Charging (Trials and Special Uses) (General) Rules 2023, the specified person must, within 30 calendar days after the date on which the cancellation takes effect —

- (a) disconnect the trial EV charger from the electricity grid; and
- (b) shut down the trial EV charger.

PART 4**MISCELLANEOUS****Modified application of certain Act provisions to approved trial**

13.—(1) During the specified period, section 31 (Tampering with EV charger, etc.) applies to the trial EV charger used in the approved trial with the modification that a reference to an EV charger is a reference to the trial EV charger.

(2) During the specified period, Division 2 of Part 5 of the Act (Product defects) applies to the trial EV charger used in the approved trial with the following modifications:

- (a) a reference to an EV charger is a reference to the trial EV charger;
- (b) the references in sections 35(1), (2)(c), (4), (5) and (6) and 37(2)(a) to a manufacturer or supplier of an EV charger are references to the person who supplied the trial EV charger to the specified person;
- (c) the reference in section 35(1) to the time prescribed is a reference to 7 calendar days;
- (d) section 35(1)(b) and (c) is replaced with a reference to the specified person;

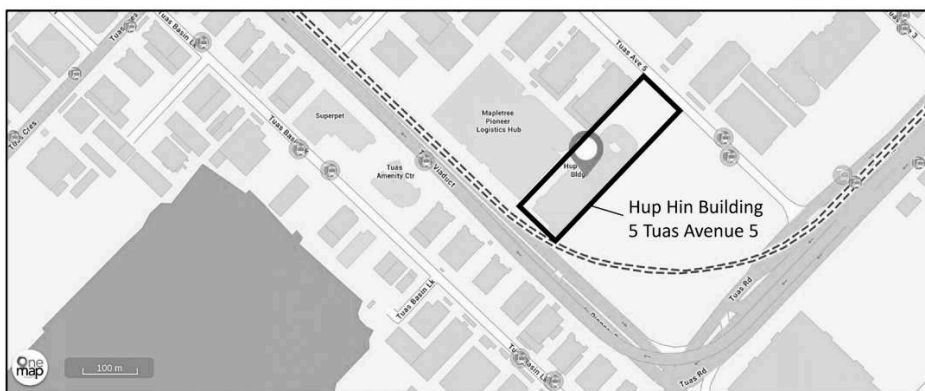
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- (e) the reference in section 35(3) to a person to whom the notice is addressed is a reference to the specified person;
 - (f) section 35(3)(b) does not apply;
 - (g) the reference in section 35(5) to the prescribed time is a reference to 14 calendar days or any longer time that the LTA may by written notice allow;
 - (h) the reference in section 36(1) to a person in section 35(1)(b) or (c) is a reference to the specified person;
 - (i) section 37(2)(b), (c) and (d) is replaced with a reference to the specified person;
 - (j) the reference in section 38(1) to the person or class of persons is a reference to the specified person;
 - (k) the reference in section 38(2) to a person is a reference to the specified person;
 - (l) section 38(3), (4), (5) and (6)(b) and (c) does not apply;
 - (m) the reference in section 39(1) to the person bound by a safety and security directive is a reference to the specified person;
 - (n) the reference in section 39(2) to a person to whom a safety and security directive is given is a reference to the specified person.
- (3) During the specified period, section 45(1) and (2)(f) applies to the specified person with the following modifications:
- (a) a reference to the granting of a licence to any person is a reference to the granting of an authorisation to the specified person to undertake the approved trial;

- (b) a reference to the licensee is a reference to the specified person;
 - (c) a reference to the validity period of the licence is a reference to the specified period;
 - (d) a reference to approved policies is a reference to policies of insurance each of which is not subject to any conditions, exclusions or exceptions prohibited by these Rules;
 - (e) a reference to the regulated activity authorised by the licence is a reference to the approved trial.
- (4) A reference to a section in this rule is a reference to a section of the Act.

FIRST SCHEDULE

Rule 2

SPECIFIED AREA



 SECOND SCHEDULE

Rule 2

INCIDENT REPORTING GUIDELINES

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|---|--|---|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| 1. Any death or bodily injury resulting in hospitalisation, caused to a person arising from the use of the trial EV charger | <p>(a) Preliminary incident report within 3 calendar days after the relevant incident</p> <p>(b) Detailed incident report within 7 calendar days after the relevant incident</p> | <p>(a) Date, time and location of the relevant incident</p> <p>(b) Details of the circumstances of the relevant incident, including any photographic or other supporting evidence</p> <p>(c) Details of damage to any property or bodily injury to any person caused by the relevant incident</p> <p>(d) Chronology of events of the relevant incident</p> <p>(e) Any information in relation to the relevant incident provided by any employee, officer or agent of the specified person who was present at the scene of the relevant incident</p> |

SECOND SCHEDULE — *continued*

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|---|--|--|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| | | <p>(f) Details of the internal investigation taken by the specified person in relation to the relevant incident, including any findings in relation to the suspected cause of the relevant incident</p> <p>(g) Details of any steps proposed to be taken to prevent recurrence of the relevant incident</p> |
| 2. Chemical leakage of the electrolyte or coolant of the swappable battery system | <p>(a) Preliminary incident report within 3 calendar days after the relevant incident</p> <p>(b) Detailed incident report within 7 calendar days after the relevant incident</p> | <p>(a) Date, time and location of the relevant incident</p> <p>(b) Details of the circumstances of the relevant incident, including any photographic or other supporting evidence</p> <p>(c) Details of damage to any property or bodily injury to any person caused by the relevant incident</p> <p>(d) Chronology of events of the relevant incident</p> |

SECOND SCHEDULE — *continued*

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|---|--|--|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| | | <p>(e) Any information in relation to the relevant incident provided by any employee, officer or agent of the specified person who was present at the scene of the relevant incident</p> <p>(f) Details of the internal investigation taken by the specified person in relation to the relevant incident, including any findings in relation to the suspected cause of the relevant incident</p> <p>(g) Details of any steps proposed to be taken to prevent recurrence of the relevant incident</p> |
| 3. Failure of any component in any part of the swappable battery system or the battery charge and swap station, resulting in the swappable battery system or the battery charge and | <p>(a) Preliminary incident report within 3 calendar days after the relevant incident</p> <p>(b) Detailed incident report within 7 calendar days after the relevant incident</p> | <p>(a) Date, time and location of the relevant incident</p> <p>(b) Details of the circumstances of the relevant incident, including any photographic or</p> |

SECOND SCHEDULE — *continued*

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|--|---|--|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| swap station (as the case may be) having to be shut down | | <p>other supporting evidence</p> <p>(c) Details of damage to any property or bodily injury to any person caused by the relevant incident</p> <p>(d) Chronology of events of the relevant incident</p> <p>(e) Any information in relation to the relevant incident provided by any employee, officer or agent of the specified person who was present at the scene of the relevant incident</p> <p>(f) Details of the internal investigation taken by the specified person in relation to the relevant incident, including any findings in relation to the suspected cause of the relevant incident</p> <p>(g) Details of any steps proposed to be taken to prevent</p> |

SECOND SCHEDULE — *continued*

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|--|--|---|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| | | recurrence of the relevant incident |
| 4. Any fire caused to the swappable battery system | <p>(a) Preliminary incident report within 3 calendar days after the relevant incident</p> <p>(b) Detailed incident report within 7 calendar days after the relevant incident</p> | <p>(a) Date, time and location of the relevant incident</p> <p>(b) Details of the circumstances of the relevant incident, including any photographic or other supporting evidence</p> <p>(c) Details of damage to any property or bodily injury to any person caused by the relevant incident</p> |

SECOND SCHEDULE — *continued*

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|--|--|---|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| | | <p>(d) Chronology of events of the relevant incident</p> <p>(e) Any information in relation to the relevant incident provided by any employee, officer or agent of the specified person who was present at the scene of the relevant incident</p> <p>(f) Details of the internal investigation taken by the specified person in relation to the relevant incident, including any findings in relation to the suspected cause of the relevant incident</p> <p>(g) Details of any steps proposed to be taken to prevent recurrence of the relevant incident</p> |
| 5. Any accident involving an electric vehicle that is authorised to be charged using the | <p>(a) Preliminary incident report within 3 calendar days after the relevant incident</p> <p>(b) Detailed incident report within</p> | <p>(a) Date, time and location of the relevant incident</p> <p>(b) Details of the circumstances of the relevant incident,</p> |

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|----------------------------------|---|--|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| battery charge and swap station | 7 calendar days after the relevant incident | <p>including any photographic or other supporting evidence</p> <p>(c) Details of damage to any property or bodily injury to any person caused by the relevant incident</p> <p>(d) Chronology of events of the relevant incident</p> <p>(e) Any information in relation to the relevant incident provided by any employee, officer or agent of the specified person who was present at the scene of the relevant incident</p> <p>(f) Details of the internal investigation taken by the specified person in relation to the relevant incident, including any findings in relation to the suspected cause of the relevant incident</p> <p>(g) Details of any steps proposed to be taken to prevent</p> |

| <i>First column</i> | <i>Second column</i> | <i>Third column</i> |
|----------------------------------|---|--|
| <i>Type of relevant incident</i> | <i>Type of incident report required to be made to the LTA</i> | <i>Information required to be included in detailed incident report</i> |
| | | recurrence of the relevant incident |

Made on 7 June 2024.

LOH NGAI SENG
*Permanent Secretary,
 Ministry of Transport,
 Singapore.*

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(To be presented to Parliament under section 96 of the Electric Vehicles Charging Act 2022).