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ROAD TRAFFIC ACT (CHAPTER 276)

ROAD TRAFFIC (AUTONOMOUS MOTOR VEHICLES) RULES 2017

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In exercise of the powers conferred by sections 6C and 6D of the Road Traffic Act, the Minister for Transport makes the following Rules:

PART 1**PRELIMINARY****Citation and commencement**

1. These Rules are the Road Traffic (Autonomous Motor Vehicles) Rules 2017 and come into operation on 24 August 2017.

Definitions

2. In these Rules, unless the context otherwise requires —

“approved special use” means the use on a road of an autonomous motor vehicle by a specified person authorised by the Authority;

“approved trial” means the trial of automated vehicle technology or an autonomous motor vehicle on any road undertaken by a specified person authorised by the Authority;

“authorise” means to authorise under rule 7(1)(a)(i) or (ii), as the case may be, and “authorisation” is to be construed accordingly;

“specified person”, in relation to any approved trial or approved special use, means —

- (a) the person authorised by the Authority under rule 7(1)(a)(i) to undertake the approved trial; or
- (b) the person authorised by the Authority under rule 7(1)(a)(ii) to carry out the approved special use.

Non-application of Rules to certain autonomous motor vehicles

3. These Rules do not apply to or in relation to any autonomous motor vehicle for which a special purpose licence has been issued before 24 August 2017 under section 28A of the Act, and for so long as the licence is valid on or after that date.

PART 2

APPROVED TRIAL AND APPROVED SPECIAL USE

Prohibition against trial or use of autonomous motor vehicle

4.—(1) A person must not undertake any trial of automated vehicle technology or an autonomous motor vehicle on any road unless the person has an authorisation under rule 7(1)(a)(i).

(2) A person must not use on a road an autonomous motor vehicle unless the person has an authorisation under rule 7(1)(a)(ii).

(3) Paragraphs (1) and (2) do not apply if the trial of automated vehicle technology or an autonomous motor vehicle on any road, or the use on a road of an autonomous motor vehicle, does not involve the activation of the autonomous system of the autonomous motor vehicle.

(4) Any person who contravenes paragraph (1) or (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$5,000.

Application to undertake trial of automated vehicle technology or autonomous motor vehicle

5.—(1) An application to undertake any trial of automated vehicle technology or an autonomous motor vehicle on any road must be made to the Authority in accordance with paragraph (2).

(2) The application must —

- (a) be made in the form and manner required by the Authority; and
- (b) be accompanied by any information that the Authority requires to decide on the application, including any of the following:
 - (i) the objectives of the trial, and a brief outline of how the trial is proposed to be conducted;
 - (ii) the type or types of autonomous motor vehicles, or automated vehicle technology, to be used in the trial;
 - (iii) the number of each type of autonomous motor vehicle and the details concerning each vehicle to be used in the trial;
 - (iv) the autonomous system to be employed in each autonomous motor vehicle to be used in the trial;
 - (v) if an autonomous motor vehicle is to be modified for the trial, the nature of the modifications;
 - (vi) any supporting documents concerning any autonomous motor vehicle to be used in the trial and the autonomous system to be employed in the trial, stating that the vehicle and autonomous system are safe for use in the intended manner in the trial.

Application to carry out use of autonomous motor vehicle

6.—(1) An application to use on a road any autonomous motor vehicle must be made to the Authority in accordance with paragraph (2).

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- (2) The application must —
- (a) be made in the form and manner required by the Authority;
and
 - (b) be accompanied by any information that the Authority requires to decide on the application, including any of the following:
 - (i) how any autonomous motor vehicle is intended to be used;
 - (ii) the type or types of autonomous motor vehicles to be used and details concerning the autonomous system to be employed in each vehicle;
 - (iii) if an autonomous motor vehicle is to be modified, the nature of the modifications;
 - (iv) any supporting documents concerning any autonomous motor vehicle to be used and the autonomous system to be employed, stating that the vehicle and autonomous system are safe for use in the intended manner.

Authorisation

7.—(1) After considering any application under rule 5 or 6, as the case may be, the Authority may —

- (a) upon payment of the fee and tax mentioned in paragraph (2), grant an authorisation to the person specified in the authorisation —
 - (i) to undertake the trial of automated vehicle technology or an autonomous motor vehicle on any road, if the application is made under rule 5; or
 - (ii) to carry out the use on a road of an autonomous motor vehicle, if the application is made under rule 6;
or
- (b) refuse to grant the authorisation.

(2) For any authorisation under paragraph (1)(a), the applicant must pay —

(a) a fee of \$29.43 for each vehicle that is to be used in the approved trial or approved special use; and

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(b) if the vehicle is not registered under the Act, the tax chargeable in accordance with rule 21(3).

(3) The Authority may, subject to such conditions as the Authority thinks fit, waive any fee mentioned in paragraph (2)(a).

Form and validity of authorisation

8.—(1) An authorisation must be in the form the Authority determines.

(2) An authorisation continues in force for such period as may be stated in the authorisation unless it is earlier cancelled under rule 13.

Conditions of authorisation

9.—(1) In granting an authorisation, the Authority may impose such conditions as the Authority thinks fit.

(2) Without affecting the generality of paragraph (1), the conditions may include —

(a) stating the geographical area in which the approved trial may be undertaken, or in which the approved special use may be carried out;

(b) requiring a qualified safety driver to be seated in an autonomous motor vehicle to monitor the operation of the vehicle and to take over operation of the vehicle if necessary;

(c) requiring a qualified safety operator to monitor the operation of an autonomous motor vehicle and to take over operation of the vehicle if necessary;

(d) prohibiting any autonomous motor vehicle from carrying passengers;

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- (e) prohibiting any autonomous motor vehicle from being used for hire or reward;
 - (f) stating the persons who may participate in the approved trial or approved special use; and
 - (g) any other conditions having regard to the technical specifications of an autonomous motor vehicle.

(3) The Authority may impose different conditions for different autonomous motor vehicles that are to be used in an approved trial or approved special use.

Modification of conditions of authorisation by Authority

10.—(1) The Authority may modify the conditions of an authorisation in accordance with this rule.

(2) Before modifying any conditions of an authorisation, the Authority must give written notice to the specified person for an approved trial or approved special use —

- (a) stating that the Authority proposes to make the modification in the manner as specified in the notice; and
- (b) specifying the time (being not less than 14 days after the date of service of the notice on the specified person) within which the specified person may make written representations to the Authority with respect to the proposed modification.

(3) The Authority may, after considering any written representation mentioned in paragraph (2)(b) —

- (a) reject the representation;
- (b) amend the proposed modification in such manner as the Authority thinks fit having regard to the representation; or
- (c) withdraw the proposed modification.

Modification of conditions of authorisation by specified person

11.—(1) A specified person for an approved trial or approved special use may apply to the Authority to modify the conditions of an authorisation in accordance with this rule.

(2) An application by a specified person under paragraph (1) must —

- (a) state the condition the specified person is proposing to modify; and
- (b) provide such supporting information and documents which satisfy the Authority that the condition as modified will not affect the safe operation of any autonomous motor vehicle used in the approved trial or approved special use.

(3) The Authority may, for the purpose of considering the application, require the specified person to do all or any of the following:

- (a) to produce any autonomous motor vehicle before any person specified by the Authority and demonstrate the autonomous system or automated vehicle technology of the vehicle;
- (b) to subject any autonomous system or automated vehicle technology of an autonomous motor vehicle, or an autonomous motor vehicle, to tests, whether conducted by the Authority or by any other person specified by the Authority;
- (c) to produce any autonomous motor vehicle for inspection before any person specified by the Authority.

(4) After considering the application, the Authority may —

- (a) reject the application; or
- (b) approve the application, subject to any modification to the conditions of the authorisation that is agreed between the Authority and the specified person.

Extension of authorisation

12.—(1) An application to extend the term of an authorisation must be made not less than 6 months, or such shorter period as the Authority may allow, before the date the authorisation expires.

(2) An application under paragraph (1) to extend an authorisation must —

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- (a) be made in the form and manner required by the Authority; and
 - (b) be accompanied by any information that the Authority requires to decide on the application.
- (3) After considering the application, the Authority may —
- (a) extend the period of the authorisation; or
 - (b) refuse to extend the period of authorisation without giving reasons.
- (4) Any authorisation that is extended under this rule is subject to the same conditions applicable immediately before the authorisation is extended.

Cancellation or suspension of authorisation

13.—(1) The Authority may cancel or suspend, in whole or in part, any authorisation granted to the specified person for an approved trial or approved special use if —

- (a) the Authority is of the opinion that it is no longer in the public interest for the approved trial or approved special use to continue;
 - (b) the specified person contravenes or has contravened, or fails or has failed to comply with, a condition of the authorisation, a condition of an exemption contained in these Rules or any other provision in these Rules; or
 - (c) the specified person is no longer a fit and proper person to undertake the approved trial or to carry out the approved special use.
- (2) Subject to paragraph (3), before exercising any power under paragraph (1), the Authority must give written notice to the specified person —
- (a) stating that the Authority intends to cancel or suspend the authorisation, the date on which the cancellation or suspension is to take effect, and the grounds for the cancellation or suspension; and

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- (b) specifying the time (being not less than 14 days after the date of service of the notice on the specified person) within which written representations may be made to the Authority.
- (3) The Authority need not comply with paragraph (2)(b) if the ground for the cancellation or suspension of the authorisation is under paragraph (1)(a) or (b).
- (4) The Authority may, after considering any written representation mentioned in paragraph (2)(b) —
- (a) reject the representation and give written notice to the specified person informing the specified person of the date the cancellation or suspension is to take effect; or
 - (b) accept the representation and withdraw the notice given under paragraph (2)(a).
- (5) Where the Authority has given a notice to a specified person under paragraph (4)(a), the specified person may, within 14 days of the receipt of the notice, appeal in writing against the cancellation or suspension to the Minister whose decision is final.
- (6) The notice of cancellation or suspension takes effect on the date specified in the notice mentioned in paragraph (4)(a) despite the specified person making an appeal under paragraph (5), and is treated as having no effect if the Minister allows the appeal.

Liability insurance

- 14.—**(1) The specified person for an approved trial or approved special use must —
- (a) before the approved trial or approved special use starts, have in place liability insurance; and
 - (b) ensure that the liability insurance is in force at all times for the duration stated in the authorisation for the approved trial or approved special use, including for the duration that the authorisation is extended under rule 12.
- (2) The specified person for an approved trial or approved special use 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) A specified person who contravenes paragraph (1) or (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

(4) In this rule, “liability insurance” has the same meaning as in section 6C(6) of the Act.

Depositing security with Authority in lieu of liability insurance

15.—(1) The Authority may, if satisfied that the specified person for an approved trial or approved special use had made reasonable efforts to obtain the liability insurance under rule 14 but is unable to do so, allow the specified person to deposit with the Authority, a security deposit of not less than \$1.5 million.

(2) The Authority may determine the manner of the making of the security deposit.

(3) The Authority may use the security deposit made by the specified person for an approved trial or approved special use —

- (a) to satisfy any order of court for the payment of a sum of money by the specified person to any person in relation to any death, bodily injury or damage to property, of a person that is caused by, or that arose out of, the use of an autonomous motor vehicle during the approved trial or approved special use; or
- (b) to pay such sum of money as may be agreed between the specified person and any person in relation to any death, bodily injury or damage to the property, of a person that is caused by, or that arose out of, the use of an autonomous motor vehicle during the approved trial or approved special use.

(4) If the security deposit made by the specified person for an approved trial or approved special use, or part of the deposit, is used by the Authority for any purpose mentioned in paragraph (3), the specified person must replace the security deposit so used within

14 days (or such longer period as the Authority may allow) after being notified of such use by the Authority.

PART 3

DUTIES OF SPECIFIED PERSON

Duty to ensure maintenance of autonomous motor vehicle

16.—(1) The specified person for an approved trial or approved special use must ensure that —

- (a) any autonomous motor vehicle used in the approved trial or approved special use, and any accessory, sensor or equipment forming part of the vehicle, is at all times maintained in a state of good condition; and
- (b) the autonomous system of any autonomous motor vehicle used in the approved trial or approved special use is at all times functioning properly,

such that no harm or damage is caused, or likely to be caused, to any person in the vehicle or any other person, or to any property.

(2) A specified person who contravenes paragraph (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$5,000.

Data collection from data recorder

17.—(1) The specified person for an approved trial or approved special use must ensure that every autonomous motor vehicle used in the approved trial or approved special use is installed with a data recorder that is capable of storing information when the vehicle is being used.

(2) The specified person for an approved trial or approved special use must ensure that the data recorder is in operation at all times when any autonomous motor vehicle is used in the approved trial or approved special use, whether or not the autonomous system of the vehicle is activated.

(3) The specified person for an approved trial or approved special use must ensure that data collected from the data recorder in an autonomous motor vehicle is in a digital format specified by the Authority, and kept for at least 3 years from the date of the recording, despite such period extending beyond the validity period of the authorisation.

(4) The specified person for an approved trial or approved special use must ensure that the data recorder installed in an autonomous motor vehicle used in the approved trial or approved special use is able to capture the following information:

- (a) date and time stamp;
- (b) vehicle locations in latitude and longitude (with the data recorder operating at a frequency of at least 2 Hz);
- (c) speed of the vehicle (with the data recorder operating at a frequency of at least 2 Hz);
- (d) the status of the vehicle, including whether the vehicle is operating manually, in autonomous mode, manual autonomous mode or in teleoperation mode;
- (e) operator override history in terms of override type during the autonomous mode;
- (f) sensor data;
- (g) camera or video footage captured by —
 - (i) an internal facing camera (capturing any person in the vehicle, steering wheel and partial part of front windscreen); and
 - (ii) an external front and rear facing camera.

(5) The specified person for an approved trial or approved special use must ensure that any information that is captured by a data recorder installed in an autonomous motor vehicle used in an approved trial or approved special use is not edited.

(6) The specified person for an approved trial or approved special use must, if required by the Authority by written notice —

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- (a) relay data captured by the data recorder to the Authority, including information on a real-time basis, in a format readable by the Authority; and
 - (b) give a copy of any data recorded in a data recorder to the Authority for the purposes of carrying out any investigations, inspections or audits.
- (7) A specified person who contravenes paragraph (1), (2), (3), (4) or (6) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.
- (8) A specified person who contravenes paragraph (5) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

Duty to keep records

18.—(1) The specified person for an approved trial or approved special use must keep records of the approved trial or approved special use as will individually and collectively —

- (a) permit proper evaluations to be made of the approved trial or approved special use; and
 - (b) demonstrate that every participant of the approved trial or approved special use has complied with the conditions imposed by the Authority and any other requirements under these Rules.
- (2) The specified person for an approved trial or approved special use must ensure that the records —
- (a) are kept up-to-date at all times;
 - (b) are available at all times for inspection by the Authority or any person authorised by the Authority; and
 - (c) are kept at least until the later of the following dates:
 - (i) the expiry of 3 years after the expiry or cancellation of the authorisation granted to the specified person for an approved trial or approved special use;

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- (ii) the expiry of such other period as the Authority may direct in any particular case.

(3) The specified person for an approved trial or approved special use must, if required by the Authority by written notice, give a copy of the records to the Authority for the purposes of carrying out any investigations, inspections or audits.

(4) A specified person who contravenes paragraph (1), (2) or (3) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

Duty to notify incidents and accidents

19.—(1) A specified person for an approved trial or approved special use must, within such time and in such manner as the Authority may require, notify the Authority of —

- (a) any incident involving the malfunction of the autonomous system of an autonomous motor vehicle used in the approved trial or approved special use; and
- (b) any accident involving the death, bodily injury or damage to property, of any person caused by, or arising out of, the use of an autonomous motor vehicle in the approved trial or approved special use.

(2) A specified person who contravenes paragraph (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

Power to require vehicles to undergo tests

20.—(1) Subject to paragraph (2), the specified person for an approved trial or approved special use must, if required by the Authority by written notice —

- (a) produce any of the following before such person, and at such time and place, as the Authority may appoint:
 - (i) any autonomous motor vehicle used in the approved trial or approved special use;

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- (ii) any item that is part of the infrastructure technology, or any equipment or device, used in relation to the autonomous motor vehicle or automated vehicle technology involved in the approved trial or approved special use; and
- (b) subject the autonomous system or automated vehicle technology of any autonomous motor vehicle, or any autonomous motor vehicle, used in the approved trial or approved special use to tests, whether conducted by the Authority or by any other person specified by the Authority.
- (2) The Authority may give the notice under paragraph (1) only for any of the following purposes:
- (a) to assess the safety of the autonomous system or automated vehicle technology of an autonomous motor vehicle, or an autonomous motor vehicle, used in an approved trial or approved special use;
- (b) to review the adequacy of the conditions of any authorisation;
- (c) to ascertain if there is any contravention of the conditions of any authorisation or any provision in these Rules.
- (3) A specified person who contravenes paragraph (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

PART 4

MISCELLANEOUS

Modified application of certain Act provisions to approved trial and approved special use

21.—(1) For the purposes of an approved trial or approved special use, the specified person for the approved trial or approved special use is exempt from the application of sections 10, 11(1)(a) and (aa),

(3), (5), (6) and (7A) and 29 of the Act in respect of any autonomous motor vehicle that —

(a) is to be used in the approved trial or approved special use;
and

(b) is not registered under the Act.

(2) For the purposes of an approved trial or approved special use, section 11(4) of the Act as applied to any autonomous motor vehicle mentioned in paragraph (1) is modified in the manner set out in paragraph (3).

(3) The tax chargeable under section 11(1)(b) of the Act in respect of an autonomous motor vehicle mentioned in paragraph (1) is chargeable by reference to the following rates, based on the duration of the use of the vehicle in the approved trial or approved special use:

(a) \$30 per day;

(b) \$250 per month;

(c) \$800 per half-year;

(d) \$1,600 per year.

Made on 23 August 2017.

PANG KIN KEONG
*Permanent Secretary,
Ministry of Transport,
Singapore.*

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