

For Discussion
6 February 2012

Legislative Council Panel on Transport

Use of Electric Vehicles on Expressways

PURPOSE

This paper briefs Members on the Administration's proposed legislative amendments to allow the use of certain types of electric vehicles (EVs) on expressways without having to obtain expressway permits.

BACKGROUND

2. Only motor vehicles that comply with the prevailing vehicle design standards and are properly registered and licenced may be used on roads in Hong Kong. It is provided under regulation 4(1) of the Road Traffic (Expressway) Regulations (Cap. 374Q) (the "Regulations") that no person shall use a vehicle on an expressway unless the vehicle belongs to one of the types specified in the Regulations and with engine cylinder capacity not less than 125 cubic centimetres. Expressways are designed to cater for high volume of traffic at high speed, and the design speed for new expressways is generally 80 kilometres per hour or above. For safety as well as traffic management purposes, vehicles allowed to run on expressways must be able to quickly attain a speed compatible with that of the main traffic stream. Regulation 4(1) of Cap. 374Q seeks to ensure that only motor vehicles with adequate power to quickly attain a speed compatible to the main traffic

stream are allowed to run on expressways. To cater for individual circumstances whereby motor vehicles that are suitable to use expressways but do not fall under the general categories set out in regulation 4(1) of Cap. 374Q, it is provided under regulation 50A of the Road Traffic (Registration and Licensing of Vehicles) Regulations (Cap. 374E) that the registered owner of a motor vehicle which is not permitted to be used or driven on expressways under the former regulation may apply to the Commissioner for Transport for a permit which authorizes him to drive his vehicle on expressways.

3. EVs are powered by electric motors and do not have internal combustion engines with cylinders. Therefore, they do not meet the current requirement for use on expressways as stipulated under regulation 4(1) of Cap. 374Q. Owners of suitable EVs may however apply for expressway permits which cost \$145 each under regulations 50A of Cap. 374E. The permits have to be renewed annually at a fee of HK\$145. The Transport Department (TD) has received 238 applications for expressway permits from EV owners in 2011, and 238 expressway permits have been issued.

PROPOSAL

4. It is the Government's policy to promote the use of EVs for environmental protection in Hong Kong. In order to facilitate the use of EVs on expressways in Hong Kong, it is proposed that regulation 4(1) of Cap. 374Q be amended to permit EVs that fulfil certain technical requirements to run on expressways without having to obtain expressway permits.

5. Having consulted the leading academics on electric vehicles in Hong Kong, the Road Safety Research Committee (RSRC) of the Road Safety Council, and the Electrical and Mechanical Services Department, the Administration proposes that regulation 4(1) of Cap. 374Q be amended to allow the following types of EVs to run on expressways: -

- (i) an electric private car;
- (ii) an electric motor cycle; and
- (iii) an electric motor tricycle,

of which the rated power output of the electric motor is equal to or greater than :-

- (a) 7 kilowatts for electric private cars; and
- (b) 3 kilowatts for electric motor cycles or electric motor tricycles.

6. It is recommended that “rated power” of the electric motors should be adopted as the criterion for determining which EVs should be allowed to run on expressways. The “rated power” of an electric motor is its maximum power output that can be sustained for an extended period, and it relates closely to the speed and acceleration performance of EVs. Expert advice obtained by TD is that the use of “rated power” as the control criterion for EVs is consistent with the use of “engine cylinder capacity” for petrol/diesel driven vehicles. It is further recommended on expert advice that a rated power of 7kW should be adopted as the minimum threshold for electric private cars, and 3kW for electric motor cycles and motor tricycles. A lower threshold is proposed for electric motor cycles and motor tricycles because

these vehicles have lighter weights than electric private cars. At the above proposed minimum thresholds on “rated power”, the electric motors of EVs should be capable of generating continuous motor power to drive EVs at a cruising speed of 80 kilometres per hour or above, to match the main traffic speed on expressways.

7. The EVs currently available in the local market are mostly private cars and motor cycles. For other EV classes such as good vehicles, not many are registered for use in Hong Kong (as at 31 December 2011, only one electric medium goods vehicle, five electric light goods vehicles, four electric private light buses, and one electric private bus have been registered). Data on how their rated power relates to their speed and acceleration performance are not adequate for TD to establish a criterion for general application. For road safety considerations, we consider that the current practice of requiring such EV classes to apply for expressway permits for running on expressways should continue. When more data are available to determine a suitable threshold, consideration may be given to amending the Regulations to include such EV classes in the general categories of motor vehicles allowed to run on expressways.

8. To facilitate enforcement, the Administration considers it necessary to have the “rated power” displayed on the vehicle licences of EVs. It is therefore proposed to amend Schedule 1 (which refers to the register of vehicles under regulation 4) and Schedule 3 (which refers to registration document under regulation 7) of Cap. 374E to require the entry of “rated power” of the electric vehicle concerned on the vehicle registration document and the vehicle licence.

9. Under regulation 9(2)(a) of Cap. 374Q, a motor vehicle may stop or remain at rest on the carriageway of an expressway due to lack of fuel, oil or water required for the vehicle. EVs are propelled by electric motors with electricity stored in their batteries and electricity is not classified as fuel used by a motor vehicle. It is therefore proposed to amend regulation 9(2)(a) to cater for a situation where EVs may be forced to stop or remain at rest on an expressway by reason of lack of electricity.

LEGISLATIVE TIMETABLE

10. The Administration's plan is to submit the above proposed legislative amendments to Cap. 374E and Cap. 374Q to the Legislative Council for negative vetting within the 2011-12 legislative session.

CONSULTATION

11. The Road Safety Research Committee of the Road Safety Council and the Transport Advisory Committee have been consulted on the proposal. They were supportive of the proposal in general.

ADVICE SOUGHT

12. Members are invited to provide their views on the proposals set out in this paper.

Transport and Housing Bureau
Transport Department
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