

## **LEGISLATIVE COUNCIL BRIEF**

### **Road Traffic (Construction and Maintenance of Vehicles) (Amendment) (No. 2) Regulation 2000**

#### **Introduction of Emission Tests for Petrol and Liquefied Petroleum Gas (LPG) Vehicles**

### **INTRODUCTION**

Under section 9 of the Road Traffic Ordinance (Cap. 374) and section 28(1)(c) of the Interpretation and General Clauses Ordinance (Cap.1), the Secretary for Transport is empowered to make and amend the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374 sub. leg. A) (the Regulations) as to the construction and maintenance of vehicles and in particular, with respect to the emission of smoke, fumes, vapour, sparks and grit from vehicles.

2. In exercise of this power, the Secretary for Transport has made the Road Traffic (Construction and Maintenance of Vehicles) (Amendment) (No.2) Regulation 2000 at Annex A.

### **BACKGROUND**

3. At present, all commercial vehicles in Hong Kong, irrespective of the age of the vehicles, are subject to an annual roadworthiness inspection. As regards private cars, those over six years of age are subject to an annual roadworthiness inspection. For vehicles operating on diesel, an emission test is included as part of the roadworthiness inspection. This does not apply to petrol vehicles, however.

4. The need for a regular emission inspection programme for petrol vehicles has become more pressing as the catalytic converters on many petrol vehicles registered since 1 January 1992 are reaching the end of their useful life. A regular emission inspection is needed to check that they are still functioning properly. It is a common practice overseas (e.g. in Japan, Singapore, Korea, the United States, the United Kingdom, Sweden, Germany and Denmark) to enforce a regular emission inspection requirement to ensure that a certain degree of vehicle maintenance is upheld.

5. Proper maintenance of LPG vehicles are also required to ensure that the emission meets with our environmental standards. As the Administration is now implementing the LPG taxi scheme, a regular emission inspection programme for these LPG taxis is needed. Japan, which is our major supplier of LPG taxis, also subject their LPG taxis to an annual emission inspection.

### **Emission Standards for petrol and LPG vehicles**

6. The Administration aims to extend the emission tests to cover petrol and LPG vehicles and they will be carried out as part of the current roadworthiness inspection. This is in line with international practice.

7. Section 25 of the Road Traffic Ordinance (Cap.374) empowers the Commissioner for Transport not to license a vehicle if it is found to be not roadworthy. The requirements for the roadworthiness of a vehicle are stipulated in the Road Traffic (Construction and Maintenance of Vehicles) Regulations. To include an emission check for petrol and LPG vehicles in the roadworthiness inspection will require the emission limits to be set out in the Regulations.

8. Our research of international practices reveals that the European Commission (EC) standards are commonly adopted as the emission standards for petrol vehicles, it is therefore proposed that Hong Kong adopts the same standards for petrol vehicles. For LPG vehicles, Japan adopts one of the most stringent standards for such vehicles. As most of the LPG vehicles used in Hong Kong are expected to be imported from Japan, it is proposed that Hong Kong adopts the same standards for LPG vehicles.

9. The emission tests will primarily be conducted by privately-run designated car testing centres. To carry out the new exhaust emission inspection, the testing centres would need to acquire new equipment. To allow sufficient time for the testing centres to acquire and install the necessary equipment, it is proposed that the new regulation should come into effect on 1 November 2000. The additional costs involved would be borne by the car testing centres. The testing fees will remain unchanged.

## **AMENDMENT REGULATION**

10. The purpose of the Amendment Regulation is to extend the emission tests to cover petrol and LPG vehicles as part of their roadworthiness inspection and to introduce exhaust emission standards for these vehicles.

## **PUBLIC CONSULTATION**

11. The Motor Traders Association, the Service Managers Association and the operators of the car testing centres have been consulted and support the proposal to include an emission check for petrol vehicles and LPG vehicles in their roadworthiness inspection. The Administration has also consulted the Hong Kong Automobile Association, fleet operators, utility companies and classic car associations. They also support the proposal. The Administration informed the Legislative Council Panels on Environmental Affairs and Transport of the proposal in early May 2000. The Panels did not raise any objection.

## **BASIC LAW IMPLICATIONS**

12. The Department of Justice advises that the Amendment Regulation does not conflict with those provisions of the Basic Law carrying no human rights implication.

## **HUMAN RIGHTS IMPLICATIONS**

13. The Department of Justice advises that the Amendment Regulation is consistent with the human right provisions of the Basic Law.

## **FINANCIAL AND STAFFING IMPLICATIONS**

14. The Transport Department will purchase new equipment for conducting the emission test and the costs involved will be absorbed from within existing resources. Existing staff of the Transport Department will absorb any additional work involved.

## **ECONOMIC IMPLICATIONS**

15. There are no economic implications.

## **LEGISLATIVE TIMETABLE**

16. The Amendment Regulation will come into effect on 1 November 2000.

## **PUBLICITY**

17. The Amendment Regulation will be gazetted on 19 May 2000.

Government Secretariat  
Transport Bureau  
17 May 2000

**ROAD TRAFFIC (CONSTRUCTION AND MAINTENANCE OF VEHICLES)  
(AMENDMENT) (NO. 2) REGULATION 2000**

(Made under section 9 of the Road Traffic Ordinance (Cap. 374))

**1. Commencement**

This Regulation shall come into operation on 1 November 2000.

**2. Interpretation**

Regulation 2 of the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374 sub. leg.) is amended by adding -

"air pollutant" (空氣污染物) has the same meaning as in section 2 of the Air Pollution Control Ordinance (Cap. 311);

"Authority" (監督) has the same meaning as in section 2 of the Air Pollution Control Ordinance (Cap. 311);

"exhaust emission" (排氣污染物) means any air pollutant emitted from the tail pipe of a motor vehicle;

"liquefied petroleum gas" (石油氣) has the same meaning as in section 2 of the Gas Safety Ordinance (Cap. 51);

"unleaded petrol" (無鉛氣油) has the same meaning as in section 2 of the Air Pollution Control (Motor Vehicle Fuel) Regulation (Cap. 311 sub. leg.);".

**3. Smoke, etc.**

Regulation 31(2) is amended -

- (a) by adding "Part I of" before "the Fourth Schedule";
- (b) by repealing "that Schedule" and substituting "that Part".

**4. Regulation added**

The following is added -

**"31A. Exhaust emission**

(1) Without limiting regulation 31, this regulation applies to every motor vehicle (other than a motor cycle or a motor tricycle) that is -

(a) manufactured on or after 1 January 1975 and is equipped with a positive-ignition engine and uses unleaded petrol as fuel; or

(b) equipped with a positive-ignition engine and uses liquefied petroleum gas as fuel.

(2) A motor vehicle to which this regulation applies shall be so constructed and maintained that its exhaust emission is not excessive.

(3) For the purposes of paragraph (2), exhaust emission is excessive, in the case of a motor vehicle that is equipped with a positive-ignition engine and uses unleaded petrol as fuel, if the exhaust emission, measured in accordance with the procedure specified in column 2 of Part II of the Fourth Schedule and which is applicable to that motor vehicle having regard to its date of manufacture, does not comply with the standard applicable to that motor vehicle specified in column 3 of that Part.

(4) For the purposes of paragraph (2), exhaust emission is excessive, in the case of a motor vehicle that is equipped with a positive-ignition engine and uses liquefied petroleum gas as fuel, if the exhaust emission, measured in accordance with the procedure specified in column 1 of Part III of the Fourth Schedule, does not comply with the standard specified

in column 2 of that Part.

(5) For the purposes of paragraphs (3) and (4), exhaust emission shall be measured by means of any one of the apparatuses specified by the Commissioner from time to time by notice published in the Gazette.

(6) For the avoidance of doubt, a notice under paragraph (5) is not subsidiary legislation.

(7) It shall be a defence in any proceedings in respect of a contravention of this regulation to prove that the excessive exhaust emission was due to some temporary or accidental cause which could not be prevented by the exercise of reasonable care."

**5. Fourth Schedule substituted**

The Fourth Schedule is repealed and the following substituted -

"FOURTH SCHEDULE [regs.31 & 31A]

PART I

MAXIMUM PERMITTED SMOKE OR VISIBLE VAPOUR EMISSIONS  
FROM MOTOR VEHICLES

Column 1	Column 2
Maximum permitted smoke or visible vapour level	Maximum permitted smoke or visible vapour level in absolute units of light absorption (M-1)
60 Hartridge Smoke Units	2.13

PART II

STANDARDS FOR EXHAUST EMISSIONS FROM MOTOR VEHICLES  
EQUIPPED WITH POSITIVE-IGNITION ENGINE AND  
USING UNLEADED PETROL AS FUEL

Column 1	Column 2	Column 3
Date of manufacture	Measurement procedures	Emission standards
Between 1 January 1975 and 31 December 1986 (both dates inclusive)	As specified in item 8.2.1(a) of Annex II of the Council Directive 96/96 EC made by the Council of the European Union	(a) carbon monoxide level at idle is not to exceed the maximum permissible level specified by the vehicle manufacturer and which is available to the Authority; or  (b) where the level is not available to the Authority, carbon monoxide level

Between 1 January 1987 and 31 December 1991 (both dates inclusive)	As specified in item 8.2.1(a) of Annex II of the Council Directive 96/96 EC made by the Council of the European Union	(a) carbon monoxide level at idle is not to exceed the maximum permissible level specified by the vehicle manufacturer and which is available to the Authority; or (b) where the level is not available to the Authority, carbon monoxide level at idle is not to exceed 3.5% vol.
On or after 1 January 1992	As specified in item 8.2.1(b) of Annex II of the	(a) carbon monoxide level at idle is not

Council Directive  
96/96 EC made by the  
Council of the  
European Union

to exceed the  
maximum  
permissible  
level specified  
by the vehicle  
manufacturer  
and which is  
available to the  
Authority; or

(b) where the level  
is not available  
to the  
Authority -

(i) at idle,  
carbon  
monoxide  
level is  
not to  
exceed  
0.5% vol.;

and  
(ii) at high  
idle1,  
carbon  
monoxide  
level is

not to  
exceed  
0.3% vol.  
and  
Lambda<sub>2</sub>  
is not to  
exceed 1  
± 0.03.

### PART III

#### STANDARDS FOR EXHAUST EMISSIONS FROM MOTOR VEHICLES EQUIPPED WITH POSITIVE-IGNITION ENGINE AND USING LIQUEFIED PETROLEUM GAS AS FUEL

##### Column 1

##### Column 2

##### Measurement procedure

##### Emission standards

As specified in item 4-21-1 of Chapter 11-2 of the Automobile Type Approval Handbook for Japanese Certification, October 1997, Technical Edition II by the Japan Automobile Standards International Centre

Carbon monoxide level is not to exceed 1.0% vol.; and Hydrocarbons are not to exceed 300ppm vol. as normal-hexane equivalent

Note: 1. At high idle, the speed of engine must not be less

than 2000rev/min.

2. Lambda is the quantity of intake air divided by the theoretical air requirement of the engine."

Secretary for Transport

15 May 2000

#### Explanatory Note

This Regulation amends the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374 sub. leg.) by introducing exhaust emission standards for motor vehicles that are equipped with positive-ignition engines and use either unleaded petrol or liquefied petroleum gas as fuel. From 1 November 2000, exhaust emissions from these motor vehicles, as measured by the prescribed procedures, shall be deemed to be excessive if the emissions exceed the prescribed standards set out in section 5 of this Regulation.