

## LEGISLATIVE COUNCIL BRIEF

### Air Pollution Control Ordinance (Cap.311)

#### Air Pollution Control (Vehicle Design Standards) (Emission) (Amendment) Regulation 2006

### INTRODUCTION

The Secretary for the Environment, Transport and Works has made the Air Pollution Control (Vehicle Design Standards) (Emission) (Amendment) Regulation 2006, at the Annex, under section 43 of the Air Pollution Control Ordinance (Chapter 311) to implement Euro IV emission standards in Hong Kong for newly registered heavy duty vehicles and Euro III emission standards<sup>1</sup> for newly registered motorcycles.

### BACKGROUND AND ARGUMENT

2. Motor vehicles are our major source of roadside air pollution. To reduce vehicle emissions, Hong Kong has been introducing the most stringent motor vehicle fuel and emission standards as soon as they are available to the local market. In previous years, Euro II and Euro III vehicle fuel and emission standards were introduced in Hong Kong in tandem with the European Union (EU). With the approval of the Legislative Council, we have implemented Euro IV fuel standards for motor vehicle diesel since 1 April 2002 and for petrol since 1 January 2005. We have also started introducing Euro IV emission standards for newly registered light duty vehicles not more than 3.5 tonnes from 1 January 2006.

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<sup>1</sup> The EU has not fixed its timetable for implementing Euro IV emission standards for motorcycles.

3. The EU will tighten their emission standards for newly registered heavy duty vehicles (i.e. those over 3.5 tonnes) to Euro IV from 1 October 2006. A Euro IV model will emit about 30% and 80% less nitrogen oxides and particulates respectively than a Euro III model. The EU will also implement Euro III emission standards for newly registered motorcycles from 1 January 2007. Compared with the existing standards, a motorcycle meeting Euro III emission standards emits about 90% and 50% less hydrocarbons and nitrogen oxides respectively than an existing model.

## **THE AMENDMENT REGULATION**

4. The Air Pollution Control (Vehicle Design Standards) (Emission) (Amendment) Regulation 2006 requires –

- (a) newly registered motor vehicles each of design weight over 3.5 tonnes to comply with Euro IV emission standards from 1 October 2006; and
- (b) newly registered motorcycles to comply with Euro III emission standards from 1 January 2007.

Vehicles meeting the equivalent standards of Japan or the US will be accepted provided that they have the same level of effectiveness in reducing emissions.

## **LEGISLATIVE TIMETABLE**

5. We will publish the Amendment Regulation in the Gazette on 19 May 2006 and table it at the Legislative Council for negative vetting on 24 May 2006. Subject to the negative vetting by the Legislative Council, the amendments at paragraphs 4(a) and 4(b) will take effect on 1 October 2006 and 1 January 2007

respectively.

## **IMPLICATIONS OF THE PROPOSAL**

6. The proposal is in conformity with the Basic Law, including the provisions concerning human rights, and will not affect the current binding effect of the Air Pollution Control (Vehicle Design Standards)(Emission) Regulations. The proposal has no financial or civil service implications. The proposal has no economic implications as it is not expected to have significant effects on vehicle prices.

7. A Euro IV heavy duty vehicle emits about 30% and 80% less nitrogen oxides and particulates respectively than a Euro III model. A Euro III motorcycle emits about 90% and 50% less hydrocarbons and nitrogen oxides respectively than an existing model. The proposal helps further improve roadside air quality.

## **CONSULTATION**

8. We have consulted the Hong Kong Motor Traders Association (MTA), the Hong Kong Motorcycle Association and the Hong Kong Motorcycle of Commerce on the proposal. They did not raise any objection.

9. Some members of the transport trades are worried about the operability of Euro IV models in the Mainland because of the difference in standards for diesel fuel. In addition, a small number of Euro IV models may require the use of urea solution to support their selective catalytic reduction (SCR) systems for emission reduction. They are also worried about the availability of urea solution on the local market.

10. Vehicle manufacturers have advised that Euro IV vehicle models will be compatible with the Mainland diesel though their particulate emissions will be

8-10% higher than when they are powered by ultra low sulphur diesel. Operability is not a problem.

11. To support the operation of SCR-equipped vehicles, some vehicle manufacturers are already working to set up urea solution refilling facilities in Hong Kong. As for cross-boundary vehicles, their urea solution can be stored on-board because the consumption of urea solution is only 5% of that of diesel. The MTA will work together with the Government to disseminate information on urea solution refilling locations. Since there will be Euro IV models which do not require the use of urea solution, vehicle owners can choose vehicle models depending on their operational need.

12. Some members of the transport trades would also like the Government to subsidise vehicle owners to replace their vehicles with Euro IV models. They want the subsidy to help alleviate the adverse impacts of high diesel prices on their operation and improve their business environment. They are also worried that Euro IV vehicles might cost more to acquire and maintain. Based on feedback from vehicle manufacturers and MTA, we do not expect that the new Euro IV standard will cause a significant increase in vehicle prices. Also, the maintenance requirements of Euro IV models should not differ significantly from Euro III models. In addition, we do not have a timetable to phase out the pre-Euro IV vehicles. The Administration does not consider that there is a need at the moment to provide financial subsidy for the purchase of new Euro IV vehicles.

13. We consulted the LegCo Panel on Environmental Affairs and the Advisory Council on the Environment on the proposal on 27 February 2006 and 13 March 2006 respectively. The Panel and the Council both supported the proposal.

## **PUBLICITY**

14. A press release will be issued on 19 May 2006. A spokesman will

be available for answering media enquiries.

## **ENQUIRIES**

15. For any enquiries, please contact Mr W C Mok, Principal Environmental Protection Officer at 2594 6301.

**Environmental Protection Department**

**May 2006**

## ANNEX

# **AIR POLLUTION CONTROL (VEHICLE DESIGN STANDARDS) (EMISSION) (AMENDMENT) REGULATION 2006**

(Made by the Secretary for the Environment, Transport and Works under section 43 of the Air Pollution Control Ordinance (Cap. 311) after consultation with the Advisory Council on the Environment)

### **1. Commencement**

- (1) This Regulation (other than sections 5 and 10) shall come into operation on 1 October 2006.
- (2) Sections 5 and 10 shall come into operation on 1 January 2007.

### **2. Vehicle design standards for certain motor vehicles**

Regulation 7(1) of the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap. 311 sub. leg. J) is amended –

- (a) in paragraph (j)(v), by repealing “on or after 1 August 2003” and substituting “between 1 August 2003 and 30 September 2006 (both dates inclusive)”;
- (b) in paragraph (ja)(iv), by repealing “on or after 1 August 2003” and substituting “between 1 August 2003 and 30 September 2006 (both dates inclusive)”;
- (c) in paragraph (k)(iii), by repealing “on or after 1 October 2001” and substituting “between 1 October 2001 and 30 September 2006 (both dates inclusive)”;
- (d) in paragraph (ka)(iii), by repealing “on or after 1 August 2003” and substituting “between 1 August 2003 and 30 September 2006 (both dates inclusive)”;

- (e) in paragraph (l)(iii), by repealing “on or after 1 October 2001” and substituting “between 1 October 2001 and 30 September 2006 (both dates inclusive)”;
- (f) in paragraph (m), by repealing “on or after 1 October 1999” and substituting “between 1 October 1999 and 31 December 2006 (both dates inclusive)”;
- (g) in paragraph (n), by repealing “on or after 1 October 1999” and substituting “between 1 October 1999 and 31 December 2006 (both dates inclusive)”.

**3. Vehicle design standards for certain motor vehicles registered on or after 1 January 2006**

Regulation 7B(1) is amended –

- (a) in paragraph (f)(v), by repealing “on or after 1 January 2006” and substituting “between 1 January 2006 and 31 December 2006 (both dates inclusive)”;
- (b) in paragraph (i)(iii), by repealing “more than 1.7 tonnes but”;
- (c) in paragraph (j)(iv), by repealing “on or after 1 January 2006” and substituting “between 1 January 2006 and 31 December 2006 (both dates inclusive)”;
- (d) in paragraph (m)(ii), by repealing “more than 1.7 tonnes but”;
- (e) in paragraph (n)(v), by repealing “on or after 1 January 2006” and substituting “between 1 January 2006 and 31 December 2006 (both dates inclusive)”;
- (f) in paragraph (q)(iii), by repealing “more than 1.7 tonnes but”.

**4. Regulation added**

The following is added –

**“7C. Vehicle design standards for certain motor vehicles registered on or after 1 October 2006**

- (1) Subject to regulation 9 –
- (a) every goods vehicle, light bus or bus which –
    - (i) is equipped with a positive-ignition engine;
    - (ii) is constructed to operate on unleaded petrol only;
    - (iii) has a design weight of more than 3.5 tonnes; and
    - (iv) is registered on or after 1 October 2006,shall be so constructed that the emission from that goods vehicle, light bus or bus conforms to the standards specified in paragraph (b) or (c) of Schedule 13;
  - (b) every goods vehicle, light bus or bus which –
    - (i) is equipped with a compression-ignition engine;
    - (ii) has a design weight of more than 3.5 tonnes; and
    - (iii) is registered on or after 1 October 2006,shall be so constructed that the emission from that goods vehicle, light bus or bus conforms to the standards specified in paragraph (a), (b) or (c) of Schedule 13;
  - (c) every light bus which –
    - (i) is equipped with a positive-ignition engine;
    - (ii) is constructed to operate on liquefied petroleum gas only;
    - (iii) has a design weight of more than 3.5 tonnes; and
    - (iv) is registered on or after 1 October 2006,



shall be so constructed that the emission from that light bus conforms to the standards specified in paragraph (a), (b) or (c) of Schedule 13.

(2) In this regulation, “goods vehicle” (貨車), “light bus” (小型巴士) and “bus” (巴士) shall have the meanings assigned to them, respectively, in section 2 of the Road Traffic Ordinance (Cap. 374).”.

## **5. Regulation added**

The following is added –

### **“7D. Vehicle design standards for motor cycles and motor tricycles registered on or after 1 January 2007**

(1) Subject to regulation 9, every motor cycle registered on or after 1 January 2007 shall be so constructed that the emission from that motor cycle conforms to the standards specified in paragraph (a), (b) or (c) of Schedule 14.

(2) Subject to regulation 9, every motor tricycle registered on or after 1 January 2007 shall be so constructed that the emission from that motor tricycle conforms to the standards specified in Schedule 15.”.

## **6. Compliance with more stringent standards**

Regulation 8 is amended by adding “, 7C, 7D” after “7B”.

## **7. Vehicles to which regulations 7, 7B and 14 do not apply**

Regulation 9 is amended –

- (a) in the heading, by adding “, 7C, 7D” after “7B”;
- (b) by adding “, 7C, 7D” after “7B”.

**8. Certain motor vehicles to be equipped with on-board diagnostic system**

Regulation 14 is amended by adding –

“(7) Every motor vehicle under regulation 7C(1)(b) shall be fitted with an on-board diagnostic system so constructed that it conforms to the requirements specified in –

- (a) the on-board diagnostic system specifications administered by the Environmental Protection Agency of the United States of America;
- (b) the on-board diagnostic system specifications stipulated in Directive 2005/55/EC made by the European Parliament and the Council; or
- (c) the on-board diagnostic system specifications administered by the Ministry of Land, Infrastructure and Transport of Japan.”.

**9. Schedule 13 added**

The following is added –

“SCHEDULE 13

[reg. 7C]

**VEHICLE DESIGN STANDARDS (EMISSION) FOR CERTAIN  
MOTOR VEHICLES REGISTERED ON  
OR AFTER 1 OCTOBER 2006**

- (a) European Union Motor Vehicle Emission Standards
  - (i) All the testing procedures, requirements and emission limits as specified in Directive 2005/55/EC made by the European Parliament and the Council.

- (ii) The emission of gaseous and particulate pollutants and opacity of smoke from the engine shall comply with the limit values set out in Row B1 of the Tables in Section 6.2.1 of Annex I to Directive 2005/55/EC made by the European Parliament and the Council as amended by Commission Directive 2005/78/EC.
  - (iii) All the type approval requirements as specified in Council Directive 70/156/EEC made by the Council as amended by its subsequent amendments up to and including amendments made by Commission Directive 2004/104/EC.
- (b) United States of America Motor Vehicle Emission Standards
- (i) All the testing procedures, requirements and emission limits as stated in the Code of Federal Regulations Title 40 Protection of Environment Part 86 Control of Emissions from new and in-use highway vehicles and engines of the United States of America.
  - (ii) The emission limit values shall comply with –
    - (A) emission standards for 2005 and later model year Otto-cycle heavy-duty engines and vehicles for positive-ignition engines; or
    - (B) emission standards and supplemental requirements for 2007 and later model year diesel heavy-duty engines for compression-ignition engines.
  - (iii) All the type approval requirements administered by the Environmental Protection Agency of the United States of America.
- (c) Japan Motor Vehicle Emission Standards
- (i) All the testing procedures, requirements and emission limits as specified in the Safety Regulation for Road Vehicles (i.e. the Ministry

of Transport Ordinance No. 67 of 28 July 1951) as amended by its subsequent amendments up to and including amendments made by Ministry of Land, Infrastructure and Transport Ordinances No. 49 of 6 April, 2005.

- (ii) The emission limit values shall comply with the limit values set out in the New Long-term Regulation enforced on 1 October 2005.
- (iii) All the type approval requirements administered by the Ministry of Land, Infrastructure and Transport of Japan.”.

#### **10. Schedules 14 and 15 added**

The following are added –

“SCHEDULE 14

[reg. 7D]

VEHICLE DESIGN STANDARDS (EMISSION) FOR MOTOR  
CYCLES REGISTERED ON OR AFTER  
1 JANUARY 2007

- (a) European Union Motor Cycle Emission Standards
  - (i) All the testing procedures, requirements and emission limits as specified in Directive 97/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.
  - (ii) The emission limit values for Type I test shall comply with the limit values set out in Row B of the Table in Chapter 5, Annex II, Section 2.2.1.1.5 to Directive 97/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.

- (iii) All the type approval requirements as specified in Directive 2002/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.
- (b) United States of America Motor Cycle Emission Standards
  - (i) All the testing procedures, requirements and emission limits as stated in the Code of Federal Regulations Title 40 Protection of Environment Parts 9, 86, 90 and 1051 Control of Emissions from highway motor cycles of the United States of America.
  - (ii) The emission limit values shall comply with emission standards for 2006 and later model year motor cycles.
  - (iii) All the type approval requirements administered by the Environmental Protection Agency of the United States of America.
- (c) Japan Motor Cycle Emission Standards
  - (i) All the testing procedures, requirements and emission limits as specified in the Safety Regulation for Road Vehicles (i.e. the Ministry of Transport Ordinance No. 67 of 28 July 1951) as amended by its subsequent amendments up to and including amendments made by Ministry of Land, Infrastructure and Transport Ordinances No. 49 of 6 April, 2005 and Ministry of Land, Infrastructure and Transport Notice No. 909 of 29 August 2005.
  - (ii) The emission limit values shall comply with the limit values set out in the Ministry of Land, Infrastructure and Transport Notice No. 909 of 29 August 2005.

- (iii) All the type approval requirements administered by the Ministry of Land, Infrastructure and Transport of Japan.

SCHEDULE 15

[reg. 7D]

VEHICLE DESIGN STANDARDS (EMISSION) FOR MOTOR  
TRICYCLES REGISTERED ON OR AFTER  
1 JANUARY 2007

European Union Motor Tricycle Emission Standards

- (i) All the testing procedures, requirements and emission limits as specified in Directive 97/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.
- (ii) The emission limit values for Type I test shall comply with the limit values set out in Row A of the Table in Chapter 5, Annex II, Section 2.2.1.1.5 to Directive 97/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.
- (iii) All the type approval requirements as specified in Directive 2002/24/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2005/30/EC made by the European Parliament and the Council.”.

Secretary for the Environment, Transport and  
Works

2006

**Explanatory Note**

This Regulation amends the Air Pollution Control (Vehicle Design Standards)(Emission) Regulations (Cap. 311 sub. leg. J). The purpose, mainly, is to impose more stringent vehicle design standards on certain motor vehicles, in order to reduce the emission of air pollutants from them.

2. New Regulation 7C specifies enhanced design standards for certain goods vehicles, light buses and buses, with a design weight of more than 3.5 tonnes, which are first registered on or after 1 October 2006. Regulation 7(1) is amended so that the existing standards will not apply to the same types of vehicles which are registered after 30 September 2006 (sections 2 and 4).

3. New Regulation 7D specifies enhanced design standards for every motor cycle or motor tricycle which is first registered on or after 1 January 2007. Regulation 7(1)(*m*) and (*n*) is amended so that the existing standards will not apply to such motor cycles and tricycles which are registered after 31 December 2006 (sections 2 and 5).

4. Regulation 7B (which deals with design standards for certain motor vehicles registered on or after 1 January 2006) is amended to apply the same design standards to goods vehicles and light buses with a design weight of 1.7 tonnes or less and those with a design weight of more than 1.7 tonnes but not more than 3.5 tonnes. The reason is that on and from 1 January 2007 the distinction will no longer be relevant (section 3).

5. Regulation 14 is amended to require certain motor vehicles equipped with a compression-ignition engine, having a design weight of more than 3.5 tonnes and first registered on or after 1 October 2006, to be fitted with an on-board