

LEGISLATIVE COUNCIL BRIEF

AIR POLLUTION CONTROL ORDINANCE

(CHAPTER 311)

Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap. 311, sub. leg.)

The Secretary for the Environment and Food, after consulting the Advisory Council on the Environment, has made amendments to the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations to -

- (a) formalise the existing practice of not importing diesel taxis with effect from 1 August 2001 and to add to the Regulations the emission standards for liquefied petroleum gas taxis. Details of the amendments are at Annex A; and
- (b) raise the emission standards for certain classes of newly registered motor vehicles to Euro III levels and require installation of on-board diagnostic system for newly registered petrol vehicles of not more than 3.5 tonnes in parallel with the European Union. Details of the amendments are at Annex B.

Annex A

Annex B

**Environment and Food Bureau
May 2001**

**FORMALISING THE EXISTING PRACTICE
OF NOT IMPORTING DIESEL TAXIS
BY LEGISLATIVE AMENDMENT**

BACKGROUND AND ARGUMENT

To encourage early replacement of the existing diesel taxis, the Chief Executive announced in his 1999 Policy Address a programme to provide owners of diesel taxis with a one-off grant to encourage them to replace their vehicles with liquefied petroleum gas (LPG) ones. Since the disbursement of grant in August 2000, over 8,500 diesel taxis (about half of the total fleet) have been replaced by LPG ones. No diesel taxis have actually been imported and registered in Hong Kong since March 2000.

2. The current Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (hereafter referred to as “the Regulations”) in effect do not allow the registration of LPG taxis by the Transport Department under the Road Traffic Ordinance (Cap. 374). Exemption is being granted to LPG taxis by the Environmental Protection Department as a temporary administrative arrangement so that they could be registered by the Transport Department under the Road Traffic Ordinance.

AMENDMENTS

3. We have formalised the current situation by amending the Regulations to prohibit the importation of diesel taxis to Hong Kong from 1 August 2001 and to enable registration of LPG taxis by the Transport Department without the need for the Environmental Protection Department to grant exemption.

4. We have also introduced emission standards for LPG taxis to the Regulations.

5. The changes to the Regulations will not disrupt the operation of the taxi trade because effectively no diesel taxis have been imported and registered in Hong Kong since March 2000. Moreover, the existing LPG taxi models already conform to the emission standards for LPG taxis added to the Regulations. The amendments only serve to formalize the current situation.

6. The amendment Regulation is at Appendix A.

CONSULTATION

7. We have consulted the Advisory Council on the Environment, the Legislative Council Panel on Environmental Affairs and the taxi trade. We have not received any objections from them.

BASIC LAW IMPLICATIONS

8. The Department of Justice advises that the amendments are consistent with the Basic Law.

HUMAN RIGHTS IMPLICATIONS

9. The Department of Justice advises that the amendments have no human rights implications.

FINANCIAL AND STAFFING IMPLICATIONS

10. There are no financial or staffing requirements for the Government.

ECONOMIC IMPLICATIONS

11. There will be no economic implications as the amendments only formalise the existing situation.

PUBLICITY

12. The amendment Regulation will be published in the Gazette on 1 June 2001. We have already informed the taxi trade of the amendments and will inform them again after the amendment Regulation has gone through the negative vetting process before the Legislative Council.

LEGISLATIVE TIMETABLE

13. The amendment Regulation will be tabled at the LegCo sitting on 6 June 2001 for negative vetting.

ENQUIRY

14. Enquiries on this Brief may be directed to Ms Ivy Law, Assistant Secretary for the Environment and Food, at 2136 2287.

**Euro III Emission Standards
for Newly Registered Motor Vehicles**

BACKGROUND AND ARGUMENT

Emissions from motor vehicles are the major cause of street-level air pollution. To reduce vehicle emissions, one of the Administration's policies is to require newly registered vehicles to meet the most stringent emission standards where technologically practicable and available. With the approval of the Legislative Council, we tightened the emission standards for certain classes of vehicles of not more than 3.5 tonnes to Euro III emission standards in January 2001, in step with the European Union, and adopted comparable standards used in the USA and Japan for such vehicles.

2. The European Union will apply Euro III emission standards to newly registered vehicles above 3.5 tonnes on 1 October 2001 and to the remaining classes of motor vehicles of not more than 3.5 tonnes on 1 January 2002. The European Union will also require all newly registered petrol vehicles of not more than 3.5 tonnes to be installed with on-board diagnostic system (OBDS) from 1 January 2002.

3. We consider that Hong Kong should follow suit but exclude newly registered diesel light buses between 3.5 and 4 tonnes from the new requirements for the time being, pending the Administration's decision on the way forward on the proposal of introducing alternative-fuel light buses. We will elaborate on this point in paragraph 4 below. As in the past, we will also adopt Japanese and American standards comparable to Euro III standards where appropriate for vehicles that will be subject to the new standards.

Excluding diesel light buses between 3.5 to 4 tonnes

4. The 16-seater light buses that weigh between 3.5 and 4 tonnes in Hong Kong come mainly from Japan and are specially made for the Hong Kong market. The major supplier, who has over 90% share of the Hong Kong market, has indicated that it will decide on whether to set up a production line for Euro III diesel light buses pending the Administration's decision on the way forward on the proposal to replace existing diesel light buses with LPG/electric vehicles. As there are only about 6,000 diesel light buses in Hong Kong, the supplier considers that it would not be commercially viable to produce both diesel and LPG light buses. If Euro III or equivalent emission standards were applied to diesel light buses in this class from October 2001, there would be a problem in the supply of new diesel vehicles. In the light of this unique situation, both the light bus trade and the Motor Traders Association consider that it will not be acceptable to apply Euro III or equivalent emission standards to newly registered diesel light buses in this class from October 2001. As it is our policy to take into account the availability of suitable vehicles as one of the major considerations in tightening vehicle emission standards, we consider that diesel light buses between 3.5 and 4 tonnes should continue to be subject to the current Euro II emission standards until the way forward on the introduction of alternative-fuel light buses becomes clear.

THE AIR POLLUTION CONTROL (VEHICLE DESIGN STANDARDS) (EMISSION) (AMENDMENT)(NO.2) REGULATION 2001

5. The Air Pollution Control (Vehicle Design Standards) (Emission) (Amendment) (No.2) Regulation 2001 (the Amendment Regulation) amends the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap 311, sub. Leg.) by imposing more stringent vehicle design standards for emission of air pollutants on certain motor vehicles and requiring the installation of OBDS on certain petrol vehicles. The amendments include:

- (a) raising the emission standards for motor vehicles which weigh more than 3.5 tonnes and are first registered on or after 1 October 2001 to Euro III or the equivalent standards adopted in the USA or Japan. Diesel light buses between 3.5 and 4 tonnes shall be excluded and continue to be subject to the current Euro II emission standards;
- (b) raising the emission standards for certain classes of motor vehicles which weigh not more than 3.5 tonnes and are first registered on or after 1 January 2002 to Euro III or the equivalent standards adopted in the USA and Japan from 1 January 2002; and
- (c) requiring the installation of OBDS on petrol vehicles which weigh not more than 3.5 tonnes and are first registered on or after 1 January 2002.

6. The Amendment Regulation is at Appendix B.

LEGISLATIVE TIMETABLE

7. The Amendment Regulation will be tabled at the Legislative Council for negative vetting on 6 June 2001. Subject to the negative vetting by the Legislative Council, the new requirements in paragraph 5(a) will take effect from 1 October 2001 and those in paragraphs 5(b) and 5(c) from 1 January 2002.

BASIC LAW IMPLICATIONS

8. The Department of Justice advises that the amendments do not conflict with those provisions of the Basic Law carrying no human rights implications.

HUMAN RIGHTS IMPLCIATIONS

9. The Department of Justice advises that the amendments have no human rights implications.

ENVIRONMENTAL IMPLICATIONS

10. Implementation of the Amendment Regulation will reduce the emissions from newly registered motor vehicles. This will help to reduce street-level air pollution.

FINANCIAL AND STAFF IMPLICATIONS

11. Implementation of the Amendment Regulation will not require any additional financial commitment from Government or additional staff.

ECONOMIC IMPLICATIONS

12. The Motor Traders Association has confirmed that the amendments will not cause any significant increase in vehicle prices.

PUBLIC CONSULTATION

13. The Motor Traders Association has confirmed that local vehicle suppliers will have no problem with the amendments in terms of vehicle availability.

14. We have consulted the Advisory Council on the Environment (ACE) on the amendments. Its members are supportive of them.

15. We have consulted the Legislative Council Panel on

Environmental Affairs on the amendments. Members did not raise any objections to them.

PUBLICITY

16. A press release will be issued when the Amendment Regulation is published in the Gazette on 1 June 2001.

ENQUIRIES

17. Enquiries on this Brief may be directed to Mr Albert Leung, Assistant Secretary for the Environment and Food, at 2136 3308.

Environment and Food Bureau
May 2001

**AIR POLLUTION CONTROL (VEHICLE DESIGN STANDARDS)
(EMISSION) (AMENDMENT) REGULATION 2001**

(Made under section 43 of the Air Pollution Control Ordinance (Cap. 311) after consultation with the Advisory Council on the Environment)

1. Commencement

This Regulation shall come into operation on 1 August 2001.

2. Interpretation

Regulation 2 of the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap. 311 sub. leg.) is amended by adding -

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

3. Vehicle design standards for certain motor vehicles

Regulation 7(1) is amended -

- (a) in paragraph (a), by repealing "or taxi which is equipped with a positive-ignition engine" and substituting "which is equipped with a positive-ignition engine or taxi which is equipped with a positive-ignition engine and constructed to operate on unleaded petrol only";

- (b) in paragraph (c)(iii), by repealing "on or after 1 July 1999" and substituting "between 1 July 1999 and 31 July 2001 (both dates inclusive)";
- (c) by adding -
 - "(ca) every taxi which is registered on or after 1 August 2001, equipped with a positive-ignition engine and constructed to operate on liquefied petroleum gas only shall be so constructed that the emission from that taxi conforms to the standards specified in Schedule 10A;".

4. Regulation substituted

Regulation 10 is repealed and the following substituted -

"10. Requirements as to engine and fuel

- (1) Every motor vehicle (other than a taxi) that is registered on or after 1 January 1992 and is equipped with a positive-ignition engine shall be constructed -
 - (a) to operate on unleaded petrol only; and
 - (b) in such a way that a petrol pump dispensing nozzle spout with an outside diameter of 23.6 millimetres cannot be inserted into its filling pipe.
- (2) Every taxi that is registered between 1 January

1992 and 31 July 2001 (both dates inclusive) and is equipped with a positive-ignition engine shall be constructed -

- (a) to operate on unleaded petrol only; and
- (b) in such a way that a petrol pump dispensing nozzle spout with an outside diameter of 23.6 millimetres cannot be inserted into its filling pipe.

(3) Every taxi registered on or after 1 August 2001 shall be equipped with a positive-ignition engine and shall be constructed -

- (a) (i) to operate on unleaded petrol only; and
- (ii) in such a way that a petrol pump dispensing nozzle spout with an outside diameter of 23.6 millimetres cannot be inserted into its filling pipe; or
- (b) to operate on liquefied petroleum gas only.

(4) This regulation shall not apply to motor cycles and motor tricycles."

5. Schedule 10A added

The following is added -

"SCHEDULE 10A

[reg. 7(1)(ca)]

VEHICLE DESIGN STANDARDS (EMISSION) FOR
CERTAIN TAXIS REGISTERED ON OR
AFTER 1 AUGUST 2001

Emission shall not exceed -

- | | | |
|-----|---|--------------------------|
| (a) | non-methane hydrocarbons | 0.16 gram per kilometre |
| | carbon monoxide | 2.1 grams per kilometre |
| | oxides of nitrogen | 0.25 gram per kilometre |
| | as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America; | |
| (b) | hydrocarbons | 0.25 gram per kilometre |
| | carbon monoxide | 2.10 grams per kilometre |
| | oxides of nitrogen | 0.25 gram per kilometre |
| | as measured by the 10.15-mode operation administered by the Ministry of Land, Infrastructure and Transport of Japan; | |
| (c) | (i) for a vehicle designed to carry no more than 6 passengers including the driver, or the maximum mass of which does not exceed 2 500 kg - | |
| | hydrocarbons and oxides of nitrogen
combined | 0.5 gram per kilometre |
| | carbon monoxide | 2.2 grams per kilometre |

- (ii) for a vehicle designed to carry more than 6 passengers including the driver, or the maximum mass of which exceeds 2 500 kg and the reference mass of which does not exceed 1 250 kg -
- | | |
|--|-------------------------|
| hydrocarbons and oxides of nitrogen combined | 0.5 gram per kilometre |
| carbon monoxide | 2.2 grams per kilometre |
- (iii) for a vehicle designed to carry more than 6 passengers including the driver, or the maximum mass of which exceeds 2 500 kg and the reference mass of which exceeds 1 250 kg and does not exceed 1 700 kg -
- | | |
|--|-------------------------|
| hydrocarbons and oxides of nitrogen combined | 0.6 gram per kilometre |
| carbon monoxide | 4.0 grams per kilometre |
- (iv) for a vehicle designed to carry more than 6 passengers including the driver, or the maximum mass of which exceeds 2 500 kg and the reference mass of which exceeds 1 700 kg -
- | | |
|--|-------------------------|
| hydrocarbons and oxides of nitrogen combined | 0.7 gram per kilometre |
| carbon monoxide | 5.0 grams per kilometre |

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 98/77/EC, both made by the Council."

6. Motor vehicles with positive-ignition engines not requiring installation of on-board diagnostic system

Schedule 11 is amended by adding -

"(ba) taxi which is constructed to operate on liquefied petroleum gas only; or".

Secretary for the Environment and Food

28 May 2001

Explanatory Note

This Regulation amends the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap. 311 sub. leg.) ("principal Regulations") and introduces the requirement that taxis first registered on or after 1 August 2001 shall be equipped with a positive-ignition engine and shall be either constructed to operate on unleaded petrol only or constructed to operate on liquefied petroleum gas only. Such taxis constructed to operate on liquefied petroleum gas only are to be subject to the emission standards specified in the new

Schedule 10A. Further, a new paragraph (ba) is added to Schedule 11 of the principal Regulations to exempt any taxi constructed to operate on liquefied petroleum gas only from the requirement to be equipped with an on-board diagnostic system.

**AIR POLLUTION CONTROL (VEHICLE DESIGN STANDARDS) (EMISSION)
(AMENDMENT) (NO. 2) REGULATION 2001**

(Made under section 43 of the Air Pollution Control Ordinance
(Cap. 311) after consultation with the Advisory Council
on the Environment)

1. Commencement

(1) Sections 2(h), (i) and (j), 4, 5 and 6 shall come into operation on 1 October 2001.

(2) Sections 2(a), (b), (c), (d), (e), (f) and (g), 3, 7 and 8 shall come into operation on 1 January 2002.

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.) is amended -

(a) in paragraph (a) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part I(a), (b) or (c) of Schedule 10B;"

(b) in paragraph (d) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part II(a), (b) or (c) of Schedule 10B;"

(c) in paragraph (e) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part III(a) or (b) of Schedule 10B;"

(d) in paragraph (f) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the

standards specified in Part IV(a), (b) or (c) of Schedule 10B;"

(e) in paragraph (g) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part V(a) or (b) of Schedule 10B;"

(f) in paragraph (h) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part VI(a), (b) or (c) of Schedule 10B;"

(g) in paragraph (i) -

(i) in subparagraph (iv), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December

2001 (both dates inclusive)";

(ii) by adding -

"(v) if it is registered on or after 1 January 2002, to the standards specified in Part VII(a) or (b) of Schedule 10B;"

(h) in paragraph (j) -

(i) in subparagraph (iii), by repealing "on or after 1 July 1999" and substituting "between 1 July 1999 and 30 September 2001 (both dates inclusive)";

(ii) by adding -

"(iv) if it is registered on or after 1 October 2001, to the standards specified in Part I(a) or (b) of Schedule 6A;"

(i) in paragraph (k) -

(i) in subparagraph (ii), by repealing "on or after 1 October 1998" and substituting "between 1 October 1998 and 30 September 2001 (both dates inclusive)";

(ii) by adding -

"(iii) if it is registered on or after 1 October 2001 -

(A) in the case of emission from a goods vehicle or bus, to the standards specified in Part II(a) or

(b) of Schedule 6A;

(B) in the case of emission from a light bus, to the standards specified in paragraph (a) or (b) of Schedule 6;"

(j) in paragraph (1) -

(i) in subparagraph (ii), by repealing "on or after 1 October 1998" and substituting "between 1 October 1998 and 30 September 2001 (both dates inclusive)";

(ii) by adding -

"(iii) if it is registered on or after 1 October 2001, to the standards specified in Part II(a) or (b) of Schedule 6A;"

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

Regulation 14 is amended -

(a) in subregulation (1), by repealing "on or after 1 January 2001" and substituting "between 1 January 2001 and 31 December 2001 (both dates inclusive)";

(b) by adding -

"(3) Every motor vehicle equipped with a positive-ignition engine and registered on or after 1 January 2002 shall be fitted with an on-board diagnostic system so constructed that

it conforms to the requirements specified in the specifications referred to in subregulation (1)(a), (b) or (c).

(4) Subregulation (3) shall not apply to any motor vehicle specified in paragraph (a), (ba), (f), (g) or (h) of Schedule 11."

4. Schedule heading substituted

The heading of Schedule 6 is repealed and the following substituted -

"VEHICLE DESIGN STANDARDS (EMISSION) FOR CERTAIN MOTOR VEHICLES REGISTERED BETWEEN 1 OCTOBER 1998 AND 30 SEPTEMBER 2001 (BOTH DATES INCLUSIVE) AND FOR CERTAIN LIGHT BUSES REGISTERED ON OR AFTER 1 OCTOBER 2001".

5. Schedule 6A added

The following is added -

"SCHEDULE 6A

[reg. 7]

VEHICLE DESIGN STANDARDS (EMISSION) FOR CERTAIN MOTOR VEHICLES REGISTERED ON OR AFTER 1 OCTOBER 2001

Part I

Emission shall not exceed -

(a)	hydrocarbons	2.55 grams per kilowatt-hour
	carbon monoxide	49.7 grams per kilowatt-hour
	oxides of nitrogen	5.36 grams per kilowatt-hour

as measured by the Transient Test Procedure for heavy duty Otto cycle engines administered by the Environmental Protection Agency of the United States of America; and evaporative emission shall not exceed 4.0 grams per test as measured by the Sealed Housing for Evaporative Emissions Determination procedure administered by the Environmental Protection Agency of the United States of America;

(b)	hydrocarbons	1.80 grams per kilowatt-hour
	carbon monoxide	51.0 grams per kilowatt-hour
	oxides of nitrogen	4.50 grams per kilowatt-hour

as measured by the 13-mode operation for heavy duty petrol-powered motor vehicles administered by the Ministry of Land, Infrastructure and Transport of Japan; and evaporative emission shall not exceed 2.0 grams per test as measured by the Japan Sealed Housing for Evaporative Emissions Determination test administered by the Ministry of Land, Infrastructure and Transport of Japan.

Part II

Emission shall not exceed -

(a)	hydrocarbons	1.74 grams per kilowatt-hour
	carbon monoxide	20.8 grams per kilowatt-hour
	oxides of nitrogen	5.36 grams per kilowatt-hour
	particulate emissions	0.07 gram per kilowatt-hour

as measured by the Transient Test Procedure for heavy duty diesel engines administered by the Environmental Protection Agency of the United States of America;

(b)	hydrocarbons	0.66 gram per kilowatt-hour
	carbon monoxide	2.1 grams per kilowatt-hour
	oxides of nitrogen	5.0 grams per kilowatt-hour

particulate emissions

- for engines having a swept volume per cylinder of less than 700 cubic centimetres and rated power speed of engine higher than 3 000 revolutions per minute	0.13 gram per kilowatt-hour
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- for engines having a	0.10 gram per
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Swept volume per cylinder equal to or more than 700 cubic centimetres or rated power speed of engine of not more than 3 000 revolutions per minute kilowatt-hour

as measured by the procedure of ESC test for diesel engines which are for use in vehicles specified in Council Directive 88/77/EEC as amended by Council Directive 1999/96/EC, both made by the Council; and the smoke opacity shall not exceed 0.8 m⁻¹ as measured by the procedure of ELR test for diesel engines which are for use in vehicles specified in Council Directive 88/77/EEC as amended by Council Directive 1999/96/EC, both made by the Council."

6. Schedule heading substituted

The heading of Schedule 7 is repealed and the following substituted -

"VEHICLE DESIGN STANDARDS (EMISSION) FOR CERTAIN MOTOR VEHICLES REGISTERED BETWEEN 1 JULY 1999 AND 31 DECEMBER 2000 (BOTH DATES INCLUSIVE), FOR TAXIS EQUIPPED WITH COMPRESSION-IGNITION ENGINES AND REGISTERED BETWEEN 1 JULY 1999 AND 31 JULY 2001 (BOTH DATES INCLUSIVE) AND FOR CERTAIN MOTOR VEHICLES REGISTERED BETWEEN 1 JULY 1999 AND 30 SEPTEMBER 2001 (BOTH DATES INCLUSIVE)".

7. Schedule 10 amended

Schedule 10 is amended, in the heading, by repealing "ON OR AFTER 1 JANUARY 2001" and substituting "BETWEEN 1 JANUARY 2001 AND 31 DECEMBER 2001 (BOTH DATES INCLUSIVE)".

8. Schedule 10B added

The following is added -

"SCHEDULE 10B

[reg. 7]

VEHICLE DESIGN STANDARDS (EMISSION) FOR CERTAIN MOTOR
VEHICLES REGISTERED ON OR AFTER 1 JANUARY 2002

Part I

Emission shall not exceed -

- | | | |
|-----|---------------------------|--------------------------|
| (a) | non-methane organic gases | 0.047 gram per kilometre |
| | carbon monoxide | 2.1 grams per kilometre |
| | oxides of nitrogen | 0.12 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America; and evaporative emission shall not exceed 2.0 grams per test as measured by the California Sealed Housing for Evaporative Emissions Determination test procedure administered by the Environmental Protection Agency of the United States of America;

(b)	hydrocarbons	0.08 gram per kilometre
	carbon monoxide	0.67 gram per kilometre
	oxides of nitrogen	0.08 gram per kilometre

as measured by the 10.15-mode operation administered by the Ministry of Land, Infrastructure and Transport of Japan; and evaporative emission shall not exceed 2.0 grams per test as measured by the Japan Sealed Housing for Evaporative Emissions Determination test administered by the Ministry of Land, Infrastructure and Transport of Japan;

- (c) (i) for a vehicle the maximum mass of which does not exceed 2 500 kg -

hydrocarbons	0.20 gram per kilometre
carbon monoxide	2.3 grams per kilometre
oxides of nitrogen	0.15 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as

measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (ii) for a vehicle the maximum mass of which exceeds 2 500 kg and the reference mass of which does not exceed 1 305 kg -

hydrocarbons	0.20 gram per kilometre
carbon monoxide	2.3 grams per kilometre
oxides of nitrogen	0.15 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (iii) for a vehicle the maximum mass of which exceeds 2 500 kg and the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons	0.25 gram per kilometre
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carbon monoxide	4.17 grams per kilometre
oxides of nitrogen	0.18 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (iv) for a vehicle the maximum mass of which exceeds 2 500 kg and the reference mass of which exceeds 1 760 kg -

hydrocarbons	0.29 gram per kilometre
carbon monoxide	5.22 grams per kilometre
oxides of nitrogen	0.21 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in

Council Directive 1999/102/EC made by the Council.

Part II

Emission shall not exceed -

- | | | |
|-----|---------------------------|--------------------------|
| (a) | non-methane organic gases | 0.047 gram per kilometre |
| | carbon monoxide | 2.1 grams per kilometre |
| | oxides of nitrogen | 0.12 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America; and evaporative emission shall not exceed 2.0 grams per test as measured by the California Sealed Housing for Evaporative Emissions Determination test procedure administered by the Environmental Protection Agency of the United States of America;

- | | | |
|-----|--------------------|-------------------------|
| (b) | hydrocarbons | 0.08 gram per kilometre |
| | carbon monoxide | 0.67 gram per kilometre |
| | oxides of nitrogen | 0.08 gram per kilometre |

as measured by the 10.15-mode operation administered by the Ministry of Land,

Infrastructure and Transport of Japan; and evaporative emission shall not exceed 2.0 grams per test as measured by the Japan Sealed Housing for Evaporative Emissions Determination test administered by the Ministry of Land, Infrastructure and Transport of Japan;

- (c) (i) for a vehicle the reference mass of which does not exceed 1 305 kg -

hydrocarbons	0.20 gram per kilometre
carbon monoxide	2.3 grams per kilometre
oxides of nitrogen	0.15 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons	0.25 gram per kilometre
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Carbon monoxide	4.17 grams per kilometre
oxides of nitrogen	0.18 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council.

Part III

Emission shall not exceed -

- | | | |
|-----|--------------------------|--------------------------|
| (a) | non-methane hydrocarbons | 0.047 gram per kilometre |
| | carbon monoxide | 2.1 grams per kilometre |
| | oxides of nitrogen | 0.12 gram per kilometre |
| | particulate emissions | 0.05 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the environmental Protection Agency of the United States of America;

- | | | |
|-----|-----|--|
| (b) | (i) | for a vehicle the reference mass of which does not exceed 1 305 kg - |
|-----|-----|--|

hydrocarbons and oxides of nitrogen combined	0.56 gram per kilometre
carbon monoxide	0.64 gram per kilometre
oxides of nitrogen	0.50 gram per kilometre
particulate emissions	0.05 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons and oxides of nitrogen combined	0.72 gram per kilometre
carbon monoxide	0.80 gram per kilometre
oxides of nitrogen	0.65 gram per kilometre
particulate emissions	0.07 gram per kilometre

as measured by the Type I test procedure

specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council.

Part IV

Emission shall not exceed -

- | | | |
|-----|---------------------------|--------------------------|
| (a) | non-methane organic gases | 0.062 gram per kilometre |
| | carbon monoxide | 2.73 grams per kilometre |
| | oxides of nitrogen | 0.25 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America; and evaporative emission shall not exceed 2.0 grams per test as measured by the California Sealed Housing for Evaporative Emissions Determination test procedure administered by the Environmental Protection Agency of the United States of America;

- | | | |
|-----|--------------------|--------------------------|
| (b) | hydrocarbons | 0.08 gram per kilometre |
| | carbon monoxide | 2.10 grams per kilometre |
| | oxides of nitrogen | 0.13 gram per kilometre |

as measured by the 10.15-mode operation

administered by the Ministry of Land, Infrastructure and Transport of Japan; and evaporative emission shall not exceed 2.0 grams per test as measured by the Japan Sealed Housing for Evaporative Emissions Determination test administered by the Ministry of Land, Infrastructure and Transport of Japan;

- (c) (i) for a vehicle the reference mass of which does not exceed 1 305 kg -

hydrocarbons	0.20 gram per kilometre
carbon monoxide	2.3 grams per kilometre
oxides of nitrogen	0.15 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons	0.25 gram per
--------------	---------------

	kilometre
carbon monoxide	4.17 grams per kilometre
oxides of nitrogen	0.18 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (iii) for a vehicle the reference mass of which exceeds 1 760 kg -

hydrocarbons	0.29 gram per kilometre
carbon monoxide	5.22 grams per kilometre
oxides of nitrogen	0.21 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the

Council.

Part V

Emission shall not exceed -

- | | | |
|-----|--------------------------|--------------------------|
| (a) | non-methane hydrocarbons | 0.062 gram per kilometre |
| | carbon monoxide | 2.73 grams per kilometre |
| | oxides of nitrogen | 0.25 gram per kilometre |
| | particulate emissions | 0.05 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America;

- (b) (i) for a vehicle the reference mass of which does not exceed 1 305 kg -

hydrocarbons and oxides of nitrogen combined	0.56 gram per kilometre
carbon monoxide	0.64 gram per kilometre
oxides of nitrogen	0.50 gram per kilometre
particulate emissions	0.05 gram per kilometre

as measured by the Type I test procedure

specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons and oxides of nitrogen combined	0.72 gram per kilometre
carbon monoxide	0.80 gram per kilometre
oxides of nitrogen	0.65 gram per kilometre
particulate emissions	0.07 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council;

- (iii) for a vehicle the reference mass of which exceeds 1 760 kg -

hydrocarbons and oxides of nitrogen combined	0.86 gram per kilometre
carbon monoxide	0.95 gram per kilometre

oxides of nitrogen	0.78 gram per kilometre
particulate emissions	0.10 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council.

Part VI

Emission shall not exceed -

- | | | |
|-----|---------------------------|--------------------------|
| (a) | non-methane organic gases | 0.121 gram per kilometre |
| | carbon monoxide | 3.1 grams per kilometre |
| | oxides of nitrogen | 0.37 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America; and evaporative emission shall not exceed 2.5 grams per test as measured by the California Sealed Housing for Evaporative Emissions Determination test procedure administered by the Environmental Protection Agency of the United States of America;

- | | | |
|-----|--------------|-------------------------|
| (b) | hydrocarbons | 0.08 gram per kilometre |
|-----|--------------|-------------------------|

carbon monoxide	2.10 grams per kilometre
oxides of nitrogen	0.13 gram per kilometre

as measured by the 10.15-mode operation administered by the Ministry of Land, Infrastructure and Transport of Japan; and evaporative emission shall not exceed 2.0 grams per test as measured by the Japan Sealed Housing for Evaporative Emissions Determination test administered by the Ministry of Land, Infrastructure and Transport of Japan;

- (c) (i) for a vehicle the reference mass of which does not exceed 1 305 kg -

hydrocarbons	0.20 gram per kilometre
carbon monoxide	2.3 grams per kilometre
oxides of nitrogen	0.15 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC

made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons	0.25 gram per kilometre
carbon monoxide	4.17 grams per kilometre
oxides of nitrogen	0.18 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council;

- (iii) for a vehicle the reference mass of which exceeds 1 760 kg -

hydrocarbons	0.29 gram per kilometre
carbon monoxide	5.22 grams per kilometre
oxides of nitrogen	0.21 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as

amended by Council Directive 1999/102/EC, both made by the Council; and evaporative emission shall not exceed 2.0 grams per test as measured by the Type IV test procedure specified in Council Directive 1999/102/EC made by the Council.

Part VII

Emission shall not exceed -

- | | | |
|-----|--------------------------|--------------------------|
| (a) | non-methane hydrocarbons | 0.121 gram per kilometre |
| | carbon monoxide | 3.1 grams per kilometre |
| | oxides of nitrogen | 0.37 gram per kilometre |
| | particulate emissions | 0.05 gram per kilometre |

as measured by the 1975 Federal Test Procedure administered by the Environmental Protection Agency of the United States of America;

- | | | |
|-----|-----|--|
| (b) | (i) | for a vehicle the reference mass of which does not exceed 1 305 kg - |
| | | hydrocarbons and
oxides of nitrogen
combined |
| | | 0.56 gram per kilometre |
| | | carbon monoxide |
| | | 0.64 gram per kilometre |

Oxides of nitrogen	0.50 gram per kilometre
particulate emissions	0.05 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council;

- (ii) for a vehicle the reference mass of which exceeds 1 305 kg but does not exceed 1 760 kg -

hydrocarbons and oxides of nitrogen combined	0.72 gram per kilometre
carbon monoxide	0.80 gram per kilometre
oxides of nitrogen	0.65 gram per kilometre
particulate emissions	0.07 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council;

- (iii) for a vehicle the reference mass of which exceeds 1 760 kg -

hydrocarbons	0.86 gram per
--------------	---------------

and oxides of nitrogen combined	kilometre
carbon monoxide	0.95 gram per kilometre
oxides of nitrogen	0.78 gram per kilometre
particulate emissions	0.10 gram per kilometre

as measured by the Type I test procedure specified in Council Directive 70/220/EEC as amended by Council Directive 1999/102/EC, both made by the Council."

Secretary for the Environment
and Food

28 May 2001

Explanatory Note

This Regulation amends the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations (Cap. 311 sub. leg.) by -

- (a) imposing more stringent vehicle design standards in relation to the emission of air pollutants on

certain motor vehicles which have a design weight of more than 3.5 tonnes and which are first registered on or after 1 October 2001, but not including light buses which are equipped with a compression-ignition engine and which have a design weight of more than 3.5 tonnes but not more than 4 tonnes (sections 2(h), (i) and (j), 4, 5 and 6);

- (b) imposing more stringent vehicle design standards in relation to the emission of air pollutants on certain motor vehicles which have a design weight of not more than 3.5 tonnes and which are first registered on or after 1 January 2002 (sections 2(a), (b), (c), (d), (e), (f) and (g), 7 and 8); and
- (c) requiring certain motor vehicles which are equipped with a positive-ignition engine, which have a design weight of not more than 3.5 tonnes and which are first registered on or after 1 January 2002 to install an on-board diagnostic system (section 3).