# Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

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# Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

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

## Part 1

# **Preliminary**

#### 1. Commencement

- (1) Subject to subsections (2) and (3), this Regulation comes into operation on 1 June 2015.
- (2) Section 4 comes into operation on 1 September 2015.
- (3) Sections 5 and 6 come into operation on 1 December 2015.

# 2. Interpretation

In this Regulation—

# approved (獲核准)—

- (a) for a regulated machine, means approved under section 7(1); and
- (b) for a non-road vehicle, means approved under section 7(2);

bus (巴士) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);

# exempted (獲豁免)—

(a) for a regulated machine, means exempted under section 9(1) or 11(1); and

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- (b) for a non-road vehicle, means exempted under section 9(2) or 11(1);
- goods vehicle (貨車) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);

lease (出租) includes—

- (a) offer or expose for lease;
- (b) lease without payment; and
- (c) offer or expose for lease without payment;
- light bus (小型巴士) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);
- motor cycle (電單車) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);
- motor tricycle (機動三輪車) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);

# non-road mobile machinery (非道路移動機械) means—

- (a) a regulated machine; or
- (b) a non-road vehicle;
- non-road vehicle (非道路車輛) means a private car, goods vehicle, bus, light bus, motor cycle, motor tricycle or special purpose vehicle that—
  - (a) is powered by an internal combustion engine;
  - (b) is not licensed under the Road Traffic (Registration and Licensing of Vehicles) Regulations (Cap. 374 sub. leg. E); and
  - (c) is intended to be used exclusively in—
    - (i) the Restricted Area as defined by section 2(1) of the Airport Authority Ordinance (Cap. 483); or
    - (ii) a private road that is within—

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- (A) an area wholly or mainly used for the carrying on of construction work within the meaning of section 120 of the Road Traffic Ordinance (Cap. 374); or
- (B) an area wholly or mainly used for the carrying on of industry within the meaning of section 120 of the Road Traffic Ordinance (Cap. 374);

# prescribed emission standard (訂明排放標準)—

- (a) for a regulated machine that runs on a compressionignition engine (as defined in Part 1 of Schedule 1), means a standard specified in Part 2 of that Schedule;
- (b) for a regulated machine that runs on a positiveignition engine (as defined in Part 1 of Schedule 1), means a standard specified in Part 3 of that Schedule;
- (c) for a non-road vehicle, means a standard specified in Part 4 of Schedule 1:
- private car (私家車) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);
- rated engine power output (額定引擎輸出功率) means the maximum net power of an engine;

# reference number (參考編號)—

- (a) for an approved regulated machine or non-road vehicle, means the reference number assigned to it under section 7(3) or 14(2); and
- (b) for an exempted regulated machine or non-road vehicle, means the reference number assigned to it under section 9(4), 11(2) or 14(2);

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regulated machine (受規管機械) means any mobile machine or transportable industrial equipment (other than a vehicle of a class specified in Schedule 1 to the Road Traffic Ordinance (Cap. 374)) that is powered by an internal combustion engine with a rated engine power output that is greater than 19 kW but not greater than 560 kW;

### sell (出售) includes—

- (a) offer or expose for sale;
- (b) supply without payment; and
- (c) offer or expose for supply without payment;

special purpose vehicle (特別用途車輛) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374);

vehicle (車輛) has the meaning given by section 2 of the Road Traffic Ordinance (Cap. 374).

# 3. Application

- (1) This Regulation does not apply to—
  - (a) an engine that is not installed in any machine, equipment or vehicle;
  - (b) machinery installed in a vessel, railway locomotive, aircraft or vehicle licensed under the Road Traffic (Registration and Licensing of Vehicles) Regulations (Cap. 374 sub. leg. E);
  - (c) machinery, equipment or motor vehicle solely for military use; and
  - (d) non-road mobile machinery that—
    - (i) is goods in transit;
    - (ii) is transhipment goods;
    - (iii) is manufactured solely for export; or

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(iv) is sold for scrapping.

(2) In this section—

goods in transit (過境貨品) means goods that—

- (a) is brought into Hong Kong solely for the purpose of taking it out of Hong Kong; and
- (b) remains at all times on the vessel, vehicle or aircraft that brought it into Hong Kong;

transhipment goods (轉運貨品) means imported goods that—

- (a) is consigned on a through bill of lading or a through air waybill from a place outside Hong Kong to another place outside Hong Kong; and
- (b) is or is to be removed from the vessel, vehicle or aircraft in which it was imported, and, before being exported, is either—
  - (i) returned to the same vessel, vehicle or aircraft; or
  - (ii) transferred to another vessel, vehicle or aircraft, whether the goods—
    - (A) is or is to be transferred directly between such vessels, vehicles or aircrafts; or
    - (B) is to be landed in Hong Kong after its importation and stored, pending exportation.

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# Part 2

# Control of Sale, Lease and Use of Non-road Mobile Machinery

## 4. Control of sale or lease of regulated machine

- (1) A person must not sell or lease, or cause to be sold or leased, a regulated machine for use in Hong Kong unless the machine is approved.
- (2) A person who sells or leases, or causes to be sold or leased, a regulated machine that is approved or exempted must ensure that—
  - (a) the machine bears a label that—
    - (i) complies with the requirements specified in Schedule 2; and
    - (ii) is painted or affixed on the machine and properly maintained in accordance with the requirements specified in Schedule 2; and
  - (b) the information set out in the label conforms with the information provided to the Authority in support of the application for the approval or exemption of the machine.
- (3) A person who contravenes subsection (1) commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 6 months.
- (4) A person who fails to comply with subsection (2)(a) or (b) commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

### 5. Control of use of regulated machine in specified activities

- (1) A person must not use or cause to be used a regulated machine in a specified activity unless the machine is approved.
- (2) A person who uses or causes to be used in a specified activity a regulated machine that is approved or exempted must ensure that—
  - (a) the machine bears a label that—
    - (i) complies with the requirements specified in Schedule 2; and
    - (ii) is painted or affixed on the machine and properly maintained in accordance with the requirements specified in Schedule 2; and
  - (b) the information set out in the label conforms with the information provided to the Authority in support of the application for the approval or exemption of the machine.
- (3) A person who contravenes subsection (1) commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 6 months.
- (4) A person who fails to comply with subsection (2)(a) or (b) commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.
- (5) Subsections (1) and (2) do not apply to a person who—
  - (a) personally operates the regulated machine; and
  - (b) is not otherwise responsible for the use of the machine.
- (6) In this section, a regulated machine is used in a specified activity if—

- (a) the machine is used at any of the following locations—
  - (i) the Restricted Area as defined by section 2(1) of the Airport Authority Ordinance (Cap. 483);
  - (ii) port facilities including container terminal, river trade terminal and container backup facilities;
  - (iii) construction sites;
  - (iv) designated waste disposal facilities;
- (b) the machine is used in a specified process.
- (7) In this section—

# construction site (建造工地) means—

- (a) a place where construction work is carried out; or
- (b) any area in the immediate vicinity of any such place which is used for the storage of materials or plant used, or intended to be used, for the purpose of the construction work:

## construction work (建造工程) includes—

- (a) the alteration, construction, demolition, maintenance, reconstruction, repair or shoring of the whole or any part of any airport, arch, bridge, building, channel, chimney, dock, drain, embankment, hoarding, lighting, pier, public utility, railway, road, service lane, shelter, slope, street, tramway, tunnel, wall, water conduit, wharf or other structure;
- (b) dredging;
- (c) the extraction from the earth of any matter;
- (d) piling;

- (e) quarrying;
- (f) the reclamation of any foreshore and sea-bed;
- (g) site formation;
- (h) any work involved in the preparation of any operation of a type referred to in paragraph (a), (b), (c), (d), (e), (f) or (g); and
- (i) the use of machinery, plant, tools, gear and materials in connection with or for an operation referred to in paragraph (a), (b), (c), (d), (e), (f), (g) or (h);

# container backup facilities (貨櫃後勤設施)—

- (a) means facilities essential to the handling of containers which do not require (but may have) a waterfront location; and
- (b) includes containers yards, empty container storage and repair depots, container freight stations and container vehicle parks;
- container terminal (貨櫃碼頭) means any wharf comprising one or more berths for ships, where cargo is handled in freight containers loaded on or discharged from vessels specially designed or converted for that purpose;
- designated waste disposal facility (指定廢物處置設施) has the meaning given by section 2(1) of the Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap. 354 sub. leg. L);
- river trade limits (內河航限) has the meaning given by section 2 of the Shipping and Port Control Ordinance (Cap. 313);
- river trade terminal (內河貨運碼頭) means a terminal for handling or storing cargo by vessels routinely operating within waters within river trade limits.

### 6. Control of use of non-road vehicle at specified location

- (1) A person must not use or cause to be used a non-road vehicle at a specified location unless the vehicle is approved.
- (2) A person who uses or causes to be used at a specified location a non-road vehicle that is approved or exempted must ensure that—
  - (a) the vehicle bears a label that—
    - (i) complies with the requirements specified in Schedule 2; and
    - (ii) is painted or affixed on the vehicle and properly maintained in accordance with the requirements specified in Schedule 2; and
  - (b) the information set out in the label conforms with the information provided to the Authority in support of the application for approval or exemption of the vehicle.
- (3) A person who contravenes subsection (1) commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 6 months.
- (4) A person who fails to comply with subsection (2)(a) or (b) commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.
- (5) Subsections (1) and (2) do not apply to a person who—
  - (a) drives the non-road vehicle; and
  - (b) is not otherwise responsible for the use of the vehicle.
- (6) In this section, a non-road vehicle is used at a specified location if the vehicle is used—
  - (a) in the Restricted Area as defined by section 2(1) of the Airport Authority Ordinance (Cap. 483);

- (b) on a private road within an area that is wholly or mainly used for the carrying on of construction work within the meaning of section 120 of the Road Traffic Ordinance (Cap. 374); or
- (c) on a private road within an area that is wholly or mainly used for the carrying on of industry within the meaning of section 120 of the Road Traffic Ordinance (Cap. 374).

## Part 3

# Approval, Exemption and Modification

# 7. Authority may approve non-road mobile machinery

- (1) The Authority may, on application, approve a regulated machine if the Authority is satisfied that the emission from the machine conforms to the prescribed emission standard.
- (2) The Authority may, on application, approve a non-road vehicle if the Authority is satisfied that the vehicle is so constructed that the emission from the vehicle conforms to the prescribed emission standard.
- (3) If the Authority gives an approval under subsection (1) or (2), the Authority must assign a reference number to the machine or vehicle.

# 8. Application for approval of non-road mobile machinery

- (1) An application for approval under section 7(1) or (2)—
  - (a) must be made in the form and manner specified by the Authority; and
  - (b) must include the information, and be accompanied by the document, specified in subsection (2).
- (2) The information and document are—
  - (a) the name and correspondence address of the applicant;
  - (b) a copy of the identification document or business registration certificate of the applicant;

- (c) the type, trade name, model, serial number and year of manufacture of the machine or vehicle;
- (d) the type, make, model, serial number and rated power of each engine installed in the machine or vehicle (including primary and secondary engine);
- (e) the type, trade name and model of the exhaust emission control device (if any) of the machine or vehicle;
- (f) a copy of any certificate or other document demonstrating compliance of the machine or vehicle with the prescribed emission standard; and
- (g) any other document or information on the machine or vehicle that the Authority requires.

### 9. Authority may exempt certain non-road mobile machinery

- (1) For a regulated machine the emission from which does not conform to the prescribed emission standard, the Authority may, on application and if satisfied with the matters specified in subsection (3), exempt the machine from the application of section 4(1) or 5(1) for the period that the Authority determines.
- (2) For a non-road vehicle so constructed that the emission from which does not conform to the prescribed emission standard, the Authority may, on application and if satisfied with the matters specified in subsection (3), exempt the vehicle from the application of section 6(1) for the period that the Authority determines.
- (3) The matters are—
  - (a) there is a genuine need to use the machine or vehicle for the purpose set out in the application; and

- (b) there is no feasible means for the machine or vehicle to conform to the prescribed emission standard.
- (4) If the Authority gives an exemption under subsection (1) or (2), the Authority must assign a reference number to the machine or vehicle.
- (5) The Authority may impose any conditions on the exemption regarding the use or handling of the machine or vehicle.
- (6) A person who fails to comply with a condition imposed under subsection (5) commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 6 months.

# 10. Application for exemption of certain non-road mobile machinery

- (1) An application for exemption under section 9(1) or (2)—
  - (a) must be made in the form and manner specified by the Authority; and
  - (b) must include the information, and be accompanied by the document, specified in subsection (2).
- (2) The information and document are—
  - (a) the name and correspondence address of the applicant;
  - (b) a copy of the identification document or business registration certificate of the applicant;
  - (c) the type, trade name, model, serial number and year of manufacture of the machine or vehicle:
  - (d) the type, make, model, serial number and rated power of each engine installed in the machine or vehicle (including primary and secondary engine);

- (e) the type, trade name and model of the exhaust emission control device (if any) of the machine or vehicle;
- (f) the ground for making the application for exemption and the period and location of the proposed use of the machine or vehicle: and
- (g) any other document or information on the machine or vehicle that the Authority requires.

### 11. Authority may exempt existing non-road mobile machinery

- (1) The Authority may, on application, exempt a regulated machine or non-road vehicle from the application of section 4(1), 5(1) or 6(1) if the Authority is satisfied that the machine or vehicle is in Hong Kong at any time on or before 30 November 2015.
- (2) If the Authority gives an exemption under subsection (1), the Authority must assign a reference number to the machine or vehicle.

### 12. Application for exemption of existing non-road mobile machinery

- (1) An application for exemption under section 11(1)—
  - (a) must be made on or before 30 November 2015;
  - (b) must be made in the form and manner specified by the Authority; and
  - (c) must include the information, and be accompanied by the document, specified in subsection (2).
- (2) The information and document are—
  - (a) the name and correspondence address of the applicant;
  - (b) a copy of the identification document or business registration certificate of the applicant;

(c) the type, trade name, model, serial number and year of manufacture of the machine or vehicle;

- (d) the type, make, model, serial number and rated power of each engine installed in the machine or vehicle (including primary and secondary engine); and
- (e) any other document or information on the machine or vehicle that the Authority requires.

# 13. Modification of approved or exempted non-road mobile machinery

- (1) If an approved regulated machine or non-road vehicle, or an exempted regulated machine or non-road vehicle, is modified materially without a permission given under section 14, the approval or exemption given in respect of the machine or vehicle is to be regarded as revoked with effect from the modification.
- (2) For the purposes of this section, a regulated machine or non-road vehicle is modified materially if, after the modification—
  - (a) the type, make, model or rated power of the engine (including primary and secondary engine) or the type, trade name or model of the exhaust emission control device (if any) of the machine or vehicle (*particulars*) are different from those provided to the Authority in support of the application for the approval or exemption; and
  - (b) the difference in those particulars may affect the emission level of the machine or vehicle.

# 14. Authority may permit modification of approved or exempted non-road mobile machinery

- (1) The Authority may, on application, permit a modification of an approved regulated machine or non-road vehicle, or an exempted regulated machine or non-road vehicle if the Authority is satisfied that after the modification, the emission from the machine or vehicle—
  - (a) (for an approved machine or vehicle) will conform to the prescribed emission standard at the time the approval was given;
  - (b) (for an exempted machine or vehicle) will not exceed the emission level of the machine or vehicle as was at the time the exemption was given.
- (2) If the Authority permits a modification under subsection (1), the Authority must assign a new reference number to the machine or vehicle.

# 15. Application for modification of non-road mobile machinery

- (1) An application for permission under section 14(1)—
  - (a) must be made in the form and manner specified by the Authority; and
  - (b) must include the information, and be accompanied by the document, specified in subsection (2).
- (2) The information and document are—
  - (a) the name and correspondence address of the applicant;
  - (b) a copy of the identification document or business registration certificate of the applicant;

- (c) the type, make, model, serial number and rated power of each engine installed in the machine or vehicle after the proposed modification (including primary and secondary engine);
- (d) the type, trade name and model of the exhaust emission control device (if any) of the machine or vehicle after the proposed modification;
- (e) information on the original approval or exemption of the machine or vehicle;
- (f) (for an approved machine or vehicle) a copy of any certificate or other document demonstrating that after the proposed modification, the emission from the machine or vehicle will conform to the prescribed emission standard at the time the approval was given;
- (g) (for an exempted machine or vehicle) a copy of any certificate or other document demonstrating that after the proposed modification, the emission from the machine or vehicle will not exceed the emission level of the machine or vehicle as was at the time the exemption was given; and
- (h) any other document or information on the machine or vehicle that the Authority requires.

# 16. Revocation of approval, exemption or permission

- (1) The Authority may revoke an approval, exemption or permission given under section 14, if—
  - (a) the Authority has reasonable ground to believe that any document or information provided to the Authority in support of the application for the approval, exemption or permission is false or misleading in a material particular; or

(b) (for an approval or exemption given to a non-road vehicle) the vehicle is licensed under the Road Traffic (Registration and Licensing of Vehicles) Regulations (Cap. 374 sub. leg. E) after the approval or exemption was given.

- (2) Before the revocation, the Authority must serve a written notice on the person who submitted the application for approval, exemption or permission at the person's last known address to—
  - (a) state the Authority's intention to revoke the approval, exemption or permission under subsection (1);
  - (b) state the grounds for revocation; and
  - (c) invite the person to make written representations, within 14 days after the service of the notice, as to why the approval, exemption or permission should not be revoked.
- (3) If, after considering all written representations made by the person within the period specified under subsection (2)(c), the Authority still has reasonable grounds to believe that the approval, exemption or permission should be revoked under subsection (1), the Authority may—
  - (a) by written notice served on the person at the person's last known address, revoke the approval, exemption or permission; and
  - (b) specify in the notice the date on which the revocation takes effect.
- (4) The revocation of approval, exemption or permission takes effect on the date specified under subsection (3)(b).

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# Part 4

# **Miscellaneous**

- 17. Offence for provision of false, etc. information in application for approval, exemption or permission
  - (1) A person commits an offence if the person provides, or causes to be provided, any document or information that is false or misleading in a material particular in an application under section 8, 10, 12 or 15.
  - (2) A person who commits an offence under subsection (1) is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

# 18. Offence of displaying false or misleading label

- (1) A person commits an offence if the person, in purported compliance with section 4(2)(a), 5(2)(a) or 6(2)(a), displays or causes to be displayed on any non-road mobile machinery a label that contains information that is false or misleading in a material particular.
- (2) A person who commits an offence under subsection (1) is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

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# Schedule 1

[s. 2]

# **Emission Standards**

# Part 1

# **Interpretation**

#### 1. Interpretation

In this Schedule—

CO means carbon monoxide;

compression-ignition engine (壓燃式引擎) means an engine in which the fuel is injected into the cylinders or combustion space of the engine and is there ignited during normal running solely by the heat of compression of the cylinder charge;

Council (理事會) means the Council of the European Communities (now known as the Council of the European Union);

glkWh (克/千瓦小時) means gram per kilowatt-hour;

HC means hydrocarbons;

kW means kilowatt;

NMHC means non-methane hydrocarbons;

 $NO_x$  means oxides of nitrogen;

**PM** means particulate matter;

positive-ignition engine (強制點火式引擎) means an engine operating on the Otto cycle in which a mixture of fuel and air is drawn into cylinders and ignited after compression by means of an electric spark applied at a known and predetermined moment of the cycle;

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ppm means parts per million;

smoke (煙霧) means smoke level expressed in percentage opacity.

### Part 2

# **Emission Standards for Regulated Machine that Runs on Compression-ignition Engines**

#### 1. Prescribed emission standard

For a regulated machine that runs on a compression-ignition engine, the prescribed emission standard is the standard specified in section 2, 3 or 4 of this Part.

### 2. European Union Stage IIIA Standard

- (1) The European Union Stage IIIA Standard comprises of—
  - (a) the testing procedures and requirements specified in Directive 97/68/EC made by the European Parliament and the Council as amended by its subsequent amendments up to and including amendments made by Directive 2012/46/EU made by the European Parliament and the Council; and
  - (b) the emission limits specified in subsection (2).
- (2) The emissions of CO and PM and the total emission of NO<sub>x</sub> and HC from the engine of a regulated machine of a rated engine power output within a range specified in column 1 of the following table must not exceed the amount specified in column 2 of the table opposite the range.

#### Table

Column 1	Column 2			
Rated engine power output	Total emission of NO <sub>x</sub> and HC	Emission of CO	Emission of PM	
(P) in kW	g/kWh			
$130 \le P \le 560$	4.0	3.5	0.2	
$75 \le P < 130$	4.0	5.0	0.3	
$37 \le P < 75$	4.7	5.0	0.4	
19 < P < 37	7.5	5.5	0.6	

#### 3. United States of America Standard

- (1) The United States of America Standard comprises of—
  - (a) the testing procedures and requirements specified in the Code of Federal Regulations Title 40 Protection of Environment Part 89 Control of Emissions from New and In-use Nonroad Compression-Ignition Engines of the United States of America; and
  - (b) the emission limits specified in subsection (2).
- (2) The emissions of—
  - (a) CO and PM and the total emission of NO<sub>x</sub> and NMHC from the engine of a regulated machine of a rated engine power output within a range specified in column 1 of the following table must not exceed the amount specified in column 2 of the table opposite the range; and

#### Table

Column 1	Column 2			
Rated engine power output (P)	Total emission of NO <sub>x</sub> and NMHC	Emission of CO	Emission of PM	
in kW		g/kWh		
$130 \le P \le 560$	4.0	3.5	0.2	
$75 \le P < 130$	4.0	5.0	0.3	
$37 \le P < 75$	4.7	5.0	0.4	
19 < P < 37	7.5	5.5	0.6	

(b) smoke from the engine of a regulated machine of a rated engine power output within a range specified in column 1 of the following table when the machine is in acceleration mode, lug mode and peak mode must not exceed the percentage opacity specified in column 2 of the table opposite the range.

#### Table

Column 1	Column 2			
	Eı	mission of smo	ke	
Rated engine power output	Acceleration mode	Lug mode	Peak mode	
(P) in kW	Percentage opacity			
$130 \le P \le 560$	20	15	50	
$75 \le P < 130$	20	15	50	
$37 \le P < 75$	20	15	50	
19 < P < 37	20	15	50	

# 4. Japan Ministry of Environment Standard

- (1) The Japan Ministry of Environment Standard comprises of—
  - (a) the testing procedures and requirements specified under the Act on the Regulation of Emissions from Non-road Special Motor Vehicles (Act No. 51 of 2005) and Announcement No. 72 made by the Ministry of Environment of Japan on 28 March 2006; and
  - (b) the emission limits specified in subsection (2).
- (2) The emissions of NO<sub>x</sub>, HC, CO, PM and smoke from the engine of a regulated machine of a rated engine power output within a range specified in column 1 of the following table must not exceed the amount specified in column 2 of the table opposite the range.

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#### **Table**

Column 1	Column 2				
Rated engine	Emission of NO <sub>x</sub>	Emission of HC	Emission of CO	Emission of PM	Emission of smoke
power output (P) in kW		Percentage opacity			
$130 \le P \le 560$	3.6	0.4	3.5	0.17	25
$75 \le P < 130$	3.6	0.4	5.0	0.2	25
56 ≤ P < 75	4.0	0.7	5.0	0.25	30
37 ≤ P < 56	4.0	0.7	5.0	0.3	35
19 < P < 37	6.0	1.0	5.0	0.4	40

# Part 3

# **Emission Standards for Regulated Machine that Runs on Positive-ignition Engines**

#### 1. Prescribed emission standard

For a regulated machine that runs on a positive-ignition engine, the prescribed emission standard is the standard specified in section 2 or 3 of this Part.

#### 2. United States of America Standard

(1) The United States of America Tier 2 Standard comprises of—

- (a) the testing procedures and requirements specified in the Code of Federal Regulations Title 40 Protection of Environment Part 1048 Control of Emissions from New, Large Nonroad Spark-Ignition Engines of the United States of America; and
- (b) the emission limits—
  - (i) stated in section 1048.101 of the Code of Federal Regulations Title 40 Protection of Environment Part 1048 Control of Emissions from New, Large Nonroad Spark-Ignition Engines of the United States of America; or
  - (ii) specified in subsection (2).
- (2) The emission of CO and the total emission of  $NO_x$  and HC from the engine of a regulated machine measured in accordance with the mode of testing specified in column 1 of the following table must not exceed the amount specified in column 2 of the table opposite the mode of testing.

**Table** 

Column 1	Column 2		
	Total emission of NO <sub>x</sub> and HC CO		
Mode of testing	g/kWh		
steady-state testing and transient testing	2.7	4.4	
field testing	3.8	6.5	

## 3. Japan Ministry of Environment Standard

- (1) The Japan Ministry of Environment Standard comprises of—
  - (a) the testing procedures and requirements specified under the Act on the Regulation of Emissions from Non-road Special Motor Vehicles (Act No. 51 of 2005) and Announcement No. 72 made by the Ministry of Environment of Japan on 28 March 2006; and
  - (b) the emission limits specified in subsection (2).
- (2) The emissions of NO<sub>x</sub>, HC and CO from the engine of a regulated machine measured in accordance with the mode of testing specified in column 1 of the following table must not exceed the amount, if any, specified in column 2 of the table opposite the mode of testing.

**Table** 

Column 1	Column 2			
Mode of testing	Emission of Emission Emiss NO <sub>x</sub> of HC of C			
7-mode testing	0.6 g/kWh	0.6 g/kWh	20 g/kWh	
Idling mode testing	Not specified	500 ppm	1%	

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#### Part 4

# **Emission Standards for Non-road Vehicle**

#### 1. Prescribed emission standard

The prescribed emission standard for a non-road vehicle numbered and described in column 1 of the following table is the emission standard specified in the provisions set out in column 4 for that vehicle.

## **Table**

	Column 1	Column 2	Column 3	Column 4
	Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
1.	Private car, goods vehicle, bus, light bus, special purpose vehicle, motor cycle or motor tricycle that is equipped with the type of engine specified in column 2	Compressionignition engine	Not applicable	Section 2(1) of this Part

		Column 1	Column 2	Column 3	Column 4
		Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
2.	Priv	ate car that—	Compression-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.0 tonnes	2(2) of this Part
	(b)	has a design weight specified in column 3			
3.	Priv	ate car that—	Positive-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.0 tonnes	2(3), (4) or (5) of this Part
	(b)	has a design weight specified in column 3			

	(	Column 1	Column 2	Column 3	Column 4
		Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
4.	Goo	ods vehicle that—	Positive-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.5 tonnes	2(3), (4) or (5) of this Part
	(b)	has a design weight specified in column 3			
5.	Goo	ods vehicle that—	Compression-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.5 tonnes	2(3) or (4) of this Part
	(b)	has a design weight specified in column 3			

	(	Column 1	Column 2	Column 3	Column 4
		Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
6.	Goo	ods vehicle that—	Positive-	More than	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine or compression- ignition engine	3.5 tonnes	2(5), (6) or (7) of this Part
	(b)	has a design weight specified in column 3			
7.	Bus	that—	Positive-	More than	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine or compression- ignition engine	3.5 tonnes	2(5), (6) or (7) of this Part
	(b)	has a design weight specified in column 3			

Column 1		Column 1	Column 2	Column 3	Column 4
		Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
8.	Light bus that—		Positive-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.5 tonnes	2(3), (4) or (5) of this Part
	(b)	has a design weight specified in column 3			
9.	Light bus that—		Compression-	Not more	Section
	(a)	is equipped with the type of engine specified in column 2; and	ignition engine	than 3.5 tonnes	2(3) or (4) of this Part
	(b)	has a design weight specified in column 3			

Column 1		Column 1	Column 2	Column 3	Column 4
Vehicle		Vehicle	Type of engine	Design weight	Provisions in which emission standard is specified
10.	Ligh (a) (b)	is equipped with the type of engine specified in column 2; and has a design weight specified in column 3	Positive- ignition engine or compression- ignition engine	More than 3.5 tonnes	Section 2(5), (6) or (7) of this Part
11.	Motor cycle that is equipped with the type of engine specified in column 2		Positive- ignition engine or compression- ignition engine	Not applicable	Section 2(8), (9) or (10) of this Part
12.	Motor tricycle that is equipped with the type of engine specified in column 2		Positive- ignition engine or compression- ignition engine	Not applicable	Section 2(11) of this Part

## 2. Emission standard

- (1) The emission of smoke from the vehicle must not exceed the following levels as measured by means of the free acceleration test procedure as specified in Council Directive 72/306/EEC made by the Council as amended by its subsequent amendments up to and including amendments made by Commission Directive 2005/21/EC—
  - (a) 35 Hartridge Smoke Units; or
  - (b) 1.00 m<sup>-1</sup> in absolute units of light absorption.
- (2) United States of America Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) all the testing procedures, requirements and emission limits as specified in Title 13 of the California Code of Regulations of the United States of America;
  - (b) the emission limit values as specified in California "LEV II" exhaust emission standards for 2004 and subsequent model vehicles;
  - (c) all the type approval requirements administered by the California Air Resources Board.
- (3) European Union Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) all the testing procedures, requirements and emission limits (except Type VI test) as specified in Regulation (EC) No. 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No. 692/2008 as amended by its subsequent amendments up to and including amendments made by Commission Regulations (EU) No. 566/2011;
  - (b) the emission limit values for Type I test as specified in Table 1 of Annex XVII to Commission Regulation

- (EC) No. 692/2008 of the European Parliament and of the Council as amended by its subsequent amendments up to and including amendments made by Commission Regulations (EU) No. 566/2011;
- (c) all the type approval requirements as specified in Regulation (EC) No. 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No. 692/2008 as amended by its subsequent amendments up to and including amendments made by Commission Regulations (EU) No. 566/2011.
- (4) United States of America Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) all the testing procedures, requirements and emission limits as specified in Title 13 of the California Code of Regulations of the United States of America;
  - (b) the emission limit values as specified in California "LEV II" exhaust emission standards for vehicle models manufactured on and after 2004;
  - (c) all the type approval requirements administered by the California Air Resources Board.
- (5) Japan Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) 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—
    - (i) Ministry of Land, Infrastructure, Transport and Tourism Ordinances No. 48 of 2009; and

- (ii) Ministry of Land, Infrastructure, Transport and Tourism Announcement No. 349 of 25 March 2008;
- (b) the emission limit values as specified in the Post New Long-Term Regulation published in the Ministry of Land, Infrastructure, Transport and Tourism Announcement No. 349 of 25 March 2008;
- (c) all the type approval requirements administered by the Ministry of Land, Infrastructure, Transport and Tourism of Japan.
- (6) European Union Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) all the testing procedures, requirements and emission limits as specified in Directive 2005/55/EC of the European Parliament and of the Council as amended by its subsequent amendments up to and including amendments made by Commission Directive 2008/74/EC;
  - the emission limit values of gaseous and particulate (b) pollutants and opacity of smoke from the engine as specified in Row B2 of the Tables in Section 6.2.1 of Annex I to Directive 2005/55/EC of the European Parliament and of the Council amended as subsequent amendments by its up to and amendments including made by Commission Directive 2008/74/EC:
  - (c) all the type approval requirements as specified in Directive 2007/46/EC of the European Parliament and of the Council as amended by its subsequent amendments up to and including amendments made by Commission Regulation (EU) 65/2012.

- (7) United States of America Motor Vehicle Emission Standards, comprising all of the following requirements—
  - (a) all the testing procedures, requirements and emission limits as specified 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;
  - (b) the emission limit values as specified in—
    - (i) emission standards for Otto-cycle heavy-duty vehicle models equipped with positive-ignition engines manufactured on and after 2008; or
    - (ii) emission standards and supplemental requirements for heavy-duty vehicle models equipped with compression-ignition engines manufactured on and after 2007;
  - (c) all the type approval requirements administered by the Environmental Protection Agency of the United States of America.
- (8) European Union Motor Cycle Emission Standards, comprising all of the following requirements—
  - (a) 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;
  - (b) the emission limit values for Type I test 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;
- (c) 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.
- (9) United States of America Motor Cycle Emission Standards, comprising all of the following requirements—
  - (a) 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;
  - (b) the emission limit values must comply with emission standards for 2006 and later model year motor cycles;
  - (c) all the type approval requirements administered by the Environmental Protection Agency of the United States of America.
- (10) Japan Motor Cycle Emission Standards, comprising all of the following requirements—
  - (a) 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—
    - (i) Ministry of Land, Infrastructure and Transport Ordinances No. 49 of 6 April 2005; and

- (ii) Ministry of Land, Infrastructure and Transport Notice No. 909 of 29 August 2005;
- (b) the emission limit values set out in the Ministry of Land, Infrastructure and Transport Notice No. 909 of 29 August 2005;
- (c) all the type approval requirements administered by the Ministry of Land, Infrastructure and Transport of Japan.
- (11) European Union Motor Tricycle Emission Standards, comprising all of the following requirements—
  - (a) 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;
  - (b) the emission limit values for Type I test 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;
  - (c) 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.

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## Schedule 2

[ss. 4, 5 & 6]

# Label

## Part 1

# Requirements

- 1. For an approved regulated machine or non-road vehicle, the requirements with which a label mentioned in section 4(2)(a), 5(2)(a) or 6(2)(a) must comply are specified in Part 2 of this Schedule.
- 2. For an exempted regulated machine or non-road vehicle, the requirements with which a label mentioned in section 4(2)(a), 5(2)(a) or 6(2)(a) must comply are specified in Part 3 of this Schedule.

# Part 2

# Requirements to be Complied with by Label for Approved Non-road Mobile Machinery

1. The colour and design of the label for an approved regulated machine or non-road vehicle must be as specified in the diagram below—

#### Approval Label



Minimum size: 200 mm (W) x 130 mm (H)

(Drawing not to scale)

Background colour: Green Text colour: Black

- 2. The label must be of a size of at least 200 mm in width and 130 mm in height.
- 3. The label is to be divided into 3 rectangular areas. Two of the areas, namely, Area I and Area II (marked I and II by the side of the diagram in section 1 of this Part) must each contain the information specified in column 2 of the following table opposite the name of the area specified in column 1 of the table.

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#### Table

Column 1	Column 2
Name of area	Information to be contained
Area I	(a) The type, trade name, model and serial number of the machine or vehicle; and
	(b) The make and model of the engine installed in the machine or vehicle.
Area II	The reference number assigned under section 7(3) or 14(2).

- 4. The label must be painted or securely fixed on the machine or vehicle and be displayed at a conspicuous position of the machine or vehicle.
- 5. The label must be properly maintained to ensure that the content of the label is clear and legible.

# Part 3

# Requirements to be Complied with by Label for Exempted Non-road Mobile Machinery

1. The colour and design of the label for an exempted regulated machine or non-road vehicle must be as specified in the diagram below—

### **Exemption Label**



根據《空氣污染管制 (非道路移動機械) (排放) 規例》給予的豁免(受條件規限)直至 年 月 日 Exemption given under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation until dd/mm/yy subject to conditions

- 2. The label must be of a size of at least 200 mm in width and 130 mm in height.
- 3. The label is to be divided into 3 rectangular areas, namely, Area I, Area II and Area III (marked I, II and III by the side of the diagram in section 1 of this Part). Each area must contain the information specified in column 2 of the following table opposite the name of the area specified in column 1 of the table.

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### Table

Column 1	Column 2
Name of area	Information to be contained
Area I	(a) The type, trade name, model and serial number of the machine or vehicle; and
	(b) The make and model of the engine installed in the machine or vehicle.
Area II	The reference number assigned under section 9(4), 11(2) or 14(2).
Area III	A statement that indicates whether the exemption is granted subject to conditions and the expiry date of the exemption.

- 4. The label must be painted or securely fixed on the machine or vehicle and be displayed at a conspicuous position of the machine or vehicle.
- 5. The label must be properly maintained to ensure that the content of the label is clear and legible.

WONG Kam-sing Secretary for the Environment

20 January 2015

## **Explanatory Note**

The purpose of this Regulation is to regulate the emission of air-pollutants from non-road mobile machinery.

2. The Regulation is divided into 4 Parts.

# Part 1—Preliminary

3. Part 1 provides for commencement, defines terms used in the Regulation and provides for the scope of application.

# Part 2—Control of sale, lease and use of non-road mobile machinery

- 4. Section 4 provides that it is an offence to sell or lease, or cause to be sold or leased, a regulated machine for use in Hong Kong without an approval. The machine must bear a label that the air pollution control authority (*Authority*) assigned to it on approval or exemption. It is an offence if the label does not comply with the requirements specified in Schedule 2.
- 5. Section 5 provides that it is an offence to use or cause to be used a regulated machine in a specified activity without an approval. The machine must bear a label that the Authority assigned to it on approval or exemption. It is an offence if the label does not comply with the requirements specified in Schedule 2.
- 6. Section 6 provides that it is an offence to use or cause to be used a non-road vehicle at a specified location without an approval. The vehicle must bear a label that the Authority assigned to it on approval or exemption. It is an offence if the label does not comply with the requirements specified in Schedule 2.

# Part 3—Approval, exemption and modification

- 7. Section 7 provides that the Authority may approve a regulated machine or non-road vehicle if the Authority is satisfied that the emission from the machine or vehicle conforms to the prescribed emission standard provided in Schedule 1.
- 8. Section 9 provides that the Authority may exempt a regulated machine or non-road vehicle from the application of section 4(1), 5(1) or 6(1) if the Authority is satisfied that there is a genuine need to use the machine or vehicle and there is no feasible means to conform to the prescribed emission standard. The exemption is subject to any conditions regarding the use or handling of the machine or vehicle.
- 9. Section 11 provides that the Authority may exempt an existing regulated machine or non-road vehicle from the application of section 4(1), 5(1) or 6(1). Existing regulated machines or non-road vehicles are those machines or vehicles that are in Hong Kong at any time on or before 30 November 2015.
- 10. Section 13 provides that if an approved regulated machine or non-road vehicle, or an exempted regulated machine or non-road vehicle is modified materially without a permission by the Authority, the approval or exemption is to be regarded as revoked. Section 14 provides that the Authority may permit a modification if the Authority is satisfied that after the modification the emission from the machine or vehicle—
  - (a) (for an approved machine or vehicle) will conform to the prescribed emission standard at the time the approval was given;
  - (b) (for an exempted machine or vehicle) will not exceed the emission level of the machine or vehicle as was at the time the exemption was given.

- 11. Section 16 provides that the Authority may revoke an approval, exemption or permission if—
  - (a) the Authority has reasonable ground to believe that any document or information provided in support of the application for the approval, exemption or permission is false or misleading in a material particular; or
  - (b) after an approval or exemption is given to a non-road vehicle, the vehicle is licensed under the Road Traffic (Registration and Licensing of Vehicles) Regulations (Cap. 374 sub. leg. E).

## Part 4—Miscellaneous

- 12. Section 17 provides that it is an offence to provide or cause to be provided any document or information that is false or misleading in a material particular in an application for approval, exemption or modification.
- 13. Section 18 provides that it is an offence to display or cause to be displayed a label purporting to be a label as required under the Regulation on any regulated machine or non-road vehicle that is false or misleading in a material particular.