

# ENERGY CONSERVATION (ENERGY MANAGEMENT PRACTICES FOR TRANSPORT FACILITY OPERATORS) REGULATIONS 2013

## Enacting Formula

### Part I Preliminary

- 1 Citation and commencement
- 2 Definitions

### Part II Registration of transport facility operator

- 3 Registers of transport facility operators
- 4 Registration of transport facility operator
- 5 Circumstances in which airport service operator may apply to cancel registration
- 6 Application by airport service operator to cancel registration
- 7 Cancellation of registration

### Part III Energy management practices of transport facility operators

- 8 Periodic reporting of energy use
- 9 Records to be kept
- 10 Energy efficiency improvement plan
- 11 Appointment of energy manager

## FIRST SCHEDULE

## SECOND SCHEDULE Data on processes and activities resulting in greenhouse gas emissions

No. S 807

## ENERGY CONSERVATION ACT 2012 ([ACT 11 OF 2012](#))

### ENERGY CONSERVATION (ENERGY MANAGEMENT PRACTICES FOR TRANSPORT FACILITY OPERATORS) REGULATIONS 2013

In exercise of the powers conferred by [section 62](#) of the [Energy Conservation Act 2012](#), the Minister for Transport hereby makes the following Regulations:

## PART I

### PRELIMINARY

#### Citation and commencement

1. These Regulations may be cited as the Energy Conservation (Energy Management Practices for Transport Facility Operators) Regulations 2013 and shall come into operation on 1st January 2014.

#### Definitions

2. In these Regulations, unless the context otherwise requires —

“chief executive” means any person, by whatever name described, who is in the direct employment of, or acting for or by arrangement with, a transport facility operator, and is principally responsible for the management and conduct of the business of the transport facility operator;

“energy” has the same meaning as in the Energy Conservation (Transport Facility Operators) Order 2013 (G.N. No. S 806/2013);

“energy commodity” has the same meaning as in the Energy Conservation (Transport Facility Operators) Order 2013;

“energy consumption” has the same meaning as “consumption of energy” in the Energy Conservation (Transport Facility Operators) Order 2013;

“energy-consuming system” means any piece of equipment or pieces of equipment working together to perform a task or support one or more processes which consume fuel or energy commodities, including but not limited to any of the following:

- (a) fuel combustion system;
- (b) heating, ventilation and air-conditioning system (including air handling system);
- (c) cooling system;
- (d) system used to produce or generate energy commodity or commodities;
- (e) system used for bonding, separation, conversion, treatment, testing or processing;
- (f) system used for pumping, movement, transportation, mixing or recovery;

“feedstock” refers to any fuel or energy commodity that is used as raw material to produce products containing carbon;

“greenhouse gas” refers to any of the gases as specified in Part I of the First Schedule;

“relevant business activity”, in relation to a transport facility operator, means a business activity which —

- (a) is under the operational control of the transport facility operator; and
- (b) is attributable to —
  - (i) in the case of an airport service operator that qualifies as a transport facility operator, or of a port service operator that is declared by the Energy Conservation (Transport Facility Operators) Order 2013 (G.N. No. S 806/2013) to be a transport facility operator, the business of the transport facility operator as an airport service operator or a port service operator (as the case may be); or
  - (ii) in the case of a land transport operator that is declared by the Energy Conservation (Transport Facility Operators) Order 2013 to be a transport facility operator, the business of the transport

facility operator, whether as a land transport operator or otherwise;

“specific energy consumption” means a measure of the energy consumption of a business activity or an energy-consuming system, as the case may be, that is expressed —

- (a) by reference to a unit of production or service that is reasonably relevant to the business activity or energy-consuming system, its energy use, or both; and
- (b) by providing a metric (number) and a measure (production unit or unit relevant to the service);

“transport facility operator” means —

- (a) an airport service operator which, by the Energy Conservation (Transport Facility Operators) Order 2013, qualifies as a transport facility operator; or
- (b) a land transport operator or port service operator which is declared, by that Order, to be a transport facility operator.

## PART II

### REGISTRATION OF TRANSPORT FACILITY OPERATOR

#### **Registers of transport facility operators**

3.—(1) The Civil Aviation Authority shall keep and maintain a register in which shall be entered such particulars, as the Civil Aviation Authority may determine, of every airport service operator which qualifies as a transport facility operator.

(2) The Land Transport Authority shall keep and maintain a register in which shall be entered such particulars, as the Land Transport Authority may determine, of every land transport operator which is declared by the Energy Conservation (Transport Facility Operators) Order 2013 (G.N. No. S 806/2013) to be a transport facility operator.

(3) The Maritime and Port Authority shall keep and maintain a register in which shall be entered such particulars, as the Maritime and Port Authority may determine, of every port service operator which is declared by the Energy Conservation (Transport Facility Operators) Order 2013 to be a transport facility operator.

(4) Where the registration of any transport facility operator has been cancelled under [regulation 7](#), the appropriate sector regulator may —

- (a) remove the particulars of that transport facility operator from the register maintained by that sector regulator; or
- (b) indicate the fact of such cancellation against the particulars of that transport facility operator in that register.

(5) The appropriate sector regulator may, upon an application by any person, provide to that person a certified copy of an entry in the register maintained by that sector regulator.

#### **Registration of transport facility operator**

4.—(1) A transport facility operator shall, within 6 months after the date on which it qualifies as or from which it is declared to be a transport facility operator, apply to the appropriate sector regulator to be registered.

(2) An application to be registered as a transport facility operator shall be made —

- (a) using the relevant form provided in the electronic service provided at <http://www.nea.gov.sg>; and
- (b) in the manner specified by the appropriate sector regulator.

(3) Every application referred to in [paragraph \(2\)](#) shall be accompanied by the following information and documents:

- (a) the registered name of the transport facility operator;
- (b) the Singapore unique entity number (if any) of the transport facility operator;
- (c) the principal place of business of the transport facility operator;
- (d) the name of the chief executive of the transport facility operator, and his designation, contact details and identification number;
- (e) the name of the representative of the transport facility operator, and his designation, contact details and identification number;
- (f) the name of each energy manager (if any) of the transport facility operator, and his designation, contact details and identification number;
- (g) in the case of an airport service operator that qualifies as a transport facility operator, the address of the site (if any) of each business activity that qualifies the airport service operator as a transport facility operator, and the electricity and gas account number (if any) of that site;
- (h) in the case of a land transport operator that is declared by the Energy Conservation (Transport Facility Operators) Order 2013 (G.N. No. S 806/2013) to be a transport facility operator, the address of the site (if any) of each business activity, and the electricity and gas account number (if any) of that site;
- (i) in the case of an airport service operator that qualifies as a transport facility operator, energy bills and other records (if any) of energy consumption, showing that the energy use of the business activity has attained the energy use threshold in at least 2 out of the 3 preceding calendar years;
- (j) the business profile of the transport facility operator (if any);
- (k) a signed statement from the chief executive of the transport facility operator, that the information submitted is accurate and complete; and
- (l) such other information or document as may be specified in the form provided or as may be required by the appropriate sector regulator.

(4) A transport facility operator which has made an application referred to in [paragraph \(2\)](#) shall notify the appropriate sector regulator of any change in any information referred to in [paragraph \(3\)](#) within 30 days after the date on which that change takes effect.

(5) [Paragraph \(4\)](#) shall cease to apply to an airport service operator, a land transport operator or a port service operator after its registration as a transport facility operator is cancelled under [regulation 7\(1\), \(3\) or \(5\)](#) (as the case may be).

(6) Any transport facility operator that fails to comply with [paragraph \(1\)](#) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

### **Circumstances in which airport service operator may apply to cancel registration**

5. An airport service operator may apply to the Civil Aviation Authority to cancel its registration as a transport facility operator —

- (a) subject to [paragraph \(b\)](#), if the airport service operator no longer qualifies as a transport facility operator;
- (b) in any case where the airport service operator had qualified as a transport facility operator by reason of any business activity under its operational control having attained an energy use threshold, if that business activity ceased to attain the energy use threshold for a continuous period of at least 3 calendar years immediately preceding the application; or
- (c) if the airport service operator has ceased its business activity and has no intention of resuming its business activity within the next 36 months.

### **Application by airport service operator to cancel registration**

6.—(1) An application by an airport service operator under [regulation 5](#) for cancellation of registration as a transport facility operator shall be made —

- (a) using the relevant form provided in the electronic service provided at <http://www.nea.gov.sg>; and
- (b) in the manner specified by the Civil Aviation Authority.

(2) Every application referred to in [paragraph \(1\)](#) shall be accompanied by the following information and documents:

- (a) the registered name of the applicant;
- (b) the Singapore unique entity number (if any) of the applicant;
- (c) the address of the site (if any) of each relevant business activity of the applicant;
- (d) the grounds for cancelling the registration;
- (e) the name of the representative of the applicant, and his designation, contact details and identification number;
- (f) energy bills and other records (if any) showing the relevant energy consumption data, if the ground for cancelling the registration is the ground referred to in [regulation 5\(b\)](#);
- (g) a notice of cessation of business activity submitted by the chief executive of the applicant, if the ground for cancelling the registration is the ground referred to in [regulation 5\(c\)](#);
- (h) a signed statement from the chief executive of the applicant, that the information submitted is accurate and complete; and
- (i) such other information or documents as the Civil Aviation Authority may require.

### **Cancellation of registration**

7.—(1) The Civil Aviation Authority shall cancel the registration of an airport service operator as a transport facility operator, if —

- (a) the Civil Aviation Authority has received an application under [regulation 5](#) from the airport service operator; and
- (b) the Civil Aviation Authority is satisfied that any of the grounds for cancellation in [regulation 5](#) are made out.

(2) The Civil Aviation Authority shall, within 14 days after cancelling the registration of any airport service operator as a transport facility operator under [paragraph \(1\)](#), inform the airport service operator in writing of the cancellation.

(3) The Land Transport Authority shall cancel the registration of a land transport operator as a transport facility operator, if the land transport operator ceases to be declared by the Energy Conservation (Transport Facility Operators) Order 2013 (G.N. No. S 806/2013) to be a transport facility operator.

(4) The Land Transport Authority shall, within 14 days after cancelling the registration of any land transport operator as a transport facility operator under [paragraph \(3\)](#), inform the land transport operator in writing of the cancellation.

(5) The Maritime and Port Authority shall cancel the registration of a port service operator as a transport facility operator, if the port service operator ceases to be declared by the Energy Conservation (Transport Facility Operators) Order 2013 to be a transport facility operator.

(6) The Maritime and Port Authority shall, within 14 days after cancelling the registration of any port service operator as a transport facility operator under [paragraph \(5\)](#), inform the port service operator in writing of the cancellation.

### PART III

#### ENERGY MANAGEMENT PRACTICES OF TRANSPORT FACILITY OPERATORS

##### **Periodic reporting of energy use**

8.—(1) A transport facility operator shall submit an energy use report by 30th June of each calendar year, which shall cover each business activity under the operational control of the transport facility operator.

(2) The report shall be prepared and reviewed by the energy manager, and endorsed by the chief executive, of the transport facility operator, and shall be submitted by the energy manager using the electronic service provided at <http://www.nea.gov.sg>.

(3) The energy use report shall be made —

- (a) using the relevant form provided in the electronic service provided at <http://www.nea.gov.sg>; and
- (b) in the manner specified by the appropriate sector regulator.

(4) The energy use report shall contain, in respect of each relevant business activity, the following information relating to the operation of that relevant business activity during the preceding calendar year, or part thereof (if applicable) in the case of the first report submitted after registration:

- (a) if the transport facility operator has an inventory of fuel or energy commodity, the quantity of each type of fuel or energy commodity in the inventory of the transport facility operator as at 1st January and 31st December of the calendar year, and their net calorific value or energy content value, and unit of measure;
- (b) the quantity of each type of fuel or energy commodity purchased or sold, or used for the purposes of producing or providing energy, during the calendar year, and their net calorific value or energy content value, and unit of measure, but excluding any fuel or energy commodity purchased, used or stored for the purposes of an emergency standby generator;
- (c) if the transport facility operator produces any fuel or energy commodity, the quantity of each type of fuel or energy commodity produced for the purposes of producing or providing energy, and their net calorific value or energy content value, and unit of measure;
- (d) the following information in respect of each energy-consuming system which forms part of the relevant business activity, and the aggregate energy consumption of which shall not be less than 80% of the total energy consumption of that business activity:
  - (i) the type and description of the energy-consuming system;
  - (ii) the type of fuel or energy commodity used;
  - (iii) the quantity and unit of measure of annual energy consumption;
  - (iv) the quantity and unit of measure of each intended output of the energy-consuming system;
  - (v) the specific energy consumption;
  - (vi) if it is possible to predict the specific energy consumption through calculation, the predicted specific energy consumption calculated on the basis that the energy-consuming system is new and clean; and
  - (vii) if there is a predicted specific energy consumption referred to in [sub-paragraph \(vi\)](#), the ratio of the specific energy consumption to the predicted specific energy consumption;
- (e) the specific energy consumption;
- (f) the reasons for any increase or decrease in the specific energy consumption compared to that reported in the previous calendar year, to the extent necessary for a reasonable understanding of the significant factors that affected the energy efficiency of the business activity;
- (g) information relating to the items listed in the second and third columns of [the Second Schedule](#) corresponding to the processes or activities resulting in greenhouse gas emissions listed in the first column thereof;
- (h) if any fuel or energy commodity is used as feedstock to produce products containing carbon, information on the type, quantity and unit of measure of each fuel or energy commodity used as feedstock to produce products containing carbon;
- (i)



if available, the basic process diagram or diagrams showing the energy-consuming systems which form part of the relevant business activity, and the general process and energy flow; and

- (j) such other information or document as may be required by the appropriate sector regulator.

(5) The energy use report shall contain, in respect of every business activity under the operational control of the transport facility operator that is not a relevant business activity, the following information relating to the operation of all such business activities during the preceding calendar year, or part thereof (if applicable) in the case of the first report submitted after registration:

- (a) the estimated aggregate energy consumption as a percentage of the transport facility operator's total energy consumption during the same period;
- (b) the estimated aggregate energy production as a percentage of the transport facility operator's total energy production during the same period; and
- (c) the estimated aggregate greenhouse gas emissions as a percentage of the transport facility operator's total greenhouse gas emissions during the same period.

(6) Any quantity or figure required in [paragraph \(4\)\(d\)\(iii\)](#) to [\(vi\)](#), (g) or (h) may be expressed either as a measured value or an estimated value.

(7) The appropriate sector regulator may extend the time prescribed in [paragraph \(1\)](#) for the submission of the report on such terms as it deems fit, if it is satisfied, on written application accompanied by supporting documents —

- (a) that the transport facility operator required to submit the report is unable to comply with the requirement due to circumstances beyond the transport facility operator's reasonable control; or
- (b) that an extension of any such time would be otherwise appropriate having regard to the circumstances of the case.

## **Records to be kept**

**9.—**(1) A transport facility operator shall keep and maintain complete and accurate records of the information prescribed in [paragraph \(2\)](#) for not less than 5 calendar years after the date of creation or of receipt by the transport facility operator (as the case may be) of the record.

(2) The information referred to in [paragraph \(1\)](#) is as follows:

- (a) records of purchase by the transport facility operator of every type of fuel or energy commodity;
- (b) records of consumption by the transport facility operator of every type of fuel or energy commodity and other similar records;
- (c) if available, the detailed process diagrams showing the energy-consuming systems which form the whole or any part of the business activities of the transport facility operator, and the general process and energy flow, and other similar records;
- (d)



measurement data on the energy consumption of the energy-consuming systems or equipment of the transport facility operator, and other similar records, as well as the specifications and calibration records of the measurement equipment or systems, and other similar records;

- (e) measurement data on the energy consumption of the various systems or equipment before and after the implementation of any energy efficiency measure, and other similar records, as well as the specifications and calibration records of the measurement equipment or systems, and other similar records; and
- (f) records relied upon by the transport facility operator to provide the information referred to in [regulation 8\(4\)\(g\)](#) or [\(h\)](#).

(3) The records kept and maintained pursuant to this regulation may be kept and maintained in electronic form.

### **Energy efficiency improvement plan**

**10.**—(1) A transport facility operator shall submit an energy efficiency improvement plan by 30th June of each calendar year, covering each business activity under the operational control of the transport facility operator.

(2) The plan shall be prepared and reviewed by the energy manager, and endorsed by the chief executive, of the transport facility operator, and shall be submitted by the energy manager using the electronic service provided at <http://www.nea.gov.sg>.

(3) The energy efficiency improvement plan shall be made —

- (a) using the relevant form provided in the electronic service provided at <http://www.nea.gov.sg>; and
- (b) in the manner specified by the appropriate sector regulator.

(4) The plan shall cover a period of not less than one year and not more than 5 years, which shall start from 1st January of the year of submission.

(5) The plan shall include the following information in respect of each relevant business activity:

- (a) a description of the energy efficiency measures to be implemented or completed, and the following information in respect of each measure:
  - (i) the estimated start and end dates;
  - (ii) the projected reduction in energy consumption, together with the underlying assumptions;
  - (iii) the projected improvement in specific energy consumption, together with the underlying assumptions;
  - (iv) the projected improvement in the ratios referred to in [regulation 8\(4\)\(d\)\(vii\)](#), if any, that would be affected by the measures;
  - (v) the estimated cost; and
  - (vi) the name of the person responsible for the implementation of the measure;

- (b) an update on the progress of the energy efficiency measures described in the previous energy efficiency improvement plan; and
- (c) for each measure implemented before the end of the preceding calendar year, the following information:
  - (i) the estimated or measured difference in energy consumption attributable to that measure;
  - (ii) the estimated or measured difference in specific energy consumption attributable to that measure;
  - (iii) the difference in the ratios referred to in [regulation 8\(4\)\(d\)\(vii\)](#), if any, attributable to that measure; and
  - (iv) a description of how each difference referred to in [sub-paragraph \(i\)](#), [\(ii\)](#) or [\(iii\)](#) was measured and verified.

(6) The plan shall include a description of the energy efficiency measures to be implemented or completed in respect of each business activity that is not a relevant business activity.

(7) Every application under [section 49\(3\)](#) of [the Act](#) for a waiver of the application of [section 49\(1\)](#) of [the Act](#) shall —

- (a) be in writing;
- (b) state the reasons for the transport facility operator's inability to comply with the requirements; and
- (c) be accompanied by supporting documents.

### **Appointment of energy manager**

**11.—(1)** A transport facility operator shall appoint from among its employees not less than one energy manager who shall possess the qualifications prescribed in [paragraph \(4\)](#).

(2) Subject to [paragraph \(3\)](#), a transport facility operator shall notify the appropriate sector regulator of every appointment of an energy manager within 30 days after his appointment using the electronic service provided at <http://www.nea.gov.sg>.

(3) A transport facility operator shall notify the appropriate sector regulator of the appointment of its first energy manager not later than 30 days after registration under [regulation 4](#).

(4) No person may be appointed as an energy manager of a transport facility operator unless —

- (a) he has been approved by the appropriate sector regulator; and
- (b) he satisfies all of the following requirements:
  - (i) he holds a tertiary education qualification, or such other qualification as the appropriate sector regulator may approve as being, in its opinion, substantially equivalent to a tertiary education qualification;
  - (ii) he has at least 2 years' work experience with the transport facility operator, or has such other experience as the appropriate sector

regulator may approve as being, in its opinion, substantially equivalent to such experience; and

- (iii) he has knowledge of the transport facility operator's operations or maintenance.

(5) An application by a person for approval under [paragraph \(4\)\(a\)](#), or for approval under [paragraph \(4\)\(a\)](#) and either or both of [sub-paragraphs \(i\)](#) and [\(ii\)](#) of [paragraph \(4\)\(b\)](#), shall be made in writing and be accompanied by the following:

- (a) a copy of a certificate showing the applicant's training in energy management (if any);
- (b) a copy of the applicant's qualification;
- (c) written evidence of the applicant's practical experience (including details of the duration and a description of the practical experience) in such of the following matters as may be applicable:
  - (i) the work of energy management;
  - (ii) the operations or maintenance of any airport service operator, land transport operator or port service operator;
- (d) a written statement of any other relevant matters that the applicant would like the appropriate sector regulator to consider; and
- (e) such other evidence or particulars as the appropriate sector regulator considers necessary to determine the application.

(6) A person who is aggrieved by the appropriate sector regulator's decision in refusing to grant an approval under [paragraph \(4\)\(a\)](#) or [\(b\)\(i\)](#) or [\(ii\)](#) may, within 30 days after the date he is notified of the sector regulator's decision, appeal to the Transport Minister in writing.

(7) The Transport Minister may, after considering the appeal, dismiss or allow the appeal, unconditionally or subject to such conditions as he thinks fit, and the decision of the appropriate sector regulator shall be confirmed, rescinded or varied in such manner as the Transport Minister may decide.

(8) The Transport Minister may, in considering an appeal under [paragraph \(6\)](#), give the appellant and the appropriate sector regulator an opportunity to make representations in writing.

(9) The decision of the Transport Minister in any appeal under [paragraph \(6\)](#) shall be final.

(10) A person shall not be employed or act as an energy manager for more than one transport facility operator at any point in time.

(11) Where an energy manager of a transport facility operator vacates his appointment —

- (a) the transport facility operator shall, within 30 days after the vacation of the appointment, notify the appropriate sector regulator of that fact using the electronic service provided at <http://www.nea.gov.sg>; and
- (b) if the energy manager is the only energy manager of the transport facility operator, the transport facility operator shall notify the appropriate sector

regulator of the appointment of a substitute energy manager within 90 days after the vacation of the appointment.

(12) If the only energy manager of a transport facility operator vacates his appointment, the transport facility operator may designate another employee to perform the energy manager's responsibilities pending the appointment of a substitute energy manager.

(13) Every application under [section 50\(5\)](#) of [the Act](#) for a waiver of the application of [section 50\(1\)](#) of [the Act](#) shall —

- (a) be in writing;
- (b) state the reasons for the transport facility operator's inability to comply with the requirements; and
- (c) be accompanied by supporting documents (if any).

## FIRST SCHEDULE

[Regulation 2](#)

### PART I

#### GREENHOUSE GASES

1. Carbon dioxide
2. Methane
3. Nitrous oxide
4. Sulphur hexafluoride
5. Nitrogen trifluoride
6. A hydrofluorocarbon of a type set out in [Part II](#) of this Schedule
7. A perfluorocarbon of a type set out in [Part III](#) of this Schedule

### PART II

#### GREENHOUSE GAS HYDROFLUOROCARBONS

<i>First column</i> <i>Hydrofluorocarbon (HFC)</i>	<i>Second column</i> <i>Chemical Formula</i>
1. HFC-23	CHF <sub>3</sub>
2. HFC-32	CH <sub>2</sub> F <sub>2</sub>
3. HFC-41	CH <sub>3</sub> F
4. HFC-125	CHF <sub>2</sub> CF <sub>3</sub>
5. HFC-134	CHF <sub>2</sub> CHF <sub>2</sub>
6. HFC-134a	CH <sub>2</sub> FCF <sub>3</sub>
7. HFC-143	CH <sub>2</sub> FCHF <sub>2</sub>
8. HFC-143a	CH <sub>3</sub> CF <sub>3</sub>

<i>First column</i> <i>Hydrofluorocarbon (HFC)</i>	<i>Second column</i> <i>Chemical Formula</i>
9. HFC-152	CH <sub>2</sub> FCH <sub>2</sub> F
10. HFC-152a	CH <sub>3</sub> CHF <sub>2</sub>
11. HFC-161	CH <sub>3</sub> CH <sub>2</sub> F
12. HFC-227ea	CF <sub>3</sub> CHFCF <sub>3</sub>
13. HFC-236cb	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>
14. HFC-236ea	CHF <sub>2</sub> CHFCF <sub>3</sub>
15. HFC-236fa	CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>
16. HFC-245ca	CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>
17. HFC-245fa	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>
18. HFC-365mfc	CH <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>
19. HFC-43-10mee	CF <sub>3</sub> CHFCHFCF <sub>2</sub> CF <sub>3</sub>

### PART III

#### GREENHOUSE GAS PERFLUOROCARBONS

<i>First column</i> <i>Perfluorocarbon (PFC)</i>	<i>Second column</i> <i>Chemical Formula</i>
1. PFC-14	CF <sub>4</sub>
2. PFC-116	C <sub>2</sub> F <sub>6</sub>
3. PFC-218	C <sub>3</sub> F <sub>8</sub>
4. PFC-318	c-C <sub>4</sub> F <sub>8</sub>
5. PFC-3-1-10	C <sub>4</sub> F <sub>10</sub>
6. PFC-4-1-12	C <sub>5</sub> F <sub>12</sub>
7. PFC-5-1-14	C <sub>6</sub> F <sub>14</sub>

### SECOND SCHEDULE

[Regulation 8\(4\)\(g\)](#)

#### DATA ON PROCESSES AND ACTIVITIES RESULTING IN GREENHOUSE GAS EMISSIONS

<i>First column</i> <i>Process or Activity</i>	<i>Second column</i> <i>Data on processes and activities to be provided</i>	<i>Third column</i> <i>Unit of measure</i>
<b>Use of HFCs and PFCs as Substitutes for Ozone Depleting Substances</b>		

<i>First column Process or Activity</i>	<i>Second column Data on processes and activities to be provided</i>	<i>Third column Unit of measure</i>
1. Use of HFCs and PFCs in fire protection equipment	(1) Type of HFC or PFC used in the equipment	
	(2) Amount of the HFC or PFC (in the equipment) which is used	Tonne
	(3) Amount of the HFC or PFC (in the equipment) which is disposed of	Tonne
2. Use of HFCs or PFCs in refrigeration and air-conditioning equipment	(1) Type of HFC or PFC used in the equipment	
	(2) Amount of the HFC or PFC topped up in the equipment	Kilogramme
	(3) Amount of the HFC or PFC (in the equipment) which is disposed of	Tonne
<b>Use of Lubricants</b>		
3. Use of lubricant	(1) Amount of lubricant consumed	Terajoule
	(2) Carbon content of lubricant	Tonne of Carbon/Terajoule
	(3) Fraction oxidised during use	Fraction
<b>Use of SF<sub>6</sub> in Electrical Equipment</b>		
4. Use of SF <sub>6</sub> in electrical equipment	(1) Type of equipment (e.g. sealed-pressure, closed-pressure, gas-insulated transformers)	
	<i>SF<sub>6</sub> emissions during equipment installation</i>	
	(2) Capacity of new equipment filled onsite	Tonne SF <sub>6</sub>
	(3) SF <sub>6</sub> emission factor during installation	Fraction
	<i>SF<sub>6</sub> emissions from equipment use</i>	
	(4) Capacity of installed equipment	Tonne SF <sub>6</sub>
	(5) SF <sub>6</sub> emission factor during use	Fraction
	<i>SF<sub>6</sub> emissions from equipment disposal</i>	
(6) Capacity of disposed equipment	Tonne SF <sub>6</sub>	

<i>First column</i> <i>Process or Activity</i>	<i>Second column</i> <i>Data on processes and activities to be provided</i>	<i>Third column</i> <i>Unit of measure</i>
<b>Any Other Process or Activity Resulting in Greenhouse Gas Emissions</b>	(7) Fraction of SF <sub>6</sub> remaining at disposal	Fraction
5. Any other process or activity resulting in greenhouse gas emissions	(1) Type of process or activity	
	(2) Amount of process or activity	Tonne raw material or product from the process or activity
	(3) Type of greenhouse gas emitted	
	(4) Greenhouse gas emission factor(s)	Tonne greenhouse gas/tonne raw material or product from the process or activity.

Made this 26th day of December 2013.

PANG KIN KEONG  
*Permanent Secretary,*  
*Ministry of Transport,*  
*Singapore.*

[LTA/ECA/SL/EMPTFO.2013; AG/LLRD/SL/92C/2012/6 Vol. 1]