

**BERMUDA STATUTORY INSTRUMENT**

**BR 44/1993**

**CLEAN AIR REGULATIONS 1993**

*[made under section 11 of the Clean Air Act 1991 [title 20 item 13] and  
brought into operation on 1 October 1993]*

ARRANGEMENT OF REGULATIONS

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**Citation**

1 These Regulations may be cited as the Clean Air Regulations 1993.

**Interpretation**

2 In these Regulations—

"ambient air", in relation to an emission, means that portion of the air (but excluding air internal to any building or other structure)—

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(a) which is nearest to the emission; and

(b) to which the general public has access;

"burnable debris" has the meaning given to it in regulation 3;

"controlled chemical" means a substance listed in the Schedule;

"hazardous material" means a material that is—

(a) toxic, corrosive, ignitable or reactive; and

(b) capable of harming animals, vegetation or materials;

"operator" means operator of a plant;

"particulate" means any material (whether a liquid or a solid), except uncombined water, having finite physical boundaries at standard conditions;

"plant" means a controlled plant;

"prohibited debris" means debris other than burnable debris;

"standard conditions" means a temperature of 25 degrees Celsius and a barometric pressure of 760 millimetres of mercury.

### **Control of open fires**

- 3 (1) A person shall not burn burnable debris in an open fire if—
- (a) the smoke is prejudicial to health or is objectionable to persons in the neighbourhood; or
  - (b) the effluvia are so prejudicial or objectionable.
- (2) "Burnable debris" means any flammable—
- (a) straw or stubble or tree stumps; or
  - (b) grass or weeds; or
  - (c) leaves or tree prunings; or
  - (d) brush or fallen trees; or
  - (e) other horticultural waste;
- whether or not on newly-cleared land.

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**Further control of open fires**

4 A person shall not burn prohibited debris in an open fire except under and in accordance with a valid permit issued to him by the Authority for the purpose.

**Control of certain releases into the air**

5 A person shall not release into the air—

- (a) a hazardous material; or
- (b) a controlled chemical,

except under and in accordance with a valid permit issued to him by the Authority for the purpose.

**Control of certain chemicals**

6 A person shall not import into Bermuda, or use in Bermuda, or export from Bermuda, a controlled chemical except under and in accordance with a valid permit issued to him by the Authority for the purpose.

**Protection of the ambient air**

7 (1) A person shall not emit, or cause or permit to be emitted, from any source any specified air contaminant so as to cause the concentration of that air contaminant to exceed the relevant maximum limit prescribed in paragraphs (3) to (11).

(2) In this regulation—

"concentration" means concentration in the ambient air;

"specified air contaminant" means an air contaminant regulated in paragraphs (3) to (11).

(3) Sulphur dioxide must not exceed a concentration at standard conditions of—

- (a) 30 micrograms per cubic metre as an annual arithmetic mean;
- (b) 150 micrograms per cubic metre as a 24-hour average;
- (c) 450 micrograms per cubic metre as a one-hour average.

(4) Hydrogen sulphide must not exceed a concentration at standard conditions of—

- (a) 4 micrograms per cubic metre as a 24-hour average;
- (b) 14 micrograms per cubic metre as a one-hour average.

(5) Nitrogen dioxide must not exceed a concentration at standard conditions of—

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- (a) 60 micrograms per cubic metre as an annual arithmetic mean;
  - (b) 200 micrograms per cubic metre as a 24-hour average;
  - (c) 400 micrograms per cubic metre as a one hour average.
- (6) Carbon monoxide must not exceed a concentration at standard conditions of—
- (a) 6 milligrams per cubic metre as an 8-hour average;
  - (b) 15 milligrams per cubic metre as a one-hour average.
- (7) Ozone must not exceed a concentration at standard conditions of—
- (a) 60 micrograms per cubic metre as an annual average;
  - (b) 160 micrograms per cubic metre as a one-hour average.
- (8) Suspended particulates must not exceed a concentration of—
- (a) 60 micrograms per cubic metre as an annual geometric mean;
  - (b) 100 micrograms per cubic metre as a 24-hour average.
- (9) Inhalable particulates (PM-10) must not exceed a concentration of—
- (a) 30 micrograms per cubic metre as an annual geometric mean;
  - (b) 50 micrograms per cubic metre as a 24-hour average.
- (10) Lead must not exceed a concentration at standard conditions of—
- (a) 1.5 micrograms per cubic metre as a 30-day average;
  - (b) 50 micrograms per cubic metre as a 24-hour average.
- (11) Hydrogen chloride must not exceed a concentration at standard conditions of—
- (a) 40 micrograms per cubic metre as a 24-hour average;
  - (b) 100 micrograms per cubic metre as a half-hour average.

**Visibility impact control of air contaminants**

8 (1) A person (in this regulation called an "owner") shall not emit, or cause or permit to be emitted, from any source an air contaminant—

- (a) of an opacity exceeding 20 per cent (that is to say, exceeding number 1 on the Ringelmann scale), averaged over a period of six consecutive minutes in any one hour; or
- (b) in a concentration such as to cause an impairment of visibility on any public road, being an impairment amounting to a nuisance.

(2) Paragraph (1) applies in relation to an owner as respects an emission of air, whether the air is—

- (a) air emanating from a source for which he is alone responsible; or
- (b) such air mixed with other air.

(3) Nothing in paragraph (1) or (2) prevents the Authority from including in an operating licence for a plant more stringent controls on concentration than those specified in those paragraphs.

(4) Nothing in paragraph (1) or (2) applies in relation to—

- (a) a fire—
  - (i) used in fire-fighting training conducted by or under the direction of the Chief Fire Officer; or
  - (ii) used for warmth, comfort or recreational purposes inside a dwelling, or for recreational purposes outside a dwelling; or
  - (iii) authorized by or under these Regulations for disposing of burnable or prohibited debris; or
- (b) an operation or activity specifically authorized by the Authority by notice in writing for a period specified in that notice.

(5) The measuring of opacity for the purposes of sub-paragraph

(a) of paragraph (1) shall be done either—

- (a) by an inspector unaided by any mechanical instrument; or
- (b) by an inspector using an analytical instrument approved by the Authority for the purposes of this paragraph.

(6) In this regulation—

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"air contaminant" means an air contaminant (other than an open smokeless flame), which, when emitted into the air, can be seen by an inspector;

"inspector" means an inspector who is certified by the Authority as having successfully completed a recognized course of instruction as a visible emission reader;

"opacity", in relation to an air contaminant, means the degree to which that air contaminant obstructs the passage of light.

### **Fuel sulphur restrictions at controlled plants**

9 (1) A person shall not—

(a) purchase or sell, or cause or permit to be purchased or sold, for use at a plant; or

(b) use at a plant,

a prohibited fuel.

(2) In this regulation "prohibited fuel" means a fuel containing more than 2.8% sulphur by weight, and "approved fuel" means a fuel containing 2.8% sulphur by weight or less.

(3) Paragraph (1) does not apply in relation to the purchase, sale or use of a prohibited fuel by a person if the Authority is satisfied in his case—

(a) that, by reason of the sulphur compounds having been removed from the flue gas of the fuel, the emissions of sulphur compounds into the ambient air resulting from the use of the fuel at the plant in question will be no greater than would occur if paragraph (1) were complied with; or

(b) that an approved fuel is not available to that person.

(4) Notwithstanding paragraph (1), the Authority may by notice in writing to the operator of a plant reduce, in relation to that plant, the percentage prescribed by that paragraph to such extent and in such circumstances and for such period as the Authority thinks fit; and, where such a notice has been given to an operator, paragraph (1) shall have effect mutatis mutandis in relation to the plant in question for as long as the notice is in force.

**Duty to make a report in certain cases**

10 (1) If at a plant there occurs—

- (a) an uncontrolled release of an air contaminant; or
- (b) a controlled release of an air contaminant, not being a release authorized by the operating licence; or
- (c) an accidental release or discharge of an air contaminant,

the operator shall report the occurrence to the Minister forthwith.

(2) Where the Minister receives a report under paragraph (1), he may require the operator to furnish to him, whether or not in writing and, if need be, within a specified time, such particulars of the occurrence as the Minister thinks necessary.

**Offences**

11 (1) A person who contravenes a prohibition contained in regulations 3 to 9, being a prohibition applying to him, commits an offence.

- (2) An operator who—
- (a) contravenes paragraph (1) of regulation 10; or
  - (b) fails to comply with a requirement made of him under paragraph (2) of that regulation,

commits an offence.

(3) It is a defence for an operator charged with an offence under paragraph (1) of regulation 10 to prove that neither he nor any one else engaged in the operation of the plant had knowledge of the occurrence or could reasonably be expected to have such knowledge.

(4) A person convicted of an offence is liable to imprisonment for a term not exceeding 6 months or a fine not exceeding \$5,000 or to both.

(5) "Offence" in this regulation means summary offence.

**Commencement**

12 These Regulations come into operation on the commencement of the Clean Air Act 1991 [title 20 item 13].

**SCHEDULE (Regulation 2)**  
Controlled Chemicals

Antimony and compounds

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Arsenic and compounds  
Asbestos (fibers)  
Asphalt (petroleum) fume  
Barium  
Benzene and compounds  
Benzo(a)pyrene  
Beryllium and compounds  
Bromine and compounds  
Cadmium and compounds  
Calcium sulphate  
Chlorinated dibenzo-p-dioxins (dioxins)  
Chlorine and compounds  
Chloroform  
Chromium and compounds  
Cobalt and compounds  
Copper and compounds  
Cresols  
Cyanide and compounds  
Dichlorobenzene  
Dichlorobenzidine  
Glycol ethers  
Hydrochloric acid  
Hydrogen bromide  
Hydrogen chloride  
Hydrogen cyanide  
Hydrogen peroxide  
Hydrogen sulfide  
Lead and compounds  
Manganese compounds  
Mercaptans  
Mercury and compounds  
Molybdenum  
Nickel and compounds  
Nitric acid  
Ozone-depleting Chemicals

Group I	CFC-11	Trichlorofluoromethane
	CFC-12	Dichlorodifluoromethane
	CFC-113	Trichlorotrifluoroethane
	CFC-114	Dichlorotetrafluoroethane
	CFC-115	Chloropentafluoroethane
	HCFC-22	Chlorodifluoromethane



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	HCFC-152a	Difluoroethane
Group II	Halon-1211	Bromochlorodifluoromethane
	Halon-1301	Bromotrifluoromethane
	Halon-2402	Dibromotetrafluoroethane
Group III	CFC-13	Chlorotrifluoromethane
	CFC-111	Pentachlorofluoroethane
	CFC-112	Tetrachlorodifluoroethane
	CFC-211*	
	CFC-212*	
	CFC-213*	
	CFC-214*	
	CFC-215*	
	CFC-216*	
CFC-217*		

\* chemical synonym not used for these CFC's because there are a number of ways the compound can be named.

Group IV Carbon tetrachloride  
Methyl Chloroform

Pentachlorophenol  
Phosphoric acid  
Polybrominated biphenyls  
Polychlorinated biphenyls  
Polycyclic aromatic hydrocarbons  
Polyvinyl chloride  
Radionuclides  
Selenium and compounds  
Styrene  
Sulphuric acid  
Tin and compounds  
Vanadium and compounds  
Vinyl chloride  
Zinc and compounds

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