

## Greater Vancouver Regional District

### Concrete and Concrete Products Industries Emission Regulation Bylaw No. 1084, 2008

#### WHEREAS:

- A. The Greater Vancouver Regional District has enacted the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008; and
- B. That Bylaw contemplates that the Board of the Greater Vancouver Regional District may establish emission regulations.

NOW THEREFORE the Board of Directors of the Greater Vancouver Regional District in open meeting duly assembled enacts as follows:

#### General

- 1 This Bylaw may be cited for all purposes as the “Greater Vancouver Regional District Concrete and Concrete Products Industries Emission Regulation Bylaw No. 1084, 2008” (in this Bylaw, “this Emission Regulation”).
- 2 (1) This Emission Regulation is an emission regulation for the purposes of section 26 of the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008 (“the Bylaw”), and is deemed to be an integral part of the Bylaw.  
  
(2) Terms defined in the Bylaw, or incorporated by reference into the Bylaw, have the same meaning in this Emission Regulation.
- 3 Any operator who complies with the Bylaw and this Emission Regulation is exempt from section 5 of the Bylaw and from section 6 (2) and (3) of the Environmental Management Act provided that it also complies with any further restrictions or conditions imposed by the Environmental Management Act, or a regulation, permit, order or approved waste management plan under the Environmental Management Act.

#### Definitions

- 4 In this Emission Regulation:

**“active operation”** or **“active operations”** mean any activity or activities occurring at concrete products facilities or ready mix concrete facilities capable of generating fugitive dust, including, but not limited to, bulk materials handling, earth-moving, abrasive blasting, construction, demolition or vehicular movements;

**“approved dust abatement chemicals”** means any chemicals approved from time to time by the British Columbia Ministry of Transportation for use in dust abatement on roadways or for use in roadbed stabilization;

**“boiler”** means any combustion equipment fired with natural gas or propane for the purpose of generating hot water or steam;

**“cleaning cycle”** means the cleaning of fabric filter system bags through bag shaking, reverse air cleaning, pulse-jet cleaning, or other similar methods;

**“concrete products facility”** means a facility situated within the area of Greater Vancouver Regional District engaged in manufacturing concrete pipe, structural concrete products, and other concrete products as identified in the North American Industry Classification System (NAICS) codes 32733 and 32739;

**“dry mix concrete batching”** means the process where the dry ingredients for concrete are combined with water and chemical admixtures during loading into a transit-mix truck at a concrete products facility or ready mix concrete facility for mixing during transportation to a job site;

**“fabric filter system”** means an emission control device which removes dust and particulates from a gas stream by passing the stream through a porous fabric, also referred to as a baghouse;

**“facility”** means any concrete products facility or any ready mix concrete facility;

**“fugitive dust”** means any gaseous or solid particulate matter that becomes airborne, the release of which could not reasonably be directed or controlled to pass through a stack, chimney or vent;

**“process heater”** means any combustion equipment fired with natural gas or propane for the purpose of transferring heat to material being processed, excluding boilers and any kiln or oven used for drying, baking, cooking, calcining or vitrifying;

**“heavy duty vehicle”** means a bus, chassis-cab, multipurpose passenger vehicle or a truck having a gross vehicle weight of more than 2,800 kg, for which a motor-vehicle license is required under the Motor Vehicle Act RSBC 1996, chapter 318;

**“high vehicle traffic area”** means any road located within a concrete products facility or a ready mix concrete facility on which heavy duty vehicles pass more than 20 times per day in either direction;

**“NO<sub>x</sub>”** means the sum of nitric oxide and nitrogen dioxide in flue gas, collectively expressed as nitrogen dioxide (NO<sub>2</sub>);

**“operator”** includes:

- (a) a person who holds any interest in a concrete products facility or a ready mix concrete facility, including a lessee, but not including a secured creditor; and
- (b) a person who has management or control, direct or indirect, over the operations of a concrete products facility or a ready mix concrete facility;

**“ready mix concrete facility”** means a facility situated within the area of Greater Vancouver Regional District engaged in manufacturing and delivering mixed concrete as identified in the North American Industry Classification System (NAICS) code 32732;

**“wet mix concrete batching”** means the process where the ingredients for concrete are combined in a central mixer at a concrete products facility or ready mix concrete facility and blended to produce ready-to-use concrete which is transported in a slurry form to a job site.

## **Application of Emission Regulation**

- 5** Every operator must comply with the requirements of this Emission Regulation in respect of each of the operator’s concrete products facilities and ready mix concrete facilities.

### **Registration**

- 6 All operators must register by January 1, 2009.
- 7 All operators of facilities that commence operations after the date on which this Emission Regulation comes into force must register within three months of commencing operations.

### **Fees**

- 8 All operators must pay a registration fee of \$100.
- 9 The registration fee is waived for all operators who register by January 1, 2009.
- 10 Each year, beginning 1 April 2009, each registered operator must pay to the District a fee of \$200 for that calendar year or portion thereof, payable by April 1 of each year, or upon registration if registration occurs after April 1 of that year.

### **General Requirements and Standard Conditions**

- 11 Discharges of fugitive dust from active operations at a concrete products facility or ready mix concrete facility must not:
  - (1) exceed 20 percent opacity; or
  - (2) remain visible in the atmosphere beyond the boundary of the property on which the concrete products facility or ready mix concrete facility is located, as determined by an officer.
- 12 Every operator must employ good housekeeping practices so as to prevent the discharge of fugitive dust contrary to section 11.
- 13 No operator may use any approved dust abatement chemicals or other materials in a manner which causes pollution.
- 14 Every operator must report to Greater Vancouver Regional District as soon as practicable all emergencies or other conditions which prevent the continuous use of any works required under sections 15 to 22 and must initiate corrective action immediately upon discovering the emergency or other condition. Every operator must take all reasonable steps to minimize the discharge of air contaminants during such emergencies and other conditions.

### **Material, Equipment and Operating Requirements**

- 15 Every bulk cement and flyash storage silo located at a concrete products facility or ready mix concrete facility must be equipped with a level sensor, interlocking alarm and related appurtenances which, when activated, automatically stop the delivery of material to the storage silo to prevent overfilling during product delivery.
- 16 All discharges of air contaminants from bulk cement and flyash unloading at a concrete products facility or ready mix concrete facility must be filtered through an effective fabric filter system.
- 17 The cleaning cycle for each fabric filter system at a concrete products facility or ready mix concrete facility must be conducted at the end of each day of operation.

**18** All discharges of air contaminants from:

- (1) dry mix concrete batching operations at a concrete products facility or ready mix concrete facility, including operations carried out at the cement weigh hoppers and gathering hoppers, and truck loading; and
- (2) wet mix concrete batching operations, including operations carried out at the cement weigh hoppers and concrete mixers;

must be controlled by dust containing shrouds and enclosures vented to and filtered through an effective fabric filter system.

**19** All discharges of air contaminants from the drying, mixing and bagging of bulk aggregate and concrete mix products at a concrete products facility must be filtered through an effective fabric filter system.

**20** Discharges of air contaminants from fabric filter systems at a concrete products facility or ready mix concrete facility must not exceed five percent (5%) opacity.

**21** All discharges of air contaminants from active operations at a concrete products facility or ready mix concrete facility must be controlled so as to minimize the generation of fugitive dust and, without limiting the generality of the foregoing:

- (1) all process areas and all high vehicle traffic areas within a concrete products facility or ready mix concrete facility must be paved and kept clean;
- (2) all unpaved roads, vehicle parking areas and storage areas located within a concrete products facility or ready mix concrete facility must either be paved and kept clean or, if they remain unpaved, they must be watered or treated with approved dust abatement chemicals or materials of low silt content;
- (3) all materials stockpiled within a concrete products facility or ready mix concrete facility which might cause fugitive dust as a result of wind action must be sheltered from wind or be watered or treated with approved dust abatement chemicals to minimize the generation of fugitive dust from material stockpiles and during the transfer of materials to or from such stockpiles; and
- (4) all spills of materials must be cleaned up immediately after a spill and in a manner so as to minimize the generation of fugitive dust.

**22** Air contaminants discharged from boilers and process heaters located at a concrete products facility or a ready mix concrete facility must not exceed the criteria specified in Appendix 1, except during periods of gaseous fuel shortages or curtailment not to exceed an aggregate period of 200 hours per year. During such permitted periods of gaseous fuel shortages or curtailment, such boilers and process heaters may be fired with No. 2 fuel oil, or any other liquid fuel approved in writing by the district director.

**Process Monitoring, Record Keeping and Reporting Requirements**

**23** All works located at a concrete products facility or ready mix concrete facility, including without limitation all fabric filter systems, and all boilers and process heaters, must be regularly inspected in accordance with manufacturers' recommendations.

**24** Every operator must keep accurate records and supporting documentation setting out, in respect of a concrete products facility or ready mix concrete facility:

- (1) a record of all inspections and maintenance conducted on all works located at the facility, including without limitation all fabric filter systems, and all boilers and process heaters, and must record the date and time of the inspection or maintenance, the condition of the works, boilers and process heaters observed during the inspection or maintenance, and the name and signature of a responsible person who is able to verify the information contained in the record;
  - (2) the types and amounts of raw materials used, principal products produced and fuels burned during each calendar year; and
  - (3) the number of hours and days the facility is operated and the number of hours of downtime during each calendar year.
- 25** Every operator required to keep records and supporting documentation in accordance with section 24 must:
- (1) keep all records and supporting documentation for at least 3 years after the date of preparation or receipt thereof;
  - (2) upon the request of the district director or an officer, produce for inspection any records or supporting documentation kept under section 24 within 48 hours; and
  - (3) upon the request of the district director or an officer, deliver copies of any records or supporting documentation kept under section 24 to the district director or officer within 48 hours of such request.

Read a first time this *25 day of July, 2008.*

Read a second time this *25 day of July, 2008.*

Read a third time this *25 day of July, 2008.*

Reconsidered, passed and finally adopted by the Board of Directors of the Greater Vancouver Regional District this *25 day of July, 2008.*



Chair



Secretary

## Appendix 1

### Emission Standards for Concrete and Concrete Products Boilers and Process Heaters

Affected Boilers and Process heaters	Maximum Allowable NOx Emissions (g/GJ)
New boilers (10 -105 GJ/h)	16
Existing boilers (10 - 105 GJ/h)	43
New boilers and new process heaters (2 - 10 GJ/h)	17
Existing boilers and existing process heaters (<10 GJ/h)	n/a

In this Appendix:

- (a) Gaseous volumes are corrected to dry standard conditions at 0° Celsius, and a pressure of 101.325 kilopascals;
- (b) To convert NOx units in g/GJ, to ppmv at 3% O<sub>2</sub>, multiply by 1.907
- (c) **“existing boiler”** means any boiler which existed and was operating on December 31, 1999;
- (d) **“existing process heater”** means any process heater which existed and was operating on December 31, 1999;
- (e) **“new boiler”** means any boiler which commenced operations after December 31, 1999; and
- (f) **“new process heater”** means any process heater which commenced operations after December 31, 1999.