



Environmental Management Act

**LANDFILL GAS
MANAGEMENT REGULATION**

B.C. Reg. 391/2008

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Consolidated Regulations of British Columbia

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This is an unofficial consolidation provided for convenience only. This is not a copy prepared for the purposes of the *Evidence Act*.

This consolidation includes any amendments deposited and in force as of the currency date at the bottom of each page. See the end of this regulation for any amendments deposited but not in force as of the currency date. Any amendments deposited after the currency date are listed in the B.C. Regulations Bulletins. All amendments to this regulation are listed in the *Index of B.C. Regulations*. Regulations Bulletins and the Index are available online at www.bclaws.ca.

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Definitions

1 In this regulation:

“**Act**” means the *Environmental Management Act*;

“**initial report**” means a report, referred to in section 4 (3), for an initial landfill gas generation assessment;

“**guidelines**” means the most recent edition of landfill gas management guidelines approved by the director and published on a publicly accessible website maintained by or on behalf of the ministry;

“**landfill gas**” means a mixture of gases generated by the decomposition of municipal solid waste;

“**landfill gas management**” includes the following:

- (a) managing migration of landfill gas;
- (b) collection of landfill gas;
- (c) storing of landfill gas;
- (d) flaring of landfill gas;

“**landfill gas management facilities**” includes equipment, apparatus, fixtures and other structures used for landfill gas management;

“**ministry**” means the ministry administered by the minister;

“**municipal solid waste**” has the same meaning as in Part 3 of the Act;

“**qualified professional**”, in relation to a duty or function under this regulation, means a professional who

- (a) is an applied scientist or technologist specializing in a particular applied science or technology,
- (b) is registered in British Columbia with a professional organization, is acting under that organization’s code of ethics and is subject to disciplinary action by that organization, and
- (c) through suitable education, experience, accreditation and knowledge respecting solid waste and landfill gas management, may reasonably be relied on to provide advice within their area of expertise, which area of expertise is applicable to the duty or function;

“**regulated landfill site**” means a landfill site that

- (a) has 100 000 tonnes or more of municipal solid waste in place, or
- (b) receives 10 000 or more tonnes of municipal solid waste for disposal into the landfill site in any calendar year after 2008;

“**revised report**” means a revised report, referred to in section 5 (3), for an initial landfill gas assessment.

Application

- 2 This regulation applies to landfill sites that accept municipal solid waste for disposal into the landfill site on or after January 1, 2009.

Prescribed class

- 3 For the purposes of section 76.2 of the Act, regulated landfill sites are a prescribed class of waste management facility.

Initial landfill gas generation assessment and report

- 4 (1) An owner or operator of a regulated landfill site must ensure that a qualified professional conducts an initial landfill gas generation assessment of the landfill site in accordance with subsection (2).
- (2) The assessment referred to in subsection (1) must be conducted in accordance with the guidelines and include the following:
- (a) the annual tonnage of municipal solid waste received for disposal into the landfill site in the calendar year immediately preceding the year in which the assessment is conducted;
 - (b) projections for the annual tonnage of municipal solid waste anticipated to be received for disposal into the landfill site in the calendar year of the assessment and in each of the 4 calendar years following the calendar year of the assessment;

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- (c) an estimate of the municipal solid waste in place at the landfill site at the end of the calendar year immediately preceding the calendar year in which the assessment is conducted;
 - (d) an estimate of the quantity of methane generated at the landfill site in the calendar year immediately preceding the calendar year in which the assessment is conducted;
 - (e) projections for methane anticipated to be generated annually at the landfill site in the calendar year of the assessment and in each of the 4 calendar years following the calendar year of the assessment.
- (3) The qualified professional who conducts the assessment must complete an initial report setting out the following:
 - (a) the findings of the initial assessment, including the information described in subsection (2);
 - (b) copies of relevant records respecting annual tonnage of municipal solid waste received for disposal into the landfill site
 - (i) in the calendar year immediately preceding the year in which the assessment is conducted, and
 - (ii) in all years during which the landfill site has been in operation and for which records have been maintained;
 - (c) any other information requested in writing by the director;
 - (d) any other information required under the guidelines;
 - (e) certification by the qualified professional that the assessment meets the requirements set out in subsection (2).
- (4) If a landfill gas generation assessment has been conducted for a landfill site before January 1, 2009, the requirement for an assessment under this section may be met if a qualified professional reviews the assessment and completes a report as described in subsection (3).
- (5) The owner or operator of the landfill site must submit to the director a report required under this section as follows:
 - (a) if the quantity of municipal solid waste in place at the landfill site is 100 000 tonnes or more on or before January 1, 2009, no later than January 1, 2011;
 - (b) if the quantity of municipal solid waste in place at the landfill site reaches or exceeds 100 000 tonnes after January 1, 2009, on or before the later of
 - (i) March 31 of the year immediately following the year in which the quantity of municipal solid waste reaches or exceeds 100 000 tonnes, or
 - (ii) January 1, 2011;

- (c) if the annual quantity of municipal solid waste received for disposal into the landfill site reaches or exceeds 10 000 tonnes on or after January 1, 2009, on or before the later of
 - (i) March 31 of the year immediately following the year in which the annual quantity of municipal solid waste received for disposal into the landfill site reaches or exceeds 10 000 tonnes, or
 - (ii) January 1, 2011.

Director may request further assessment

- 5**
- (1) The director may, within 60 days after receiving a report under section 4, request that the owner or operator of a landfill site conduct additional assessments of the landfill site for generation of landfill gas.
 - (2) If the director requests additional assessments of a landfill site, the owner or operator of the landfill site must ensure that a qualified professional conducts the additional assessments.
 - (3) The owner or operator of the landfill site must submit to the director, no later than 60 days after the date the director makes the request, a revised landfill gas generation assessment report setting out the following:
 - (a) the information resulting from the additional assessments;
 - (b) certification by the qualified professional that the additional assessments have been conducted in accordance with the director's request.

Assessment on request of director

- 6**
- (1) The director may, at any time, request that the owner or operator of a landfill site to which this regulation applies have a qualified professional
 - (a) conduct an assessment of the landfill site in accordance with section 4 (2), and
 - (b) complete a report as described under section 4 (3).
 - (2) The report required under this section must be submitted to the director no later than 180 days after the date the director requests the assessment.

Landfill gas management facilities design plan

- 7**
- (1) The owner or operator of a regulated landfill site that, as the result of an assessment conducted in accordance with this regulation, is estimated to generate 1 000 tonnes or more of methane in the calendar year immediately preceding the calendar year of the assessment must ensure that a landfill gas management facilities design plan is prepared for the landfill site.
 - (2) The plan required under this section must be prepared by a qualified professional in accordance with the guidelines and include the following information:
 - (a) a description of existing or planned methods, management practices and processes for landfill gas management at the landfill site;

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- (b) a plan for the installation, operation and maintenance of landfill gas management facilities at the landfill site, including a contingency plan for disruption in landfill gas management for scheduled or emergency maintenance or replacement of landfill gas management facilities;
 - (c) recommendations for optimizing landfill gas management at the landfill site;
 - (d) any other information required under the guidelines;
 - (e) any other information requested in writing by the director;
 - (f) certification by the qualified professional that the plan was prepared in accordance with the guidelines.
- (3) The landfill gas management facilities design plan must be submitted to the director no later than one year after the date the report setting out the estimate was required to be submitted to the director.
- (4) A landfill gas management facilities design plan that has been prepared for a landfill site before January 1, 2009 may be submitted to the director in substitution for the landfill gas management system design plan required under subsection (1) if a qualified professional certifies in writing that the landfill gas management system design plan prepared before January 1, 2009 meets the requirements set out in subsection (2).
- (5) The owner or operator of a regulated landfill site that, as the result of an assessment conducted in accordance with this regulation, is estimated to generate less than 1 000 tonnes of methane gas in the calendar year immediately preceding the calendar year of the assessment may submit a plan to the director at any time.

Landfill gas management facilities

- 8** (1) In this section, and in section 11, “**accepted design plan**” means a landfill gas management facilities design plan that has been accepted by the director under section 18.
- (2) The owner or operator of a landfill site for which there is an accepted design plan must
- (a) install landfill gas management facilities in accordance with the accepted design plan, and
 - (b) implement management practices, processes and methods for landfill gas management in accordance with any guidelines respecting
 - (i) migration of landfill gas,
 - (ii) use of landfill covers,
 - (iii) operation of landfill gas management facilities,
 - (iv) landfill gas collection equipment,
 - (v) landfill gas flaring equipment, and

- (vi) landfill gas management facilities maintenance, including the number of days annually that landfill gas management facilities may be shut down.
- (3) The landfill gas management facilities and practices referred to in subsection (2) must be installed and implemented no later than 4 years after the date the landfill gas management facilities design plan is submitted to the director under section 7.
- (4) The owner or operator of a landfill site where landfill gas management facilities are installed must ensure that
 - (a) a qualified professional certifies in writing to the director that the facilities were installed in accordance with the accepted design plan for the landfill site, and
 - (b) the facilities are operated and maintained in accordance with the accepted design plan for the landfill site.

Landfill gas management

- 9** (1) The owner or operator of a landfill site must ensure that landfill gas collected at the landfill site is flared in accordance with the guidelines unless the landfill gas is used for a purpose and in a manner that reduces emissions of methane to the atmosphere in an amount equivalent to the reduction that would be achieved by flaring the landfill gas.
- (2) Nothing in the guidelines may require an owner or operator of a landfill site to use landfill gas as an alternative to flaring.

Notice of emergency shutdown

- 10** The owner or operator of a landfill site where landfill gas management facilities are shut down temporarily for emergency maintenance or replacement must notify the director within 24 hours of the shutdown by phone, fax or other electronic means.

Permanent shutdown of landfill gas management facilities

- 11** (1) At least 90 days before the date an owner or operator of a landfill site plans to cease operation of landfill gas management facilities, the owner or operator must submit to the director a shutdown report prepared by a qualified professional, setting out the supporting data used to calculate the quantity of methane generated per year at the landfill site.
- (2) The shutdown report must include certification by a qualified professional that the quantity of methane generated at the landfill site per year, calculated in accordance with the methodology set out in the guidelines, is less than 500 tonnes.
- (3) An owner or operator of a landfill site must continue to operate and maintain landfill gas management facilities in accordance with the accepted design plan for the landfill site until the director has accepted the shutdown report under section 18.

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Monitoring and maintaining records

- 12** (1) An owner or operator of a regulated landfill site must monitor and maintain records respecting the following, each in the manner specified by the director:
- (a) the quantity and sources of municipal solid waste received for disposal into the landfill site;
 - (b) if the owner or operator has monitored and analyzed the composition of the municipal solid waste received for disposal into the landfill site, the composition of the municipal solid waste received;
 - (c) any other matter required under the guidelines.
- (2) If installation of landfill gas management facilities is required at the landfill site under section 8, the owner or operator of the landfill site must also maintain records respecting
- (a) maintenance and shutdown of landfill gas management facilities installed and operated at the landfill site,
 - (b) the quantity and composition of gases collected at the landfill site, and
 - (c) the quantity and composition of landfill gas that is flared or used as an alternative to flaring.
- (3) The owner or operator must ensure that the records required under this section are retained for a period of at least 10 years after they are made.

Production of records

- 13** On the written request of the director, an owner or operator of a landfill site must, within the time period specified by the director, produce the records referred to in section 12 to the director for inspection or copying.

Annual reports

- 14** (1) An owner or operator of a regulated landfill site must file an annual report with the director, in the manner and form required by the director, setting out the following information for the reporting period:
- (a) the information described in section 12;
 - (b) a description of any organics diversion program used at the landfill site;
 - (c) any additional information requested in writing by the director.
- (2) If installation of landfill gas management facilities is required at the landfill site under section 8, the annual report must include, in addition to the information required under subsection (1), the following information for the reporting period:
- (a) the quantity and composition, determined in accordance with the methodology set out in the guidelines, of gases collected at the landfill site;
 - (b) the quantity and composition, determined in accordance with the methodology set out in the guidelines, of landfill gas that is flared or used as an alternative to flaring;

- (c) if landfill gas is used as an alternative to flaring, a description of that use;
 - (d) a description of any periods when the landfill gas management facilities at the landfill site were shut down, and the reasons for the shut down;
 - (e) a description of any significant maintenance or operational problems encountered;
 - (f) the efficiency of any landfill gas management facilities used at the landfill site, including an evaluation of the existing efficiency of the facilities, the method and supporting data used to calculate the facilities' efficiency and the owner's or operator's plan for increasing the facilities' efficiency;
 - (g) municipal solid waste composition studies, if available;
 - (h) plans to be implemented at the landfill site in the next reporting year for
 - (i) modifications or other changes to landfill gas management facilities, and
 - (ii) periods when the landfill gas management facilities will be out of operation;
 - (i) any other information requested in writing by the director.
- (3) An annual report required under this section must be submitted to the director
- (a) if an operational certificate or permit has been issued for the landfill site, and the operational certificate or permit for the landfill site specifies a date for submission of an annual report, on or before that date, or
 - (b) if the operational certificate or permit for the landfill site does not specify a date for submission of an annual report, or an operational certificate or permit has not been issued for the landfill site, on or before March 31 of the year immediately following the year for which the report is prepared.

Supplementary assessments and reports

- 15** (1) If the estimate of methane generated annually at a landfill site is less than 1 000 tonnes in the calendar year immediately preceding the calendar year of an assessment under section 4, 5 or 6 or a supplementary assessment or review under this section, the owner or operator of the landfill site must, between January 1 and March 31 of the fifth calendar year following the calendar year of the previous assessment or review, ensure that a qualified professional does one of the following:
- (a) conducts a supplementary assessment that includes
 - (i) the assessments required under section 4 (2) (a) to (c) and (e), and
 - (ii) an estimate of the quantity of methane generated at the landfill site in each of the 5 calendar years preceding the calendar year in which the supplementary assessment is conducted;
 - (b) reviews the previous assessment to determine whether there have been any material changes in the information since the previous report.

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- (2) A qualified professional who conducts a supplementary assessment or a review under subsection (1) must complete a supplementary report setting out
 - (a) in the case of an assessment under subsection (1) (a),
 - (i) the findings of the supplementary assessment, and
 - (ii) the information described in section 4 (3) (b) to (e), or
 - (b) in the case of a review under subsection (1) (b),
 - (i) a statement that there have been no material changes in the information since the previous report, or
 - (ii) the information that has changed from the previous report.
- (3) The supplementary report must also include certification by the qualified professional that
 - (a) in the case of a supplementary assessment referred to in subsection (1) (a), the assessment was conducted in accordance with the guidelines and included the assessments required under subsection (1) (a), or
 - (b) in the case of a review referred to in subsection (1) (b), the information in the report is correct.
- (4) The owner or operator of a landfill site must submit the supplementary report required under subsection (2) to the director no later than March 31 of the calendar year of the supplementary assessment or review.

Exception

- 16** Section 15 does not apply to the owner or operator of a landfill site for which a landfill gas management facilities design plan has been submitted under section 7 (5) and accepted by the director under section 18.

Additional information

- 17** (1) In this section, and in section 18, “**document**” means
- (a) an initial report,
 - (b) a revised report,
 - (c) a report of an assessment conducted on the request of the director under section 5,
 - (d) a landfill gas management facilities design plan referred to in section 7,
 - (e) a shutdown report referred to in section 11 (2),
 - (f) an annual report referred to in section 14,
 - (g) a supplementary report referred to in section 15, and
 - (h) additional information provided under subsection (3).
- (2) The director may, within 60 days after receiving a document, make a written request that the owner or operator of a landfill site provide additional information respecting the subject matter of the document as the director considers necessary.

- (3) If the director requests additional information under subsection (2), the owner or operator of the landfill site must provide the additional information, in writing, to the director no later than 60 days after the date the director makes the request.

Director's acceptance of reports and plans

- 18** The director will be considered to have accepted a document submitted to the director under this regulation,
- (a) in the case of a document for which no additional information is requested, 60 days after the document is submitted, or
 - (b) in the case of a document for which additional information is requested, 60 days after the additional information is submitted.

Substituted requirements

- 19** (1) The minister or a director, on the minister's or director's own initiative, may, by order, substitute a different requirement for a requirement contained in this regulation if, in the individual case, the minister or director considers that
- (a) the substitution is necessary to protect the public or the environment, or
 - (b) the intent of the regulation is met by the substituted requirement.
- (2) If the minister or a director makes a substitution under subsection (1), the minister or director may order that notification of the substitution be given to the public in the manner the minister or director specifies.
- (3) A director, on application under section 20, may, by order, substitute a different requirement for a requirement contained in this regulation if the director considers that, in the individual case, the intent of the regulation will be met by the substituted requirement.

[am. B.C. Reg. 76/2022, ss. 3 and 4.]

Application for substituted requirement

- 20** (1) An owner or operator of a landfill site may apply for a substitution described in section 19 (3) by filing with a director a copy of a completed application in the form specified by the director.
- (2) An owner or operator who makes an application under subsection (1) must do all of the following:
- (a) within 15 days after the date the application is filed with the director, post a readable copy of the application in a conspicuous place at all main entrances to the landfill site;
 - (b) keep the copy posted for a period of not less than 30 days;
 - (c) publish notice of the application in the form approved by the director in one or more newspapers specified by the director;

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- (d) advise the director in writing of the date the copy of the application was posted under paragraph (a) and the date notice was published under paragraph (c).
- (3) If directed to do so by a director, an owner or operator who makes an application under subsection (1) must
 - (a) serve a signed copy of the application on any person who, in the director's opinion, may be adversely affected by an environmental impact of the proposed substituted requirement, and
 - (b) display a copy of the application in one or more branch post offices of Canada Post Corporation specified by the director.
- (4) A person who objects to a proposed substitution under this section may notify a director, stating the reasons for the person's objection, within 30 days after the occurrence of the later of the following events:
 - (a) the application is posted or published under subsection (2);
 - (b) the application is served or displayed under subsection (3).
- (5) If directed to do so by a director, the applicant must consult in the manner directed with the person who, in the director's opinion, has reasonable objections to the proposed substitution to explain and clarify the intent of the application.
- (6) An applicant must demonstrate to the satisfaction of a director that the substituted requirement requested meets the intent of the regulation.
- (7) A director, on receipt of an application under this section, may
 - (a) request additional information from the applicant if the director considers the information necessary for the evaluation of the application, and
 - (b) after the 30 day period referred to in subsection (4) is ended, and having considered any information provided under that subsection,
 - (i) refuse to grant the substitution, or
 - (ii) grant any or all the requested substitutions to any or all the requirements of this regulation, for a definite or indefinite period of time, and subject to the conditions the director considers appropriate.
- (8) On granting or refusing an application, a director must
 - (a) serve a signed copy of the director's decision on the applicant, and
 - (b) give notice of it to all persons who gave notice under subsection (4).
- (9) A director may cancel or amend a decision made under this section
 - (a) at the request of the applicant, or
 - (b) whenever new information demonstrates to the satisfaction of the director that
 - (i) the applicant provided false or misleading material information in the application, or

- (ii) the cancellation or amendment is necessary to ensure that the intent of the regulation is met.

[am. B.C. Reg. 76/2022, s. 4.]

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