BRITISH COLUMBIA

Environmental Management Act

OIL AND GAS WASTE REGULATION

B.C. Reg. 254/2005

Deposited and effective July 28, 2005
Last amended April 1, 2018 by B.C. Reg. 46/2018

Consolidated Regulations of British Columbia

This is an unofficial consolidation.

Consolidation current to June 20, 2018

B.C. Reg. 254/2005 (O.C. 541/2005), deposited and effective July 28, 2005, is made under the *Environmental Management Act*, S.B.C. 2003, c. 53, s. 138.

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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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Prepared by:
Office of Legislative Counsel
Ministry of Attorney General
Victoria, B.C.

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Contents

Definitions

1 In this regulation:

"accepted by the director" means accepted in writing, authorized in writing or specified in writing by a director;

"acid gas" means a mixture of gases, composed primarily of hydrogen sulphide and carbon dioxide, which is removed from natural gas;

"Act" means the *Environmental Management Act*;

"battery" means a facility at which the liquids obtained from one or more wells are stored before those liquids are processed for market or delivered to market or are otherwise disposed of, and may include equipment or other devices for separating the liquids into oil, natural gas and water;

"compressor" means a device used to maintain or increase the pressure of the natural gas in a pipeline;

"dehydrator" means a device designed and used to remove water from natural gas;

"drilling rig" means a device used to drill or service wells;

"drilling rig site" means the land on which a drilling rig operates or has operated and includes remote drilling waste sumps and other facilities associated with the drilling rigs;

"driver" means a gas turbine or internal combustion engine used to power a compressor, electricity generator or oil pump;

"electricity generator" means a device that converts mechanical power from a driver into electricity;

"equipment" means an air compressor, air conditioner, analyzer, compressor, dehydrator, drilling rig, driver, electricity generator, fan, flare stack, incinerator, laboratory, line heater, meter, oil pump, pig, pig receiver, pipeline, portable

pump, tank, treater, utility heater, well equipment or well head separator used for the production, processing or transportation of oil or natural gas;

"facility" means one or more of the following situated at a single location and used for the production, processing or transportation of oil or natural gas:

(a) a compressor;

(b) a drilling rig site;

(c) an oil pump;

(d) a processing plant;

(e) a collection of one or more pieces of equipment;

(f) a battery;

"flare pit" means an earthen containment area in which waste gases and liquids are combusted;

"flare stack" means a pipe in which waste gases are combusted at the tip and **"flaring"** has the corresponding meaning;

"high sulphur gas" means natural gas that contains more than 1% by volume hydrogen sulphide;

"hydrostatic pipeline testing" means the practice of filling a pipeline with water, or a mixture of water and either ethylene glycol or methanol, for the purpose of testing the structural integrity of the pipeline under pressure;

"incinerator" means a device designed to combust vapours containing hydrocarbons, or compounds containing sulphur, where the combustion occurs in a chamber inside the device;

"line heater" means a device that is used primarily to heat natural gas or oil flowing in a pipeline;

"low sulphur gas" means natural gas that contains not more than 1% by volume hydrogen sulphide;

"natural gas" has the same meaning as in the *Petroleum and Natural Gas Act*;

"NOx" means oxides of nitrogen expressed as nitrogen dioxide equivalent;

"objectionable odour" means a substance that is introduced into the air and that causes or is capable of causing material physical discomfort to a person;

"oil" means petroleum as that term is defined in the *Petroleum and Natural Gas Act*;

"oil pump" means a device that increases the pressure of flowing oil, but does not include oil pumps located in an oil refinery or used to pump refined oil products;

"operator" has the same meaning as in the Drilling and Production Regulation under the *Petroleum and Natural Gas Act*;

"ozone depleting substance" has the same meaning as in the Ozone Depleting Substances and other Halocarbons Regulation;

"pig" means a plug-like device that passes through a pipeline for the purpose of cleaning or inspecting the pipeline;

"pig receiver" means a device, attached to a pipeline, that is used to remove a pig from a pipeline;

"pig sender" means a device, attached to a pipeline, that is used to insert a pig into a pipeline;

"pipeline" means a pipeline used to convey oil or natural gas;

"processing plant" means a facility that extracts hydrogen sulphide, carbon dioxide, helium, ethane or natural gas liquids from natural gas;

"produced water" means water or brine that is brought to the surface with the natural gas or oil from a well but excludes workover or completion liquids;

"production liquid" means any liquid produced from a well, including oil, water, and workover or completion liquids;

"sweet natural gas" means natural gas that contains less than 230 milligrams of total sulphur per cubic metre of natural gas;

"tank" means a container used to store oil, natural gas, produced water, or other fluids associated with drilling and production of oil or natural gas, including containers mounted on vehicles;

"total sulphur" means the total mass of sulphur contained in natural gas, including elemental sulphur and all sulphur in compounds, expressed as elemental sulphur;

"treater" means a thermal device specifically designed and used for separating natural gas and water from crude oil;

"well" has the same meaning as in the *Petroleum and Natural Gas Act*;

"well completion or workover" means activities where fluids or solids are injected into a well for the purpose of maintaining or increasing the flow of oil or gas from the well, and the fluids or solids may subsequently be recovered;

"well completion or workover solids" means recovered solids from a well completion or workover;

"well equipment" means valves, flare stacks, pumps, meters or other associated devices located immediately adjacent to the well bore;

"well head separator" means a device designed and used for separating gases and liquids produced from a well without the use of heat;

"well testing" means combusting natural gas produced from a well for the purpose of determining production and reserve characteristics of the well, or the oil or gas reservoir into which the well is drilled.

Application

2 (1) This regulation does not apply to the following facilities:

(a) a facility that removes from natural gas or discharges to the environment 30 tonnes or more of total sulphur in a 15 day period determined in accordance with methods accepted by the director;

(b) a facility that discharges 4 tonnes or more of volatile organic carbon compounds, as defined in the United States Code of Federal Regulations, Title 40, Part 51, Section 51.100, to the environment in a 15 day period determined in accordance with methods accepted by the director;

(c) a facility where the combined total power of all compressor drivers at the facility is greater than 3000 kilowatts;

(d) a facility where the combined total power of all oil pump drivers at the facility is greater than 3000 kilowatts;

(e) a facility where the combined total power of all electricity generator drivers at the facility is greater than 3000 kilowatts;

(f) facilities that are located in or on a tidal body of salt water.

(2) All authorizations under this regulation are subject to the provisions of the Hazardous Waste Regulation unless specifically indicated otherwise in this regulation.

(3) Despite any other provision of this regulation, if a director is satisfied on reasonable grounds that the release of a substance is causing pollution, the director may, at any time, make an order under section 81 of the Act.

(4) Despite subsection (1) (a), this regulation applies to all discharges authorized by section 4 (g) or (j), 6 (1) (d) or 7 (1) or (5).

(5) The standard conditions for all measurements of gaseous volume referred to in this regulation are a temperature of 15° Celsius and a pressure of 101 kilopascals, on a dry basis.

(6) All references to mechanical power in this regulation are references to power as measured at the driver output shaft.

General requirements

3 (1) The operator of a piece of equipment or facility referred to in section 4, 5 or 6 (1) must ensure that the one hour average ambient ground level concentration of hydrogen sulphide due to the discharge of air contaminants from that equipment or facility does not, at the perimeter of the property on which the equipment or facility is located, exceed 10 parts per billion by volume.

(2) If required by the director for the purposes of subsection (1), the operator must determine the one hour average ambient ground level concentration of hydrogen sulphide, using sampling and analytical methods or air dispersion modeling protocol accepted by the director and subject to whatever conditions or requirements the director specifies in the communication.

Authorizations for small operations

4 Subject to sections 3 and 8, the operators of the following equipment or facilities are authorized to discharge air contaminants from it or them:

(a) batteries;

(b) facilities where the cumulative rated power of all compressor drivers at the facility is less than or equal to 600 kilowatts and where all compressor drivers with a rated power greater than 100 kilowatts installed after January 1, 2006 meet the maximum nitrogen oxide emission requirements found in Schedule 1;

(c) facilities where the cumulative rated power of all oil pump drivers at the facility is less than or equal to 600 kilowatts of total power and where all oil pump drivers with a rated power greater than 100 kilowatts installed after January 1, 2006 meet the maximum nitrogen oxide emission requirements found in Schedule 1;

(d) facilities where the cumulative rated power of all electricity generator drivers is less than or equal to 600 kilowatts of total power and where all electricity generator drivers with a rated power greater than 100 kilowatts installed after January 1, 2006 meet the maximum nitrogen oxide emission requirements found in Schedule 1;

(e) dehydrators, treaters or line heaters that combust

(i) low sulphur gas, or

(ii) high sulphur gas and are rated at less than 150 kilowatts;

(f) drilling rigs used for exploration, testing and production of oil and gas;

(g) equipment or facilities that vent to the air, for the purpose of providing motive force for a pump or maintenance of the equipment or facilities,

(i) natural gas that contains less than 230 milligrams of total sulphur per cubic metre of natural gas, or

(ii) natural gas that contains at least 230 milligrams of total sulphur per cubic metre of natural gas if the natural gas is combusted in a flare stack or equivalent;

(h) pig senders and receivers;

(i) well equipment and well head separators, except that operators are not, subject to paragraph (j), authorized to discharge air contaminants from well testing;

(j) flare stacks or incinerators used for well testing if the natural gas combusted

(i) is low sulphur gas, or

(ii) is high sulphur gas with less than 5% by volume of hydrogen sulphide and is discharged to the air at a minimum height of 12 metres above grade, or other height as accepted by a director;

(k) laboratories, analyzers, meters, utility heaters, air compressors, portable pumps, fans and air conditioners associated with equipment or facilities;

(l) flare stacks or incinerators used for flaring associated with well completions or workovers, which occurs for periods of less than 24 consecutive hours, or for a longer period if accepted by a director;

(m) tanks.

Tank vapour emissions

5 (1) A person must not offer production liquid for transport unless the operators of vehicles used to transport the liquid comply with subsections (2) and (3).

(2) During filling, cleaning, or storage of a tank, any discharge from a tank vent must be made in such a manner or location that the discharge does not expose a person to objectionable odours at the perimeter of the property on which the tank is located.

(3) During transportation of a tank, any discharge from a tank vent must

(a) not exceed a concentration of hydrogen sulphide of 10 parts per million as measured at the point of discharge, and

(b) be made in such a manner or location that the discharge does not expose a person to objectionable odours.

Registration and authorization of operations

6 (1) Subject to sections 3, 8 and 9 and subsections (2), (3), (4) and (5) of this section, operators of the following facilities are authorized to discharge air contaminants from those facilities:

(a) a facility at which drivers are located if

(i) the cumulative rated power of all compressor drivers is greater than 600 but less than 3000 kilowatts of total power,

(ii) the cumulative rated power of all oil pump drivers is greater than 600 but less than 3000 kilowatts of total power,

(iii) the cumulative rated power of all electricity generator drivers is greater than 600 but less than 3000 kilowatts of total power,

(iv) when drivers are added or modified at a facility, the cumulative discharge of NO_x from the facility does not increase unless all drivers with a rated power greater than 100 kilowatts at the site meet the requirements of Schedule 1, and

(v) the air contaminants discharged from each driver with a rated power of greater than 600 kilowatts installed after February 26, 1997 and all drivers with a rated power greater than 100 kilowatts installed after January 1, 2006 comply with the requirements set out in Schedule 1;

(b) a facility containing dehydrators, line heaters or treaters that combust high sulphur gas and are rated individually at 150 kilowatts or more;

(c) a processing plant;

(d) a facility used for well testing if

(i) the natural gas combusted contains at least 5% by volume of hydrogen sulphide,

(ii) the natural gas combusted is discharged to the air through a flare stack that has a minimum height of 12 metres or combusted in an incinerator,

(iii) an environmental impact assessment procedure, as specified by the director, is completed,

(iv) a director is notified in writing, before the test, of the location of the test, the proposed stack height, the expected volume and hydrogen sulphide content of the natural gas to be combusted and the results of the environmental impact assessment procedure carried out in subparagraph (iii),

(v) the well test is carried out in accordance with conditions specified by a director, and

(vi) a director is notified in writing, within 30 calendar days after the test, of the location of the test, the actual stack height, the actual volume and hydrogen sulphide content of the natural gas combusted, and the total mass of sulphur combusted, expressed as sulphur dioxide.

(2) The operators of facilities referred to in subsection (1) (a) to (c) must submit, to a director, a registration report for each facility by submitting on a form provided by the director all of the information set out on that form.

(3) The operator of a facility required to submit a registration report as set out in subsection (2) must submit the registration report within 60 days after the date the facility started to operate.

(4) The operator of a facility required to submit a registration report as set out in subsection (2) must, if there is a substantive change to the information provided in the registration report or revised reports, notify a director within 60 days after the change by submitting a revised report that shows the correct information.

(5) For the purposes of subsection (4), **"substantive change"** includes

(a) a change in the name of the operator,

(b) a change in equipment resulting in an increase or decrease of more than 25% in the estimated mass emissions of sulphur dioxide or NO_x from a facility as compared to the corresponding emissions reported on the last registration report or revised registration report submitted to a director, or

(c) another change in the operation of a facility that results in one or more of the conditions set out in section 2 (1) (a), (b), (c), (d) and (e) no longer applying to that facility.

(6) If an operator of a facility required to submit a registration report as set out in subsection (2) fails to submit a revised registration report within 60 days as

required in subsection (4), the authorization for the facility to discharge air contaminants ceases until the time a revised report is received by the director.

[am. B.C. Reg. 220/2006, Sch. s. 1.]

Requirements for discharges from specific operations

7 (1) Despite sections 3 to 14, 18, 19 and 37 of the Hazardous Waste Regulation and subject to section 8 of this regulation, the operators of equipment or facilities are authorized to discharge produced water or recovered fluids from a well completion or workover to an underground formation in accordance with the *Oil and Gas Activities Act*.

(2) Subject to subsection (3) and section 8 of this regulation, the operators of equipment or facilities are authorized to discharge to land the following wastes:

(a) waste drilling muds, and drill cuttings generated by drilling operations that use water-based drilling muds

(i) discharged to or from drilling rig sites, or

(ii) discharged from directional drilling operations for pipelines associated with transporting oil or natural gas or produced water,

if

(iii) any drilling sump is constructed and is subsequently decommissioned in accordance with the "British Columbia Oil and Gas Handbook" issued by the Oil and Gas Commission, as amended from time to time,

(iv) the drilling wastes are managed in accordance with the "British Columbia Oil and Gas Handbook" issued by the Oil and Gas Commission, as amended from time to time, and

(v) the requirements of a delegation under Section 26 of the *Agricultural Land Commission Act*, are complied with for any land in the Agricultural Land Reserve onto which the discharge is to be made;

(b) drill cuttings generated by drilling operations that use non-aqueous drilling mud, such as oil-based or synthetic-based muds, if

(i) prior written notification of any proposed discharge is provided to a director and the discharge is carried out in accordance with the director's requirements, and

(ii) the requirements of a delegation under section 26 of the *Agricultural Land Commission Act* are complied with for any land in the Agricultural Land Reserve onto which the discharge is to be made;

(c) well completion or workover solids if the completion or workover solids are managed in accordance with the requirements in the "British Columbia Oil and Gas Handbook" issued by the Oil and Gas Commission, as amended from time to time;

(d) waste cement that flows back from a well bore as part of an operation to place cement in a well bore or annulus, if the waste cement is managed in

accordance with the requirements in the "British Columbia Oil and Gas Handbook" issued by the Oil and Gas Commission, as amended from time to time;

(e) water used in hydrostatic pipeline testing, accumulated precipitation in flare pits and surface runoff from sites associated with equipment and facilities identified in sections 4 and 6, if

(i) the liquid is not allowed to enter a surface watercourse or surface water body and is not discharged in a location where it could reasonably be expected to enter a surface watercourse or surface water body,

(ii) the liquid quality does not exceed the values for the following discharge parameters:

(A) for water used in hydrostatic pipeline testing and surface runoff from sites associated with equipment and facilities identified in sections 4 and 6:

Parameters	**Values**
Chlorides (as Cl)	500 mg/L
Hydrocarbons	no visible sheen
Electrical Conductivity	2 dS/m

(B) for accumulated precipitation in flare pits:

Parameters	**Values**
Chlorides (as Cl)	500 mg/L
The sum of • Volatile Hydrocarbons in Water by GC/FID and • Extractable Petroleum Hydrocarbons (EPH) in Water by GC/FID	15 mg/L
Electrical Conductivity	2 dS/m

(iii) the pH of the liquid is between 6.5 and 8.5 or some other value accepted by a director,

(iv) if the liquid is water used for hydrostatic pipeline testing and methanol, ethylene glycol or other additives have been added, then the liquid discharged must exhibit an EC (50)15 of 75% or greater as measured by Microtox® Photobacteria Bioassay or an equivalent value determined by another bioassay method approved by a director,

(v) the liquid is discharged at a rate at which there is no accumulation of effluent on the surface of the ground,

(vi) the discharge does not cause erosion or result in measurable downward and outward movement of soil, rocks, snow, ice, mud or debris, and

(vii) the discharge is on to a stable slope.

(3) The operators who are authorized to discharge the wastes referred to in subsection (2) (e) must

(i) obtain written consent of the land owner for any discharges of waste to private land,

(ii) analyse the discharge for the parameters listed in subsections (2) (e) (ii), (iii) and (iv) before each discharge and record that analysis,

(iii) record the volume of discharge after each discharge,

(iv) retain, for a period of 5 years, all records specified in subparagraphs (ii) and (iii), and

(v) make those records available for inspection by an officer.

(4) The operators of pigs and pig receivers must collect and contain all liquid effluent and solid wastes produced during pipeline pigging.

(5) Despite sections 3 to 14, 18, 19 and 37 of the Hazardous Waste Regulation, operators of equipment or facilities may discharge from the equipment or facility acid gas by means of underground injection provided that the discharge is approved by the Oil and Gas Commission under the *Oil and Gas Activities Act*.

[am. B.C. Reg. 269/2010, Sch. s. 12.]

Additional information

8 (1) A person who discharges or proposes to discharge waste into the environment under this regulation must provide information required by a director, in a manner and within a time specified by the director, including but not limited to environmental reports, ambient air monitoring data, ambient air modelling predictions or environmental impact assessments, that in the opinion of the director are required to ascertain whether the discharges are causing or may cause adverse effects.

(2) Operators of equipment or facilities must ensure that the sampling and analytical methods used to determine compliance with this regulation are accepted by the director.

Annual charges

9 (1) An operator of a facility who is authorized to discharge contaminants under section 6 (1) (a), (b) or (c) must pay an annual charge by March 31 of each year for each registration that the operator holds on December 31 of the preceding calendar year.

(2) If an operator of a facility is authorized to discharge contaminants under section 6 (1) (a), (b) or (c), then they must pay an annual charge based on all emissions from that facility.

(3) If an operator of a facility who is authorized to discharge contaminants under section 6 (1) (a), (b) or (c) cancels their registration prior to December 31, then they must pay a prorated annual charge for the portion of the year that they held a registration.

(4) An operator of a facility who is authorized to discharge contaminants under section 6 (1) (d) must pay a fee for each well test that the operator performs within 30 days of the receipt of an invoice issued by the minister's ministry.

(5) For the purposes of calculating an annual charge under subsections (1) and (2), sections 1 and 3 (1), (4) and (6) and Schedule B of the Permit and Approval Fees and Charges Regulation, B.C. Reg. 299/92, apply as though the operator was a permit holder.

(6) For the purposes of calculating an annual charge under this section,

(a) fees will be charged for discharges of sulphur and sulphur oxides and NO_x,

(b) all sulphur compounds will be assumed to be completely combusted to sulphur dioxide,

(c) fees for sulphur compounds will be assessed on the basis of the fee per tonne of sulphur dioxide discharged as set in Schedule B of the Permit and Approval Fees and Charges Regulation, and

(d) fees for NO_x will be assessed on the basis of the fee per tonne of nitrogen dioxide discharged as set in Schedule B of the Permit and Approval Fees and Charges Regulation, using a calculation methodology for converting nitrogen oxides to nitrogen dioxide as specified by a director.

[am. B.C. Regs. 4/2010, s. 3; 46/2018, App. 3, s. 5.]

Offence and penalty

10 (1) A person commits an offence and is liable to a fine of not more than $10 000 if the person

(a) fails to submit information required to be submitted under this regulation,

(b) submits false information in a report required under this regulation, or

(c) falsifies a record required to be kept under this regulation.

(2) An operator of equipment or a facility who contravenes section 3 or 5 commits an offence and is liable to a fine of not more than $200 000.

SCHEDULE 1

NITROGEN OXIDE EMISSION STANDARDS

Fuel Used to Power Driver	**Maximum Nitrogen Oxide Emitted (NO_x as NO_2, grams per kilowatt hour)**
Natural Gas	2.7
Natural gas/liquid fuel combinations	6.7
Liquid fuel	10.7

Note: (1) The calculation methodology for converting nitrogen oxides (NO_x) to nitrogen dioxide (NO_2) must be as accepted by a director.

(2) These requirements do not apply to drivers that are operated less than 200 hours per calendar year.