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Petroleum and Natural Gas Act

DRILLING AND PRODUCTION REGULATION
[includes amendments up to B.C. Reg. 390/2004, August 13, 2004]

Contents

Part 1 — Interpretation and Administration

Interpretation

1 In this regulation, unless the context otherwise requires:

"Act" means the Petroleum and Natural Gas Act;

"annual gas allowable" means, for any production period, the volume of gas determined by multiplying the daily gas allowable by the number of days from November 1 to October 31 inclusive;

"authorized commission employee", in a provision of this regulation, means an employee of the commission who is designated in writing by the commission as an authorized commission employee for the purposes of that provision, and includes the commissioner and deputy commissioner;

"battery" means a system or arrangement of tanks or other surface equipment receiving the effluents of one or more wells prior to delivery to market or other disposition, and may include equipment or devices for separating the effluents into oil, gas or water and for measurement;

"completed well" means a well in which the productive formation is open to the well bore with equipment installed in the well and at the wellhead so that it is physically able to produce oil or gas;

"concurrent production" means the simultaneous production of an oil accumulation and its associated gas cap;

"daily gas allowable" or "DGA" means the volume of gas determined by multiplying the unadjusted daily gas allowable by any applicable adjustment factors;

"daily oil allowable" or "DOA" means the volume of oil determined by multiplying the unadjusted daily oil allowable by any applicable adjustment factors;

"daily production limit" means a volume equal to 125% of the daily allowable;

"day" means a period of 24 consecutive hours commencing at 8 o'clock in the morning;

"discovery well" means a well from which, in the opinion of an authorized commission employee, sufficient information has been obtained to determine that the well has encountered a previously undiscovered pool;

"emergency planning zone" means that area around a well or battery which could be exposed to hazardous concentrations of hydrogen sulphide if a release of gas occurs from the well or battery, the zone to be determined either

(a) by comparing the maximum potential hydrogen sulphide release rate with Figures 1 and 2 of Schedule 1, or

(b) by approval of an authorized commission employee;

"experimental scheme" means a scheme, approved by order of the commission under section 100 of the Act, using methods that are untried and unproved in the particular application;

"facility" means a gas processing plant, production facility or any other surface equipment deemed to be a facility by an authorized commission employee;

"gas" means natural gas as defined in the Act;

"gas-oil ratio adjustment factor" means that factor determined from the formula in Schedule 2 as applied to the daily oil allowable to determine an allowed rate of production;

"gas processing plant" means a plant for the extraction from gas of hydrogen sulphide, carbon dioxide, helium, ethane, natural gas liquids or other substances but does not include a production facility;

"good engineering practice" or "GEP" means the operation of a well or group of wells in a specified area according to the provisions of section 101;

"handbook" means the current edition of the British Columbia Oil and Gas Handbook issued by the commission;

"initial oil production" means the first production after the release of the drilling rig and after the recovery of a volume of oil equal to the volume of the completion oil;

"location" means the land described in a permit, licence or lease;

"monthly oil allowable" means, for any month, the volume of oil determined by multiplying the daily oil allowable by the number of days in the month;

"oil" means petroleum as defined in the Act;

"operator" means the owner responsible to the commission for the drilling, completion, production and abandonment of a well or test hole or the general construction, operation and reclamation of any production facility or plant covered by this regulation;

"overproduction of oil" means, at the end of the test period, the amount by which oil production during the test period exceeds the test period allowable, and on any succeeding day means the amount by which the actual production from the beginning of the production period exceeds the production target;

"producing well" means a completed well that has been placed on regular production;

"production facility" means a battery, oil treater, pumping station, compressor station, dehydrator, gas injection station, line heater, waste disposal facility, waste processing facility, water disposal facility, water injection station or, on designation of an authorized commission employee, any other system of vessels and equipment designed to accommodate production or disposal, or both production and disposal, of well effluent products and byproducts, but does not include a gas processing plant;

"production period" means a period beginning on the day following the test period to the following October 31 and thereafter means a 12 month period ending on October 31 each year;

"production target" means, at the end of any day, the sum of the daily oil allowables for each day from the beginning of the production period plus any underproduction or less any overproduction carried forward from the test period or a preceding production period;

"project" means a scheme by which a pool or part of a pool is produced by a method involving the injection of fluid into that pool;

"proration battery" means a battery that gathers from more than one well and where the oil volume, water volume and gas volume produced from the wells are measured at the battery outlet and are then allocated to each well based on test results;

"retrograde condensate" means, for the purpose of interpreting section 88, any hydrocarbon fluid which exhibits an increased liquid volume fraction at pressures below the dew point, yet will also begin to significantly revapourize on some further reduction of pressure;

"test period" means, commencing with the day of initial oil production, the lesser of either 90 producing days or the time required to produce the test period allowable;

"unadjusted daily gas allowable" or "UDGA" means the greater of 60 000 m3 or the volume of gas determined from reservoir parameters and approved by an authorized commission employee, except for concurrent producers where the volume of gas determined from reservoir parameters may apply;

"unadjusted daily oil allowable" or "UDOA" means the greater of the volume of oil derived from Schedule 3 or the volume of oil determined from reservoir parameters and approved by an authorized commission employee, except for concurrent producers where the volume of oil determined from reservoir parameters may apply;

"underproduction of oil" means, at the end of the test period, the amount by which oil production during the test period is less than the test period allowable and, at the end of any succeeding day, means the amount by which the actual production from the beginning of the production period is less than the production target;

"workover" means any operation that has changed the producing interval or producing characteristics of a well by perforating, abandoning a portion of the well, running casing or any major or recently developed stimulation operation, but does not include routine stimulation operations or the changing or replacement of equipment.

[am. B.C. Reg. 390/2004, s. 1.]

Administration
2 (1) This regulation must be administered by the commission.

(2) Nothing in this regulation may be construed to limit or abridge the powers conferred by the Act on the minister, division head, commission or an authorized commission employee from making orders or imposing conditions, restrictions or stipulations either in the grant of an authorization or licence, or to take such action under the Act as may be necessary or expedient, including setting procedures and fixing standards of equipment.

Exemptions for particular sites and installations from specified provisions
2.1 (1) If an authorized commission employee considers it appropriate in the circumstances of a particular case, he or she may grant to an operator an exemption in writing, subject to any conditions specified in the exemption, from the application of

(a) section 18 (1),

(b) section 34 (3),

(c) one or more of paragraphs (a) to (e) of section 35 (1),

(d) section 35 (4),

(e) section 36 (1),

(f) section 41 (4),

(g) one or more of paragraphs (a) to (h) of section 45 (2),

(h) one or more of paragraphs (a) to (d) of section 52 (1),

(i) section 58 (4),

(j) section 62,

(k) section 64,

(l) section 80 (2), or

(m) section 87 (3) and (6).

(2) An authorized commission employee may grant to an operator of a well an exemption in writing from the application of section 47 (1) or (2), in relation to specified casing or equipment, subject to any conditions specified in the exemption, if the authorized commission employee is satisfied that

(a) the proper control of the well, or

(b) the prevention of inter-zonal communication,

as the case may be, will be maintained by means other than the use of the specified casing or equipment.

[en. B.C. Reg. 390/2004, s. 2.]

Sections Repealed
3 and 4 Repealed. [B.C. Reg. 390/2004, s. 3.]

Part 2 — Well Position, Spacing and Target Areas

Position of wells
5 (1) A well must not be drilled within 80 m of

(a) the right of way or easement of any road allowance or public utility,

(b) a permanent building, installation or works,

(c) a place of public concourse, or

(d) a reservation for national defence,

except only where special circumstances exist that, in the opinion of an authorized commission employee, justify the granting of written permission to drill a well at a specified position.

(2) Repealed. [B.C. Reg. 390/2004, s. 4 (a).]

(3) The holder of a well authorization must not drill a well within 100 m of the normal high water mark of a body of water or 200 m from a water well without the written approval of an authorized commission employee.

(4) If a well or facility is

(a) closer than 100 m to the normal high water mark of a body of water, or

(b) 100 m or more from the normal high water mark of a body of water, but situated so that, given the topography or other relevant factors, an authorized commission employee considers that it is likely that an uncontrolled flow of oil, gas, brine or another fluid may reach the water,

the operator must do both of the following:

(c) install equipment in the well to prevent the escape of fluids from the well;

(d) construct surface facilities to contain escaping fluids.

(5) and (6) Repealed. [B.C. Reg. 390/2004, s. 4 (c).]

[am. B.C. Reg. 390/2004, s. 4.]

Drilling near mine workings and underground storage
6 A well to be drilled within 3 km of any subsurface mine workings or underground storage facilities must not be commenced except with the approval of the commissioner or deputy commissioner and, if applicable, the Chief Inspector of Mines.

[am. B.C. Reg. 390/2004, s. 5.]

Position of test holes
7 (1) A test hole must not be drilled within

(a) 10 m of a survey monument,

(b) 20 m of a driveway or gateway,

(c) 80 m of a residence, school, church or other public building, or

(d) 200 m of a water well.

(2) If a test hole is drilled in the vicinity of any gas, oil or water pipeline, electric cable, transmission line or utility, every reasonable precaution must be taken to ensure that the pipeline, electric cable or transmission line or utility is not damaged or its use interrupted.

Quarter units
8 A unit, as defined in the Act, is subdivided for the purpose of well spacing into 4 approximately equal parts to be designated as quarter units as follows:

(a) within the Peace River Block the quarter units correspond to legal subdivisions as if the area were surveyed;

(b) in areas other than within the Peace River Block the quarter units are formed by joining the midpoints of the opposite sides of a unit;

(c) quarter units are designated as follows:

c d
b a

Spacing and target areas for oil wells
9 (1) The normal spacing area for an oil well is

(a) a quarter section if the well is located within the Peace River Block, or

(b) a unit if the well is located within any other area within British Columbia.

(2) The target area for an oil well in a normal spacing area at any depth is the area inside but not nearer than 100 m to the sides of the spacing area.

(3) If the boundary of a location does not coincide with the side of a normal oil well spacing area, the oil well target area must have sides not nearer than 100 m to the boundary.

(4) Despite subsection (5), on a location that contains more than one normal spacing area, one oil well may be completed in each normal spacing area if each well is located not nearer than 100 m to the boundary of the location.

(5) The UDOA of an oil well completed outside of the target area must be subject to an off-target penalty factor equal to 12 times the product of the shortest distances from the closest point of the well bore within the productive zone to the 2 nearest sides of the normal spacing area, divided by the area of the spacing area.

(6) The commissioner and deputy commissioner are designated as employees of the commission who may, in relation to an oil well and subject to conditions, if any, that may be specified, exempt the persons having an interest in that oil well from some or all of the provisions of subsections (1) and (5).

(7) Subsection (5) does not apply to the discovery well of an oil pool.

Spacing and target areas for gas wells
10 (1) The normal spacing area for a gas well is

(a) a surveyed section, if the well is located within the Peace River Block, or

(b) 4 units comprising an area of 2 units by 2 units based on an initial 4 unit area centered on a corner common to any 4 grid blocks, as defined in the Act, if the well is located outside the Peace River Block.

(2) The target area for a gas well in a normal spacing area at any depth is the area inside but not nearer than 250 m to the sides of the spacing area.

(3) If the boundary of a location does not coincide with the side of a normal spacing area, the target area must be the target area of a normal spacing area or the appropriate spacing area of other than normal spacing, specified by regulation of the minister under section 65.1 (1) of the Act or specified or approved by order of the commission under section 65.1 (2) of the Act.

(4) If a location contains more than one normal spacing area, one gas well may be completed in each normal spacing area and subsection (5) does not apply, provided each well is located not nearer than 250 m to the boundary of the location.

(5) The UDGA of a gas well completed outside of the gas well target area must be subject to an off-target penalty factor equal to 8 times the product of the shortest distances from the closest point of the well bore within the productive zone to the 2 nearest sides of the normal spacing area, divided by the area of the spacing area.

(6) The commissioner and deputy commissioner are designated as employees of the commission who may, in relation to an off-target gas well and subject to conditions, if any, that they may specify, exempt the persons having an interest in that gas well from reduction under subsection (5) of the daily gas allowable.

(7) Subsection (5) does not apply to the discovery well of a gas pool.

[am. B.C. Reg. 257/2003, Sch. B, s. 1.]

Multi-zone spacing
11 If there is more than one productive zone, an authorized commission employee may consider the productive zones separately for the purpose of well spacing.

Wells drilled prior to this regulation
12 The off target factor for any well drilled and completed under the provisions of regulations in force prior to May 2, 1958, must be unity.

Part 3 — Well Authorizations

Well names
13 (1) The well name must clearly identify

(a) the operator by name or abbreviation acceptable to an authorized commission employee,

(b) the field, and

(c) the surface site of the well

(i) by legal subdivision, section, township and range for wells in the Peace River Block, or

(ii) by quarter unit, unit, block and NTS map sheet number for wells outside the Peace River Block,

in that order, indicated by letters and numbers and separated by hyphens.

(2) If it is proposed to drill a well on the same legal subdivision or quarter unit as an earlier well, a letter must prefix the legal subdivision or unit to indicate the order in which the wells are approved, using the letter "A" for the second well, the letter "B" for the third well and so forth.

(3) For each well name change by an operator, an application must be submitted to the commission by the operator in the form and including the information required by the commission.

(4) If there is compliance with section 16, the fee to change a well name that is required under the Petroleum and Natural Gas General Regulation does not apply.

(5) If the ownership of a well is changed, the application to change the well name must be accompanied by proof of the change in ownership.

[en. B.C. Reg. 390/2004, s. 6.]

Well classifications
14 (1) A well or portion of a well may be classified as a development well at the time the well authorization is issued or amended if it is located in a spacing area that is in or contiguous to an oil or gas pool designated under section 97 (b) of the Act and the objective formation is in the same geological formation as the designated oil or gas pool.

(2) A well or portion of a well may be classified as an exploratory outpost at the time the well authorization is issued or amended if the well or portion of the well

(a) is located at a distance less than 7 km from an oil or gas pool designated under section 97 (b) of the Act, and

(b) does not conform to subsection (1).

(3) A well may be classified as an exploratory wildcat at the time the well authorization is issued or amended if it is located not nearer than 7 km to an oil or gas pool designated under section 97 (b) of the Act.

(4) If a well has been drilled, the well or a portion of it, on application by the operator prior to the release of information pursuant to section 57 (4), may be reclassified as an exploratory wildcat and designated as a discovery well if, in the opinion of an authorized commission employee, the drilling of the well or the portion of the well resulted in the discovery of a new oil or gas pool.

(5) Despite section 57, information pertaining to the designation of a new oil or gas pool may be kept confidential by the commission until the later of

(a) the expiry date of the confidentiality period under section 57 for the discovery well designated under subsection (4), and

(b) the expiry date of the period specified under section 57 (4).

[en. B.C. Reg. 390/2004, s. 6.]

Well authorizations
15 (1) An application for a well authorization must be submitted to the commission by the operator in the form and including the information required by the commission.

(2) The operator of a well must prominently display at the well site during drilling operations the well authorization for the well and any amendments to it.

[en. B.C. Reg. 390/2004, s. 6.]

Transfer of well authorizations and test hole authorizations
16 An application to transfer a well authorization or test hole authorization must be submitted to the commission by the operator, in the form and including the information required by the commission.

[en. B.C. Reg. 390/2004, s. 6.]

Amendments of well authorizations and test hole authorizations
17 An operator of a well or test hole must not make a change to a program of drilling operations for the well or test hole unless

(a) the operator applies to the commission for approval to amend the well authorization or test hole authorization to reflect the change, and

(b) the application is approved.

[en. B.C. Reg. 390/2004, s. 6.]

Test hole authorizations and requirements
18 (1) Unless exempted under section 2.1, the operator of a test hole must ensure that the test hole is not drilled deeper than 600 m.

(2) An application for a test hole authorization must be submitted to the commission by the operator of the test hole in the form and including the information required by the commission.

(3) The operator of a test hole must prominently display at the test hole site during drilling operations the test hole authorization and any amendments to it.

(4) and (5) Repealed. [B.C. Reg. 390/2004, s. 7 (a).]

[Note: original subsections (4) and (5) were repealed, (6) to (12) were renumbered (4) to (10), (13) was repealed and (14) was renumbered (11), by B.C. Reg. 390/2004.]

(4) An authorized commission employee may attach requirements or conditions to a test hole authorization, including prescribing equipment, procedures, logs, tests, analyses or the submission of information to the commission.

(5) Two copies of any logs, and of the reports resulting from all tests and analyses, must be submitted to the commission within 30 days of the operation, test or analysis being completed.

(6) An authorized commission employee may specify which portions of core or samples taken from a test hole must be shipped to the commission, carriage prepaid, and which portions may be destroyed or retained by the operator of the test hole.

(7) In this section, "information obtained from a test hole" includes but is not limited to any unprocessed or processed log data, cores, samples, analyses, descriptions, drilling information, geological information, test information and reports.

(8) Subject to subsections (11) to (14), information obtained from a test hole that is received by the commission in the course of the administration of the Act must be held confidential by the commission.

(9) All information obtained from a test hole must be released from confidential status 3 years after the date of release of the drilling rig for the test hole.

(10) The expected total depth at the time of approval of the test hole authorization, position, ground elevation, drilling status and total depth of a test hole must be made available to the public during normal business hours.

(11) Information obtained from a test hole may be released from confidential status

(a) if the commissioner or deputy commissioner is satisfied that the holder of the test hole authorization no longer carries on activities that are pertinent to the information obtained from the test hole, or

(b) with the concurrence of the holder of the test hole authorization.

(13) Repealed. [B.C. Reg. 390/2004, s. 7 (e).]

[am. B.C. Regs. 257/2003, Sch. B, s. 2; 390/2004, s. 7.]

Part 4 — Well Operations

Division 1 — General

Notification of commencement of drilling
19 The commission must be notified within 24 hours of the commencement of the drilling of a well.

Division 2 — Blowout Prevention During Drilling

Equipment
20 (0.1) An operator must ensure that the requirements of this section are met in relation to a well for which the operator is responsible.

(1) Blowout prevention equipment is classified as follows:

(a) Class A equipment is equipment to be used from the depth of the surface casing to 1 850 m;

(b) Class B equipment is equipment to be used from a depth of 1 850 m to 3 000 m;

(c) Class C equipment is equipment to be used from a depth of 3 000 m to 5 500 m;

(d) Class D equipment is equipment to be used from a depth of 5 500 m and greater.

(2) The minimum pressure rating of blowout prevention equipment must be:

(a) for Class A equipment, 14 000 kPa;

(b) for Class B equipment, 21 000 kPa;

(c) for Class C equipment, 34 000 kPa;

(d) for Class D equipment, 70 000 kPa.

(3) When a well is being drilled, blowout prevention equipment must be continuously maintained so that the equipment

(a) consists of a minimum of one annular preventer and 2 or more ram preventers, the latter to be comprised of a blank ram and one or more rams to close off around drill pipe, tubing or casing being used in the well, and

(b) is connected to a casing bowl that is equipped with

(i) an upper flange that is an integral part of the casing bowl,

(ii) at least one side outlet that is flanged or studded for wells in Classes B, C and D, and

(iii) at least one valve.

(4) The blowout prevention equipment must

(a) include steel lines or approved high pressure hoses connected to the blowout preventer assembly, one or more for bleeding off pressure and one or more for killing the well,

(b) consist of components having a working pressure equal to that of the blowout preventers, except that part of the bleed off line or lines located downstream from the last control valve on the choke manifold,

(c) have the valve hand wheel assembly in place and securely attached to the valve stem on all valves in the blowout prevention system, and

(d) conform to the specifications set out in the handbook.

[am. B.C. Reg. 390/2004, s. 8.]

Ancillary equipment requirements
21 (1) The bleed off lines referred to in section 20 (4) must be

(a) a minimum nominal 76 mm diameter of uniform bore,

(b) connected only by weld neck flanges that are perpendicular to the line to which they are attached,

(c) equipped with a gauge connection where well pressures may be measured,

(d) connected to

(i) a choke manifold, and

(ii) a mud tank through a mud gas separator, and

(e) if the lines are downstream of the choke manifold, securely held down and terminated in a slightly downward direction into an earthen pit.

(2) The choke manifold referred to in subsection (1) (d) (i) must be

(a) located

(i) a minimum distance of 20 m from the well bore, or

(ii) in a satisfactory position outside the substructure, isolated from the mud tank,

(b) designed

(i) to conform with Class A, B, C or D equipment, and

(ii) to permit the flow to be directed through a full opening line or through either of the 2 lines each containing an adjustable choke,

(c) equipped with accurate metric pressure gauges to provide drill pipe and casing pressures at the choke manifold once the surface casing is cemented in place, and

(d) enclosed by a suitable housing, with adequate heat to prevent freezing.

(3) The mud gas separator referred to in subsection (1) (d) (ii) must

(a) be of a design to ensure personnel safety and adequate mud gas separation, and

(b) be connected to a securely fastened inlet line and outlet line, and the outlet line must

(i) be at least one size larger than the inlet line, and

(ii) terminate in an earthen pit, or flare pit, 50 m from the well.

(4) The earthen pit referred to in subsection (1) (e) must

(a) be excavated to a depth of not less than 2 m,

(b) have side and back walls rising not less than 2 m above ground level,

(c) be constructed to resist the erosion of a high pressure flow of gas or liquid, and

(d) be shaped to contain any liquids.

(5) At all times when a well is being drilled

(a) a valve must be installed in the kelly assembly,

(b) a full opening stabbing valve that can be connected to the drill pipe, drill collars or tubing in the well and a device capable of stopping any back flow up the drill string must be provided, and

(c) all choke manifold and bleed off lines must

(i) be securely tied down, and

(ii) contain only pipe that is straight or with 1.57 radian bends (90°) and which is constructed of flanged, studded or welded tees, blank flanged or bull plugged on fluid turns.

(6) The full opening stabbing valve referred to in subsection (5) (b) must

(a) be provided with removable handles to facilitate handling by 2 persons,

(b) be stored in the control centre (dog house) or other satisfactory location so as to be readily available for use with the valve in the open position, and

(c) have the valve closing handle attached to the valve holding stand.

Controls

22 (1) If hydraulically operated blowout preventers are installed, a clearly marked operating control indicating direction of closure for the annular blowout preventer must be located at least 15 m from the well.

(2) The control valve regulating the closure of the annular preventer under subsection (1) must be free of any valve locking device.

(3) All manual controls for locking of manual ram type blowout preventers must be installed or readily accessible in the immediate area.

(4) If ram type blowout preventers are used at a cased well, the controls must be attached and be at least 5 m from the well.

(5) All blowout preventers must be hydraulically operated and connected to an accumulator system.

(6) The accumulator system required by subsection (5) must be

(a) installed and operated in accordance with the manufacturer's specifications,

(b) connected to the blowout preventers with lines of equivalent working pressure to the system, and within 5 m of the well the lines must be of steel construction unless completely sheathed with adequate fire resistant sleeving,

(c) capable of providing, without recharging, fluid of sufficient volume and pressure to close the annular preventer, close a ram preventer, open the hydraulically operated valve and retain a pressure of 8 400 kPa on the accumulator system,

(d) recharged by a pressure controlled pump capable of recovering within 5 minutes the accumulator pressure drop resulting from the operation in paragraph (c),

(e) capable of closing any ram type preventer within 30 seconds,

(f) capable of closing the annular preventer within 60 seconds, and

(g) equipped with readily accessible fittings and gauge to determine the precharge pressure of each nitrogen container.

(7) If nitrogen cylinders are used as an emergency pressure source, sufficient usable nitrogen must be available at a minimum pressure of 8 400 kPa to fully close the annular preventer and pipe rams and open the hydraulically operated valve.

Testing of blowout prevention equipment

23 (1) Blowout equipment must be shop serviced and shop tested to its working pressure at least once every 3 years and the test data and maintenance performed must be recorded and made available on request to an authorized commission employee.

(2) Prior to drilling out cement from any string of casing, each unit of the blowout prevention equipment must be pressure tested, first to a pressure of 1 000 kPa and then to at least 7 000 kPa, each for a period of 10 minutes, and until the equipment passes the test, further drilling must not proceed.

(3) Casing exposed to drill pipe wear must be tested every 30 days to determine its adequacy for pressure control by either

(a) running a casing inspection log to determine casing wear, or

(b) pressure testing to a pressure not greater than 50% of the burst pressure of the weakest section of the casing, or to the working pressure of the blowout preventers, whichever is less.

(4) While a well is being drilled or tested during drilling operations

(a) the appropriate blowout prevention equipment must be operated daily and if found to be defective it must be made serviceable before operations are resumed,

(b) at least one person must be on tour at the well site who

(i) is trained in blowout prevention, and

(ii) has a first line supervisor certificate issued within the past 3 years by the Petroleum Industry Training Service,

and evidence of his or her qualifications must be made available to an authorized commission employee on request,

(c) the rig manager (tool push) and the operator's representative at the well site must

(i) be trained in blowout prevention, and

(ii) possess a second line supervisor certificate issued within the past 2 years by the Petroleum Industry Training Service,

and a copy of their qualifications must be made available to an authorized commission employee on request,

(d) the operator's representative must confirm with the commission that he or she possesses a valid second line supervisor certificate by a visit to the office or by phone prior to assuming first responsibility at a well site in British Columbia, or as soon as possible thereafter,

(e) the Canadian Association of Oilwell Drilling Contractors (C.A.O.D.C.) placard or the operator's Well Control Procedures placard must be prominently displayed in the control centre (dog house) and must be maintained to be legible at all times, and

(f) a diagram of the trip tank and the trip tank volume indicator must be prominently displayed in the control centre (dog house).

(5) The trip tank volume indicator referred to in subsection (4) (f) must specify the trip tank volume and each volume graduation on the scale.

(6) Full particulars of all tests must be reported in the daily report, and in the case of a pressure test the pressure applied and the duration of the test must be recorded.

Operation of equipment
24 (1) The rig crew must have an adequate understanding of, and be able to operate, the blowout prevention equipment and the contractor or rig crew must

(a) test the operation and effectiveness of the blowout prevention equipment when requested by an authorized commission employee, and

(b) record drills performed in accordance with paragraph (a) in the daily drilling reports.

(2) Each rig crew must perform a blowout prevention drill every 7 days, or as conditions permit in accordance with the Well Control Procedure placard issued by the Canadian Association of Oilwell Drilling Contractors or as outlined by the Petroleum Industry Training Service, Blowout Prevention Manual.

(3) Blowout prevention equipment must be maintained so that its operation will not be impaired by adverse weather conditions.

(4) Subject to subsection (5),

(a) if a mud tank is in use, a device must be installed and maintained visible to the driller's position warning of a change of the fluid level in the mud tank or of an imbalance in the fluids entering and returning from the well, and the device must be either electrically, pneumatically, hydraulically or mechanically operated and maintained in working order at all times,

(b) the drilling mud system must be equipped with a trip tank with a volume of approximately 5 m3 to accurately measure the fluid required to fill the hole while pulling pipe from the well, and the trip tank must

(i) be constructed so that the cumulative volume can be reliably and repeatedly read to an accuracy of 0.15 m3 (150 litre) from the driller's position,

(ii) be tied into the mud return line,

(iii) be equipped so that drilling fluid can be transferred into and out of the trip tank, and

(iv) be located in or within 10 m of the shale shaker end of the mud tank and be readily accessible to afford visual observance of the fluid level, and

(c) the operator, while pulling pipe from a well, must ensure that

(i) the hole is filled with drilling fluid at such frequency as required so that the fluid level in the well bore does not fall below a depth of 30 m, and

(ii) a permanent record of volumes that are required to fill the hole is retained and submitted as part of the daily drilling reports.

(5) If it is impracticable or unsafe to follow a procedure or precaution required by subsection (4), an equivalent procedure or precaution may be adopted to ensure safe operation.

Division 3 — Well Servicing Blowout Prevention

Equipment
25 (1) For the purpose of well servicing, blowout prevention equipment must be classified as follows:

(a) Class A is a well where the minimum pressure rating of the production casing flange is less than or equal to 21 000 kPa and the hydrogen sulphide content in a representative sample of the gas is less than 10 moles per kilomole;

(b) Class B is a well where the minimum pressure rating of the production casing flange is

(i) greater than 21 000 kPa, or

(ii) less than or equal to 21 000 kPa and the hydrogen sulphide content in a representative sample of the gas is 10 moles per kilomole or greater;

(c) Class C is a special sour well as determined by the commission in the handbook.

(2) At all times while a well is being completed, serviced or reconditioned

(a) the well must be under control,

(b) blowout prevention equipment must be installed and maintained to enable the shutoff of any flow from the well regardless of the type or diameter of tools or equipment in the well,

(c) the blowout prevention equipment installed must be in accordance with the well classification set out in subsection (1) and with the specifications set out in the handbook,

(d) the blowout prevention equipment must have a pressure rating equal to or greater than the pressure rating of the production casing flange or the formation pressure, whichever is the lesser, and

(e) hydraulic ram type blowout preventers which are not equipped with an automatic ram locking device must have hand wheels available.

Accumulator systems

26 (1) All blowout preventers must be hydraulically operated and connected to an accumulator system.

(2) The accumulator system required by subsection (1) must be

(a) installed and operated in accordance with the manufacturer's specifications,

(b) connected to the blowout preventers with lines of working pressure equal to the working pressure of the system, and within 5 metres of the well the lines must be of steel construction unless completely sheathed with adequate fire resistant sleeving,

(c) capable of providing, without recharging, fluid of sufficient volume and pressure to effect full closure of all preventers, and to retain a pressure of 8 400 kPa on the accumulator system,

(d) recharged by a pressure controlled pump capable of recovering within 5 minutes the accumulator pressure drop resulting from full closure of all preventers,

(e) capable of closing any ram type preventer within 30 seconds,

(f) capable of closing the annular preventer within 60 seconds, and

(g) equipped with readily accessible fittings and gauges to determine the precharge pressure.

(3) The accumulator system must be connected to a nitrogen supply capable of closing all of the blowout preventers installed on the well.

(4) The nitrogen supply required under subsection (3) must

(a) be capable of providing sufficient volume and pressure to effect full closure of all preventers and to retain a minimum pressure of 8 400 kPa, and

(b) have a gauge installed, or readily available for installation, to determine the pressure of each nitrogen container.

(5) For wells in Class A, the blowout prevention system

(a) may utilize the rig hydraulic system to recharge the accumulator, and

(b) must have operating controls for each preventer in a readily accessible location near the operator's position, and an additional set of controls located at a distance from the well of not less than 5 meters.

(6) For wells in Class B and C, the blowout prevention system must have

(a) an independent accumulator system with operating controls for each preventer located at least 25 m from the well, shielded or housed to protect the operator from flow from the well,

(b) an additional set of controls in a readily accessible location near the operator's position, and

(c) working spools with flanged outlets.

Line requirements
27 (1) For wells in Class A and B, the blowout prevention system must have 2 lines, one for bleeding off pressure and one for killing the well, which must

(a) be either steel or flexible hose sheathed to provide adequate fire resistant rating,

(b) be valved and have a working pressure equal to or greater than that required for the blowout prevention equipment described in section 25 (2) (c),

(c) have one line connected to the rig pump and one line connected to the tank,

(d) have one line connected to an outlet below the blowout preventers and the necessary equipment to readily connect the second line to the tubing,

(e) be at least 50 mm nominal diameter, and

(f) be securely tied down.

(2) A full opening ball valve which can be attached to the tubing or other pipe in the well must be maintained in a readily accessible location on the service rig in the open position and must have an interval diameter equal to or greater than the smallest restriction inside the tubing or casing.

Testing of blowout prevention equipment
28 (1) Before commencing operations at a well, each blowout preventer and the full opening stabbing valve must be tested for 10 minutes to 1 000 kPa first and to a minimum of 7 000 kPa or the formation pressure, whichever is less.

(2) All blowout prevention equipment must be mechanically tested daily and any equipment found defective must be made serviceable before operations are resumed.

(3) All tests must be reported in the servicing log book and, in the case of a pressure test, the report must state the blowout preventer tested, the test duration and the test pressure observed at the start and finish of each test.

(4) At least once every 3 years all blowout preventers must be shop serviced and shop tested to their working pressure and the test data and the maintenance performed must be recorded and made available to an authorized commission employee on request.

Personnel qualifications
29 (1) The following requirements must be complied with at all times while a well is being completed, serviced or reconditioned:

(a) the following people must possess a Well Service Blowout Prevention Certificate issued within the last 5 years by the Petroleum Industry Training Service:

(i) the driller on tour;

(ii) the rig manager (tool push);

(iii) the operator's representative;

(b) blowout prevention drills must be performed by each rig crew every 7 days or once per well, whichever is more frequent;

(c) drills performed in accordance with paragraph (b) must be recorded in the servicing log book.

(2) Evidence of the qualifications of any person referred to in subsection (1) (a) (i) or (iii) must be made available to an authorized commission employee on request.

(3) The rig crew must have an adequate understanding of, and be able to operate, the blowout prevention equipment and, when requested by an authorized commission employee, the contractor or rig crew must

(a) test the operation and effectiveness of the blowout prevention equipment, and

(b) perform a blowout prevention drill in accordance with the Well Control Procedure placard issued by the Canadian Association of Oil Well Drilling Contractors or as outlined by the Petroleum Industry Training Service, Blowout Prevention Manual.

Other requirements
30 The operator of a well must ensure that

(a) the location of the equipment used at the well site is spaced at the minimum distance specified in the handbook, and

(b) a service rig used at the well site has an operable horn on the drilling control panel for sounding alerts.

[en. B.C. Reg. 390/2004, s. 9.]

Class C special sour wells
31 (1) Blowout preventers used on Class C special sour wells must conform to the following requirements:

(a) all internal metallic blowout preventer components which may be exposed to sour effluent must be certified as being manufactured from materials meeting the requirements of the National Association of Corrosion Engineers;

(b) the pressure rating of each blowout preventer must be equal to or greater than that of the production casing flange or the formation pressure, whichever is the lesser;

(c) on special sour wells, blowout preventers must not be used for any other function except well control;

(d) blowout preventer equipment must be fully assembled and tested prior to installation on the well;

(e) all blowout preventer components must be pressure tested to 1 000 kPa and to a minimum of 1.2 times the well's shut-in tubing pressure for 10 minutes each and must perform without leakage;

(f) all tests must be documented, recorded and filed for future reference;

(g) assembly on site must be supervised by qualified personnel with advice, if required, solicited from the component supplier;

(h) all blowout preventer tests must be witnessed by the operator and contractor representatives;

(i) if any component of the blowout preventer is disassembled (e.g. opening of ram gates), a full blowout preventer test is required;

(j) following initial inspection, blowout preventer components are to be pressure tested weekly to a maximum anticipated working pressure if operations permit;

(k) the primary well control components, with the exception of the shear ram, must be operated daily, provided it is operationally safe to do so and all operating tests and blowout preventer drills must be recorded on the tour sheet;

(l) blowout preventer systems must be shop serviced and overhauled every 3 years.

(2) All contractors supplying blowout preventer equipment must maintain documentation pertaining to equipment material certification, testing, repair and maintenance, and this data must be available at the operating location for review by the operating company and an authorized commission employee.

(3) If the records required under subsection (2) are not available for the equipment, the equipment must be recertified prior to use, and the recertification must be acceptable to the operating company and an authorized commission employee.

(4) Shear rams are required if

(a) operations complexity and residential density indicate a high level risk factor during a completion or workover, or

(b) ordered by an authorized commission employee.

(5) If under subsection (4) shear rams are required, they must be arranged as outlined in the handbook.

(6) Alternatively, a shear/blind ram, as shown in the handbook, may be used in place of a conventional blind ram and, when used, a ram blanking tool must be available to provide a back up to the sealing capabilities of the blind ram.

(7) If a shear ram is used (in addition to a Class B blowout preventer), the accumulator must be sized to either operate the Class B blowout preventer in accordance with section 29 or shear the completion string without recharge, whichever is the greater volume.

(8) If a shear/blind ram is used (in addition to a Class B blowout preventer), the accumulator must be sized to operate the Class B blowout preventer in accordance with section 29 and must be sized to provide sufficient power fluid to shear the completion string without recharge.

(9) The nitrogen supply or the system back up must be capable of closing all blowout preventers including the shear/blind ram and shear pipe in use.

(10) If a shear ram is used (in addition to a full Class B blowout preventer), the control should be solely at the master (accumulator) panel to avoid accidental shear ram closure and, if the shear ram replaces the blind ram, the remote panel must operate the ram.

(11) In addition to the standard well control procedures which may be posted in the dog house, the details of shear ram operation must be posted where shear rams are used.

(12) Flanged blowout preventer working spools with 2 flanged side outlets are required on critical sour wells.

(13) Working spools must include

(a) outlets with full opening gate valves to serve as primary control,

(b) a kill side with a primary valve and a check valve, while the bleed off line must have a primary and a secondary (backup) valve, and

(c) valves with a working pressure rating equal to or greater than the blowout preventer.

(14) The stabbing valve must conform to the following requirements:

(a) it must be a National Association of Corrosion Engineers full opening valve with the proper threads to mate to the completion string thread in use;

(b) the valve must have a pressure rating equal to or greater than the blowout preventer pressure rating;

(c) extended bales must be used to allow string weight to be borne by the tubing, rather than the stabbing valve;

(d) the valve must not be used as a working valve;

(e) the stabbing valve must be stored in an area immediately accessible to the wellbore, left in the open position, and kept clean, properly maintained, ice free and ready for use.

(15) The service rig pump must not be used as a well control manifold.

(16) A sour service separator/flare stack system, including appropriate manifolding, must be used to process sour well effluent.

(17) The heat source must be suitable for the electrical area classification in which it is used.

(18) Lighting must be adequate to ensure complete visibility of the well control system.

Personnel at special sour wells
32 (1) Repealed. [B.C. Reg. 390/2004, s. 10.]

(2) Every representative, rig manager and driller must have the following qualifications:

(a) H2S rescue training;

(b) well service blowout prevention certification.

(3) While servicing operations are in progress, the representative must be at the work site and, in the case of 24 hour operations, there must be 2 representatives available for work.

(4) Every crew member must be trained in H2S safety.

[am. B.C. Reg. 390/2004, s. 10.]

Division 4 — General Well Equipment

Protection from hazards
33 (1) Until title to the petroleum and natural gas rights has been relinquished, or unless otherwise approved by an authorized commission employee, a permanently legible and conspicuous sign must be displayed and maintained at each drilling, producing, potential and abandoned well showing

(a) the name of the licensee or operator,

(b) the name and legal description of the site,

(c) an appropriate warning symbol from Schedule 4 of this regulation, and

(d) any other information specified by an authorized commission employee.

(2) If a well may produce gas containing 0.1 moles per kilomole or greater of hydrogen sulphide, a poisonous gas symbol from Schedule 4 must be displayed.

(3) No licensee or operator may post warning symbols where no hazard exists.

Tools, casing, equipment and materials
34 (1) Repealed. [B.C. Reg. 390/2004, s. 11.]

(2) If it appears to an authorized commission employee that any tools, casing, equipment and materials used in the drilling or production of a well are inadequate, defective or hazardous, an authorized commission employee may require the replacement or reconditioning of the equipment, casing or tubing and may order orally, confirmed by a signed note on the daily report, that operations be discontinued in whole or in part until the required action is taken.

(3) Unless exempted under section 2.1, the operator of a well must ensure that all production from or injection into the well is through tubing.

(4) Prior to any injection of a fluid to a subsurface formation through tubing in a well, and unless otherwise approved by an authorized commission employee, the operator must

(a) set a production packer in the well as near as is practical above the injection interval,

(b) ensure the space between tubing and the outer steel casing is filled with a corrosion inhibiting fluid, and

(c) obtain approval from an authorized commission employee for maximum wellhead injection pressure limitations.

[am. B.C. Reg. 390/2004, s. 11.]

Casing requirements
35 (1) Unless exempted under section 2.1, and subject to subsection (2), the operator of a well must ensure that surface casing for a well conforms to the following requirements:

(a) surface casing program design and setting depth must be based on relevant engineering and geologic factors;

(b) surface casing must be set below the base of all strata known or reasonably expected to serve as a source of drinking water;

(c) surface casing must be set at least 25 m into a competent formation in accordance with good oilfield practice at a depth sufficient to provide a competent anchor for blowout prevention equipment and to ensure control of anticipated well pressures;

(d) the annulus must be filled with cement to the surface;

(e) the surface casing program and rationale for the program must be recorded and made available on request to an authorized commission employee.

(1.1) Repealed. [B.C. Reg. 390/2004, s. 12 (b).]

(2) The operator of a well must ensure that surface casing cement is set under pressure and not drilled out until sufficient compressive strength has been reached to obtain a valid formation integrity test in accordance with good oilfield practice.

(3) If a float collar or shoe is used, pressure at the surface may be released immediately on completion of the cement job.

(4) Unless exempted under section 2.1, the operator of a well must ensure that

(a) intermediate and production casing for the well is cemented through all porous zones, to a minimum of 150 m above the casing shoe, and tested in accordance with good oilfield practice, and

(b) the cement is not drilled out until sufficient compressive strength has been reached in accordance with good oilfield practice.

(5) Conductor casing must be set and cemented at a depth of not less than 30 m below the mudline of the body of water during drilling operations in areas permanently covered by water.

(6) If there is any reason to doubt the effectiveness of casing cementation, a survey must be made to determine the top of the cement in the annulus and remedial measures must be taken if necessary.

(7) Repealed. [B.C. Reg. 390/2004, s. 12 (d).]

(8) The surface and intermediate casing annulus must be vented by a line which, subject to such other specifications that may be specified by an authorized commission employee for a particular case, must

(a) Repealed. [B.C. Reg. 390/2004, s. 12 (d).]

(b) extend at least 60 cm above ground level,

(c) terminate so that any flow is directed either in a downward direction or parallel to the ground, and

(d) contain an open valve.

[am. B.C. Regs. 257/2003, Sch. B, s. 3; 390/2004, s. 12.]

Surface and subsurface equipment
36 (1) Unless exempted under section 2.1, the operator of a completed oil or gas well must ensure that the surface and subsurface equipment of the well is arranged to permit

(a) the ready measurement of the tubing pressure, production casing pressure and surface casing pressure, and

(b) any other reasonable test required by an authorized commission employee.

(2) The operator of a completed well must ensure that the surface equipment at the well site includes

(a) the valve connections necessary to sample the oil, gas or water produced, and

(b) in the case of a gas well, facilities for determining the wellhead fluid temperature.

(3) The operator of a well must

(a) keep a detailed record of all subsurface equipment in the well at all times prior to abandonment, and

(b) make the record available to an authorized commission employee on request.

[en. B.C. Reg. 390/2004, s. 13.]

Section Repealed
37 Repealed. [B.C. Reg. 390/2004, s. 14.]

Division 5 — Procedures

Uncontrolled flow
38 (1) Every reasonable precaution must be taken to prevent a well from flowing uncontrolled.

(2) A verbal report on any well flowing uncontrolled must be made immediately to the commission and confirmed in writing.

Provision for fluid containment

39 Preparation for the containment of any oil or gas encountered during the drilling of a well must be made before the well is completed, and adequate provision for the production and storage and any flaring of production from this well must be made before the well is placed on production.

Sealing off oil, gas or water

40 (1) A well must not be drilled beyond any oil, gas or water stratum until the oil, gas or water in such stratum is controlled by drilling fluid, casing or cement unless approval has been obtained from an authorized commission employee.

(2) If it appears to an authorized commission employee that a shut off of oil, gas or water in a well is not effective, he or she may order that tests be made and remedial measures taken.

Multi-zone or commingled wells

41 (1) An operator of a well must not

(a) complete a well, or

(b) allow a well to be completed,

for commingled production from more than one pool or zone unless the operator first applies for and receives permission in writing from an authorized commission employee.

(2) An authorized commission employee may approve 2 or more zones or pools in a field as zones or pools in which a multi-zone well may be completed for commingled production and operated without further approval.

(3) An application for permission to complete a well as a commingled well must include information in accordance with guidelines issued by the commission.

(4) Unless exempted under section 2.1, an operator of a multi-zone well who has not received permission under subsection (1) must

(a) conduct annual tests to confirm that segregation has been established both in and behind the well casing, and

(b) within 30 days after completion, submit in duplicate to the commission an analysis and interpretation of the tests conducted.

[en. B.C. Reg. 390/2004, s. 15.]

Alterations of wells and test holes

42 (1) Until an application to alter a well or test hole, in the form and including the information required by the commission, has been approved by an authorized commission employee, the operator of the well or test hole must not deepen or re-enter the well or test hole.

(1.1) Until an application to alter a well, in the form and including the information required by the commission, has been approved by an authorized commission employee, the operator of the well must not

(a) re-complete the well in order to produce oil or gas from any formation other than the formation or formations from which production is being taken or has been taken, or

(b) perform a workover on the well.

(2) Repealed. [B.C. Reg. 390/2004, s. 16 (b).]

(3) A program of operations of the nature described in subsection (1) must not be commenced unless the commission has been notified and has approved the program in writing; however, the approval may first be given orally and an Application to Alter a Well must then be submitted without delay.

(4) If drilling operations at a well have been suspended with the approval of an authorized commission employee and are not resumed within the time set out in the approval, application may be made to the commission for an extension of the time of suspension, giving the reasons for it, and the commission may refuse the application or grant it in whole or part.

(5) In the absence of an application for an extension of time of suspension or if, in the opinion of an authorized commission employee, suspension of normal drilling operations has occurred without approval, an authorized commission employee may direct that the well be abandoned or operations resumed in accordance with further instructions.

(6) An authorized commission employee may, at any time, vary an approved program to alter a condition specified in an approval granted under subsection (1).

(7) Despite subsection (1), if a well is used only for a unitized operation or if an authorized commission employee is satisfied that a well is produced only to supply a seasonal market, the normal producing or injecting operations at the well may cease for any period without first obtaining approval of an authorized commission employee under this section.

[am. B.C. Regs. 257/2003, Sch. B, s. 4; 390/2004, s. 16.]

Commencement or suspension of operations
43 (1) A Notice of Commencement or Suspension of Operations, on the form provided, must be submitted to the commission within 7 days following the date a well is placed on continuous production, suspension or service.

(2) An authorized commission employee may at any time require the submission of information sufficient to ensure the ongoing integrity of a suspended well, and this required information may include

(a) results of pressure tests of casing,

(b) results of casing integrity inspection or logging,

(c) evidence of physical inspection,

(d) evidence of control of noxious weeds, and

(e) any other survey, test or inspection as defined from time to time by an authorized commission employee.

Part 5 — Well Abandonment

No well or test hole unplugged
44 (1) A well or test hole must not be left unplugged or uncased after it is no longer used for the purpose for which it was drilled or converted.

(2) The commissioner or deputy commissioner may order an owner or operator of a well, or other person who in the opinion of the commissioner or deputy commissioner has an interest in the well, including a trustee in bankruptcy, a receiver or a receiver-manager, to abandon, plug or restore a well.

Plugging requirements for wells and test holes
45 (1) Before abandoning a cased well or a cased test hole the operator of the well must

(a) submit to the commission an application to abandon a well, in the form and including the information required by the commission, and

(b) obtain the approval of an authorized commission employee to an abandonment program for the well, which approval may be given orally and confirmed later in writing.

(2) Unless exempted under section 2.1, the operator of a well must ensure that

(a) all permeable formations are isolated with cement,

(b) cement plugs set in open hole are of a minimum length of 30 m,

(c) a cement plug of a minimum length of 30 m is centered across the shoe of the surface casing or is of a sufficient length to completely cement off any aquifer beneath the surface casing shoe,

(d) all casing is cut off a minimum of 1 m below ground level and capped with a 3 m cement plug and a welded plate,

(e) subject to paragraphs (f) and (g), the top of all plugs, except the plug placed at the bottom of the well or test hole, is confirmed and the particulars are recorded in the daily report,

(f) if the cement top is greater than 7 m from the depth specified in the designed plugging program, additional cement is used to bring the plug top to the depth as designed,

(g) if there is only a bottom hole plug and one other plug in the well or test hole, the top of the plug placed at the bottom of the well is confirmed and the particulars are recorded in the daily report, and

(h) a 1.5 m signpost is welded onto the stub of a plugged well or test hole on Crown land.

(3) Cased holes may be abandoned by placing a bridge plug above the top of perforations capped with an 8 m cement plug.

[en. B.C. Reg. 390/2004, s. 17.]

Section Repealed
46 Repealed. [B.C. Reg. 390/2004, s. 18.]

Pulling casing
47 (1) The operator of a well must ensure that casing or other equipment is not removed from the well if it is essential to the proper control of the well.

(2) The operator of a well must ensure that casing or other equipment is not removed from the well if it is essential to the prevention of inter-zonal communication.

[en. B.C. Reg. 390/2004, s. 19.]

Surface restoration of wells and facilities
48 (1) On completion or final abandonment of any well, test hole or facility and as soon as weather and ground conditions permit, the operator must ensure that the surface is returned, as nearly as is reasonable, to the surface condition as it was when the operations were commenced.

(2) An Application for Certificate of Restoration, on the form provided, must be submitted to the commission after the restoration of the surface of any abandoned well, test hole, production facility or gas processing plant in accordance with the requirements of subsection (1).

(3) Subsection (1) (d) and (e) do not apply if an Application for Certificate of Restoration is accompanied by the written consent of the surface owner.

[am. B.C. Reg. 390/2004, s. 20.]

Part 6 — Well Data

Submission of information
49 (1) On request by an authorized commission employee, all information connected with or derived from the drilling, production or other work performed on a well must be made available, and when so required, must be submitted to an authorized commission employee.

(2) Repealed. [B.C. Reg. 390/2004, s. 21.]

[am. B.C. Reg. 390/2004, s. 21.]

Daily drilling reports
50 (1) The operator of a well being drilled or otherwise worked on must

(a) ensure that a daily drilling report (tour sheet) that conforms to subsection (2) is kept at the well site, and

(b) submit a copy of the daily drilling report (tour sheet) to the commission at the completion of the drilling or other work.

(2) The daily drilling report (tour sheet) must set out complete data on all operations performed during the day, including but not limited to the following:

(a) the depth at the beginning and end of each tour;

(b) all casing data, including size, type, grade, weight, whether new or used and the depth at which it is set;

(c) particulars of cementing;

(d) details of any water, oil or gas encountered, even if only small showings;

(e) a report of any tests made;

(f) full details of all formation tests, unless the details are submitted on a confidential report form provided by the commission;

(g) details of all occasions when the blowout preventers are closed, with the reason for their being closed;

(h) details of any loss of drilling fluid into the formation;

(i) a report of any volume of fluid required to fill the hole in accordance with section 24 (4) (c);

(j) the allocation of time to each operation;

(k) the name of the drilling contractor or service company and rig number;

(l) the spud and rig release dates.

[en. B.C. Reg. 390/2004, s. 22.]

Deviation and directional surveys

51 (1) Deviation surveys must be made during drilling at intervals not exceeding 150 m in depth, unless otherwise approved by an authorized commission employee.

(2) A directional survey of the well must be made or caused to be made before placing a well on production, unless otherwise approved by an authorized commission employee, if

(a) the surface position of the well is nearer to the boundary of its target area than 2% of the total depth, or

(b) the surface position of the well is outside its target area.

(3) Immediately on obtaining the results of a directional survey, the report must be sent to the commission.

(4) Repealed. [B.C. Reg. 390/2004, s. 23.]

[am. B.C. Reg. 390/2004, s. 23.]

Samples and cores

52 (0.1) In this section, "ministry facility" means the Ministry of Energy and Mines Geology Facility for the storage and examination of well samples and cores.

(1) Unless exempted under section 2.1, the operator of a well or test hole must

(a) take a series of drill cuttings samples at depth intervals of 5 m commencing at a point determined by the operator to be 50 m measured depth above the shallowest potential reservoir zone expected in the well or test hole and continuing to the total depth of the well or test hole,

(b) collect, wash, dry, sort and preserve 2 complete sets of drill cuttings samples in vials and arranged in trays of an approved ministry standard,

(c) clearly and accurately label the vials and trays with the name and location of the well or test hole, the sample depths represented, and which leg of a multi-leg well, and

(d) deliver 2 sets of the drill cuttings samples, carriage prepaid, to the ministry facility not later than 14 days after the date of rig release.

(1.1) Repealed. [B.C. Reg. 390/2004, s. 24 (b).]

(2) Within 30 days after completion of a core analysis, the operator of a well or test hole must submit to the commission, in duplicate, the result of the core analysis, including digital core analysis data.

(3) Repealed. [B.C. Reg. 390/2004, s. 24 (d).]

(4) When requested by an authorized commission employee, a geological zone or formation must be cored.

(5) The operator of a well or test hole must

(a) remove all cores from the core barrel and retain them in book fashion in approved ministry core boxes,

(b) accurately label on the end of the box body, but not the box lid, the well authorization or test hole number, the well or test hole name, the surface location of the well or test hole, the core number and interval, the length of core recovered, and identify the top and bottom of core in the core box,

(c) protect boxes containing the cores from theft, misplacement or exposure to the weather, and

(d) forward the core recovered to the ministry facility, carriage prepaid, not later than 14 days after the rig release unless otherwise approved by an authorized ministry employee.

(6) Core boxes must be of adequate construction as specified by an authorized ministry employee, the sides of the boxes must project above the level of the contained cores, lids must be securely fixed to ensure safe transit and the boxes must have an inside length of 80 cm.

(7) Repealed. [B.C. Reg. 257/2003, Sch. B, s. 5 (d).]

(8) Core declared by an authorized commission employee as being representative of a type section must not be broken or chipped.

(9) Breakage of core during examination at the ministry facility must be kept to a minimum and core must not be destroyed, broken or sampled without approval of an authorized ministry employee.

(10) Core received at the ministry facility in unsuitable core boxes may be re-boxed and re-labeled at the expense of the operator and drill cuttings samples received at the ministry facility in unsuitable vials and trays may be repackaged and relabeled at the expense of the operator.

(11) Repealed. [B.C. Reg. 257/2003, Sch. B, s. 5 (e).]

(12) Core may be removed from the ministry facility subject to written approval by an authorized ministry employee for the purpose of laboratory investigations that cannot be performed at the ministry facility and under the following conditions:

(a) if non-confidential core is to be destroyed, slabbed or sampled;

(b) if confidential core is involved, authorization from the operator must be obtained;

(c) any person or operator removing core from the ministry facility must return the core within 30 days, unless special permission for a longer period is granted by an authorized ministry employee;

(d) every reasonable precaution must be taken not to damage or mix the core in core boxes;

(e) any analyses resulting from the laboratory investigations must have 2 copies submitted to the commission within 30 days of analysis completion;

(f) core must be returned to the ministry immediately on the request of an authorized ministry employee.

(13) The ministry must be provided with adequate notice by any person wishing to examine core or drill cuttings at the ministry facility.

(14) Core and drill cuttings may be examined subject to the approval of an authorized ministry employee under the following conditions:

(a) examination of core and drill cuttings at a fee set out in the Petroleum and Natural Gas General Regulation may be made at the ministry facility;

(b) core may be removed from the ministry facility to a location within the province of British Columbia with the approval of an authorized ministry employee at a fee set out in the Petroleum and Natural Gas General Regulation;

(c) core may be removed to a location outside of the province of British Columbia with the written approval of an authorized ministry employee at a fee rate set out in the Petroleum and Natural Gas General Regulation;

(d) core and drill cuttings examination or removal of cores fees may be waived for individuals conducting research as part of a university program, for employees of the government of Canada

or a province of Canada, for employees of regulatory bodies acting on behalf of their employers, or for the benefit of an educational or scientific society, with the approval of an authorized ministry employee.

(15) Confidential core and drill cuttings may be examined only after written permission has been obtained from an authorized ministry employee and the operator of the well or test hole.

(16) Repealed. [B.C. Reg. 257/2003, Sch. B, s. 5 (f).]

[am. B.C. Regs. 257/2003, Sch. B, s. 5; 390/2004, s. 24.]

Tests, analyses, surveys and logs
53 (1) An authorized commission employee may at any time require any test, analysis, survey or log to be made, and the information so obtained must be submitted to the commission.

(2) Before a well is completed, suspended or abandoned the minimum requirement of

(a) a gamma ray log must be taken from ground level of the well to total depth, and

(b) a resistivity and porosity log must be taken from the base of the surface casing of the well to the total depth of the well,

with all pertinent data recorded on them, unless permission is obtained from an authorized commission employee to dispense with those logs in whole or in part or to substitute a log or logs of a different type.

(3) Repealed. [B.C. Reg. 390/2004, s. 25 (a).]

(4) Within 30 days after the date on which a log was run, the operator of a well or test hole must submit to the commission 2 copies of the log, including any computer enhanced logs,

(a) in both paper form and in a digital format acceptable to an authorized commission employee, and

(b) clearly labeled with the well authorization number and well name.

(5) Repealed. [B.C. Reg. 390/2004, s. 25 (a).]

(6) A pressure chart and a report containing complete details on fluid recoveries and other pertinent facts for each drill stem test or wire line test taken on a well must be submitted to the commission within 30 days of the date on which the test was made.

(7) If drill stem tests, wire line tests or initial production tests from a well permit good sampling, the operator must submit to the commission, within 30 days of analysis completion, 2 copies of all analyses made of any oil, gas or formation water recovered from each formation.

(8) Repealed. [B.C. Reg. 390/2004, s. 25 (a).]

(9) On obtaining the data and results of a bottom-hole sample analysis or other pressure-volume-temperature analysis, the data and results must be submitted to the commission within 30 days of analysis completion.

(10) Unless otherwise approved by an authorized commission employee, the operator of a gas processing plant must, on or before January 31 of each year, submit analyses, satisfactory to an authorized commission employee and representative of the operations for the preceding year, of

(a) the fluids entering the plant, if practical separately, for each pool delivering gas to the plant, and

(b) each marketable product leaving the plant.

[am. B.C. Reg. 390/2004, s. 25.]

Section Repealed
54 Repealed. [B.C. Reg. 390/2004, s. 26.]

Wellsite geology reports
55 Within 60 days after the date of rig release of the drilling rig, the operator of a well must submit to the commission a wellsite geology report

(a) for a well or portion of a well classified exploratory outpost or exploratory wildcat, or

(b) regardless of the well classification, if a wellsite geological report has been compiled.

[en. B.C. Reg. 390/2004, s. 26.]

Completion and workover reports
56 (1) A completion or workover report, in chronological format, detailing all significant operations, treatments and resulting well behaviour, and including a downhole schematic diagram, must be submitted to the commission in duplicate within 30 days of the end of completion or workover operations.

(2) For each separate completion or workover operation on a well, a report must be submitted in accordance with subsection (1).

Release of information
57 (1) In this section:

"geological and geophysical reports" means geological, geophysical and other reports in the possession of the ministry or the commission that have confidential status because of a designation made by the minister under section 122 (2) of the Act, but does not include well reports and well data;

"well reports and well data" means

(a) information obtained from a well, for example, drilling reports, well history reports, unprocessed and processed log data, dipmeter surveys, directional surveys, drill stem test data and analyses, wire line data, pressure-volume- temperature and flow test data and analyses, subsurface pressure data and analyses, completion information, geological information, drilling depths, casing and cementing information, well status, gas, oil or water sample or analysis data, drill cuttings and any analysis and description of the drill cuttings and cores, and

(b) proprietary geological information, engineering data and supporting calculations contained in pre-application submissions for well authorizations,

but does not include geological and geophysical reports.

(2) Subject to this section, well reports and well data that are received by the ministry or the commission in the course of the administration of the Act must be held confidential by the ministry and the commission.

(3) Geological and geophysical reports must be released from confidential status

(a) 10 years after the date of receipt by the ministry or the commission, if it receives the information in the performance of a program of work under any of sections 43, 56, 57 or 58 (3) (c) of the Act, or

(b) 21 years after the date of receipt by the ministry or the commission, if it receives the information other than as set out in paragraph (a).

(4) Well reports and well data recorded with or submitted to the ministry or the commission must be released from confidential status

(a) 2 calendar months after the date of release of the drilling rig for a well or portion of a well classified as a development well,

(b) 6 calendar months after the date of release of the drilling rig for a well or portion of a well classified as an exploratory outpost,

(c) one year after the date of release of the drilling rig for a well or portion of a well classified as an exploratory wildcat,

(d) one year after the date of release of the drilling or service rig when a well has been reentered and, in the opinion of an authorized commission employee, a new pool has been identified,

(e) 3 years after the date of release of the drilling rig for a well or a portion of a well forming part of an experimental scheme, or

(f) 3 years after the date of release of the drilling rig for a well or a portion of a well that is capable of producing natural gas from strata or a stratum containing mainly coal and that forms part of a development scheme.

(5) The commissioner and deputy commissioner are designated as employees of the commission who, on application of the operator of a well, may order that the requirements of subsection (4), for the release from confidential status of well reports and well data, do not apply to that operator in relation to that well, for the period and subject to the other conditions the commissioner or deputy commissioner may specify, if satisfied that

(a) the operator of the well requests that the ministry offer a Crown reserve for disposition by public tender and the ministry has deferred its decision on the request,

(b) the well reports and well data include information from which a person might reasonably be expected to infer the existence of petroleum or natural gas in the Crown reserve referred to in paragraph (a), and

(c) the release of the well information in accordance with subsection (4) would significantly harm the business interests of the operator of the well.

(6) Well reports and well data must not be released under subsection (4) from confidential status at any time when an application, under section 14 (5), for reclassification of the well as an exploratory wildcat, or, under subsection (5), for an exemption, is under consideration pending a decision.

(7) Despite subsection (4), if information has been released in accordance with subsection (4) and a reclassification or experimental status granted, the information released must not be reclassified as confidential.

(8) The following information is available to the public at all times during business hours:

(a) expected total depth at the time of approval of the well authorization, formation at expected total depth, position, ground elevation and drilling status of a well;

(b) all applications and submissions made to the minister or the commission for the purpose of a hearing.

(9) Well reports and well data may be released from confidential status

(a) if, for any reason, the rights to the well have reverted to the government, or

(b) with the concurrence of the person who submitted the information to the ministry or the commission.

(10) If a location is surrendered, any information obtained from a well on that location may be released from confidential status at any time after the surrender.

(11) If a location is or becomes Crown reserve, all geological and geophysical reports and well reports and well data for that location may be released from confidential status.

(12) Despite any restrictions placed on the release of information by this regulation, any information may be released by the Lieutenant Governor in Council at any time when he or she considers it in the public interest to do so.

(13) Repealed. [B.C. Reg. 390/2004, s. 27 (b).]

(14) If information has been released from confidential status under this Division, any person may attend at the office of the commission and

(a) reproduce records of the information on microfilm for a fee set out in the Petroleum and Natural Gas General Regulation, or

(b) examine or copy the records, for a fee set out in that regulation.

(15) The fees stipulated in subsection (14) may be waived for individuals conducting research as part of a university program, for employees of the government of Canada or a province of Canada, for employees of a regulatory body, or for the benefit of an educational or scientific society, with the approval of an authorized commission employee.

(16) Despite subsection (4), if, as a result of the reclassification of a well or portion of a well as an exploratory wildcat under section 14 (5), and on approval of an application from the well operator, well reports and well data from each subsequent well in the pool must be held confidential by the ministry and the commission until the confidentiality period for the discovery well has expired or for the period specified under subsection (4), whichever results in the later date.

[am. B.C. Regs. 257/2003, Sch. B, s. 6; 390/2004, s. 27.]

Part 7 — Prevention of Damages, Fires, Injuries and Losses

Air pollution control

58 (1) If operations are being carried out at a well or production facility and the hydrogen sulphide content of the gas exceeds 10 moles per kilomole, or if the Emergency Planning Zone for a well or production facility includes in whole or in part an occupied dwelling, rural school, picnic ground or other populated area, the operator of the well or production facility must comply with the following conditions, unless otherwise approved by an authorized commission employee:

(a) post suitable signs on or near the well or production facility warning of the presence of poisonous gas;

(b) Repealed. [B.C. Reg. 390/2004, s. 28 (a).]

(c) equip and operate the well or production facility so that the maximum operating flow line gauge pressure cannot exceed 1 400 kPa, unless a valve is installed at the wellhead or production facility which closes automatically in the event of an uncontrolled flow of oil or gas;

(d) if a well or production facility is located within 800 m of an occupied dwelling, rural school, picnic ground or other populated area, construct and maintain an adequate fence and locking gate to prevent unauthorized access;

(e) submit to and have approved by the commission an outline of emergency procedures to ensure public safety which will be followed by the operator in the event of an uncontrolled emission of oil or gas, if

(i) a well or production facility is located within 800 m of an occupied dwelling, rural school, picnic ground or other populated area, or

(ii) requested by an authorized commission employee.

(2) If operations are being carried out at a well or production facility and the hydrogen sulphide content of the gas exceeds 50 moles per kilomole, or if the Emergency Planning Zone for a well or production facility includes in whole or in part an occupied dwelling, rural school, picnic ground or other populated area, in addition to the provisions of subsection (1) the operator of the

well or production facility must comply with the following conditions, unless otherwise approved by an authorized commission employee:

(a) for a well not produced by artificial lift,

(i) equip the well with 2 master valves,

(ii) install a production packer set as closely above the producing formation as is practicable, with the annular space between the tubing and production casing filled with a suitable corrosion inhibiting liquid,

(iii) install wellhead equipment for which the working pressure rating is not less than the bottom-hole pressure of the producing formation, but with a minimum rating of 14 000 kPa,

(iv) if a hot oil circulating string is used inside the production casing of a well, install a check valve in the injection line and automatic shutoff valve on the return line, and

(v) Repealed. [B.C. Reg. 390/2004, s. 28 (b).]

(vi) if a well is equipped with a production packer as required under subparagraph (ii), conduct annual segregation tests by a method approved by an authorized commission employee to confirm that the corrosion inhibiting liquid in the annular space between the tubing and production casing is isolated from the production fluid in the tubing, and notify the commission at least 3 days in advance of any segregation test at a well;

(b) for a well produced by artificial lift,

(i) install on the stuffing box an automatic shutdown device that will shut down the pumping unit in the event of a stuffing box failure and effectively seal off the well in the event of a polish rod failure, and

(ii) install an automatic vibration shutdown system that will safely shut down the pumping unit;

(c) install at all wells and production facilities a surface valve which closes automatically to shut off an uncontrolled flow of gas or oil from the wells or production facilities in the event of a failure of the wellhead, surface facilities or gathering line;

(d) for a flowing well that is located within 800 m of an occupied dwelling or within 8 km of the limits of a city, town or village and that has the potential to produce more than 30 000 m3 of gas per day,

(i) install a surface hydrogen sulphide gas detection and alarm system,

(ii) install a downhole safety valve in the tubing at least 30 m below the surface, and

(iii) ensure that the downhole safety valve closes automatically in the event of an uncontrolled flow of oil or gas or in the event of a failure in the system which operates the valve;

(e) for a production facility that is located within 800 m of an occupied dwelling or within 8 km of the limits of a city, town or village and that has the potential to produce more than 30 000 m3 of gas per day,

(i) install a hydrogen sulphide gas detection and alarm system, and

(ii) install an automatic shutdown system directly connected to the detection system so that in the event of an uncontrolled flow of oil or gas, the production facility automatically shuts down.

(3) The operator of a well or production facility must not, without the approval of an authorized commission employee, permit discharge to the atmosphere of any gas produced, including stock tank vapours, unless burned in accordance with subsection (4).

(4) Unless exempted under section 2.1, the operator of a well must ensure

(a) that any gas to be burned through a flare line is discharged from a flare line that

(i) terminates with a vertical riser of at least 12 m in height,

(ii) is adequately anchored, and

(iii) is equipped, if the gas flow is intermittent, with an ignition device to ensure continuous ignition of any gases,

(b) that all gas to be burned is incinerated in a mechanical device, and

(c) if the gas flow is intermittent, the flare line must be provided with an ignition device to ensure continuous ignition of any gases.

(5) The operator of a well or production facility must, if requested by an authorized commission employee,

(a) install and maintain monitoring stations that measure ambient air quality,

(b) record and provide data on hydrogen sulphide concentration in flared gas with flaring rates and times, and

(c) make available to the commission all information with or derived from these measurements.

(6) Repealed. [B.C. Reg. 390/2004, s. 28 (d).]

[am. B.C. Regs. 109/2002, s. 1; 390/2004, s. 28.]

Smoking
59 A person must not smoke within 25 m of any well, production facility or gas processing plant.

Fire precautions
60 (1) If an internal combustion engine is located within 25 m of any well, separator, crude oil storage tank or other unprotected source of ignitable vapours,

(a) its exhaust pipe must be insulated or sufficiently cooled, in a manner acceptable to an authorized commission employee, to prevent ignition of flammable material, and the end of the exhaust pipe must be directed away from the well head or source of ignitable vapours, and

(b) its exhaust manifold must be shielded to prevent contact with liquids or gases which might otherwise fall on it.

(2) If a diesel engine is located within 25 m of a well, it must be provided with one of the following:

(a) an air intake shut-off valve of a type approved by an authorized commission employee and equipped with a readily accessible remote control;

(b) a system for injecting an inert gas into the engine's cylinders, equipped with a readily accessible remote control;

(c) a suitable duct so that air for the engine is obtained at least 25 m from the well;

(d) any other device or devices that may be approved by an authorized commission employee.

(3) If a valve and remote control or an injection system and remote control have been installed in accordance with subsection (2) (a) or (b), the operator of the well referred to in subsection (2) must ensure that the stopping of the engine by the remote control is tested

(a) before the cement plug at the shoe of the surface casing is drilled out,

(b) before any well completion or servicing operations commence, and

(c) at least once in each 7 day period during the drilling or servicing of the well.

(4) Repealed. [B.C. Reg. 390/2004, s. 29 (b).]

(5) Except where gasoline or liquid fuel are held in fuel tanks actually connected to operating equipment, they must not be stored within 25 m of a well, and drainage of gasoline or liquid fuel from such places of storage must be in a direction away from the well location.

(6) and (7) Repealed. [B.C. Reg. 390/2004, s. 29 (b).]

(8) If a pressure relief valve, rupture disc or burst plate is installed on a separator, treater or other pressure vessel at a producing well, the valve, disc or plate, unless otherwise approved by an authorized commission employee,

(a) must be connected by suitable piping to an open tank if production is in the liquid phase, but, with approval of an authorized commission employee, a system of automatic controls may be installed, or

(b) must be connected to a flare line in accordance with section 58 (3) if production is in the gaseous phase.

[am. B.C. Reg. 390/2004, s. 29.]

Drill stem test recovery
61 (1) If oil or gas has been recovered during a drill stem test, the drill pipe must not be pulled during hours of darkness, unless positive steps have been taken to ensure that there is no possibility of oil or gas being present in the drill pipe.

(2) Gas produced to the atmosphere for a period exceeding 10 minutes during a drill stem test must be burned through a flare line in accordance with section 58 (3).

Fire control

62 Unless exempted under section 2.1, an operator must ensure that fire is controlled in the following manner:

(a) fires are not located less than 50 m from any well, oil storage tank or other unprotected source of ignitable vapour;

(b) all fires for any purpose are safeguarded by sufficient mechanical or other means so that no hazard to surrounding property is created;

(c) flares, incinerators, and enclosed gas burners are located at least

(i) 50 m from a well;

(ii) 50 m from storage tanks containing flammable liquids;

(iii) 25 m from any oil or gas processing equipment;

(iv) 80 m from any right of way, easement of any road allowance, public utility, building, installation, works, place of public concourse or any reservation for national defence, except only where there may exist special circumstances that, in the opinion of an authorized commission employee, justify the position at a greater or lesser distance;

(d) all vent lines from oil storage tanks which are vented to flare pits or flare stacks are provided with flame arresters or other equivalent safety devices;

(e) a flame type stove or heater, crude oil treater, glycol type dehydrator installation or other flame type equipment is not placed within 25 m of any well, separator, crude oil storage tank or other unprotected source of ignitable vapours, except where such flame type equipment is equipped with flame arresters adequate for the purpose for which they are used;

(f) boilers and steam generating equipment are located at a point not less than 25 m from any well, separator, crude oil storage tank or other unprotected source of ignitable vapours;

(g) a crude oil treater is not placed or remain within 25 m, shell to shell, of any type of boiler or direct fired heater or be placed within 5 m, shell to shell, of any other direct fired crude oil treater or indirect fired heater;

(h) a crude oil storage tank is not placed within 50 m of any well;

(i) all facility piping is arranged and provided with control valves to permit the ready shut off of oil or gas in the event of fire at any facility installation;

(j) a separator is not enclosed within the fire wall, dyke or ditch surrounding a storage tank installation;

(k) all vessels and equipment from which ignitable vapours may issue are safely vented to the atmosphere;

(l) Repealed. [B.C. Reg. 91/2000.]

(m) explosives of every kind and description are stored only in properly constructed magazines, situated not less than 150 m from any place where any drilling, production or processing operation is being undertaken;

(n) a sufficient area beneath the flare stack is free of combustible materials and vegetation.

[am. B.C. Regs. 91/2000; 390/2004, s. 30.]

Section Repealed
63 Repealed. [B.C. Reg. 390/2004, s. 31.]

Oil storage
64 Unless exempted under section 2.1, an operator must ensure that any tanks and production equipment for a well, facility or plant for which the operator is responsible are located not less than 60 m from any right of way, easement, road allowance, public utility, building, installation, works, place of public concourse or any reservation for national defence.

[en. B.C. Reg. 390/2004, s. 32.]

Sections Repealed
65 to 70 Repealed. [B.C. Reg. 91/2000.]

Prevention of losses
71 (0.1) An operator must ensure that the requirements of this section are met in relation to a well, facility or plant for which the operator is responsible.

(1) Every reasonable precaution must be taken to stop and prevent loss or waste of oil, gas or water in drilling, producing and processing operations in accordance with good conservation practice and, in storing, piping or distributing, oil or gas must not be used wastefully or allowed to leak or escape from natural reservoirs, wells, tanks, containers or pipes.

(2) Repealed. [B.C. Reg. 390/2004, s. 33 (b).]

(3) Every reasonable precaution must be taken to protect valves of wells, whether connected to flow lines or not, against interference from unauthorized persons.

(4) Oil or gas produced from a well or facility for which the operator is responsible is not to be flared, except in amounts required because of drill stem testing, unless

(a) permission in writing has been obtained from an authorized commission employee,

(b) approval from an authorized commission employee is given orally and confirmed later in writing, or

(c) written directions from the commission are complied with.

(5) Approved gas flaring under subsection (4) must take place through a flare line in accordance with section 58 (3).

(6) If an oil spill or salt water spill occurs at any well or facility, the operator must

(a) immediately report the type, size and location of the spill to the commission by the quickest effective means if the oil or salt water spill is not confined to the site of the facility or is in excess of

(i) 100 litres in the case of oil, or

(ii) 2 cubic metres in the case of salt water,

(b) make every attempt to recover completely any oil or salt water spilled, reprocess any oil recovered, and dispose of any recovered salt water in accordance with section 94,

(c) obtain approval from an authorized commission employee before any oil spill is burned in any manner,

(d) within a period of time approved by an authorized commission employee after the spill recovery, commence a rehabilitation program and continue with that program

(i) until the spill site shows significant signs of recovery, or

(ii) as directed by an authorized commission employee, and

(e) submit a written report within 2 weeks of the date of the spill containing at least the following information:

(i) the date and time of the spill and its location;

(ii) a description of the circumstances leading to the spill;

(iii) a discussion of the spill containment and recovery procedures;

(iv) a discussion of steps to be taken to prevent future spills;

(v) an outline of the spill site rehabilitation program;

(vi) names of other persons or agencies advised concerning the spill, and names of persons on the scene of the spill.

[am. B.C. Reg. 390/2004, s. 33.]

Storage and disposal of wastes
72 (1) Before any earthen pit may be used to store liquid waste from a drilling or well servicing operation, the pit must

(a) be constructed of clay or other suitable impermeable material with the bottom of the pit above ground water level,

(b) be located or ditched so that it will not collect natural run-off water,

(c) be filled to not more than one metre below the point of overflow at any given time, and

(d) be completely emptied and all excavations filled within one month of rig release date unless otherwise approved by an authorized commission employee.

(2) Before the disposal of any liquid waste from a drilling or well servicing operation, the operator must

(a) obtain water and sludge samples as directed by an authorized commission employee,

(b) conduct a standard analysis of the samples referred to in paragraph (a) and, when requested by an authorized commission employee, a special analysis as specified by the Ministry of Water, Land and Air Protection,

(c) submit a copy of the analysis to the commission, and

(d) obtain approval from an authorized commission employee for the disposal of the fluid waste and closure of the pit.

(3) Formation water, oil, drilling fluid, waste, chemical substances or refuse from a well, tank or other facility must not be permitted to

(a) create a hazard to public health or safety,

(b) run into or contaminate any fresh water stratum or body of water or to remain in a place from which it might contaminate any fresh water or body of water,

(c) run over or damage any land, highway or public road,

(d) pass into any body of water frequented by fish or that flows into such water, nor on ice over either such waters, except that water base drilling fluids may be discharged into the ocean from offshore drilling operations, or

(e) pass into any body of water frequented by migratory waterfowl or that flows into such water, nor on ice over either such waters.

[am. B.C. Reg. 109/2002, s. 1.]

Part 8 — Production Operations

Division 1 — Oil

Daily oil allowable
73 (1) An Application for a DOA, on a form provided, must be submitted to the commission for each oil well not in a unitized operation, GEP area or project area, and the DOA must be calculated by a procedure approved by the commissioner or deputy commissioner.

(2) An interim DOA may be approved by an authorized commission employee, pending final approval of the DOA.

(3) A DOA may be amended at any time when it appears to an authorized commission employee that a factor used in the calculation of the DOA was wrongly evaluated or if additional information becomes available.

(4) Repealed. [B.C. Reg. 390/2004, s. 34 (c).]

(5) The minimum unadjusted daily oil allowable must be defined according to Schedule 3.

(6) Repealed. [B.C. Reg. 390/2004, s. 34 (c).]

(7) This regulation applies to every oil well in British Columbia, and if a unitized operation, GEP area or project area DOA is approved by an authorized commission employee, this regulation applies instead to the unitized operation, GEP area or project area as though it were a single well.

(8) If, in the opinion of an authorized commission employee, the application of this Division to a group of wells is affecting adversely or would affect adversely the recovery of oil or gas from locations other than the location included in the group, an authorized commission employee may limit the production of one or more wells in the group to the individual well daily oil allowable.

(9) An unadjusted daily oil allowable must be subject to an off-target factor as required in section 9.

(10) A DOA must be subject to a gas-oil ratio adjustment factor determined from the formulas in Schedule 2.

(11) The data used to select a gas-oil ratio adjustment factor must be data obtained for the last calendar month in which the oil well produced prior to the month for which the gas-oil ratio adjustment factor is required.

(12) For gas reinjection schemes, the gas-oil ratio adjustment factor may be applied on the basis of net gas offtakes.

(13) For Schedule 2,

(a) the separator pressure for a single well must be the average separator pressure for the month in kilopascals,

(b) if stage separation is used, the separator pressure must be that of the lowest pressure stage,

(c) for a group of wells within a unitized operation or project DOA, the separator pressure must be the average separator pressure of the group of wells weighted by volume of oil produced, or

(d) if no separator pressure is reported, 400 kPa must be used as a separator pressure.

(14) Repealed. [B.C. Reg. 390/2004, s. 34 (f).]

(15) A DOA issued prior to April 1, 1990, for an infill well drilled on less than the normal spacing area must remain in effect.

[am. B.C. Reg. 390/2004, s. 34.]

Restriction of oil production
74 (1) Initial oil production must not be taken from an oil well until a DOA or interim DOA has been established for the well, except in such amounts as may be required for evaluation purposes as approved by an authorized commission employee.

(2) The oil production in any one day must not exceed the daily production limit, unless otherwise approved by an authorized commission employee.

Test period allowable
75 (1) During the test period for an oil well, the test period allowable must be a volume of oil equal to the product of 90 days and the DOA measured in cubic metres, plus 500 cubic metres, and there must be no daily production limit or GOR adjustment factor determined under section 73 (10).

(2) Subsection (1) does not apply to a well drilled within a unitized operation, a GEP area or a project area.

[am. B.C. Reg. 390/2004, s. 35.]

Measurement of oil
76 (1) A measurement of a volume of oil required by the Act or this regulation must be computed as the number of cubic metres it would occupy at standard conditions of 15°C and 101.325 kPa.

(2) If oil volumes are measured at temperatures other than 15°C, correction to the corresponding volume at 15°C must be made through use of Table 7 of the Petroleum Measurement Tables published as the American Society of Testing Materials Designations D1250-56, American Petroleum Institute Standard 2540 and Institute of Petroleum Designation 200/52.

(3) Oil produced from a well, battery or group of wells must be accurately measured by either manual gauging or an oil meter approved by an authorized commission employee.

(4) Unless otherwise approved by an authorized commission employee, each oil meter must be installed in accordance with this section so that

(a) the meter is located upstream from a snap acting control valve that will maintain a reasonably uniform flow rate through the meter,

(b) prover taps installed are located downstream from the control valve, and

(c) the installation conforms to the following design:

(5) Unless otherwise approved by an authorized commission employee, the requirements under subsections (1) to (4) also apply to the measurement of condensate produced from a gas well.

Measurement of test oil production
77 (1) Each oil meter installed at a well or battery must be calibrated within the first 3 months of operation by a meter calibration comprising 4 consecutive runs, each within a tolerance of plus or minus 1.5% of the mean factor.

(2) Different wells must be used if possible for the 4 consecutive test runs required by subsection (1), with adequate purging time allowed for the proving system, and the wells selected must include those with the widest variation in gas-oil ratio or other producing characteristics.

(3) Following the initial meter calibration, each test oil meter must be proven in accordance with subsections (1) and (2), at least once each year after or immediately following any change or repairs to the installation which might affect the meter factor.

(4) The test meter installation calibrations may be made with a tank or other approved method or device which will provide a meter factor.

(5) A permanently legible and conspicuous tag or label on which is recorded the date of last calibration, the meter serial number and the meter factor must be attached to each meter.

Measurement of total oil production

78 (1) Each group oil meter installation in service must be calibrated within the first month of operation using a suitable proving device.

(2) Three consecutive runs must be used when proving in accordance with subsection (1), each with a tolerance of plus or minus 0.25% of the mean factor, and following a meter calibration the average meter factor must be applied to meter readings until the next meter calibration.

(3) If a consistent meter factor is unattainable, the meter must be replaced.

(4) Following the initial proving,

(a) each group oil meter must be calibrated at least every month, for which one run is sufficient if the new meter factor is within 0.5% of the previous mean factor, and

(b) if the new meter factor is not within 0.5% of the previous meter factor, the meter must be calibrated in accordance with subsection (2).

(5) A record of the calibration of the oil meter installation must be made available to an authorized commission employee on request.

Production test of oil wells

79 (1) An operator must conduct at least 2 production tests per month on each oil well whose production is delivered to a proration battery.

(2) In conducting the tests under subsection (1), the operator must measure the volumes of oil, water and gas produced, and the tests must be of a duration similar to the normal daily producing period and must be adequately spaced throughout the month.

(3) The operator must make a record of the test and, if applicable, the record must consist of the

(a) test date,

(b) duration of the test in hours,

(c) opening and closing meter readings,

(d) meter factor,

(e) percent of basic sediment and water,

(f) volumes of oil, water and gas produced during the test, and

(g) average separator pressure.

(4) To calculate the monthly estimated well production that is to be reported for each well producing to a proration battery, the operator must use the information recorded under subsection (3) and the test to test method of calculation.

(5) The operator must keep the records made under subsections (3) and (4) for one year from the date they are made and must make them available to an authorized commission employee on request.

(6) The commissioner and deputy commissioner are designated as employees of the commission who may, in relation to a particular site or installation, exempt a person from all or a part of this section and may attach conditions to the exemption.

(7) Each new or recompleted oil well must be tested initially for a period of not less than 8 consecutive hours, and a report must be submitted to the commission at the end of each calendar week during the test showing the oil production, net gas-oil ratio, water production and the density in kg/m3 of the oil.

Adjustment of oil production

80 (1) The overproduction or underproduction of each well or approved group of oil wells must be determined at the end of every month and, without notification from the commission, the subsequent production of each oil well or group of oil wells must be adjusted in accordance with this regulation.

(2) Unless exempted under section 2.1, an operator must ensure that

(a) the production target at the end of the month and the overproduction or underproduction at the beginning of the month for each producing oil well or group of oil wells for which the operator is responsible is calculated each month, and

(b) a production allowable report, on the form provided, is submitted to the commission in time to be received on or before the 16th day of the month.

(3) If the report required by subsection (2) is not received on the due date or immediately thereafter on request, an authorized commission employee may order the oil well or group of oil wells shut in until the report is received, at which time the well or group of wells may resume production, unless overproduction at the beginning of the month in which the report was due exceeded the monthly oil allowable for that month, in which case the well or group of wells must remain shut in until the total shut in period is equal to the nearest whole number of days determined by dividing the overproduction by the daily oil allowable.

[am. B.C. Reg. 390/2004, s. 36.]

Underproduction of oil
81 (1) Underproduction may be made up at any time within a production period at a rate not exceeding the daily production limit.

(2) Underproduction may not be carried forward to the following production period except under an exemption in writing granted by an authorized commission employee to the operator of the well or wells to which the underproduction pertains, and subject to any conditions specified in the exemption.

[am. B.C. Reg. 257/2003, Sch. B, s. 7.]

Overproduction of oil
82 (1) If overproduction at the beginning of any month exceeds the monthly oil allowable, adjusted for any penalties, for that month, the operator must shut in the oil well on or before the 16th day of the month, and must keep it shut in until the overproduction is completely retired.

(2) If overproduction at the end of a production period is greater than 25% of the monthly oil allowable for October, adjusted for any penalties, it must be carried forward and the operator must shut in the well on or before November 16 and must keep it shut in until the overproduction is completely retired.

(3) If an operator shuts in a well in accordance with this section, the commission must be notified in writing of the date on which the well is shut in, and the number of days calculated for the shut in period based on the daily oil allowable.

(4) If an operator fails to shut in an oil well as required by this regulation, an authorized commission employee may shut in the oil well and seal any apparatus used in connection therewith in accordance with section 103 (1).

(5) The government is not liable for any damage incurred as a result of any action taken under this section by the government or the commission.

Division 2 — Gas

Notification of initial production or potential tests
83 The commission must be notified at least 24 hours in advance of any initial production or potential test in order that the test may be witnessed by an authorized commission employee.

Gas well tests
84 (1) The absolute open flow potential of a gas well must be determined by a method approved by an authorized commission employee.

(2) Unless otherwise approved by an authorized commission employee, each gas well must be tested and the absolute open flow potential determined by the operator and approved by an authorized commission employee

(a) before 6 months have elapsed after the well has been placed on production,

(b) immediately after each workover performed on the well, and

(c) when requested by an authorized commission employee.

(3) A detailed report of any test made under this regulation must be submitted to the commission within 60 days of the date on which the test was completed.

(4) On failure to provide a detailed absolute open flow potential test report satisfactory to an authorized commission employee, as required under subsection (3), an authorized commission employee may order the well or wells in question be shut in until adequate data is obtained.

[am. B.C. Reg. 390/2004, s. 37.]

Metering and measurement of gas
85 (1) A measurement of a volume of gas required by the Act or this regulation must be computed as the number of cubic metres it would occupy at standard conditions of 101.325 kPa and 15°C.

(2) If the conditions of pressure and temperature differ from the standard conditions described under subsection (1), conversion of the volume from the conditions under which measurement is made to the standard conditions must be made in accordance with the ideal gas laws and corrected for deviation from the ideal gas laws.

(3) Correction for deviations from the ideal gas laws must be based on tables of the American Gas Association published in Gas Measurement Committee Report No. 3 or by such other method as an authorized commission employee may approve.

(4) All gas produced from a well, production facility or gas processing plant must be accurately measured with a gas meter approved by an authorized commission employee and subject to conditions specified by him or her.

(5) An authorized commission employee, under special circumstances and on receipt of an application in writing, may waive the requirement to meter the gas produced at a well, subject to the condition that the commission is supplied with acceptable estimates of the volume of the gas.

(6) If a gas metering error is apparent, the meter must be corrected immediately and a report of the corrected production for the period during which the meter measured incorrectly must be submitted.

(7) When gas is produced from a well, production facility or gas processing plant,

(a) the meter must be maintained in good operating condition,

(b) the meter must be suitably safeguarded from weather and from interference by unauthorized persons,

(c) if there is a bypass around a meter, valves must be installed that, when closed, will effectively stop all flow of gas through the bypass, and

(d) if a bypass around a meter is opened or if, for any other reason, the full gas stream does not reach the meter, a suitable entry on the meter chart must be made.

(8) If the volume of gas at a well, production facility or gas processing plant requires correction for flowing temperature and there is no continuous recording of gas flow temperature, each meter

run must be equipped with a thermometer well, and the temperature of the gas stream must be taken and recorded on the chart at least once per week.

(9) A reasonable estimate of all unmetered gas production from a well, production facility or gas processing plant must be included in the gas volume computation for the period covered by a chart, meter, index counter or data printout.

Orifice meters

86 (1) If an orifice meter is used to measure gas production, the meter must be equipped with a chart record and the meter must be installed in accordance with the provisions of the code of the American Gas Association, published as Gas Measurement Committee Report No. 3.

(2) Unless otherwise directed by an authorized commission employee, either a circular chart drive, not slower than 7 days per cycle, or a suitable strip chart must be used for the measurement of gas production.

(3) A 24-hour chart drive must be used to measure the gas produced at an oil well, unless an application is made for a slower clock drive and is approved by an authorized commission employee.

(4) If an orifice meter is used, the installation must be so arranged as to permit ready inspection of the orifice plate by an authorized commission employee, and the following data must be recorded on the chart:

(a) identification of the gas stream being metered;

(b) the size of the orifice plate in use;

(c) the size of the meter tube;

(d) pertinent details of any orifice plate changes;

(e) the time and the date of start and finish of the record;

(f) the flowing gas temperature.

(5) The measured inside diameter of each orifice meter tube in millimetres to 2 decimal places must be marked on the tube or flange.

(6) The bore in millimetres to 2 decimal figures must be stamped on each orifice plate.

(7) Unless otherwise required by an authorized commission employee, the computation period for the gas volumes measured must be for the period of the chart rotation, but for gas wells the maximum daily production in each month must also be calculated.

(8) All gas volumes must be computed in accordance with the code of the American Gas Association, published as Gas Measurement Committee Report No. 3, using all the factors in the following gas flow formula taken from the report:

$$Q = [Fb \cdot Fr \cdot Y \cdot Fpb \cdot Ftb \cdot Ftf \cdot Fg \cdot Fpv \cdot fm \cdot (hw \cdot Pf)\ 1/2] \cdot \text{Operating Hours}$$

(9) If gas is produced with oil, the factors Fr and Y under subsection (8) need not be used in calculating gas volumes if the difference in the result would not exceed 2%.

(10) The density factor used to compute the gas production of a well or group of wells must be determined from annual measurements of gas density.

(11) On application, an authorized commission employee may, if special circumstances warrant, waive the requirement for a chart record on an integrating orifice meter.

(12) If chart recordings are used, charts must be retained by the operator for a period of one year.

Restriction of gas production

87 (0.1) An operator must ensure that the requirements of this section are met in relation to a gas well for which the operator is responsible.

(1) Gas wells, other than those listed in section 88 (1) (a) to (e), do not require a DGA application and are not production restricted.

(2) Production must not be taken from gas wells listed in section 88 (1) (a) to (e) until a DGA or interim DGA has been approved for each well, except in amounts, if any, that are required for initial production tests or initial evaluation tests.

(3) The gas production in any one day must not exceed the daily production limit except in accordance with an exemption under section 2.1.

(4) Repealed. [B.C. Reg. 390/2004, s. 38 (c).]

(5) If a DGA has been assigned in accordance with section 88 (1), the gas production for the period November 1 to October 31 must not exceed the daily gas allowable multiplied by the number of days in the period, or multiplied by the number of days from the date of initial production to the end of the period.

(6) Production must not be taken from a gas well which is deemed by an authorized commission employee to be in a gas cap except in accordance with an exemption under section 2.1.

[am. B.C. Reg. 390/2004, s. 38.]

Daily gas allowable

88 (1) An application for a DGA, on a form provided, must be submitted to the commission and the DGA must be calculated by a procedure approved by the commissioner or deputy commissioner for wells that are determined by an authorized commission employee to be

(a) completed off-target if correlative rights are an issue,

(b) producing under a concurrent production scheme,

(c) producing from a retrograde condensate reservoir,

(d) producing from a pool with suspected water drive, or

(e) any category if conservation is at issue.

(2) An interim DGA may be approved by an authorized commission employee pending final approval of the DGA.

(3) A DGA may be amended at any time when it appears to an authorized commission employee that a factor used in the calculation of the DGA was wrongly evaluated or if additional information becomes available.

(4) and (5) Repealed. [B.C. Reg. 390/2004, s. 39 (b).]

(6) If a unitized operation, GEP area or project area DGA is approved by an authorized commission employee, this regulation applies instead to the unitized operation, GEP area or project area as though each were a single well.

(7) If, in the opinion of the commissioner or deputy commissioner, the application of this section to a unitized operation, GEP area or project area is affecting adversely or would affect adversely the recovery of gas from locations other than the locations included in the unitized operation, GEP area or project area, he or she may limit the production of one or more wells in the unitized operation, GEP area or project area to the individual well daily gas allowable.

(8) An unadjusted daily gas allowable will be subject to an off-target factor as specified in section 10.

(9) Repealed. [B.C. Reg. 390/2004, s. 39 (b).]

(10) A well may be released from an allowable category in subsection (1) if, after a review of evidence submitted by the operator, the commissioner or deputy commissioner approves the release.

[am. B.C. Reg. 390/2004, s. 39.]

Overproduction of gas

89 (1) The accumulated overproduction for the period November 1 to October 31 must be determined by the operator for each gas well or group of wells and, during the subsequent 3 months, without notification from the commission, the production rate must be adjusted so that all accumulated overproduction is retired by January 31.

(2) A report, on the form provided, of any accumulated overproduction for the period November 1 to October 31 must be submitted to the commission in time for it to be received on or before December 16 for each gas well, unit, GEP area or project.

(3) If overproduction is not corrected in accordance with subsection (1), an authorized commission employee may give instructions for the well to be shut in for a period determined by him or her.

[am. B.C. Reg. 390/2004, s. 40.]

Gas well stream analyses

90 (1) At least once a year during the first 2 years of production and at other times requested by an authorized commission employee, samples must be taken and analyzed, and tests conducted and measurements made in a manner specified by or acceptable to an authorized commission

employee to determine the nature and the proportion of the constituents of the fluids, except water, being produced by a gas well.

(2) Within 60 days of the completion of the sampling and testing, a report of the results, which must include analyses of the liquids and gas produced by the well and a statement of the proportions in which the liquids and gas were produced, must be submitted to the commission.

(3) The report under subsection (2) must show the results of the tests and the analyses expressed in a form and units acceptable to an authorized commission employee.

(4) The commission must be notified at least 24 hours in advance of the date and time at which the test under subsection (1) will be carried out.

Division 3 — Water

Measurement of water production
91 (1) A measurement of water required by the Act or this regulation must be computed as a number of cubic metres and must be made by measuring equipment considered adequate by an authorized commission employee for the conditions of service.

(2) If a water meter is used to determine water production, the meter must be

(a) calibrated within the first 3 months of operation,

(b) calibrated immediately following any repairs to the meter or at the end of a one year period since the last calibration, or

(c) recalibrated on request by an authorized commission employee.

(3) A permanently legible and conspicuous tag or label on which is recorded the date of last calibration, the meter serial number and the meter factor must be attached to each meter.

(4) A calibration or recalibration required by subsection (2) must be made in the shop or field against a prover tank, check meter or other approved device and with a minimum of 4 consecutive runs each within a tolerance of plus or minus 1.5% of the mean factor.

(5) Unless otherwise approved by an authorized commission employee, each meter used to measure water production or injection must be installed in accordance with section 76 (4).

(6) An authorized commission employee, under special circumstances and on an application in writing, may waive the requirement to continuously measure water produced from or injected into a well, subject to the condition that the operator must supply to the commission satisfactory estimates for the volumes of water.

Water produced at oil wells
92 (1) If the water production from an oil well is 100 m3/1 000 m3 or more of the total liquid production and no test treater facilities are available, the water content of the oil may be determined by

(a) continuous proportional sampling of the produced liquids and accurate analysis of the sample, or

(b) an approved product analyzer.

(2) If the water production from an oil well is less than 100 m3/1 000 m3 of the total liquid production and no test treater facilities are available, the water content of the oil may be determined by centrifuging 2 samples taken at well-spaced intervals during each test and averaging the results or by methods described in subsection (1).

(3) If the total water production at an oil well or battery exceeds 50 m3 per month and the water cut is in excess of 5 m3/1 000 m3 of the total liquid production, the water must be separated from the oil and accurately gauged or metered at the well, battery or at a central treating facility.

(4) If the total water production from a multi-well battery is less than 50 m3 per month, the water production may be determined by totalling the calculated water production for each well based on its individual test rate as determined in accordance with section 91 (1).

(5) If the total water production from an oil well not grouped with others in a battery is less than 50 m3 per month, the water production may be determined by centrifuging 3-spot or proportional samples taken at well spaced intervals during the month and averaging the results.

(6) If a proportional sampler is used to determine water production,

(a) a representative sample must be obtained, and

(b) the percentage water content must be determined by an accurate analysis of the fluid sample according to the American Society of Testing Materials Procedure.

(7) If a product analyzer is used to determine water production, it must be maintained in accurate calibration.

Water produced at gas wells
93 (1) Water production that is separated at a gas well or central facility must be measured by a means approved by an authorized commission employee.

(2) Water production from each gas well must be measured monthly or as otherwise approved by an authorized commission employee.

Disposal of water production
94 (1) All water produced at a facility or well must be disposed of

(a) to an underground formation in accordance with a scheme approved under section 100 (1) (d) of the Act, or

(b) by a method acceptable to an authorized commission employee.

(2) Earthen pits may be used to contain produced salt water on an emergency basis in areas approved by an authorized commission employee, provided such earthen pits are limited to one for each well, production facility or gas processing plant, are no larger than 600 square metres in area and are constructed and maintained in a condition acceptable to an authorized commission employee.

(3) The contents of each earthen pit must be disposed of in accordance with subsection (1) within 48 hours after an emergency requiring the use of the pit has occurred, unless otherwise approved by an authorized commission employee.

(4) Repealed. [B.C. Reg. 257/2003, Sch. B, s. 8 (b).]

(5) If water is disposed of to an underground formation, a Monthly Injection/Disposal Statement, on the form provided, must be submitted to the commission not later than 25 days after the end of the month reported.

[am. B.C. Reg. 257/2003, Sch. B, s. 8.]

Division 4 — Pressure and Injection Measurement

Static bottom hole pressure measurements
95 (1) The static bottom hole pressure of each completed zone of each oil or gas well must be measured before initial oil or gas production.

(2) The static bottom hole pressure of each producing pool must be measured annually after initial measurement, unless otherwise approved by an authorized commission employee.

(3) All static bottom hole pressures and the duration of the shut-in period thereof must be reported to the commission within 60 days after the date on which the pressures were measured.

(4) When static bottom hole pressures are measured, the surveyed wells must remain shut-in until the reservoir pressure has been attained in the well bore or until sufficient data are available to permit the calculation of the reservoir pressure and, in the latter case, details of the reservoir pressure calculations must be included in the report required under subsection (3).

(5) The method of measuring the static bottom hole pressure must be approved by an authorized commission employee.

(6) On failure to provide adequate static bottom hole pressure data, an authorized commission employee may order that the well or wells in question be shut-in until such time as adequate pressure data is obtained.

(7) If an authorized commission employee considers it appropriate in the circumstances of a particular case or for wells in a scheme approved under section 100 (1) of the Act, he or she may grant to an operator a written exemption from subsection (1) of this section, subject to any conditions specified in the exemption.

[am. B.C. Regs. 257/2003, Sch. B, s. 9; 390/2004, s. 41.]

Section Repealed
96 Repealed. [B.C. Reg. 390/2004, s. 42.]

Measurement of fluids injected
97 (1) When water, gas, air or any other fluid is injected through a well to an underground formation, it must be continuously measured by a method acceptable to an authorized commission employee.

(2) If the measurement of injected water is required by an authorized commission employee, water meters must all be calibrated in accordance with section 91 (2) and tagged in accordance with section 91 (3).

(3) Annual tests must be conducted by a method approved by an authorized commission employee to confirm that segregation is maintained between the injected fluid and the annulus at all fluid injection and disposal wells, and the commission must be notified at least 3 days in advance of any segregation test at a fluid injection or disposal well.

Division 5 — Production Facilities

Section Repealed
98 Repealed. [B.C. Reg. 390/2004, s. 42.]

Signs for facilities
99 (1) Unless approved by an authorized commission employee, a permanently legible and conspicuous sign must be displayed and maintained at each production facility and gas processing plant showing

(a) the name of the operator,

(b) the name and legal description of the site,

(c) an appropriate warning symbol from Schedule 4 of this regulation, and

(d) any other information specified by an authorized commission employee.

(2) If a facility handles gas containing 0.1 moles per kilomole or greater of hydrogen sulphide, a poisonous gas symbol from Schedule 4 must be displayed.

(3) No operator may post warning symbols where no hazard exists.

Production facilities
100 (1) Major construction or modification at a production facility must not be made until an Application for Production Facility or an Application for a Well or Facility to Facility Linkage has been submitted and approved by an authorized commission employee, subject to whatever conditions he or she considers necessary.

(2) Operation of a production facility or a gas processing plant after construction or modification must not commence until the operator has given written notice to an authorized commission employee.

(3) The operator must keep a detailed flow diagram of the production facility at the facility or the field office at all times.

(4) The measurement capabilities of a production facility must be sufficient to determine, to the satisfaction of an authorized commission employee, the actual production of each product from each zone of each well.

[am. B.C. Regs. 168/99; 390/2004, s. 43.]

Division 6 — Projects and Unitized Operations

Good engineering practice
101 (1) On application from an owner or owners, an authorized commission employee may approve the operation of a well or group of wells in a specified area under GEP if

(a) the applicant has demonstrated to the satisfaction of an authorized commission employee that reduction in ultimate recovery will not result from the proposed scheme,

(b) letters from owners of spacing areas within the area of the proposed scheme, indicating their reaction to the proposed scheme, have been filed with the commission,

(c) a sufficient level of technical information has been filed in accordance with guidelines specified by the commission, and

(d) other information considered appropriate by an authorized commission employee has been filed.

(2) On approval of a scheme under subsection (1), an authorized commission employee may

(a) establish or remove a daily oil or gas allowable or oil and gas allowable for the GEP area, subject to section 73 (8) or 88 (7), and

(b) grant to the owner or owners referred to in subsection (1) an exemption in writing from the application of sections 9 and 10, subject to any conditions that the authorized commission employee considers prudent or necessary.

[am. B.C. Reg. 390/2004, s. 44.]

Part 9 — Notification and Compliance

Change in holder of approval
102 If, with respect to

(a) the holder of an approval for a GEP, project, production facility or plant given under the Act or this regulation, or

(b) an operator of a unitized operation,

the name of the holder or operator is changed or ownership is transferred from the holder or operator to another person, the commission must be notified, in writing, within 60 days of the change or transfer and the notification must be accompanied by satisfactory proof of execution of the name change or ownership transfer.

Seals
103 (1) An authorized commission employee, whenever he or she considers it necessary to do so, may seal or cause to be sealed with a metallic seal any or all valves or meters installed at a well or on any pipeline, tank or other receptacle used for the storage or transportation of oil or other fluid produced or withdrawn from the well, and may remove or authorize the removal of such seals.

(2) An authorized commission employee must notify the operator in writing of the affixing of the seal and the reasons therefor.

(3) Unauthorized persons must not be permitted to remove or tamper with any seal so affixed.

(4) Any seal so affixed may be removed without authority in writing from an authorized commission employee only in case of emergency, and in such a case the commission must be notified without delay.

Compliance with this regulation
104 (1) A person must not do or omit to do anything, or cause or allow anything to be done or omitted, in contravention of or not in accordance with this regulation.

(2) If an authorized commission employee is authorized to issue an order under this regulation, the person to whom the order is issued or request made must comply with the order or request.

Section Repealed
105 Repealed. [B.C. Reg. 390/2004, s. 45.]

Schedule 1

[en. B.C. Reg. 393/98.]

Determination of Emergency Planning Zone Radius

Schedule 2

[en. B.C. Reg. 393/98.; am. B.C. Reg. 390/2004, s. 46]

Gas-oil Ratio Adjustment Factor

Unless otherwise approved by the commission, the gas-oil ratio adjustment factor must be the lesser of 1.00 and the calculated gas-oil ratio adjustment factor as determined in the equation:

$$FGOR = \frac{C}{GOR + 0.0257 \times S}$$

Where FGOR = Gas-oil ratio adjustment factor calculated to the nearest 2 decimals.
C = Constant, 177.3
GOR = Net calculated gas-oil ratio (m3/m3)
S = Average separator pressure (kPa)

Schedule 3

[en. B.C. Reg. 393/98; am. B.C. Reg. 390/2004, s. 47.]

Schedule of Minimum Unadjusted Oil Allowables

Depth* (Metres)	Minimum Oil Allowable (Cubic Metres per Day)
0-2 000	10
Greater than 2 000	10 plus 1.0 m3 per day per 100 metres of depth

* "Depth" means the true vertical depth at the bottom of the producing zone in a well.

Schedule 4

[en. B.C. Reg. 393/98.]

Note: this regulation replaces B.C. Reg. 336/91.

[Provisions of the Petroleum and Natural Gas Act, R.S.B.C. 1996, c. 361, relevant to the enactment of this regulation: section 96]
