



Province of Alberta

OIL SANDS CONSERVATION ACT

OIL SANDS CONSERVATION RULES

Alberta Regulation 76/1988

With amendments up to and including Alberta Regulation 51/2021

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(Consolidated up to 51/2021)

ALBERTA REGULATION 76/88

Oil Sands Conservation Act

OIL SANDS CONSERVATION RULES

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Part 1 Interpretation

Interpretation

1(1) Repealed AR 226/2000 s2.

(2) In these Rules,

(a) repealed AR 115/2011;

(a.1) “abandonment” means the permanent dismantlement of a mining operation, an in situ operation, a mine site, an in situ operation site or a processing plant and includes any measures required to ensure that the mining operation, in situ operation, mine site, in situ operation site or processing plant is left in a permanently safe and secure condition;

(a.2) “asphaltene” means a material that is present in bitumen and that is insoluble in n-heptane or other alkanes but is soluble in toluene or other aromatic solvents;

(a.3) “calendar year” means the period commencing on January 1 and ending on the next December 31;

(b) “central processing facility” means a battery system or arrangement of tanks or other surface equipment receiving the effluent of 1 or more wells or a satellite prior to delivery to market or other disposition, and may include equipment or devices for separating the effluents into crude bitumen, gas or water, for the injection and distribution of air, steam, gas, hydrocarbon or other materials, for water treatment and recycling, and for measurement, but does not include a processing plant;

(c) “commercial scheme” means a scheme or operation approved by the Regulator other than an experimental scheme;

(d) “crude bitumen” means a naturally occurring viscous mixture, mainly of hydrocarbons heavier than pentane, that may contain sulphur compounds and that, in its naturally occurring viscous state, will not flow to a well and, for the purposes of these Rules, includes declared oil sands;

- (d.01) repealed AR 119/2016 s2;
- (d.02) “Directive 060” means “Directive 060: Upstream Petroleum Industry Flaring, Incinerating and Venting” as published by the Regulator and amended from time to time;
 - (d.1) repealed AR 119/2016 s2;
 - (d.11) “Directive 081” means Directive 081: Water Disposal Limits and Reporting Requirements for Thermal In Situ Oil Sands Schemes, published by the Regulator and as amended from time to time;
 - (d.12) “Directive 082” means Directive 082 Operating Criteria: Resource Recovery Requirements for Oil Sands Mine and Processing Plant Operations as published by the Regulator and as amended from time to time;
 - (d.13) “Directive 084” means Directive 084: Requirements for Hydrocarbon Emission Controls and Gas Conservation in the Peace River Area;
 - (d.14) “Directive 085” means Directive 085: Fluid Tailings Management for Oil Sands Mining Projects as published by the Regulator and as amended from time to time;
 - (d.15) “Directive 087” means Directive 087: Well Integrity Management;
- (d.2) “emergency” means a present or imminent event, outside the scope of normal operations, that requires prompt co-ordination of resources to protect the health, safety or welfare of people or to limit damage to property and the environment;
- (e) - (h) repealed AR 226/2000 s2;
 - (i) “evaluation well” means a well that when being drilled is expected by the Regulator to penetrate an oil sands deposit and is drilled for the purpose of evaluating that deposit;
 - (j) repealed AR 226/2000 s2;
 - (k) “experimental well” means a well drilled or being drilled or operated pursuant to an experimental scheme approved by the Regulator;
 - (k.1) “fines” means mineral solids having particles of 44 micrometres or less in size as measured by

- sieve-hydrometer analysis or another method approved by the Regulator;
- (k.2) “gas” means raw gas, marketable gas or any constituent of raw gas, condensate, crude bitumen or crude oil that is recovered in processing and that is gaseous at the conditions under which its volume is measured or estimated;
- (l) “in-place volume” means the gross volume of crude bitumen;
- (m), (n) repealed AR 226/2000 s2;
- (o) “liquid spill” means any crude bitumen, oil sands product, condensate, salt water or contaminated water that
- (i) is spilled off an oil sands site,
 - (ii) is released into a stream or river or a body of water other than an approved storage site or tailings pond, or
 - (iii) is in excess of 2 cubic metres if released on an oil sands site,
- but does not include a discharge approved under any Act, rule or regulation;
- (o.1) “marketable gas” means a mixture composed mainly of methane originating from raw gas, if necessary through the processing of the raw gas for the removal or partial removal of some constituents, and that meets specifications for use as a domestic, commercial or industrial fuel or as an industrial raw material;
- (p) “mine site” means an area within which mining operations are being conducted or that is the subject of an approval under the Act for a mining operation, and includes a stockpile area, a discard site and any area within which facilities or equipment used in connection with a mining operation are located;
- (q) - (u) repealed AR 226/2000 s2;
- (u.1) “oil sands strata” means the geological intervals defined in the Regulator’s Oil Sands Area Orders OSA 1, 2 and 3, as amended from time to time;
- (v) “operator” means the holder of an approval under the Act;

- (w) “primary production well” means a well drilled, being drilled or operated to produce crude bitumen that will flow to a well;
 - (x) repealed AR 133/2011 s2;
 - (y) “processing plant site” means an area within which a processing plant is located or that is the subject of an approval under this Act for a processing plant and includes any area within which facilities or equipment used in connection with a processing plant are located;
 - (z) “satellite” means a facility located some distance from a central processing facility used to gather production effluent and distribute air, steam, gas hydrocarbon or other material from or to a cluster of wells or a well pad, through a manifold system that contains all the necessary valves, meters, headers and sample connections and includes well test facilities to isolate and measure the production rates of individual wells;
 - (z.1) “solution gas” means gas that is dissolved in crude oil or crude bitumen under reservoir conditions and evolves as a result of pressure and temperature changes.
 - (z.2) “tailings” means a by-product of the bitumen extraction process including water and sands, fines or residual bitumen or other hydrocarbons or any combination of those things.
- (aa), (bb) repealed AR 226/2000 s2.

(3) A decision of the Regulator is final as to whether any substance or mixture comes within a definition in subsection (2) or as to whether a definition in subsection (2) is applicable in a particular case.

(4) Any reference in these Rules to a form is a reference to that form as provided by the Regulator.

AR 76/88 s1;48/99;226/2000;93/2009;115/2011;133/2011;
217/2012;66/2013;76/2013;89/2013;119/2016;
29/2017;51/2021

Exemption - agents

1.1(1) In this section,

- (a) “mutual recognition agreement” means a valid and subsisting agreement made between the Regulator and a regulatory body for the purpose of recognizing substantial regulatory equivalency and enabling reciprocity between Alberta and another jurisdiction;

- (b) “regulatory body” means an entity having lawful authority respecting the regulation of oil sands mines and related facilities in a jurisdiction other than Alberta.

(2) An individual or a corporation or other organization is exempt from the requirement to appoint an agent under section 16(1) of the Act if, and for so long as, the individual, corporation or organization

- (a) is resident of a jurisdiction and subject to the authority of a regulatory body that is a party to a mutual recognition agreement with the Regulator,
- (b) is in compliance with all applicable legislation, rules and regulations and all applicable directives, orders and directions of the Regulator and the regulatory body referred to in clause (a),
- (c) owes no debt to the Regulator,
- (d) does not, in Alberta or elsewhere, operate an oil sands mine or a related facility in a manner that, in the opinion of the Regulator, is unsafe or presents a serious threat to public safety or the environment,
- (e) agrees to attorn to the jurisdiction of Alberta with respect to all matters, obligations and liabilities pertaining to its oil sands approvals in Alberta, and
- (f) meets any other condition imposed by the Regulator for the purpose of exemption from the requirement to appoint an agent.

(3) For greater certainty, nothing in this section requires the Regulator to enter into a mutual recognition agreement if the other jurisdiction fails to prove to the satisfaction of the Regulator that substantial regulatory equivalency exists between Alberta and the other jurisdiction.

AR 83/2009 s2;115/2011;89/2013

Part 2 General

Applications

2 An application made under section 10, 11 or 13 of the Act shall include where applicable those requirements set out in the directives published by the Regulator regarding those applications.

AR 76/88 s2;251/2001;218/2010;133/2011;89/2013

Regulator approvals required

- 3(1)** No operator shall commence, suspend or abandon an oil sands site, an experimental scheme, an in situ operation, a mining operation or a processing plant or any part thereof until the Regulator has granted approval to do so.
- (2)** No operator shall commence any substantial modification of an oil sands site, an experimental scheme, an in situ operation, a mining operation or a processing plant until the Regulator has granted approval to do so.
- (3)** No person shall produce gas from a well completed in the oil sands strata prior to obtaining an approval from the Regulator, unless the Regulator has exempted the well from the application of this subsection.
- (4)** An application to produce gas in accordance with subsection (3) must be made by the well licensee and include the documentation required by the Regulator.
- (5)** Where it appears to the Regulator that the ultimate recovery of crude bitumen in the oil sands strata may be affected by gas production, the Regulator may, on its own initiative or on application by an affected party, make any order or directive it considers necessary to effect the conservation of the crude bitumen in any particular case.
- (6)** Subsections (3), (4) and (5) do not apply to the production of solution gas.

AR 76/88 s3:48/99;115/2011;89/2013

Licensing, drilling, etc. of wells

- 4(1)** Prior to drilling a well or undertaking any operations preparatory or incidental to the drilling of a well, except for the surveying of the proposed well site or continuing any drilling operations, an operator of an oil sands site shall apply for and obtain a licence for
- (a) evaluation wells, subject to subsection (5),
 - (b) experimental wells,
 - (c) wells associated with an in situ operation,
 - (d) any water supply well of a depth of more than 150 metres, and
 - (e) primary production wells,

in accordance with the requirements of Parts 2 and 13 of the *Oil and Gas Conservation Rules* (AR 151/71).

(2) Any operations incidental to the drilling of a well or continuing any drilling operations, servicing operations, producing operations or injection operations for a well referred to in subsection (1) shall be carried out in accordance with the requirements of Parts 3, 6, 8 and 11 of the *Oil and Gas Conservation Rules* (AR 151/71).

(3) The licensee of a well shall apply for and obtain the approval of the Regulator before suspending normal drilling operations, abandoning the well, plugging back or abandoning a formation in the well, removing casing from the well or resuming drilling operations after a previous suspension or abandonment of the well in accordance with Part 3 of the *Oil and Gas Conservation Rules* (AR 151/71).

(4) A member or authorized employee of the Regulator may first give orally an approval required under subsection (3).

(5) An operator drilling oil sands evaluation wells within an approved mine site is exempt from the requirements of subsection (1) and Parts 2, 3, 6, 8 and section 11.020 of the *Oil and Gas Conservation Rules* (AR 151/71).

(6) Notwithstanding subsection (5), if there is any indication that gas may be encountered during drilling of any oil sands evaluation well within an approved mine site, the Regulator may require that conductor pipe and a diverter system be utilized.

(7) Notwithstanding subsection (5), when directed by the Regulator, an operator of an approved mine site shall submit all well data, analyses, tests, surveys and logs in accordance with Part 11 of the *Oil and Gas Conservation Rules* (AR 151/71).

AR 76/88 s4;226/2000;89/2013

Operations governed by regulation

5 Drilling, completion, servicing and production operations shall be in accordance with Parts 6, 7 and 8 of the *Oil and Gas Conservation Rules* (AR 151/71).

AR 76/88 s5;89/2013

Pollution control and safety

6 Unless the Regulator otherwise approves, the operator of an oil sands site producing gas with a hydrogen sulphide content of greater than 10 moles per kilomole, or any lower hydrogen sulphide content that the Regulator may by order stipulate, shall burn the gas using an incinerator approved by the Regulator or through a flare line that terminates with a vertical riser of at least

12 metres, or such greater height as the Regulator considers necessary and is provided with a suitable guard to prevent wind from extinguishing the flame, a suitable pilot and an ignition device to ensure continuous ignition, if

- (a) a flare line is installed for routine flaring or burning of gas during normal operations,
- (b) a pressure relief valve, rupture disk or burst plate is installed on a separator or other pressure vessel, or
- (c) gas is discharged during any test, cleaning or servicing operation.

AR 76/88 s6;89/2013

Precautions re hydrogen sulphide gas

7(1) The operator of an oil sands site handling gas with a hydrogen sulphide content that exceeds 10 moles per kilomole, or any lower hydrogen sulphide content that the Regulator may by order stipulate,

- (a) shall erect signs, as specified by the Regulator, at the entrance to the site warning of the presence of poisonous gas, and
- (b) shall not discharge or permit to be discharged to the atmosphere stock tank vapours or any other gas produced from the well, other than steam vapours from an open tank, unless they are burned so that essentially all sulphur compounds are converted to sulphur dioxide, ensuring that the average concentration of hydrogen sulphide and sulphur dioxide in the ambient air does not exceed the maximum permissible concentrations as determined by the Department of Environment and Sustainable Resource Development.

(2) Gas discharged pursuant to subsection (1)(b) shall be burned in accordance with section 6.

(3) The Regulator, on application, may exempt an operation from any provision of this section where, in the opinion of the Regulator, the nature of the production, remoteness of the area or other circumstances warrant the exemption.

AR 76/88 s7;226/2000;115/2011;31/2012;170/2012;89/2013

Emergency response plan

8 The operator of an oil sands site shall, when requested to do so by the Regulator, file with the Regulator an emergency response plan that will be followed

- (a) when handling gas with a hydrogen sulphide content greater than 10 moles per kilomole, or any lower hydrogen sulphide content that the Regulator may by order stipulate,
- (b) in the event of an uncontrolled emission of contaminants to the air, water or land, or
- (c) in the event of a fire.

AR 76/88 s8;115/2011;89/2013

Prevention of losses, injuries, etc.

9 An operator shall prevent loss, injury, damage and fire at an oil sands site in accordance with the requirements of Part 8 of the *Oil and Gas Conservation Rules* (AR 151/71).

AR 76/88 s9;89/2013

Burning of gas or waste

10(1) No operator of an oil sands site shall cause or permit the burning of crude bitumen, gas, oily waste or discard or other material unless he has obtained written approval from the Regulator or its authorized representative.

(2) Notwithstanding subsection (1), effluent may be burned under emergency conditions, if the burning is immediately reported to the Regulator.

AR 76/88 s10;89/2013

Waste

11 An operator of an oil sands site shall not vent, flare or waste any significant amount of gaseous or liquid hydrocarbon except in cases of emergency, unless otherwise authorized in writing by the Regulator.

AR 76/88 s11;89/2013

Flaring, incinerating and venting of gas

11.1 In the case of any flaring, incineration or venting of gas, and in addition to any provision provided for in these Rules, an operator of an in situ operation site shall comply with Directive 060 and Directive 084, as applicable.

AR 76/2013 s3;159/2013;29/2017

12 Repealed AR 226/2000 s5.

Report of spill, fire or damage

13(1) An operator shall report to the Regulator by the quickest effective means

- (a) any liquid spill,
- (b) any break or leak in a vessel or gathering line or other equipment that occurs at an oil sands site where the loss exceeds 2 cubic metres of liquid hydrocarbon or 30 000 cubic metres of gas or gas equivalent or where significant damage to equipment occurs, and
- (c) any fire that occurs at an oil sands site, including the sulphur storage block or handling facility, that requires or results in the deployment of major fire-fighting equipment and resources,

and when so directed by the Regulator shall further report, by letter, within 2 weeks of the Regulator's direction.

(2) Each report under subsection (1) shall specify the quantity of liquids, gas, gas equivalent or sulphur lost and the location of the equipment affected and shall include the following information:

- (a) the time the event occurred;
- (b) a description of circumstances leading to the event, including a contact person;
- (c) a discussion of actions taken in response to the event;
- (d) an outline and schedule for spill-site or fire-site rehabilitation and repair of affected equipment;
- (e) any further particulars the Regulator may require.

AR 76/88 s13;115/2011;89/2013

Other records and reports

14 An operator of an oil sands site shall keep any other records and file with the Regulator any other reports that the Regulator may, by order, require.

AR 76/88 s14;89/2013

Release of information

15(1) Subject to subsection (2), the Regulator, at any time, shall make available to the public from records, reports or information submitted to or acquired by it,

- (a) any application or submission of an applicant or intervener in any proceedings before the Regulator pursuant to the Act or these Rules and to which the Regulator's rules of practice apply, whether or not the proceeding goes to a hearing or is otherwise disposed of, and any record, report or information of an applicant or intervener filed by him in connection with the proceedings,
- (b) monthly totals of crude bitumen, gas or water production from a well other than an experimental well,
- (c) the monthly totals of each type of fluid injected into any injection well other than an experimental well,
- (d) monthly totals of oil sands, crude bitumen, oil sands products, marketable gas and the condensate received at a processing plant, and the monthly totals of oil sands products derived, stored and delivered from a processing plant,
- (e) monthly totals of sulphur produced, flared or wasted from a processing plant,
- (f) monthly totals of external energy purchased or generated at a processing plant,
- (g) the emergency response plan at an oil sands site,
- (h) the fluid tailings volume profiles, fluid tailings management plans and fluid tailings management reports submitted to the Regulator,
- (i) any information provided by an operator to the Regulator as part of an application,
- (j) any monitoring data that is provided by an operator to the Regulator in accordance with Directive 085, and
- (k) any report or study that is provided by an operator to the Regulator in accordance with a term or condition of an approval or Directive 085.

(2) Notwithstanding subsection (1), where operations reports, special studies, laboratory, experimental or cost information relating to an oil sands commercial or experimental scheme concerning the development or application of a new or existing technology or improved operations are submitted to and accepted by the Regulator as confidential, the Regulator shall,

- (a) after 10 years or such lesser period of time as the Regulator directs from the completion of the experimental operation or specified phase thereof, make the laboratory or experimental information available to the public,
 - (b) after 10 years or such lesser period of time as the Regulator directs from the submission of a laboratory report or a report of a special study or cost information from an oil sands commercial scheme to the Regulator, make the report available to the public, and
 - (c) notwithstanding clauses (a) and (b), where the operator satisfies the Regulator that continued confidentiality is warranted, make the information available following a further period that the Regulator considers appropriate.
- (3)** Notwithstanding subsection (2), the Regulator may make the information referred to in that subsection available to the public
- (a) if, in the opinion of the Regulator, failure to release the information would
 - (i) severely prejudice the position of the Regulator in making decisions in future proceedings, or
 - (ii) seriously affect conservation in Alberta,after 1 year from commencement of a commercial operation in Alberta in which the information is applied,
 - (b) if, in the opinion of the Regulator, an interest in a tract in Alberta on which the research was conducted or to which the information would be applicable is no longer owned by
 - (i) the person who submitted the information, or
 - (ii) the person to whom he has sold or assigned the tract together with the exclusive right to the information or its application,after 1 year from the date on which the person's interest in all the tracts terminated, or
 - (c) if the person by whom it was submitted consents in writing to the release of the information.
- (4)** Before making the information referred to in subsection (3)(a) and (b) available to the public, the Regulator shall provide the person who submitted it or the person to whom he has sold or assigned the tract together with the exclusive right to the

information or its application with the opportunity to justify continued confidentiality.

(5) The Regulator shall make available to the public from records, reports or information submitted to or acquired by it for any well the surface and bottom hole locations, elevation, current depth, drilling status or casing and cementing data, any log, dipmeter survey, drill stem test data, wire line formation test data, pressure, temperature and flow test data, completion details, crude bitumen, gas or water analysis data or sample cuttings, but in the case of an experimental well the Regulator may make the data available in accordance with subsection (6), and, in the case of an oil sands evaluation well, in accordance with subsection (7).

(6) Notwithstanding any provision of this section regarding experimental wells, the Regulator, after 1 year from the finished drilling date or the start of substantially uninterrupted suspension of drilling operations at an experimental well, shall make available to the public, from records, reports or information submitted to or acquired by it, data other than completion details or data which, in its opinion, were secured for the purpose of evaluating the performance of an experimental scheme, in which case the data may be released in accordance with subsection (2).

(7) The Regulator, after 1 year from the finished drilling date or the start of substantially uninterrupted suspension of drilling operations at an oil sands evaluation well, shall make available to the public, from records, reports or information submitted to or acquired by it, any log, dipmeter survey, drill stem test data, wireline formation test data, pressure, temperature and flow test data, crude bitumen, declared oil sands, gas or water analysis data, sample cuttings or core analysis.

(8) Nothing in this section requires the Regulator

- (a) to obtain for the purpose of making it available any information it otherwise does not have,
- (b) to publish any information or make it available otherwise than on request, or
- (c) to make any information available otherwise than by putting it on view at the facilities provided for that purpose by the Regulator in the ordinary routine observed in the Regulator offices and on payment of its usual fees for those services.

AR 76/88 s15;331/92;89/2013;119/2016

Prohibitions

16(1) No person shall alter, remove, deface or destroy any entry or marking of any kind made by the Regulator or a representative of the Regulator in or on any record or recording of measurements required to be kept by the Act or these Rules.

(2) No person shall enter in any record or report required to be kept or made, as an amount determined by measurement or as an amount the measurement of which is required by the Act or these Rules, an amount not so determined.

(3) No person shall wilfully alter, remove, deface or destroy any record or recording of measurements required to be kept until the expiration of the period during which the record or recording is required to be kept by the Act or these Rules.

AR 76/88 s16;89/2013

Retention of records

17 Each record required to be kept by these Rules shall be retained at the place and by the person specified in these Rules for a period of 18 months from the time the record is made or any other period the Regulator may specify.

AR 76/88 s17;89/2013

Exemption for experimental scheme

18 Where the Regulator grants an approval of an experimental scheme, it may relieve the operator from any of the requirements of this Part.

AR 76/88 s18;89/2013

Measurement to comply with Regulation

19 The units and the methods of measurement and standard conditions prescribed by this Part shall be used whenever the measurement of oil sands, crude bitumen, derivatives of crude bitumen or oil sands products is required by the provisions of

- (a) an Act,
- (b) a rule established under an Act, or
- (c) an order, direction, term or condition made or imposed by the Minister of Environment and Sustainable Resource Development or the Regulator,

whether the provisions deal with conservation, preservation, utilization, taxation, royalties or any other matter.

AR 76/88 s19;226/2000;31/2012;170/2012;89/2013

Measurement satisfactory to Regulator

20 An operator of a scheme or operation shall measure oil sands, crude bitumen, derivatives of crude bitumen or oil sands products, and all significant process streams that have a bearing on the calculation of material balances of hydrocarbons or sulphur, in a manner satisfactory to the Regulator.

AR 76/88 s20;89/2013

Measuring crude bitumen, oil sands products or gas

21(1) An operator required to measure crude bitumen or oil sands products shall compute its volume as the number of cubic metres it would occupy at a pressure of 101.325 kilopascals absolute and a temperature of 15°C.

(2) When the temperature differs from 15°C or the pressure differs from 101.325 kilopascals absolute, conversion of the volume from the temperature or pressure under which the measurement is made to 15°C or 101.325 kilopascals absolute must be made in accordance with the API/ASTM Manual of Petroleum Measurement Standards, Chapter 11– Physical Properties Data.

(3) An operator required to measure gas shall compute its volume as the number of cubic metres it would occupy at a pressure of 101.325 kilopascals absolute and 15°C.

AR 76/88 s21;226/2000;115/2011

Measurement requirements

22 Unless otherwise approved by the Regulator, an operator of a scheme shall comply with the measurement requirements as set out in Part 14 of the *Oil and Gas Conservation Rules* (AR 151/71) and any other requirements specified by the Regulator.

AR 76/88 s22;89/2013

Part 3 Mining Operation

23 Repealed AR 226/2000 s8.

Storage or disposal

24 An operator shall apply for and obtain the approval of the Regulator for the storage or disposal of any oil sands, reclamation material or discard accumulated during mining or overburden removal.

AR 76/88 s24;115/2011;89/2013

Storage or disposal structures

24.01 An operator that receives approval under section 24 shall, at least 6 months prior to commencing construction of any structure for the approved storage or disposal, provide the Regulator with detailed geotechnical engineering designs of the structure to the satisfaction of the Regulator.

AR 115/2011 s8;89/2013

Storage or disposal

24.1 An operator shall apply for and obtain the approval of the Regulator for the management of tailings and shall manage the tailings in accordance with Directive 085.

AR 93/2009 s3;89/2013;119/2016

25 Repealed AR 226/2000 s9.

Mine site plan

26 An operator shall obtain the approval of the Regulator for a mine site plan and for any changes to an approved annual mine plan that would reduce the amount of oil sands recovered.

AR 76/88 s26;89/2013

Mining operation

27 Unless the Regulator otherwise approves, an operator shall carry out a mining operation in a manner

- (a) that does not render more difficult the recovery of other oil sands,
- (b) that will maximize the recovery of all oil sands within the mine site and comply with Directive 082, and
- (c) that ensures public safety.

AR 76/88 s27;226/2000;66/2013;89/2013

28 Repealed AR 66/2013 s4.

28.1 Repealed AR 119/2016 s5.

Mining operation records

29(1) An operator shall keep the daily record of operations accessible at his field office or other place of business in Alberta.

(2) An operator shall supply to the Regulator on or before the 22nd day of the month, on Form S-23, the quality and quantity of oil

sands mined and the crude bitumen recovered during the preceding calendar month and the disposition thereof.

AR 76/88 s29;89/2013

Mine plans

30(1) In this section,

- (a) “interburden” means any material that
 - (i) lies within oil sands deposits,
 - (ii) is 3 metres or more in thickness, and
 - (iii) has a grade of less than 7 weight per cent bitumen;
- (b) “Year 0” means the calendar year in which a mine plan referred to in subsection (2) is prepared;
- (c) “Year 1” means the calendar year immediately following Year 0;
- (d) “Year 5” means the calendar year that begins 5 years after the beginning of Year 0.

(2) An operator shall, on or before September 30 in each year, submit the operator’s mine plan for Year 1 to the Regulator for its approval.

(3) A mine plan referred to in subsection (2) must be submitted in electronic format and must include, where applicable,

- (a) plan view drawings in representative scale and grid spacing, with contours not greater than 5 metres, showing the most recent survey of the mining faces projected to December 31 of Year 0, to December 31 of Year 1 and to December 31 of Year 5 and showing the areas for temporary and permanent storage of any
 - (i) reclamation material,
 - (ii) waste material, both overburden and interburden,
 - (iii) oil sands,
 - (iv) rejected oil sands,
 - (v) tailings,
 - (vi) sulphur, or
 - (vii) coke,

and showing any pipelines, powerlines, access roads or other associated mine infrastructure,

- (b) mine pit shells projected to December 31 of Year 0, to December 31 of Year 1 and to December 31 of Year 5,
- (c) for Year 1, section view drawings at a representative scale and appropriate intervals showing plant feed and reject zones of the excavated mine,
- (d) for Year 1, an oil sands production summary and material balance, including the diluted bitumen grade, stockpiled oil sands and bitumen production,
- (e) for Year 1, a reclamation and waste materials production summary and material balance by source, material type and destination,
- (f) for Year 1, a drilling plan prepared in accordance with Directive 082,
- (g) a description of any geotechnical investigations conducted to support the assumptions made in the preparation of the mine plan, and
- (h) a description of any significant change to approved mining method, mine development sequence or production rate,
- (i) repealed AR 119/2016 s6.

(4) Any electronic spatial data submitted under subsection (3)(a), (b) or (c) must be submitted in DXF/DWG format and NAD 1983 coordinates or in another format acceptable to the Regulator.

AR 76/88 s30;93/2009;115/2011;66/2013;89/2013;119/2016

Report of mining operations

31(1) An operator shall submit to the Regulator, on or before February 28 in each year, a report on the operator's mining operations for the previous calendar year.

(2) A report referred to in subsection (1) must be submitted in electronic format and must include, where applicable,

- (a) an oil sands production summary and material balance, including the diluted bitumen grade, stockpiled oil sands and bitumen production,
- (b) a reclamation and waste materials production summary and material balance by source, material type and destination,

- (c) a description of any significant deviation from the mine plan submitted under section 30 and approved by the Regulator for that year,
- (d) an as-built plan view drawing at a representative scale and grid spacing, with contours not greater than 5 metres, showing the December 31 mining faces from the previous calendar year, including any areas for temporary or permanent storage of
 - (i) reclamation material,
 - (ii) waste material, both overburden and interburden,
 - (iii) oil sands,
 - (iv) rejected oil sands,
 - (v) tailings,
 - (vi) sulphur, or
 - (vii) coke,and
- (e) section view drawings at a representative scale and appropriate intervals, showing plant feed and reject zones of the excavated mine during the reporting period.

(3) Any electronic spatial data submitted under subsection (2)(d) or (e) must be submitted in DXF/DWG format and NAD 1983 coordinates or in another format acceptable to the Regulator.

AR 76/88 s31;115/2011;89/2013

Geotechnical report

32(1) Unless otherwise directed, an operator shall submit to the Regulator, on or before February 28 in each year, a summary report of the geotechnical performance relating to the stability of mine pit walls, overburden and interburden storage areas, tailings dikes, reclamation material stockpiles and other similar structures.

(2) An operator shall notify the Regulator forthwith of any collapse or instability within the mine site resulting in

- (a) a change in the annual mine plan referred to in section 31,
- (b) an interruption in the operator's ability to continue mining operations, or
- (c) a possibility of a permanent loss of recoverable oil sands.

(3) If directed by the Regulator, the operator shall submit a geotechnical analysis of the collapse or instability and a description of any remedial action taken.

AR 76/88 s32;226/2000;115/2011;89/2013

Information to be provided

32.1 An operator shall submit to the Regulator, in accordance with Directive 085, and as the Regulator considers necessary,

- (a) a fluid tailings volume profile for new and legacy fluid tailings,
- (b) a fluid tailings management plan that addresses both new and legacy fluid tailings, and
- (c) an annual fluid tailing management report in respect of fluid tailings management and performance and fluid tailings inventories.

AR 93/2009 s6;89/2013;119/2016

Part 4 In Situ Operation

Construction or modification of a central processing facility

33 No construction or significant modification of a central processing facility shall be commenced until the Regulator has granted approval for the construction or modification.

AR 76/88 s33;89/2013

Liquid hydrocarbon storage

34 Unless the Regulator otherwise approves, an operator shall store in tanks or in any other manner approved by the Regulator, until sold or disposed of in a manner approved by the Regulator, all liquid hydrocarbons recovered from the operation and not consumed in the operations or in works or installations used in connection with the scheme.

AR 76/88 s34;89/2013

Disposal of sand

35 An operator shall dispose of produced sand in a manner satisfactory to the Regulator.

AR 76/88 s35;89/2013

Conduct of operations

36 Unless the Regulator otherwise approves, an operator shall conduct all operations in a manner that, under normal operating conditions, will

- (a) maximize the recovery of the crude bitumen,
- (b) maximize the gathering and utilization of oil sands products produced from the scheme,
- (c) minimize the use of fresh make-up water,
- (d) minimize the disposal of water,
- (e) maximize the recycle of produced water, and
- (f) maximize the recovery from all oil sands zones within the approval area.

AR 76/88 s36;89/2013

Compliance with Directive 081

36.1 An operator of a thermal in situ scheme and any other operator designated from time to time by the Regulator shall comply with the requirements of Directive 081.

AR 217/2012 s3;89/2013

Casing failure

37(1) Unless the Regulator otherwise directs, an operator of a thermal in situ operation shall take the steps and effect the measures that are necessary in the completion and operation of wells to detect and prevent production casing failures.

(2) Notwithstanding subsection (1), the operator of a thermal in situ operation shall, prior to commencing operations, submit to the Regulator for its approval a program designed to adequately provide for detection and prevention of production casing failures.

(3) An operator shall report a casing failure in accordance with Directive 087.

(4) A report made pursuant to subsection (3) shall, within 30 days of the date of the report, be confirmed in a written report to the Regulator and be supplemented by any information the Regulator may require.

AR 76/88 s37;89/2013;51/2021

Measurement of fluid

38 Unless the Regulator otherwise approves, an operator shall measure experimental fluid production separately from commercial fluid production.

AR 76/88 s38;89/2013

Production operations**39(1)** The operator of a well

- (a) that is capable of producing crude bitumen, gas or water, or
- (b) into which steam, water, air or another substance can be injected or disposed

shall apply to and obtain approval of the Regulator for the method of determining the volumes of production from or injection into the well.

(2) Where the production of wells is to be commingled, the application referred to in subsection (1) shall include a proposed testing frequency and duration for each individual well or a description of another procedure for allocating production back to individual wells.

(3) Repealed AR 226/2000 s12.

(4) When applicable, production shall be measured in accordance with Part 14 of the *Oil and Gas Conservation Rules* (AR 151/71).
AR 76/88 s39;226/2000;89/2013

Common flow lines

40(1) Where production from more than 1 well or from more than 1 zone in a well is received at a central processing facility, the production from each shall be carried to the central processing facility in a separate flow line, unless a test measurement of the bitumen and water production from each zone or well can be made or specific exemption is granted by the Regulator.

(2) The Regulator may, on application, approve the use of common flow lines where

- (a) the wells on the common flow line will not be produced concurrently,
- (b) production from each zone in the well can be separately measured, or
- (c) installation of separate flow lines is not practical.

AR 76/88 s40;89/2013

Licensee

41 In sections 42 to 47, “operator” includes a licensee as defined in section 1 of the *Oil and Gas Conservation Act*.

AR 76/88 s41

Records and reports

41.1 The licensee of a well or the representative of the licensee of a well shall keep and file with the Regulator records and reports relating to the operations of the well in accordance with section 12.010 of the *Oil and Gas Conservation Rules* (AR 151/71).

AR 226/2000 s13;89/2013

In situ operation records

42(1) When a well is in the process of being drilled, completed, reconditioned or abandoned, the operator shall keep at the well or at his field office a daily record of the operations.

(2) The operator shall file the original or a legible copy of the daily records for each week with the Calgary office of the Regulator within the next ensuing week and shall retain duplicate copies of the records as a part of its or the well owner's record.

(3) Any suspension of operations shall be noted on the current daily report.

(4) The daily report shall set out complete data on all operations carried on during the day and, without restricting the generality of the foregoing, shall include

- (a) the depth at the beginning of the day or tour,
- (b) the depth at the end of the day or tour,
- (c) diameter of hole,
- (d) if casing is set, all data regarding the setting including size, type, grade and linear density of casing, whether new or used, and the depth at which it is set,
- (e) particulars of cementing,
- (f) particulars of crude bitumen, water or gas encountered,
- (g) a report of each log, survey, formation test, deviation test or other test taken or made, and
- (h) intervals cored and the recovery therefrom.

(5) The reports kept and filed with the Regulator under this section shall note and describe, in addition to drilling operations, all other operations carried on, including fishing, shooting, perforating, acidizing, fracturing, surveying and abandonment.

AR 76/88 s42;89/2013

Report of well status

43(1) The licensee of a new crude bitumen well shall notify the Regulator on the approved formatted media of the date on which the well was first placed on production, within 14 days of that event occurring.

(2) The licensee of a new injection well or a new disposal well shall notify the Regulator on the approved formatted media of

- (a) the date on which the injection well was first placed on injection, or
- (b) the date on which the disposal well was first used for disposal purposes,

as the case may be, within 14 days of that event occurring.

(3) The licensee of a well at which production, injection or disposal operations are shut in may suspend the well by notifying the Regulator on the approved formatted media of the date of the suspension.

(4) The licensee of a well at which production, injection or disposal is resumed after a suspension shall notify the Regulator on the approved formatted media within 14 days of the resumption of production, injection or disposal operations.

(5) The licensee of a producing crude bitumen well at which commingling of 2 or more zones occurs shall notify the Regulator on the approved formatted media within 14 days of the commencement of commingled production.

(6) The licensee of a well at which a zone has been abandoned shall notify the Regulator on the approved formatted media within 14 days of the zone abandonment.

(7) The licensee of a well that has a change in status that is not otherwise referred to in this section shall notify the Regulator on the approved formatted media within 14 days of the change in status.

AR 76/88 s43;79/98;89/2013

Daily record and reporting

44(1) If a well is producing or is capable of producing crude bitumen, gas or water the operator shall keep at its field office or other place of business in Alberta a daily record of the production operations of the well in a form satisfactory to the Regulator and the original recording of measurements used to determine the particulars for the record, which record shall show, unless the Regulator otherwise directs,

- (a) the crude bitumen, gas, water or other substance produced or reproduced from the well,
- (b) the total number of hours of production at each well during each month, and
- (c) particulars of the inventories and dispositions of all production from the well.

(2) If steam, water, air or other substance is being injected into a well, the operator shall keep at its field office or other place of business in Alberta, a daily record of the injection operations of the well and the original recording of measurements used to determine the particulars for the record, which record shall show, unless the Regulator otherwise directs,

- (a) the amounts of steam as water equivalent, water, air or other substances injected into the well,
- (b) the source from which the water or other substances were obtained,
- (c) particulars of any treatment to which the steam, water, air or other substance has been subjected including pressures at the steam generator and steam quality,
- (d) the number of hours during which each substance was injected into the well, and
- (e) the average wellhead injection pressure while each substance was injected into the well.

(3) The licensee of a well that, during the preceding month, produced crude bitumen, gas, water or other substance, or into which steam, water, air or other substance was injected or disposed of, shall file with the Regulator on the approved formatted media, not later than the 18th day of the month or the first business day following the 18th day of the month, a report for the preceding month setting out

- (a) the amounts of crude bitumen, gas, water or other substance produced from the well,
- (b) the amounts of steam as water equivalent, water, air or other substance injected or disposed of into the well, including a measurement or estimation of steam quality,
- (c) the number of hours during which the well produced, was injected or was used for disposal purposes,
- (d) the particulars of any receipts, inventories, dispositions or deliveries of crude bitumen, gas, water or other substance

associated with the production, injection or disposal operations, and

(e) any further particulars the Regulator requires.

(4) The licensee of a well that, during the entire preceding month was shut in, shall file with the Regulator on the approved formatted media, not later than the 18th day of the month or the first business day following the 18th day of the month, a report for the preceding month setting out only the unique well identifier, and shall continue to do so in each subsequent month until such time as production, injection or disposal operations have been resumed or the well has been suspended or abandoned.

(5) The operator of a battery or an injection or disposal facility at which all wells were shut in, suspended or abandoned or where no wells were associated with the battery or the injection or disposal facility during the entire preceding month shall file with the Regulator on the approved formatted media, not later than the 18th day of the month or the first business day following the 18th day of the month, a report for the preceding month setting out the particulars of any receipts, inventories, dispositions or deliveries of crude oil, condensate, crude bitumen, gas, solvent, water, air or other substance associated with the production, injection or disposal operations, and shall continue to do so in each subsequent month until such time as there are no receipts, inventories, dispositions or deliveries.

(6) The operator of a well shall keep any other records and file with the Regulator any other reports that the Regulator may, by order, require.

AR 76/88 s44;79/98;226/2000;89/2013

Reporting from a facility

45(1) Unless the Regulator otherwise approves, where the reporting of production from wells is on a central processing facility basis, whether or not the production is commingled before measurement,

- (a) each report to the Regulator of production at the central processing facility shall report the production of each well connected to the central processing facility as approved, whether or not the well has produced during the period covered by the report,
- (b) each report to the Regulator of production at the central processing facility shall report production only of the wells connected to the central processing facility as approved or in accordance with a pending application for

amendment of the central processing facility approval,
and

- (c) the production of a well connected to the central processing facility as approved shall be reported to the Regulator only by means of a report of the production at the central processing facility.

(2) Where the production of wells producing at the central processing facility is commingled before measurement, the production shall be prorated among the individual wells in the central processing facility based on the proration factor as calculated in accordance with the Production Accounting Handbook published by the Regulator or such other allocation scheme as may be approved by the Regulator.

AR 76/88 s45;89/2013

46 Repealed AR 226/2000 s15.

In situ scheme reports

47 An operator of an in situ scheme shall, unless otherwise stipulated by the Regulator, provide information on the progress, performance, efficacy and operation of the scheme in accordance with Directive 054, "Performance Reporting and Surveillance of In Situ Oil Sands Schemes", published by the Regulator, and any amendments made to the Directive

AR 76/88 s47;191/2003;93/2009;89/2013;279/2020

Part 5 Processing Plant

Storage or disposal

48 For the purpose of energy resource conservation, an operator shall apply for and obtain the approval of the Regulator for the storage or disposal of any oil sands, coke, asphaltene, sulphur, precipitator ash or other hydrocarbon effluent or discard associated with the processing plant.

AR 76/88 s48;115/2011;89/2013

Operation of processing plant

49 Unless the Regulator otherwise approves, the operator shall carry out operations in a manner that, under normal operating conditions, will

- (a) maximize the processing of all oil sands and crude bitumen,

- (b) maximize the yield of oil sands products including compliance with Directive 082,
- (c) minimize the discard of coke, asphaltene, sulphur or other by-products,
- (d) maximize the gathering and utilization of gas produced,
- (e) maximize the gathering of gaseous mixtures containing hydrogen sulphide for delivery to the sulphur recovery plant,
- (f) maximize the recovery of sulphur contained in the hydrogen sulphide delivered to the sulphur recovery plant,
- (g) minimize the use of fresh make-up water and the disposal of waste water, and
- (h) maximize the recycle of produced water.

AR 76/88 s49;115/2011;66/2013;89/2013

50 Repealed AR 226/2000 s16.

Discharge of gas to atmosphere

51 Unless the Regulator otherwise approves, the operator of a processing plant shall not discharge or permit to be discharged any gas containing hydrogen sulphide, unless it is burned so that essentially all of the sulphur is converted to sulphur dioxide.

AR 76/88 s51;89/2013

52, 53 Repealed AR 226/2000 s17.

Processing plant records

54 Unless the Regulator otherwise directs, an operator shall

- (a) file with the Regulator, 6 months after commencement of operations or after any modification that required an amendment to an approval, the design and operating parameters including
 - (i) process flow diagrams with material balances, and
 - (ii) measurement procedures and specifications for measurement equipment necessary for the audit of the material balance or determination of emissions,

and

- (b) provide to the Regulator or an authorized employee of the Regulator access at its plant site to piping and measurement drawings, operating procedures and equipment specifications.

AR 76/88 s54;89/2013

Daily record

55 An operator shall keep at his plant site or other place of business in Alberta, a daily record of all oil sands, crude bitumen or oil sands products received into the processing plant, including for each product

- (a) particulars of the source, quality and quantity, and
- (b) particulars of the inventories and disposition.

AR 76/88 s55

Monthly statement

56 Unless otherwise directed by the Regulator, an operator shall file with the Regulator, on or before the 22nd day of each month, monthly statements on Form S-23 of the oil sands, crude bitumen, oil sands products, marketable gas and the condensate received at the plant, and the quantity and quality of oil sands products derived, stored and delivered for the preceding month.

AR 76/88 s56;89/2013

Content of monthly statement

57(1) Unless the Regulator otherwise directs, an operator producing hydrogen sulphide or other sulphur compounds shall file with the Regulator, on or before the 22nd day of each month, statements of monthly and, if required by the Regulator, daily totals of plant input and output for the preceding calendar month in the form of a processing plant sulphur balance and a sulphur plant sulphur balance including, where applicable,

- (a) volumes of gas and crude bitumen,
- (b) hydrogen sulphide content of the gas determined at a frequency specified by the Regulator,
- (c) sulphur content of the crude bitumen,
- (d) sulphur content of oil sands products,
- (e) quantity of sulphur produced,
- (f) quantity of sulphur in discard,
- (g) sulphur recovery efficiency of the sulphur plant, and

- (h) volume of sweet gas added to any sour gas flares during flaring.

(2) Notwithstanding subsection (1), the Regulator may temporarily require the operator to submit the reports described in subsection (1), or any portion thereof, on a daily basis.

AR 76/88 s57;115/2011;89/2013

Report of operations

58 Unless the Regulator otherwise directs, an operator shall file with the Regulator, on or before the 28th day of February of each year, a report of operations conducted during the preceding calendar year including, where applicable,

- (a) material balances for the extraction, upgrading and utility plants shown separately for hydrocarbons, water, steam, fuel and electrical energy,
- (b) an energy balance for the overall scheme or operation, and
- (c) a summary of modifications made.

AR 76/88 s58;89/2013

59 Repealed AR 226/2000 s18.

Part 6 Fees

60 Repealed AR 180/98 s3.

Fees

61 The fees payable to the Regulator for any map, report, document or other record of the Regulator or for any other service provided by the Regulator shall be as prescribed by the Regulator.

AR 213/90 s2;89/2013

Part 7 Expiry

Expiry

62 For the purpose of ensuring that these Rules is reviewed for ongoing relevancy and necessity, with the option that it may be repassed in its present or an amended form following a review, these Rules expires on June 30, 2021.

AR 226/2000 s19;191/2003;158/2009;115/2011;89/2013



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