



Province of Alberta

MINES AND MINERALS ACT

ENHANCED HYDROCARBON RECOVERY ROYALTY REGULATION

Alberta Regulation 210/2016

Extract

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ALBERTA REGULATION 210/2016

Mines and Minerals Act

ENHANCED HYDROCARBON RECOVERY ROYALTY REGULATION

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Interpretation

Definitions

1(1) In this Regulation,

- (a) “approval” means an approval granted under section 5;
- (b) “approved scheme” means an enhanced hydrocarbon recovery scheme in respect of which there is a subsisting approval granted under section 5;

- (c) “base recovery scheme” in respect of an area that is or is proposed to be subject to an enhanced hydrocarbon recovery scheme means
- (i) if subclause (ii) does not apply, the scheme that the Minister considers from time to time to be the most technically viable scheme to obtain hydrocarbons from the pool in that area using only conventional techniques, or
 - (ii) the most recent previous enhanced hydrocarbon recovery scheme that the Minister considers technically viable that has been used to obtain hydrocarbons from the pool in that area;
- (d) “enhanced hydrocarbon recovery scheme” means an enhanced hydrocarbon recovery scheme as determined under section 3;
- (e) “enhanced recovery” means a method of injection of substances into a pool
- (i) to add to or maintain reservoir pressure,
 - (ii) to displace hydrocarbons to production wells, or
 - (iii) to alter the reservoir fluids so that hydrocarbon flow or recovery is improved;
- (f) “hydrocarbon” includes any crude oil, natural gas, gas product or oil sands product that is subject to a determination of royalties under the *Petroleum Royalty Regulation, 2017*, the *Natural Gas Royalty Regulation, 2017* or the *Oil Sands Royalty Regulation, 2009*, as the case may be;
- (g) “oil sands project” means a Project as defined in the *Oil Sands Royalty Regulation, 2009*;
- (h) “operator”, in respect of a scheme or proposed scheme, means the person who is the operator of the wells that are within the scheme or proposed scheme according to the records of the Department;
- (i) “pool” means a pool as defined in the *Oil and Gas Conservation Act*;
- (j) “previous enhanced hydrocarbon recovery scheme” means an enhanced recovery scheme implemented pursuant to a requirement under section 38(a) of the *Oil and Gas Conservation Act* or an approval under section 39(1)(a) of

the *Oil and Gas Conservation Act*, whether or not the scheme was an approved scheme under this Regulation or the *Enhanced Oil Recovery Royalty Regulation* (AR 156/2014),

- (i) that was previously implemented by an operator making an application under section 4 to obtain hydrocarbons from the pool in the same area referred to in the application, and
- (ii) in which a different enhanced hydrocarbon recovery technique was used from the technique described in the application under section 4;
- (k) “secondary recovery scheme” means a scheme for the enhanced recovery of hydrocarbons from a pool by water flooding, polymer flooding, gas cycling, gas flooding or other methods approved by the Minister;
- (l) “tertiary recovery scheme” means a scheme for the enhanced recovery of hydrocarbons from a pool by immiscible flooding, solvent flooding, miscible flooding, chemical flooding or other methods approved by the Minister, but does not include a secondary recovery scheme;
- (m) “well event” means a well event as defined in the *Petroleum Royalty Regulation, 2017* or the *Natural Gas Royalty Regulation, 2017*.

(2) A reference in this Regulation to hydrocarbons obtained from a well event is also a reference to hydrocarbons produced or recovered from a well event.

(3) Except in section 11, a reference in this Regulation to a month, whether by its name or not, shall be construed as the period commencing at 8:00 a.m. Mountain Standard Time on the first day of the month and ending immediately before 8:00 a.m. Mountain Standard Time on the first day of the next month.

Application of Regulation

2 This Regulation applies only to hydrocarbons obtained under an enhanced hydrocarbon recovery scheme that is approved by the Minister under section 5(1) on or after January 1, 2017, in which the percentage of Crown ownership, as determined by the Minister in accordance with section 26.1 of the *Petroleum and Natural Gas Tenure Regulation* (AR 263/97), is greater than 0.

New Approvals for EHR Schemes

Enhanced hydrocarbon recovery scheme

3 A secondary or tertiary recovery scheme is an enhanced hydrocarbon recovery scheme if the scheme

- (a) is implemented or proposed to be implemented pursuant to
 - (i) a requirement under section 38(a),
 - (ii) an approval under section 39(1)(a), or
 - (iii) an amendment under section 26, which amends the enhanced recovery method used in a scheme, of the *Oil and Gas Conservation Act*,
 - (b) if water flooding, gas flooding or gas cycling is proposed, the Minister is satisfied that
 - (i) for a new scheme, it is located in a pool or part of a pool where water flooding, gas flooding or gas cycling has not occurred previously, or
 - (ii) for an existing scheme, it is extended vertically into a pool or part of a pool where water flooding, gas flooding or gas cycling has not occurred previously,
- and
- (c) was, for an approval under section 39(1)(a), or amendment under section 26, of the *Oil and Gas Conservation Act*, applied for and granted on or after October 23, 2016.

Application for approval

4(1) On or after January 1, 2017, an operator of an enhanced hydrocarbon recovery scheme or proposed enhanced hydrocarbon recovery scheme may apply for an approval under section 5.

(2) An application under subsection (1) must be in the form provided by and contain the information required by the Minister.

(3) The operator of an enhanced hydrocarbon recovery scheme may, in the application or in writing provided to the Minister at any time before or after an approval is granted, indicate the month in which the operator wants the term determined under section 6(2) to begin.

- (4) A request submitted under subsection (3) for a particular month on which to commence a term under section 6(2) must be received before the first day of the month requested.
- (5) An application must not include a well that is part of an oil sands project application pending a decision of the Minister.

Approval

5(1) Subject to section 9, the Minister may, on application, grant an approval providing for the percentage rate under section 6(1) to apply to the calculation of royalty on hydrocarbons obtained from well events that are part of an enhanced hydrocarbon recovery scheme if, at the time the information required by the Minister with respect to the application has been received,

- (a) the Minister is of the opinion that the scheme is an enhanced hydrocarbon recovery scheme,
- (b) the Minister is of the opinion that the primary function of the scheme is the recovery of hydrocarbons from a pool,
- (c) the Minister is of the opinion that more hydrocarbons are likely to be obtained using the enhanced hydrocarbon recovery scheme than would be obtained using the base recovery scheme,
- (d) the Minister is satisfied, taking into consideration any estimates provided by the operator of the costs for implementing and operating the enhanced hydrocarbon recovery scheme and for implementing and operating the base recovery scheme, that the costs for implementing and operating the enhanced hydrocarbon recovery scheme significantly exceed the costs for implementing and operating the base recovery scheme, and
- (e) the Minister is of the opinion that it is in the public interest to grant an approval under this section.

(2) In an approval under subsection (1), the Minister

- (a) shall set out
 - (i) the pool that is subject to the enhanced hydrocarbon recovery scheme to which the approval applies,
 - (ii) the area that is subject to the enhanced hydrocarbon recovery scheme to which the approval applies, and
 - (iii) the well events in the area referred to in subclause (ii) to which the approval applies,

and

- (b) may establish terms and conditions relating to the approved scheme.

(3) On granting an approval under subsection (1) the Minister shall, in accordance with section 8, establish the t-factor for an approved tertiary recovery scheme, or in accordance with section 6(2)(b), establish a term for an approved secondary recovery scheme, as the case may be.

Percentage rate for calculation of royalty

6(1) The royalty on hydrocarbons obtained from well events to which an approval under section 5(1) applies for any month during the term determined under subsection (2) shall be calculated under the *Petroleum Royalty Regulation, 2017*, the *Natural Gas Royalty Regulation, 2017* or the *Oil Sands Royalty Regulation, 2009*, as the case may be, using a percentage rate of 5%.

(2) The term during which subsection (1) applies with respect to an approved scheme referred to in subsection (1) is,

- (a) for an approved tertiary recovery scheme, the term of calendar months in the Schedule applicable to the t-factor range in the Schedule that includes the t-factor of the approved scheme, and
- (b) for an approved secondary recovery scheme, the term determined by the Minister, not in excess of 90 calendar months.

(3) The term determined under subsection (2) begins

- (a) for a tertiary recovery scheme,
 - (i) on the first day of the month indicated by the operator under section 4(3), if
 - (A) the first injection of material using the method under the approved scheme occurred on that day, or
 - (B) the day indicated by the operator is within 36 months of the first injection of material using the method under the approved scheme occurred,

or

- (ii) if subclause (i) does not apply, on the first day of the 36th month after the month in which the first injection of material using the method under the approved scheme occurred,

and

- (b) for a secondary recovery scheme, as determined by the Minister, but no later than 36 months after the month in which the first injection of material using the method under the approved scheme occurred.

(4) The Minister may redetermine the term of an approved scheme under subsection 2(b).

(5) For well events drilled on or after January 1, 2017, the following run concurrently:

- (a) the term determined under subsection (3) during which subsection (1) applies to the well event;
- (b) the determination of the related well C* and total revenue under the *Petroleum Royalty Regulation, 2017* or the *Natural Gas Royalty Regulation, 2017*, as the case may be.

Transition of pre-2017 wells

7 Royalties payable in respect of wells drilled prior to January 1, 2017 that at any time form part of a scheme approved under section 5(1) shall be calculated under the *Petroleum Royalty Regulation, 2017* or the *Natural Gas Royalty Regulation, 2017*, as the case may be.

General

T-factor for tertiary recovery schemes

8(1) The t-factor of an approved tertiary recovery scheme is the greater of

- (a) 0.224, and
- (b) the t-factor determined by the Minister in accordance with the following formula:

$$t \text{ - factor} = itr \div tco$$

where

- itr is the amount of incremental hydrocarbons recoverable from the pool under the approved scheme over the life of the approved scheme;
- tco is the total amount of hydrocarbons that in the Minister's opinion remains to be recovered from the pool at the start of the approved scheme.

- (2) The Minister may redetermine the t-factor of an approved scheme under subsection (1) at any time if the Minister is of the opinion that a different amount should be used in place of an amount that was used to calculate the t-factor.
- (3) If the Minister is not satisfied that sufficient information has been received from the operator to calculate the t-factor of an approved scheme under subsection (1), the Minister shall establish a temporary t-factor of 0.324 for the approved scheme.
- (4) The Minister may increase the temporary t-factor established under subsection (3) up to a maximum temporary t-factor of 0.381 if
- (a) the operator of the approved scheme submits an application to the Minister for an increase that contains the information required by the Minister, and
 - (b) the Minister is of the opinion that exceptional circumstances exist that warrant an increase.
- (5) If the Minister is not satisfied that sufficient information has been received from the operator of an approved scheme for which a temporary t-factor is established under subsection (3) to determine the t-factor for the approved scheme under subsection (1), the approval for the approved scheme terminates at the end of the last month of the term that applies to the temporary t-factor under the Schedule.
- (6) On being satisfied that sufficient information has been received from the operator to determine the t-factor of an approved scheme for which a temporary t-factor has been established under this section, the Minister shall determine the t-factor of the approved scheme under subsection (1) and any temporary t-factor established for the approved scheme under this section ceases to apply.
- (7) If the t-factor or temporary t-factor of an approved scheme is replaced by a new t-factor as provided by subsection (2) or (6) and the term set out in the Schedule that applies to the new t-factor is longer than the term that applied to the previous t-factor, the longer term only applies for the purposes of section 6(2) if the term that applied to the previous t-factor has not expired.

(8) If the t-factor or temporary t-factor of an approved scheme is replaced by a new t-factor as provided by subsection (2) or (6) and the term set out in the Schedule that applies to the new t-factor is shorter than the term that applied to the previous t-factor, the royalty for each month not included in the shorter term for which the royalty was calculated in accordance with section 6(1) shall be recalculated using the percentage rate that would otherwise have been applicable under the *Petroleum Royalty Regulation, 2017* or the *Natural Gas Royalty Regulation, 2017*, as the case may be.

(9) The result of a calculation under this section shall

- (a) be expressed to 3 decimal points, and
- (b) be rounded
 - (i) up if there is a number at the 4th decimal point that is 5 or greater, or
 - (ii) down if there is a number at the 4th decimal point that is less than 5.

Excluded well events

9 For the purposes of this Regulation, an approval granted under section 5(1) does not apply to any of the following well events that are in the area to which the approval applies:

- (a) well events as defined in the *Oil Sands Royalty Regulation, 2009* (AR 223/2008) that are part of a Project as defined in that Regulation;
- (b) any other well events that are in the area to which the approval applies that are not included in the approval.

Amendment of approval

10 The Minister may amend an approval granted under section 5(1)

- (a) to add, change or remove conditions relating to the approved scheme,
- (b) on the application of the operator of the approved scheme, to add a well event that has been added to the approved scheme if the Minister is satisfied that the well event is in the area to which the approval applies and is part of the enhanced hydrocarbon recovery scheme to which the approval applies, or

- (c) on the application of the operator of the approved scheme, to increase the area to which the approval applies to include well events located outside the existing area if no new injection well event has been added outside the existing area.

Duty to provide information and file reports

11 On receiving a request from the Minister to provide information or file a report for the purposes of the Minister's administration of this Regulation, a person who is or was an operator of an approved scheme shall provide the information or file the report specified in the request within the time specified in the request.

Suspension of approval

12(1) The Minister may suspend an approval for an approved scheme if the operator of the approved scheme fails to provide information or file a report requested by the Minister within the time specified in the request.

(2) If an approval for an approved scheme is suspended under subsection (1), section 6(1) does not apply to the calculation of royalty on hydrocarbons obtained from well events to which the approval applies for any month during which the suspension is in effect for all or any part of the month.

(3) If an operator of an approved scheme provides the information or files the report with respect to which a suspension was imposed under subsection (1), the royalty on hydrocarbons obtained from well events to which the approval applies for each month during the term determined under section 6(2) during which the approval was suspended shall be recalculated in accordance with section 6(1).

(4) Subsection (3) does not apply if

- (a) the approval for the approved scheme is terminated before the suspension of the approval ends, and
- (b) in the opinion of the Minister, the reason for the termination of the approval for the approved scheme is substantially the same as the reason for the suspension of the approval for the approved scheme.

(5) A suspension of an approval for an approved scheme does not operate to extend the term determined under section 6(2).

Termination of approval

13 The Minister may terminate an approval for an approved scheme if

- (a) the operator of the approved scheme requests termination of the approval,
- (b) the operator of the approved scheme has failed to provide information or file a report requested by the Minister within the time specified in the request,
- (c) the Minister is of the opinion that a term or condition relating to the approved scheme set out in the approval is not being met,
- (d) the t-factor for the scheme is 0,
- (e) the Minister is of the opinion that the scheme is no longer producing hydrocarbons and no further use of the method referred to in section 1(1)(k) or (l) is intended, or
- (f) a requirement of section 5(1) is no longer satisfied with respect to the approved scheme.

Consequential amendments

14(1) The *Enhanced Oil Recovery Royalty Regulation* (AR 156/2014) is amended by this section.

(2) Section 1(1) is amended by adding the following after clause (d):

- (d.1) “licence” means a licence for a well, as defined in the *Oil and Gas Conservation Act*;
- (d.2) “licensed well” means a well subject to a licence;

(3) Section 2 is amended by adding “and on or before December 31, 2026,” after “January 1, 2014.”.

(4) Section 3(2) is repealed and the following is substituted:

- (2) An application under subsection (1) must be
 - (a) in the form provided by and contain the information required by the Minister, and
 - (b) made on or before December 31, 2016.

(5) Section 4(1) is amended by striking out “and” at the end of clause (d), by adding “and” at the end of clause (e) and by adding the following after clause (e):

- (f) the scheme was approved under the *Oil and Gas Conservation Act* on or before December 31, 2016.

(6) The following is added after section 7:

Re-entered well event

7.1(1) In this section, “re-entry” means a re-entry as defined in the *Petroleum Royalty Regulation, 2017*.

(2) In an approved scheme, when a licensed well is subject to re-entry on or after January 1, 2017,

- (a) all well events under the licence related to the licensed well shall have royalties determined in accordance with section 3 of the Schedule to *Petroleum Royalty Regulation, 2017*, without reference to the royalty rate under section 5(1), and
- (b) the term determined under section 5(2) continues to elapse.

(3) For a licence referred to in subsection (2), upon the end of royalties being calculated under section 3 of the Schedule to the *Petroleum Royalty Regulation, 2017*, the royalty rate on well events under the licence shall be determined under

- (a) section 5(1), for well events to which an approval under section 4(1) applies if there is time remaining in the term determined under section 5(2), for the remainder of that term, or
- (b) the *Petroleum Royalty Regulation, 2009*, in any other case.

(7) The following is added after section 10:

Post-2016 well royalty treatment

10.1 For well events under an approval, the following run concurrently:

- (a) the term determined under section 5(2) during which section 5(1) applies to the well event, and
- (b) the determination of the related well C* and total revenue under the *Petroleum Royalty Regulation, 2017*.

(8) Section 11 is repealed and the following is substituted:

Separate approval for scheme expansions

11(1) On or after January 1, 2017, an operator of an approved scheme must apply for a separate approval of that scheme under

the *Enhanced Hydrocarbon Recovery Royalty Regulation* as an enhanced hydrocarbon recovery scheme when an approved scheme is modified by

- (a) a new injection pattern outside the area to which the existing approval applies, or
- (b) a change in the injection method or the material referred to in section 1(1)(d)(ii) used in the scheme.

(2) On approval of the scheme under the *Enhanced Hydrocarbon Recovery Royalty Regulation*, the approved scheme under this regulation is terminated as of the date of the first injection of material using the method contemplated in the replacement scheme approved under the *Enhanced Hydrocarbon Recovery Royalty Regulation*.

(9) The following is added after section 14:

Termination of benefits and transitions

14.1(1) Approved schemes are no longer subject to the royalty determinations under sections 5(1) and 7(1) upon the earlier of

- (a) the end of the term determined under section 5(2) or 7(2), as the case may be, or
- (b) December 31, 2026.

(2) After December 31, 2026, any remaining approved schemes under this regulation, and associated well events, are not eligible for approval in a scheme under the *Enhanced Hydrocarbon Recovery Royalty Regulation*.

(10) Section 17 is amended by striking out “December 31, 2018” and substituting “June 30, 2032”.

Coming into force

15 This Regulation comes into force on January 1, 2017.

Schedule

Term for Tertiary Recovery Schemes under Section 6(2)

T-factor range (Beginning t-factor — Ending t-factor)	Term of Months
0.001 — 0.223	0
0.224 — 0.228	2
0.229 — 0.233	3
0.234 — 0.238	4
0.239 — 0.247	5

0.248 — 0.252	6
0.253 — 0.257	7
0.258 — 0.266	8
0.267 — 0.271	9
0.272 — 0.276	10
0.277 — 0.285	11
0.286 — 0.290	12
0.291 — 0.295	13
0.296 — 0.304	14
0.305 — 0.309	15
0.310 — 0.314	16
0.315 — 0.323	17
0.324 — 0.328	18
0.329 — 0.333	19
0.334 — 0.342	20
0.343 — 0.347	21
0.348 — 0.352	22
0.353 — 0.361	23
0.362 — 0.366	24
0.367 — 0.371	25
0.372 — 0.380	26
0.381 — 0.385	27
0.386 — 0.390	28
0.391 — 0.400	29
0.401 — 0.404	30
0.405 — 0.409	31
0.410 — 0.419	32
0.420 — 0.423	33
0.424 — 0.428	34
0.429 — 0.438	35
0.439 — 0.442	36
0.443 — 0.447	37
0.448 — 0.457	38
0.458 — 0.461	39
0.462 — 0.466	40
0.467 — 0.476	41
0.477 — 0.480	42
0.481 — 0.485	43
0.486 — 0.495	44
0.496 — 0.500	45
0.501 — 0.504	46
0.505 — 0.514	47
0.515 — 0.519	48
0.520 — 0.523	49
0.524 — 0.533	50
0.534 — 0.538	51
0.539 — 0.542	52
0.543 — 0.552	53

0.553 — 0.557	54
0.558 — 0.561	55
0.562 — 0.571	56
0.572 — 0.576	57
0.577 — 0.580	58
0.581 — 0.590	59
0.591 — 0.595	60
0.596 — 0.600	61
0.601 — 0.609	62
0.610 — 0.614	63
0.615 — 0.619	64
0.620 — 0.628	65
0.629 — 0.633	66
0.634 — 0.638	67
0.639 — 0.647	68
0.648 — 0.652	69
0.653 — 0.657	70
0.658 — 0.666	71
0.667 — 0.671	72
0.672 — 0.676	73
0.677 — 0.685	74
0.686 — 0.690	75
0.691 — 0.695	76
0.696 — 0.704	77
0.705 — 0.709	78
0.710 — 0.714	79
0.715 — 0.723	80
0.724 — 0.728	81
0.729 — 0.733	82
0.734 — 0.742	83
0.743 — 0.747	84
0.748 — 0.752	85
0.753 — 0.761	86
0.762 — 0.766	87
0.767 — 0.771	88
0.772 — 0.780	89
0.781 — 1.000	90



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