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Alberta Energy Regulator

Licensee Life-Cycle Management

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Contents

1 Introduction

This manual supplements *Directive 088: Licensee Life-Cycle Management*, expanding on its requirements and programs. This manual is designed to be flexible and responsive to new information. We are actively monitoring the effectiveness of these programs and expect to update this manual frequently as changes are made.

This edition was updated with the following administrative changes:

- The timing of updates of LCA data, including taking snapshots of data, has been clarified.
- Appendix 3 explains how LCA tier ranking occurs, including how extreme data points (outliers) are addressed.
- Appendix 4 provides information on validating facility operational life-cycle statuses.
- Minor updates to closure spend reporting were made to align with changes to OneStop.
- Information was added about transfer preapplication meetings and reserve reports.
- Transfer security and factors from the LCA considered in determining the amount that may be required have been clarified.

Because oilfield waste management facilities are included in the scope of this manual, but are approved rather than licensed, the terms "licence" and "licensee" are to be read as also including oilfield waste management approvals and oilfield waste management approval holders. The term "facility" includes oilfield waste management facilities.

2 Holistic Licensee Assessment

As described in *Directive 088*, the holistic licensee assessment includes multiple factors. The LCA is a critical one. Additional factors are described in section 4.5 of *Directive 067: Eligibility Requirements for Acquiring and Holding Energy Licences and Approvals*. The AER may consider any other factors or information that are appropriate in the circumstance. These factors include other inspection, audit, or compliance elements not included in the LCA and information provided to the AER through complaints and other licensee submissions and reporting. Section 5.2 describes other factors that may be considered related to transfer applications.

2.1 Licensee Capability Assessment

As described in section 2 of *Directive 088*, the LCA uses various factors to identify the risks posed by a licensee. Table 1 groups the factors described in *Directive 088* into two groups, risk and performance, and ties them to terms used in the LCA. The groups and terms are further explained with details in the following sections and tables.

Table 1. Licensee capability assessment terms and factors

LCA group	LCA factors in *Directive 088*	LCA term
Risk	Financial health	Level of financial distress
	Estimated total magnitude of liability (active & inactive), including abandonment, remediation, and reclamation	Magnitude of liability
Performance	Remaining lifespan of mineral resources and infrastructure and the extent to which existing operations may fund current and future liabilities	Remaining lifespan of resources
	Management and maintenance of regulated infrastructure and sites, including compliance with operational requirements	Operations
	Rate of closure activities, closure spending, and inactive liability change	Closure
	Compliance with administrative regulatory requirements, including the management of debts, fees, and levies	Administration

The LCA report is accessible to licensees at any time through Onestop and is refreshed nightly with the most recent data. Note that the frequency of data updates varies by type (e.g., financial parameters are updated every 12 months; total magnitude of estimated liability is updated daily).

Snapshots of a licensee's LCA are taken as required by the AER for decision-making. A snapshot captures the licensee's LCA results at a specific point in time. Snapshots are taken daily, or as often as necessary, to maintain a record that supports regulatory decisions and performance trend analysis.

The AER continues to monitor and update the LCA to ensure the information remains relevant and aligns with the liability management outcomes. We may add, remove, or recalibrate factors and parameters where appropriate, and any such revisions will be noted in this manual.

2.1.1 Risk Group

The risk group factors in the LCA are used to assess the level of financial distress and the magnitude of estimated liability for each licensee and will be categorized as low, medium, or high. These factors evaluate the likelihood of a licensee being able to fund and manage their regulatory and liability obligations.

2.1.1.1 Level of Financial Distress

Level of financial distress is determined by analyzing the financial information required annually or as directed by the AER through *Directive 067*. Widely accepted financial ratios (parameters) were selected based on their ability to distinguish licensees that are financially healthy from those that are in distress. The selected ratios measure a company's profitability over time, their liquidity and ability to meet

obligations as they come due, and the level of debt used to finance the business. Ratios are calculated using information submitted directly to the AER, as required, via schedule 3 of *Directive 067*. The financial parameters and associated weightings used in the LCA are represented in table 2.

Table 2. Level of financial distress: parameters, definitions, risk ranges, and associated weightings

Parameter	Description	Low	Medium	High	Relative Weight
Net profit margin (three-year average)	Ratio of net profit over revenues, or the percentage of income kept as profit. This is averaged over three years to smooth unusual gains/losses in a single year.	>0%	≤0% and >−25%	≤−25%	30%
Current ratio	Ratio of current assets (i.e., cash and other assets that are expected to be converted to cash within a year) over current liabilities (i.e., amounts due to be paid to creditors within a year) to measure whether a company can pay their obligations as they come due.	>90%	≤90% and >70%	≤70%	30%
Debt to equity	A ratio of debt over equity to measure financial leverage, indicating the degree to which a company has financed its operations with borrowed money versus wholly owned funds. Debt includes amounts due to related parties and shareholders.	≥0 and <1.33	≥1.33 and <1.67	≥1.67 or <0	10%
Interest coverage ratio	A ratio of earnings over interest expense, used to determine how easily a company can pay interest on its outstanding debt. Earnings are before interest, tax, depreciation, amortization and various non-cash, one-time, irregular, and non-recurring items.	>3.0	≤3.0 and >2.0	≤2.0	20%
Cash flow from operations to debt	A ratio of cash flows from operations over debt, which indicates how easily a company can repay its debt. Debt includes amounts due to related parties and shareholders.	>35%	≤35% and >20%	≤20%	10%

Licensee financial information submitted to the AER is used to calculate the value of each parameter. The value of each parameter is then normalized to a value between 0 and 100 based on the ranges defined in table 2. Once normalized, the parameters are weighted and added together to produce the overall assessment of the licensee's level of financial distress as low (<33.3), medium (≥33.3 and <66.7), and high (≥66.7 and ≤100). Financial information provided to the AER will be kept confidential for five years as stated in section 12.152(2)(a) of the *Oil and Gas Conservation Rules (OGCR)*.

2.1.1.2 Magnitude of Estimated Liability

A licensee's magnitude of estimated liability includes the total estimated liability of all its infrastructure. Definitions of the different types of liability are outlined in *Directive 011*.

Magnitude of estimated liability is either low, medium, or high. The thresholds are as follows:

- Low – less than $25 million Canadian dollars

- Medium – equal to or greater than $25 million and less than $150 million Canadian dollars
- High – equal to or greater than $150 million Canadian dollars

Licensees are to use the OneStop Liability Assessment Report to understand their liabilities.

2.1.2 Performance Group

At the factor level, a licensee's performance is assessed relative to licensees with similar business type, size, and production portfolio—referred to as peer groups (section 2.1.2.1). The peer groups, along with a weighting for each parameter and a tier methodology (section 2.1.2.2), are used to assess the individual parameters within a performance group and for the LCA factor itself.

2.1.2.1 Peer Group

The AER uses peer groups to classify all licensees according to three attributes: primary activity type, production level, and primary production type. Peer groups allow the comparison of licensees against other licensees with similar attributes.

First, licensees are grouped by their primary business activity:

- Pipelines refers to licensees that hold oil or gas AER-approved pipeline licences where more than 50 per cent of their infrastructure is pipelines.
- Midstream licensees hold facility licences and may handle third-party volumes for a fee. Midstream activities may include the operation of a gas storage scheme, custom processing facility, water or gas injection or disposal well, gas gathering, transportation or compression scheme, marketing, or any other activity determined by the AER to be a midstream activity. A licensee is classified as midstream if more than 50 per cent of its estimated liabilities are associated with facility licences.
- Waste management licensees hold AER-approved waste management facilities where more than 50 per cent of estimated liabilities are associated with waste management approvals.
- Producers are licensees holding well licences where the majority of their estimated liabilities are associated with well licences. These wells may or may not be active.

Second, the producers peer groups are further defined by the size of company based on production levels and their primary production or commodity type (figure 1), which have been classified as follows:

- Micro – less than one thousand barrels of crude oil equivalent per day (MBOE/D)
- Junior – equal to or greater than 1 and less than 10 MBOE/D
- Intermediate – equal to or greater than 10 and less than 50 MBOE/D
- Large/Major – equal to or greater than 50 MBOE/D

Commodity types include the following:

- Dry gas
- Liquid rich gas
- Light-medium oil
- Heavy oil/bitumen
- Mixed

A two-thirds threshold was used to gather licensees into a production-commodity group. For instance, if two-thirds of a licensee's production is light-medium oil, then that company is labelled as such. Companies that do not meet the threshold for a single product fall into the "mixed" group.

A "dry gas" producer is defined as one whose production in the last 12 months consists of 66.66% or greater natural gas, of which 30% or less is condensate production. Natural gas is defined as methane, ethane, propane, butane, and pentane. Condensate gas is defined as ethane, propane, butane, and pentane.

For the purpose of the LCA, we have consolidated some groups together in order to establish group sizes that can represent a reasonable distribution.

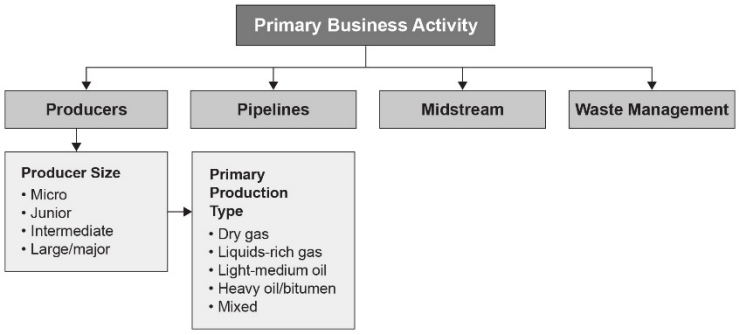


Figure 1. Illustration of peer groups

The above characteristics are combined into this list of primary peer groups:

- Producer – Micro – Oil
- Producer – Micro – Gas
- Producer – Micro – Mixed
- Producer – Junior – Oil
- Producer – Junior – Gas
- Producer – Junior – Mixed
- Producer – Intermediate – Oil
- Producer – Intermediate – Gas
- Producer – Intermediate – Mixed
- Producer – Large/Major – Oil or Mixed
- Midstream
- Pipelines
- Waste Management

For the midstream, waste management, and pipeline peer group, only a portion of the parameters defined in section 2.1 are applicable. We are working to develop applicable parameters. In the meantime, holistic assessments of licensees within the pipeline peer group will often require additional information from licensees, particularly when applying for licence transfers.

2.1.2.2 Factor and Parameter Tier Methodology

For most individual parameters and for each factor within the performance group described in section 2.1.2, licensees are tiered according to their performance relative to the top performer (which is ranked at 100%) and the bottom performer (ranked at 0%) within the peer group. Each licensee will fall into one of three tiers:

- Tier 1 is for performers with a ranking of 75% or higher within the peer group's performance range.
- Tier 2 is for performers ranking below 75% and above 25% within the range.
- Tier 3 is for performers ranking 25% or below within the range.

Appendix 3 provides worked examples of tier ranking and handling of extreme data points (outliers).

Licensees submit information to the AER on a recurring basis according to existing directives and requirements, which is used to calculate the tiers.

The ranking for the following parameters is based on predefined thresholds, rather than a peer comparison (see table 3 and table 6):

- Crossover timeline
- Administrative levy compliance
- Orphan fund levy compliance

The parameters and weights vary to reflect the differences in peer groups, as the relevance of some parameters depend on the business activity (defined in section 2.1.2.1). Parameters with higher weights are more informative of performance for that business activity and therefore have greater influence on the final tier level.

Where values cannot be calculated for one or more parameters that comprise a factor, the weightings of the other parameters are scaled or prorated to compensate for the missing data.

Licensees are able see their own LCA data and where they rank relative to their peers. They can also see which other licensees are included in their peer group. However, detailed data for those peers is not available.

New licensees will not have historical performance data, therefore, the LCA may identify them as more or less risky than they actually are. The AER will take this into consideration when conducting holistic licensee assessments of new licensees.

2.1.2.3 Performance Group Parameters

The tables below describe the parameters used in the performance group. Most parameter calculations are based on a 36-month performance window unless otherwise stated.

2.1.2.4 Remaining Lifespan of Resources

This factor evaluates the expected longevity of a licensee's mineral resources and infrastructure, as well as the ability of current operations to fund required closure activities. A detailed explanation of how the crossover timeline parameter is calculated can be found in appendix 1.

Table 3. Remaining lifespan of resources: parameters and associated weightings

		Weights	
Parameters	**Description**	**Producers**	**Midstream, Waste Management & Pipeline**
Production trend	Annualized rate of change of production over the previous 36 months, subject to availability of data	25%	0%
Inactive well ratio	Ratio of inactive wells to wells that have not been abandoned (both active and inactive)	25%	10%
Marginal well ratio	Ratio of wells producing 1.59 cubic metres of oil equivalent per day (10 barrels of oil equivalent per day) or less to active wells	25%	0%
Inactive facility ratio	Ratio of inactive facilities to facilities that have not been abandoned (both active and inactive)	15%	70%
Crossover timeline	Estimate of the timeframe when magnitude of inactive liability will exceed the forecasted operating cash flow from remaining proven, developed reserves* Tier 1 (ranking 100%) = very far: ≥15 years Tier 1 (ranking 80%) = far: ≥7 and <15 years Tier 2 (ranking 50%) = medium: ≥3 and <7 years Tier 3 (ranking 0%) = near: <3 years	10%	20%

* Operating cash flow is forecasted using ST-98 commodity prices and proprietary internal estimates of fixed and variable operating expenses. We consider only proved, developed, producing, and non-producing reserves. The information is refreshed quarterly to account for changes in price forecasts, and to improve the confidence in the forecasted decline rates based on the most recent production reporting available through Petrinex.

2.1.2.5 Operations

This factor evaluates a licensee's commitment to safe and responsible operations. Currently, it is measured in terms of regulatory compliance, responsiveness to addressing noncompliances (e.g., noncompliance follow-up rate), and recent incidents (e.g., spills and releases).

Table 4. Operations: parameters and associated weightings

		Weights	
Parameters	**Description**	**Producers**	**Midstream, Waste Management & Pipeline**
Directive 013 noncompliance rate	Ratio of medium- and high-risk wells with *Directive 013* noncompliance to medium- and high-risk inactive wells (excludes medium-risk type 6 wells)	25%	0%
Field noncompliance follow-up rate	Ratio of late follow-ups to total follow-ups for field inspections, emergency response plan (ERP) audits, and waste management audits for the previous 36 months. (Follow-ups require completion by a specified deadline)	10%	20%
Field noncompliance rate	Ratio of all unsatisfactory inspections, failed emergency response plan (ERP) audits, and waste management audits to total inspections, ERP audits, and waste management audits in the Field Inspection System (FIS) for the previous 36 months	15%	70%
Pipeline incident rate	Number of pipeline incidents per average number of 10 kilometres of operating pipeline lengths, for the previous 36 months	25%	10%
Release & spill rate	Number of release incidents to average number of active wells and facilities, excluding those with reclamation certificates or that are reclamation exempt, for the previous 36 months	25%	0%

2.1.2.6 Closure

This factor considers recent closure activities, closure spending, and the licensee's inactive liability change. Inactive liability is the estimated liability associated with inactive and abandoned/decommissioned wells and facilities.

Table 5. Closure: parameters and associated weightings

		Weights	
Parameters	**Description**	**Producers**	**Midstream, Waste Management & Pipeline**
Closure spending rate	Ratio of licensee-reported eligible closure spending for a given calendar year to the licensee's inactive liability at the time the quota for that year was determined (for example, the licensee's reported closure spending for the 2023 calendar year relative to the licensee's total magnitude of estimated liability as of the date the 2023 quota was calculated in 2022).	20%	20%
Inactive liability trend	Annualized rate of change of inactive liability over the previous 36 months	20%	20%

		Weights	
Parameters	**Description**	**Producers**	**Midstream, Waste Management & Pipeline**
Well abandonment rate (produced)	Ratio of total wells abandoned to average count of inactive wells, for the previous 36 months (wells that produced)	10%	5%
Well abandonment rate (non-produced)	Ratio of total wells abandoned to average count of inactive wells, for the previous 36 months (wells that never produced)	5%	5%
Well reclamation rate (produced)	Ratio of total wells reclaimed to average count of abandoned wells, for the previous 36 months (wells that produced)	10%	5%
Well reclamation rate (non-produced)	Ratio of total wells reclaimed to average count of abandoned wells, for the previous 36 months (wells that never produced)	5%	5%
Facility abandonment rate	Ratio of total facilities abandoned to average count of inactive facilities, for previous 36 months	10%	15%
Facility reclamation rate	Ratio of total facilities reclaimed to average count of abandoned facilities, for the previous 36 months	10%	15%
Pipeline abandonment rate	Ratio of total pipeline segments abandoned to average count of total pipeline segments, for the previous 36 months	10%	10%

2.1.2.7 Administration

This factor considers a licensee's compliance with AER fees and levies, as well as the status of any outstanding or overdue amounts owed to the Crown for mineral lease expiries.

Table 6. Administration: parameters and associated weightings

		Weights	
Parameters	**Description**	**Producers**	**Midstream, Waste Management & Pipeline**
Orphan fund levy compliance*	Status of invoices: • Tier 1 (ranking 100%) = licensee has no outstanding balance and no penalty invoices for late payment • Tier 2 (ranking 74%) = licensee has 1 late payment invoice in the past 3 years • Tier 2 (ranking 50%) = licensee has 2 late payment invoices in the past 3 years or is on a payment plan • Tier 2 (ranking 26%) = licensee has 3 late payment invoices in the past 3 years • Tier 3 (ranking 0%) = licensee has an outstanding balance • Null (ranking Null) = licensee was not issued any invoice(s) for the levy	33%	50%
Administrative levy compliance*	Status of invoices: • Tier 1 (ranking 100%) = licensee has no outstanding balance and no penalty invoices for late payment • Tier 2 (ranking 74%) = licensee has 1 late payment invoice in the past 3 years • Tier 2 (ranking 50%) = licensee has 2 late payment invoices in the past 3 years or is on a payment plan • Tier 2 (ranking 26%) = licensee has 3 late payment invoices in the past 3 years • Tier 3 (ranking 0%) = licensee has an outstanding balance • Null (ranking Null) = licensee was not issued any invoice(s) for the levy	33%	50%
Mineral lease expiries	Ratio of total mineral lease expiration letters sent by the AER, to average number of inactive wells, for the previous 36 months.	33%	0%

* Orphan fund levy compliance and administrative levy compliance are based on predefined thresholds rather than peer comparisons.

2.2 Licensee Profiles

The holistic licensee assessment is a key element in better understanding a licensee's unique characteristics, circumstances, risks, and capability. Licensees with similar characteristics are grouped into licensee profiles using the LCA intelligence and other relevant factors of the holistic licensee assessment as applicable. The primary information used in all profiles are level of financial distress, magnitude of estimated liability, and remaining lifespan of resources. Based on the circumstances, additional relevant information is used as appropriate. The profiles are currently identified as follows:

- Financially capable – Licensees with low to medium levels of financial distress and Tier 1 and Tier 2 in remaining lifespan of resources
- Financially distressed – Licensees with a high level of financial distress
- Potential sustainability concerns – Licensees with low to medium levels of financial distress and Tier 3 in remaining lifespan of resources

Additional profiles may be identified to reflect licensees' unique characteristics, circumstances, risks, and capability.

3 Licensee Management Program

The Licensee Management Program assesses licensees who may be at risk of not meeting their regulatory and liability obligations. The desired outcomes are that licensees will

- proactively conduct timely closure work and reduce liability,
- maintain integrity of infrastructure and site, and
- manage infrastructure to minimize the risk to the public and environment.

The Licensee Management Program uses licensee profiles to prioritize producer licensees (see section 2.2, "Licensee Profiles"). Prioritized licensees will be holistically assessed to identify risks that will need to be mitigated by the licensee.

The holistic licensee assessment is a key element in better understanding licensees and uses information as described in section 2. As the AER undertakes further scrutiny of the licensee, the AER may engage the licensee to inform them that they are being assessed and to request supplemental information to support the assessment as required by *Directive 088*. Once the holistic licensee assessment is completed, the AER will take appropriate regulatory actions to address the identified risks or concerns to support achieving the desired outcomes. The Licensee Management Program uses the *Integrated Compliance*

Assurance Framework as a guide, described in *Manual 013: Compliance and Enforcement Program*. Regulatory actions can include the following:

- education
- limiting licensee eligibility in accordance with *Directive 067*
- requiring closure plans in accordance with section 3.015 of the *OGCR* and 82.2 of the *Pipeline Rules*
- compliance and enforcement tools (see section 6 of *Manual 013*)
- security collection (see *Directive 068*)
- reasonable care and measure (RCAM) orders (see section 26.2 of the *Oil and Gas Conservation Act* [*OGCA*] and 22.1 of the *Pipeline Act*)

4 Inventory Reduction Program

The Inventory Reduction Program consists of two components: closure quotas and closure nomination. Closure quotas will create a minimum obligation for all licensees to abandon, remediate, and reclaim their oil and gas sites by setting minimum required amounts of closure work, money to be spent on closure activities, or both. Licensee-specific mandatory closure spends are derived from the industry-wide closure spend requirement. Closure nomination enables eligible requesters to request wells and facilities be closed that have been in an inactive or abandoned state for five or more years.

Together, these program components require industry to complete closure activity in order to reduce inactive liabilities.

The Inventory Reduction Program requires licensees to demonstrate progress. The program often uses the term “closure milestone” when setting out expectations and processes. A closure milestone is the completion of an activity that progresses infrastructure or a site to abandonment or reclamation certified status, and results in a change to a licence’s status. There are also lesser stages throughout the abandonment, remediation, and reclamation process where licensees report progress on closure activity and closure spending.

Licensees can refer to the following sources to view the life-cycle status of their assets (see appendix 4 for information on validating facility operational life-cycle statuses):

- A list of inactive wells is available through the Inactive Well Licence List report available on the *Directive 013: Suspension Requirements for Wells* webpage.
- Data and reports related to well integrity issues can be found on the *Directive 059: Well Drilling and Completion Data Filing Requirements* webpage.
- A list of all inactive facilities is available in OneStop.

4.1 Closure Quotas

Liability associated with inactive and abandoned wells and facilities is used to determine the mandatory closure spend annually for each licensee. Licensees can view which infrastructure is included within OneStop. At this time, waste management approvals are not included.

The industry-wide closure spend requirement is based on inactive liability and historical closure performance and considers factors such as commodity prices and service sector availability. The industry-wide closure spend requirement is available on the AER's website and updated annually.

The determination of mandatory closure spend is based on the licensee's inactive liability (assessed the September prior) and the licensee's level of financial distress (see section 2.1.1). A licensee's mandatory closure spend is their total inactive liability multiplied by their spend rate**.**

Licensees with a high level of financial distress will receive a lower spend rate while those with a medium or low level of financial distress will receive a higher spend rate. Licensees that have not met the *Directive 067* financial submission requirements will receive a higher spend rate. Mandatory closure spends will not be adjusted after receiving late financial submissions. Additional information on the Inventory Reduction Program, including the industry-wide closure spend requirement and spend rates for licensees, can be found on the program's webpage, www.aer.ca > Regulating Development > Project Closure > Liability Management Programs and Processes > Inventory Reduction Program.

The spend rates are reviewed annually and are available on the AER website.

Any questions related to closure quotas should be sent to InventoryReduction@aer.ca.

4.1.1 Mandatory Closure Spend

Licensees will be provided with their mandatory closure spend annually in OneStop.

Licensees with a mandatory closure spend equal to or less than $50 000 have the option to pay security in lieu of meeting the mandatory closure spend. If a licensee is eligible to pay security in lieu and the AER holds oil and gas security greater than their total oil and gas liability, the AER will not request additional security in lieu. However, licensees are encouraged to conduct closure work to reduce their total liability. For more details related to security, see section 6 of this manual and refer to *Directive 068: Security Deposits* and *Directive 088*.

After the AER receives notification of an amalgamation of licensees under *Directive 067*, the successor licensee will receive a letter detailing their new mandatory closure spend and be able to view their updated mandatory closure spend in OneStop. Additionally, the successor licensee will be able to view within OneStop a list of all assets that are contributing to each year's mandatory closure spend.

For more detailed information on what costs count towards the closure quotas, refer to appendix 2. For reporting requirements, refer to section 4.3.

4.1.2 Area-Based Closure Approach

The AER encourages collaboration among companies completing closure work in similar areas. Participants can complete more closure work for the same closure budget by leveraging opportunities to collaborate with other companies. The ABC approach and mapping tool are provided to support this. The ABC mapping tool in OneStop can be used by all licensees as well as oilfield service companies. Companies can use OneStop to

- identify the areas and specific closure activities they are planning to execute the closure programs in and estimated project start timelines and
- provide companies a map of current and future closure programs, potentially allowing both the ability to share contractors' services and reducing overall unit cost.

Licensees and oilfield service companies can submit and view *proposed* and *confirmed* ABC projects in OneStop.

- Proposed ABC projects – These projects are submitted by licensees and identify areas where the licensee is considering closure. These projects are earlier in the planning stage and may not have budget allocated and may be delayed or cancelled. Licensees may submit project proposals up to a maximum of five years out. This function provides a great opportunity for industry to collaborate more effectively during the planning stages of a project before finalizing resources and budgets.
- Confirmed ABC projects – These projects are submitted by licensees and identify areas where work is intended to start within the current or upcoming year. Proposed and confirmed ABC projects are submitted in OneStop under the Close tab. There are no additional regulatory requirements for using the ABC mapping tool, and licensees and service providers are encouraged to use the system for collaborating on closure projects.

Guidance on how to submit projects and use the ABC mapping tool can be found on the Inventory Reduction page at www.aer.ca.

4.1.3 Eligible Closure Spending

As defined within sections 1(1)(b), 1(1)(vv), and 1(1)(vv.12) of the *Oil and Gas Conservation Act* and section 1(1)(b), 1(1)(w), and 1(1)(x.3) of the *Pipeline Act*, closure spending is considered the reasonable costs actually incurred in the abandonment, remediation, and reclamation of a well, facility, or pipeline.

For the purposes of the Inventory Reduction Program, only costs incurred on the following count towards one's mandatory closure spend:

- closure of inactive and abandoned sites
- closure activity on a well or facility that has been shut-in within the program year, is progressing towards abandonment, and no production has been reported since the program year ended
- abandonment and remediation of pipeline and pipeline installations that results in an abandoned status

A company may only submit closure spending for licences in which they are the licensee of record, and it should submit all eligible closure spending incurred.

The following are some examples of expenditures that do not count towards a licensee's mandatory closure spend:

- goods and services tax (GST)
- well and facility suspension
- pipeline discontinuation as well as their associated installations
- abandonment, remediation, or reclamation on active sites with ongoing reported production
- surface casing vent flow test that is not directly related to well abandonment

The AER will assess reported closure spending to determine whether a company is compliant in meeting their mandatory closure spend, as well as using this information as the basis for future updates to the estimated magnitude of liability.

4.2 Closure Nomination

As described in the *OGCR*, an eligible requester can request closure of a well or facility that has remained in an inactive or abandoned state for five or more years. For more information regarding the definition of inactive wells and facilities, refer to section 6. The number of years a well or facility has been inactive is calculated from the AER's current data for the well or facility licence.

4.2.1 Closure Requests by Eligible Requesters

Eligible requesters are recognized representatives that can be verified with documentation:

- title holders for private lands
- a member of the council of a band as defined in the *Indian Act* for reserve lands
- Métis settlement council members or chairperson for Métis settlements
- the mayor or councillor of a municipality for municipal owned land

- the holder of an overlapping disposition that has been issued under Part 3 of the *Public Lands, Administration Regulation*
- the minister of Energy or minister of Environment and Protected Areas

A request for closure can be made using the Closure Nomination Form on aer.ca. If an eligible requester does not have internet access or requires assistance in completing the form, they can contact their nearest AER field centre or contact the AER Customer Contact Centre at 1-855-297-8311. The same information is required regardless of how the closure nomination is submitted.

The closure request process is not to be used if there are environmental or safety issues at the site. In such cases, requesters should immediately call the AER's Energy and Environmental Emergency 24-Hour Response Line at 1-800-222-6514.

The AER will verify the eligibility of the well or facility and requesters based on data available to the AER. When a well or facility is nominated, the AER identifies the date on which the well or facility became inactive. This date determines if it meets the five-year eligibility criteria. Inactivity is calculated per the requirements in *Directive 013* for wells and *Directive 088* for facilities. The five-year eligibility criteria applies to all wells and facilities that are not reclaimed and is not adjusted or reset if a licence status changes. The licensee will receive the details of the nomination and will have an opportunity to provide additional information. The criteria considered during AER verification includes the following:

- infrastructure type is a well or facility
- licence has been in an inactive or abandoned state for five or more years
- spatial location of the well or facility is on private lands, Crown lands, or reserve lands as appropriate for the requester type
- no active reclamation certificate application exists, and the site does not have a reclamation certified status
- site status is not reclamation exempt
- requester has certified accuracy of the request

Supporting documentation (e.g., land title, resolution of a band) may be requested from the requester to confirm that the requester is eligible.

A verified request for closure will be posted to the publicly available closure nomination dashboard at aer.ca where a requester can see its assigned nomination number, the status of the closure nomination, closure plan details, and progress of closure activity. The nomination dashboard is updated daily. Requesters will be notified of verification results by email to the addresses provided in the request. If the well or facility does not meet eligibility criteria, the AER will provide the reason why the request for closure is not eligible.

Only the eligible requester that made a request for closure can withdraw the request. To withdraw a request, the requester can email Closure.Nomination@aer.ca and include the nomination number from the nomination dashboard. The requester should also notify the licensee when withdrawing a request. The AER will confirm the withdrawal before updating the status of the closure nomination on the nomination dashboard.

4.2.2 Licensee Notification & Confirmation of Records

Licensees can provide a specific contact for correspondence on the closure nomination program using the Licensee Response to Closure Nomination Form in OneStop. It is the licensee's responsibility to keep this contact information up to date. Licensees will be notified by email on the first business day of each month of any new requests for closure that have been received and verified by the AER for the previous month.

If a licensee has evidence that a well or facility nominated for closure does not meet the eligibility criteria described in section 3.016 of the *OGCR*, the licensee has 30 days from notification to use the Licensee Response to Closure Nomination Form to provide additional information. The licensee will need to provide the nomination number for each licence found on its closure nomination page in OneStop.

The AER will accept the following as evidence relevant to the eligibility of a requester:

- record of title for a landowner
- band council resolution or letter from chief and council for reserve lands
- letter from Métis settlement leader for Métis lands
- letter from mayor and council for a municipality
- disposition number and name for a disposition holder

The AER will accept the following as evidence relevant to the eligibility of a well or facility:

- facility records
- production records
- any other information the AER considers relevant in the circumstances

The AER will consider the licensee response and verify eligibility. This may require further correspondence with the licensee, requester, or other parties. The status of the nomination will be updated on the nomination dashboard and in OneStop. The response timelines outlined in section 4.2 of *Directive 088* must still be met even if additional information that a licensee provides regarding the eligibility of a well or facility or a requester is being reviewed. If the AER determines that the requester or the well or facility is not eligible for nomination, the nomination will be closed and the requester will be notified.

4.2.3 Closure Plans

When an eligible well or facility has been nominated by an eligible requester, and the AER has notified the licensee, the licensee is required to prepare a closure plan. A closure plan needs to be specific to the licence associated with the closure nomination. A closure plan is an operational submission, not an application, and therefore does not require public notice; however, the closure plan status will be updated on the closure nomination dashboard and in OneStop.

A licensee must select one of three options when completing the Licensee Response to Closure Nomination Form in OneStop:

- baseline closure plan
- non-baseline closure plan
- proposal to defer the closure plan

If the licensee selects the non-baseline closure plan or proposal to defer, supporting documents need to reference the closure nomination number and be emailed to Closure.Nomination@aer.ca. The baseline closure plan will be the default approved closure plan that a licensee is required to meet unless the AER approves an alternative.

If new information or a change in well or facility circumstance results in a need to modify the closure activity timelines, a licensee can request a change to the approved closure plan using the Licensee Response to Closure Nomination Form in OneStop. The licensee must include the new information that led to the change and adequate information to demonstrate the new circumstance and how it impacts the licensee's ability to meet the approved closure plan.

If a closure nomination well or facility is part of a transfer application, the selected closure plan option and approved closure plan, including timelines, will transfer with the well or facility. It is the responsibility of the transferee to be aware of closure-nominated wells and facilities that they may become responsible for. The closure nomination dashboard can be used to obtain information on any closure-nominated well or facility.

4.2.3.1 Baseline Closure Plans

Baseline closure plans must meet the maximum timeframes allowed to complete each closure activity described in *Directive 088*. Failure to complete the closure activities within the specified timeframes will result in enforcement action. It is expected that most licensees will be able to meet the timelines of a baseline closure plan.

The baseline closure plan is the default plan that a licensee must meet unless the AER approves an alternative.

If the site associated with a nominated well or facility has not had a Phase 1 environmental site assessment or if remediation is not required, the licensee has a total of 10 years to complete the closure activities when the baseline closure plan is selected. If a Phase 1 environmental site assessment has identified the need for remediation, one additional year for the Phase 2 environmental site assessment and two additional years for remediation are provided with the selection of a baseline closure plan, giving the licensee a total of 13 years to complete the closure activities. If a closure activity is completed sooner than required, the licensee can use the remaining time for that activity for the remaining required closure activities.

Upon becoming aware of a substance release that has, is, or may cause adverse effects, the *Remediation Regulation* requires the licensee to submit reports and, if necessary, a remedial action plan. *Manual 021: Contamination Management* provides information on the *Remediation Regulation* and how licensees are to demonstrate compliance with the requirements. Discovery of contamination while executing a baseline closure plan may require additional time for remediation. In the scenario where a remedial action plan is submitted, the licensee may also be required to resubmit the Licensee Response to Closure Nomination Form and supporting information to make a case for a non-baseline closure plan.

Once each closure activity is complete, the licensee is required to report the completion of the closure activities. Section 4.4 provides more information on reporting.

4.2.3.2 Non-Baseline Closure Plans

Non-baseline closure plans are intended for situations where the complexities or challenges of completing closure activities are likely to prevent a licensee from meeting baseline timelines. A non-baseline closure plan must be submitted when a licensee selects the non-baseline closure plan option using the Licensee Response to Closure Nomination Form. Some examples of scenarios that justify the selection of a non-baseline closure plan may include gas migration repairs, complex contamination management, large facility abandonment, and remote locations.

A non-baseline closure plan needs to describe the specific circumstances associated with the well or facility and define timelines for completion of closure activities. In some circumstances where timelines are difficult to set, such as complex remediation, the AER may allow annual licence-specific closure spending with appropriate evidence to show progress to bring wells and facilities to full closure as a substitute for the maximum number of years allowed to complete each closure activity.

If selecting the non-baseline closure plan option, additional information justifying the selection must be provided in the Licensee Response to Closure Nomination Form and attachments provided by email to

Closure.Nomination@aer.ca. All email submissions need to reference the closure nomination number. Additional information may include the following:

- description of complexity or location challenges
- description of other infrastructure on site affecting closure activity
- contamination management reports (OneStop Record of Site Condition submission ID)
- remedial action plan (OneStop Record of Site Condition submission ID)
- risk management plan (OneStop Record of Site Condition submission ID)
- latest report on surface casing vent flow
- reference to related order (e.g., order number)

Selection of the non-baseline option and the associated closure plan will be reviewed and must be approved by the AER. Approved closure activities and their associated timelines will be posted to the closure nomination dashboard and in OneStop, and closure progress will be verified through reporting done by the licensee.

Non-baseline closure plans may be approved with terms and conditions. Non-baseline closure plans may also require additional reporting, including site-specific closure spending, to demonstrate closure progress for the well or facility.

The following factors will be considered by the AER when assessing non-baseline closure plans:

- the nature and complexity of issues associated with the well or facility
- the proposed closure activity and associated timeframes
- the results of the holistic licensee assessment
- existing closure activity related orders for licensee, well, or facility
- number of wells and facilities nominated for closure
- any other factor identified by the AER (e.g., site-specific liability assessment)

The AER may deny the selection of the non-baseline option or refuse to approve the associated closure plan.

4.2.3.3 Proposal to Defer the Closure Plan

There may be some cases where it is appropriate to defer the submission of a closure plan. A licensee can select the option of proposal to defer the closure plan through the Licensee Response to Closure Nomination Form in OneStop.

Some examples of cases where a proposal to defer may be appropriate include where the nominated well or facility is attached to an active site (e.g., a well is on a site that is actively used for another activity) or the well or facility is being transitioned to another purpose such as development of another resource (e.g., geothermal development, monitoring site, etc.).

If selecting the proposal to defer option, the additional information justifying the selection is to be provided through the Licensee Response to Closure Nomination Form and attachments provided by email to Closure.Nomination@aer.ca. All email submissions must reference the closure nomination number. Additional information may include the following:

- repurpose or reactivation plans or application number for a well or facility transitioning to other purposes and measurable actions
- notice of disclosure or an application number associated with the transition for a licence that is in transit or affected by another decision in progress
- description of activities and licence numbers of other licences preventing closure of the nominated well or facility if it is associated with other active infrastructure
- date and description of exemption
- reclamation certificate or letter of closure number and date if one exists for the licence

Each proposal to defer the closure plan will be reviewed by the AER and may be approved with terms and conditions. The following factors may be considered by the AER when assessing a proposal to defer:

- the results of the holistic licensee assessment
- current licence status (e.g., abandoned) and condition of site
- age of the well or facility and proposed alternate activity
- existing closure activity related orders for licensee or site
- any other factor identified by the AER

The AER may deny the selection of the proposal to defer the closure plan.

There may be cases where a closure nomination has been verified but the AER determines that no closure plan is required. These cases will be identified on the closure nomination dashboard and in OneStop, and the status will reflect next steps. Examples include the following:

- the licence is designated as orphaned and under the purview of the Orphan Well Association
- the licensee is insolvent and there is a known working interest participant that has received a closure order, which supersedes the closure nomination process

- the licensee is undergoing licensee management intervention that includes closure plan requirements, which supersede the closure nomination process

4.2.3.4 Closure Plans for First Nation Reserve Land

Wells and facilities on First Nation reserve land are typically regulated by multiple regulators (e.g., Indian Oil and Gas Canada). In these cases, the AER only enforces the abandonment timelines (the first closure activity). The other activities may be governed by other agencies. However, all AER reporting requirements still apply, including reporting on the completion of each closure activity, even those governed by other agencies.

4.3 Reporting Inventory Reduction

The licensee is to report all closure activities, completion of each closure activity, and closure spending for the previous calendar year by March 31 of every year, unless otherwise specified by AER requirements or as directed by the AER. The AER monitors reporting progress and strongly recommends that licensees begin their reporting as soon as possible to ensure they can resolve any discrepancies or other issues they encounter while still meeting the deadline.

All closure activity and closure spending must be reported through OneStop. OneStop is also the interface to view licensee's mandatory closure spend, completion dates associated with approved closure plans, and closure activity related to the Inventory Reduction Program. Closure spending and closure activity reporting is separated both by category (abandonment, environmental site assessments, remediation and reclamation) and by infrastructure type (well, facility, and pipeline and their associated installations).

Activities related to closure nomination and approved closure plans should be reported as described in table 7.

Table 7. Closure activity reporting for closure nomination

Closure activity	Reporting method
Well or facility abandonment completion	Report in OneStop.
Phase 1 environmental site assessment complete	Submit closure spending in the category "Phase 1 Complete" via OneStop Phase 1 ESA module.
Phase 2 environmental site assessment complete (initial Phase 2 ESA; required if Phase 1 ESA fails)	Submit Phase 2 ESA report via OneStop Record of Site Condition (RoSC) module.
Remediation complete or remedial action plan submitted	Submit reports detailing results of remediation program and, if necessary, a remedial action plan via OneStop RoSC module.
Revegetation Initiated	Submission of the date when revegetation was initiated via OneStop, under Close/Reclamation.
Reclamation certificate application	Application submitted for a reclamation certificate for the site in OneStop or a submission to obtain a letter of closure.

Closure activity and spending can only be submitted by the licensee of record. As per *Directive 088*, section 5, requirement 11, once a licence transfer has been completed, the previous licensee will not be able to submit and receive credit towards their closure spending for the transferred licences.

Licensees are expected to report all closure spending within a calendar year into OneStop regardless of the source of funding. Closure spending can be reported on the individual well and facility licences in OneStop under Close/Spending. Licensees can also submit closure spending on multiple well, facility, and pipeline licences at one time using the bulk upload function (section 4.3.1). Licensees may elect to report their closure spending either on an ongoing basis as they are incurred or when a closure milestone is achieved. Where larger closure projects incur costs associated with multiple licences, the cost may be divided proportionally among the applicable licences and appropriate activities. For example, costs to build a winter access road directly related to executing eligible closure activities on multiple sites should be divided among those sites.

The Government of Alberta's site rehabilitation program (SRP) provided funding for closure work. The application period is now closed, and licensees are to complete work and submit invoices as directed by Alberta Energy. The AER will deduct the total amount of the SRP funding from a licensee's total closure spending reported. Alberta Energy will be providing the SRP funding information to the AER. The licensee-funded portion of the closure work counts towards a licensee's mandatory closure spend.

Licensees are able to access summary reports related to the Inventory Reduction Program within the "Reports – ABC" or Closure Nomination section of OneStop.

The public can access a summary of the progression of closure activity, including upcoming timelines for required closure activity, from the closure nomination dashboard.

Appendix 2 provides the different types of costs that can be counted towards meeting a licensee's mandatory closure spend. Closure spending reporting details are based on the current reporting structure in OneStop and may be subject to change.

All costs can be updated numerous times within a calendar year. The most recent submission overwrites any past submissions. Costs associated with closure activity should be reported within the same calendar year they are completed. Any costs reported past the program reporting deadline will not be considered.

If access costs are required to complete closure (e.g., ice road construction to access inactive sites), these costs should be entered under the closure activity occurring at the site. For example, if an ice road is constructed to access a well for the purposes of total abandonment, then the costs for ice road construction should be added to the abandonment costs and submitted together under the "Total Abandonment Completed" spending type. Furthermore, costs for ice roads constructed in December for January/February/March abandonment work should be reported in the January/February/March

abandonment year (i.e., when the work was finished). If ice roads were constructed to multiple sites, the cost should be divided between all sites.

When reporting costs related to well abandonments or re-abandonments, licensees can either report the total, aggregated cost (the work is complete) or report cost breakdowns by stages (work only partially completed). Partial reporting is necessary if licensees wish to count the closure spending towards the current year's mandatory closure spend, but the milestone will not be completed until the following year. It should be noted, though, that licensees cannot change the reporting type between partial and total reporting once submitted. If a licensee did a partial report the previous year, they cannot report an aggregate total the next year; reporting should continue using the applicable stages.

If a licensee submitted a total cost, they cannot go back and update that number the following year.

4.3.1 Bulk Uploads

All licensees can submit their closure spending data using the bulk uploads feature in OneStop. The bulk upload functionality and associated required template can be found in OneStop (Bulk Uploads > Upload Category: Closure Spending). At this time, the bulk upload functionality is the only method to submit pipeline closure spending.

When using bulk uploads, there are a number of things to consider:

- The bulk upload templates are in XLSX format, making it easier to fill them out. However, when uploading, OneStop only accepts these files in a CSV format.
- Licensees are encouraged to refer to the Reference Guide tab in the bulk upload templates for further guidance.
- The conversion to CSV should happen at the very end. Editing the CSV file after it has been created leads to "Errored" statuses or submissions that are not completed.
- Each row within a bulk upload is a unique submission. The OneStop system validates the bulk upload file one row at a time. If all the rows in the file pass the system validation and no errors are found, the upload status is "Complete." Should any row have an associated error, the status will show as "Errored" and a downloadable error file is generated indicating which rows were not accepted. The remaining rows without associated errors will be successfully uploaded.
- The AER recommends that a maximum of 400 entries are included in a single bulk upload file. Bulk upload files containing more than 400 entries are prone to timing out and the submissions are not completed.

4.4 Compliance

Licensees that do not meet their mandatory closure spend, including meeting the reporting deadline, are noncompliant. Licensees that do not select or provide closure plans and supporting information for nominated wells or facilities and do not meet the associated timelines and reporting requirements are noncompliant. The AER encourages early reporting to ensure adequate time is allowed to account for any potential reporting issues. To ensure that regulatory requirements are being met, the AER undertakes performance evaluations and will assess those licensees holistically to determine appropriate compliance assurance activities.

The AER's compliance and enforcement activities are guided by the *Integrated Compliance Assurance Framework* and *Manual 013*. More details can be found on our website, www.aer.ca > Regulating Development > Compliance > Compliance Assurance Program. Responses to noncompliances related to the Inventory Reduction Program may include the following:

- Security requirements as per *Directive 068*.
- Licensees who fail to meet their closure nomination requirements may be subject to
  - AER-directed timing and priority of closure activities,
  - Increased reporting on closure progress, or
  - Other activities or reporting that the AER considers necessary.

Based on the activities that are occurring at a site and a review of site status on the closure nomination dashboard, if an eligible requester thinks that a licensee is likely to fail to meet its approved closure plan, they can notify the AER by reporting complaints to the AER's Energy and Environmental Emergency 24-Hour Response Line at 1-800-222-6514.

5 Transfers

5.1 Applications

There are two types of licence transfer applications that can be submitted to the AER:

- Applications to transfer licences between licensees are submitted by both parties through the designated information submission system.
- Applications to transfer licences that are part of a company that is under the care of the Orphan Well Association or where the current licensee is not able to initiate a transfer application may be facilitated by the AER in a process referred to as a regulator-directed transfer (RDT). Contact Directive088Transfers@aer.ca to initiate an RDT application.

Licences statuses that are eligible to be included in a licence transfer application are provided in *Directive 088*. Previously, reclamation-certified and reclamation-exempt licences could not be part of a

transfer application. This has now changed, and the AER may apply discretion to require licensees to include the transfer of reclamation certified and reclamation exempt licences that are part of an insolvency proceeding, corporate clean out, or white map sales transaction, for example. The AER encourages licensees to contact the AER to discuss their specific circumstances with respect to reclamation certified and reclamation exempt licences.

Once registered in the designated information submission system, a licence transfer application is posted on the Public Notice of Application tool. A decision on the application will not be issued until the period for filing a statement of concern, as specified in the public notice of application, has lapsed.

5.2 Holistic Licensee Assessment for Transfer Applications

A holistic licensee assessment will be performed on the licensees involved in a transfer application, as described in *Directive 088*.

The AER encourages licensees to consider their situation as a result of the holistic licensee assessment both pre- and post-transfer application of the transferor and transferee so they understand how the application will be assessed. When required to understand the unique circumstances of their situation, the AER will contact the transferor and transferee if clarification is required as a result of the holistic licensee assessment.

Before submitting a licence transfer application, licensees are encouraged to request a preapplication meeting with the AER by email to Directive088Transfers@aer.ca. The intent of these meetings is to answer any process-related questions or clarify application requirements prior to submission. Statutory decisions will not be made at preapplication meetings; the preapplication meetings are strictly intended for furthering understanding of the licence transfer application process.

The following factors may trigger further scrutiny of the licensees and application:

- *Directive 067*, section 4.5, “Unreasonable Risk Factors”
- Key LCA factors (see section 2.1 for further description)
  - Financial health – medium or high assessed level of financial distress
  - Magnitude of estimated liability – medium or high estimated total magnitude of liability pre- or post-transfer
  - Remaining lifespan of resources –Tier 2 or 3 assessment pre- or post-transfer
- Licensee is new to holding eligibility as per *Directive 067* and there is no financial or operational history to support the holistic assessment of the licensee
- Other factors as determined by the AER where further scrutiny of the licensee’s post-transfer holistic assessment identifies a significant risk, including, for example, the following:
  - Compliance performance of each licensee

  - Site-specific risks
  - Administrative sanctions, as described in section 6.5 of *Manual 013*
  - Statements of concern submitted on a transfer application
  - Multiple transfer applications or multiple parties involved in the transfer
  - Repeated transfer of licences
  - Repeated transfer applications between the same or related parties
  - Compliance under the Public Lands Administration Regulations
  - New licensees or licensees with limited history/data
  - New applications or resubmission related to previous transfer decisions
  - Submission of a new application related to previous application
  - Reclamation certified and reclamation exempt licences
  - Transfer with the intent to repurpose wells or sites for alternative use (e.g., helium, lithium, geothermal, etc.)
  - Transfer of a licence where site conditions have indicated that estimated liability is significantly higher than the regional estimated liability
  - Overall scope and scale of transaction (e.g., a large change in inventory)

After reviewing the above factors, the AER will decide whether the application is approved, approved with conditions, or denied. Conditions of approval may include a security deposit.

5.3 Supplemental Information Requests

Applicants may be prompted to provide additional information in support of the transfer application review and decision as described in *Directive 088*. These requests may include information like the following:

- Transferor and transferee corporate history
  - Director and officer information
  - Field and administrative compliance
- Inventory management plans that include current AER licences and licences included in the transfer transaction
- Operational plans and strategies for the asset and synergies with existing assets
- Updated site-specific liability assessment
- Progress on contaminated site with locations and details

- Financial statements under *Directive 067*
- Reserves and net present value analysis for licensee's existing assets plus the assets within the transfer application; the AER may also request supporting information such as
  - reserves report (third-party report to be provided when available)
  - lease operating statements
- Additional financial information which may include items such as transaction purchase price and source of financing.

Failure to provide supplemental information as requested may cause the application to be considered incomplete and closed as a result.

5.4 Transfers of Oilfield Waste Management Facilities and Oilfield Waste Management Components associated with a Well or a Facility Licence

To align with the new *Liability Management Framework*, transfers of oilfield waste management facilities (OWMFs) will now be assessed as part of a licence transfer application and undergo a holistic licensee assessment, as described in *Directive 088*. However, the designated information submission system used for licence transfer applications is not currently tailored for OWMF approval transfers. Until changes can be made, applicants are to follow the below instructions.

If an OWMF is to be transferred along with other licences, follow the process described in section 5 of *Directive 088*, specifically requirement 21(a). Should the transfer application get approved, the associated OWMF approval will be updated.

To transfer an OWMF approval alone (i.e., no well, facility, or pipeline licences are being transferred), follow the process described in section 5 of *Directive 088*, specifically requirement 21(b). When submitting the transfer, applicants are to include the following:

- the standalone Transfer Application Declaration from appendix 1 of *Directive 088*, available in the forms section of the website (the attachment of the transfer declaration will be taken as consent to the declaration)
- a site-specific liability assessment (SSLA) in accordance with *Directive 001* and *Directive 011*
- a list of waste management facilities requested for transfer

If the transfer is approved, the respective approvals will be amended following standard AER processes.

If there is an oilfield waste management component (as defined in *Directive 058*: *Oilfield Waste Management Requirements for the Upstream Petroleum Industry*) associated with a licence transfer application, applicants need to email Directive088Transfers@aer.ca upon submission of the application

and identify which specific facility or well licences have oilfield waste management components associated with them.

5.5 Application Decision

Application decision timelines are provided on the AER Estimated Application Processing Timelines document found on the AER's website. Applicants can use the integrated application registry (IAR) query tool to check on the status of applications registered with the AER, including licence transfers (see table 8).

Table 8. IAR codes for transfer application status

IAR Status Code	Definition
Lic_Trans_Deficient	Application flagged for additional review
Awtg_Business_Apprvl	Application review completed, pending AER system approval
Disposition_Issued	Application approved and disposition of approval letter has been sent by AER's system
Application_Denied	Application has been closed/denied
Closed_Withdrawn	Application processed as withdrawn in AER's system

A licence transfer application may be closed as incomplete, approved, approved with conditions, or denied. For applications approved with conditions, conditions may include the following:

- Submission of financial statements at specified intervals
- Commitment to reactivate wells within specified timeframe
- Commitment to improve compliance performance
- Security deposits
- Additional oversight and reporting
- Other specific application conditions as determined appropriate by the AER

6 Security

As the AER works to implement the new liability management framework in phases, the security collection approach will also be updated in phases. The initial phase in 2021 resulted in improvements within *Directive 088*, applying the holistic licensee assessment to the Licensee Management Program, Inventory Reduction Program, and transfer applications. Transitional details around this next phase are outlined in *Directive 068*. The AER will continue to rely on the authorities in *Directive 068* and the *OGCR* to require security when required to offset the estimated costs of carrying out activities necessary to ensure the protection of the public and the environment and to address regulatory and liability obligations, including closure.

6.1 Security Determination and Calculation

Under Part 1.1 of the *OGCR*, the AER has broad authority to require security deposits across the energy development life cycle to offset the estimated costs of carrying out activities necessary to ensure the protection of the public and the environment.

When it is determined that security is required, the amount may be any combination of the following:

- value of liability under *Directive 011*
  - marginal wells (defined in *Directive 011*)
  - inactive wells (defined in *Directive 013*)
  - inactive facilities (defined in *Directive 011*)
- value of *Directive 001* site-specific liability
- future cash flows based on the reserves and economic analysis
- any other amount that AER considers appropriate in the circumstance

6.1.1 Inventory Reduction Program

When determining security under the Inventory Reduction Program, the following factors are the most important:

- rate of closure activities
- licensee compliance with mandatory closure spends

Beyond the security calculation items listed in section 6.1, the AER will consider the outstanding amount of closure spending required to meet a licensee's mandatory closure spend.

6.1.2 Transfer Security

A transfer application will trigger a holistic assessment of the transferor and transferee, considering their current and post-transfer situations. This includes the licences transferred as well as those remaining with the licensee. Section 5.2 indicates when further scrutiny of the application is required, which may result in security as a condition of approval. Security deposits may be requested from either or both transferor and transferee.

When determining the amount of security to collect, the AER considers a licensee's level of financial distress according to the most recent annual financial submission required under *Directive 067* (refer to section 2.1.1.1) and the crossover timeline post-transfer (refer to section 2.1.2.4). The result is a range of security, determined as a percentage of the licensee's inactive and marginal liability from licences within the transfer application. When security is being determined for a waste management facility transfer with an SSLA, the total magnitude of estimated liability will be used.

Within each security range, a licensee can have the amount of security escalated or de-escalated based on the following factors from the LCA:

- inactive well ratio (compared to the industry average)
- field noncompliance rate (compared to the industry average)
- closure factor (compared to peer ranking)
- orphan fund levy compliance
- administration levy compliance

The AER may consider additional LCA factors if deemed appropriate.

Licensees can view this information through the OneStop Liability Assessment Report. A licensee purchasing assets (transferee) will need to obtain this information from the licensee selling assets (transferor) in order to understand the potential security requirement based on the licences included within the application.

When submitting a transfer application, licensees may submit a reserves report prepared within the last 12 months by a qualified petroleum engineer in accordance with reserves definitions, standards, and procedures contained in the *Canadian Oil and Gas Evaluation Handbook*. Licensees are encouraged to provide this information in a timely manner so it can be considered as part of the application—this means within five business days of the application and included with each transfer application or bundle submitted at the same time. The AER cannot guarantee that information submitted after five days will be considered, as there may not be sufficient time remaining in the review process.

The AER will consider the information within the reserves report when determining the post-transfer crossover timeline. The reserves report may include the licences currently held by the licensee and the licences included within the transfer applications and should be submitted to Directive088Transfers@aer.ca.

Table 9 and table 10 are provided to give transferors and transferees a sense of what security may be required, but the AER retains its discretion to determine the appropriate amount considering the specific risks and circumstances of the application. Table 9 is for "producer" licensees only, and table 10 is for "midstream, pipelines, and waste management" licensees (defined above in section 2.1.2.1).

Table 9. Range of security that may be required at time of transfer based on level of financial distress and crossover timeline for "producer" licensees

	Level of financial distress		
Crossover timeline	**Low**	**Medium**	**High**
Very Far ≥15 years		0–9%	20–35%
Far ≥7 and <15 years	0–9%	20–35%	51–63%
Medium ≥3 and <7 years	20–35%	51–63%	71–79%
Near <3 years	51–63%	71–79%	97–100%

Table 10. Range of security that may be required at time of transfer based on level of financial distress for "midstream, pipelines, and waste management" licensees

	Level of financial distress		
Peer Groups	**Low**	**Medium**	**High**
Midstream, Pipelines, and Waste Management	0–9%	20–35%	51–63%

New data will be integrated into this security model as we continue with the implementation of *Directive 088*. As a result, the ranges may change in the future based on the new data and industry performance.

6.1.3 Refund of Security Deposits

Section 6 of *Directive 068* outlines the requirements for the refund of security deposits, including that a licensee must be compliant with all AER requirements to be eligible. Specifically, when a refund request is made for security collected under *Directive 088*, a holistic assessment of the licensee requesting the security refund will be triggered.

When determining whether a licensee is eligible for a full or partial refund, the AER considers a licensee's level of financial distress according to the average financial risk score from the last three consecutive annual financial submissions and the crossover timeline. If only one to two consecutive years of financial submissions are available for a licensee (i.e., a new licensee), the AER will average the risk score for the available annual submissions.

Depending on the crossover timeline and level of financial distress, we will determine what percentage of the licensee's entire inactive and marginal estimated liability must be retained by the AER. Table 11 and table 12 are provided to give licensees a sense of the thresholds, but the AER retains its discretion to determine the appropriate security refund amount considering the specific risks and circumstances of the licensee. Table 11 is for "producer" licensees only, and table 12 is for "midstream, pipelines, and waste management" licensees (defined above in section 2.1.2.1).

Table 11. Range of security (expressed as a percentage of inactive and marginal liability) that may be retained based on level of financial distress and crossover timeline for "producer" licensees

	Level of financial distress		
Crossover timeline	**Low**	**Medium**	**High**
Very Far ≥15 years		0-12%	24-43%
Far ≥7 and <15 years	0-12%	24-43%	51-64%
Medium ≥3 and <7 years	24-43%	51-64%	71-80%
Near <3 years	51–64%	71-80%	97–100%

Table 12. Range of security that may be required at time of transfer based on level of financial distress for "midstream, pipelines, and waste management" licensees

	Level of financial distress		
Peer Groups	**Low**	**Medium**	**High**
Midstream, Pipelines, and Waste Management	0-12%	24-43%	51-64%

If the refund would result in the AER holding less security than the determined percentage, then no security may be refunded.

If the refund would result in the AER holding more security than the determined percentage then, based on specific risks and circumstances, all or part of the refund may be granted.

This approach may change as new data becomes available and as we continue to implement the new liability management framework and develop our security framework.

7 Ceased Operations

Regardless of the reason for ceasing operations, licensees remain responsible for ensuring compliance with all AER requirements. These regulatory requirements include the following:

- providing continued reasonable care and measures of all AER-licensed properties in alignment with section 26.2 of the *OGCA*, and section 22.1 of the *Pipeline Act*
- ensuring that an emergency number remains posted and active for all AER-licensed properties and initiating an immediate response when called, in accordance with section 2 of *Directive 071*
- maintaining reasonable and appropriate insurance for all AER-licensed properties in accordance with section 4.2 of *Directive 067* and notifying the AER immediately of any reduction or cancellation of insurance in accordance with section 5 of *Directive 067*
- ensuring all AER-licensed properties are rendered in a safe state acceptable to the AER by the time the company will cease operations by properly suspending the licences in accordance with *Directive 013*, including ensuring that all wells and facilities are shut in, sealed, locked, and chained and depressurizing, removing, and properly disposing of fluids from any equipment and containment devices
- maintaining an official email address that is frequently monitored for regular communications with the AER on regulatory matters, and updating the AER's records for corporate and emergency contact information in accordance with section 5 of *Directive 067*
- notifying the AER immediately if they are ceasing operations or if they initiate or are subject to liquidation, dissolution, or insolvency proceedings as per section 5 of *Directive 067*

- maintaining registration in, and responding to inquiries from, Utility Safety Partners, in accordance with section 44 of the *Pipeline Rules*
- maintaining records of AER-licensed properties in accordance with AER requirements
- either obtaining approval from the AER to transfer licences, approvals, and permits to an eligible party in accordance with *Directive 067*, *Directive 088*, the *OGCR*, and *Pipeline Rules* or completing abandonment in accordance with under section 27 of the *OGCA*, section 23 of the *Pipeline Act*, and *Directive 020*, and completing reclamation of all sites in accordance with section 137 of the *Environmental Protection and Enhancement Act* (*EPEA)*
- posting applicable security upon request in accordance with the *OGCR* and *Directive 068* for liabilities remaining on AER-licensed properties that have not been transferred to eligible parties and have not achieved reclamation certification

Failure to comply with AER requirements may result in additional regulatory actions, as contemplated in *Manual 013: Compliance and Enforcement Program*. When considering how to respond to noncompliance, AER staff consider the factual circumstances of a noncompliance and the severity of its actual or potential impacts. The compliance history of the regulated party is taken into consideration as well as how to achieve the best environmental, public safety, and operational outcomes. In some cases, the AER uses additional tools when previous compliance and enforcement tools have been ineffective.

Should a licensee be indebted to the AER for any costs, levy, fee, penalty, security, or other amount, the AER has a lien in respect of the licensee's debt on the licensee's interest in any wells, facilities and pipelines, and land or interests in land, including mines and minerals, equipment, and petroleum substances. The AER's lien has priority over all other liens, charges, rights of set-off, mortgages, and other security interests pursuant to section 103 of the *OGCA*.

The AER expects licensees who are ceasing operations to take responsible actions to facilitate an orderly wind-down of operations, including the following:

- updating its working interest participant records for all AER-licensed properties in anticipation of potential closure actions which would trigger requirements for working interest participant records to be up to date
- retaining and preparing well files, copies of corporate emergency response plan (ERP) and any AER-approved ERPs, landowner contact files, and other records to share, upon request, should there be parties assigned responsibilities and require such records to safely conduct reasonable care and measures and closure activities

The AER encourages any licensee considering ceasing operations or entering into insolvency proceedings to contact OrphaningInsolvency@aer.ca and to engage their working interest participants in their plans for ceasing operations.

The decision to cease operations may trigger regulatory obligations for working interest participants. AER direction to working interest participants may include providing reasonable care and measures and completing abandonment and reclamation. Working interest participants are responsible for paying their proportionate share of reasonable care and measures, suspension, abandonment, and reclamation costs.

Appendix 1 Crossover Timeline Parameter Explanation

The crossover timeline parameter estimates the sum of future revenues from all the licensee's licensed conventional wells and the anticipated estimated inactive and abandoned well liability as it changes over the years. These are modeled using Petrinex production data to estimate the well decline curves. The point at which the future undiscounted cash that the company can theoretically generate is equal to the estimated inactive and abandoned liability is the crossover point.

The crossover timeline parameter is calculated dynamically for a licensee from the sum of all conventional well licences issued to a licensee and takes account of both forecast production changes and well life-cycle status changes as it changes over time. Working interest participant information is not factored into this parameter. The crossover timeline is recalculated daily and so reflects the impacts of well transfers once they have been completed.

To illustrate, in the below figure, the blue line is the estimated cost to fully close and reclaim all a licensee's wells. The orange line is the total operating cash flow at the end of the year from all active conventional well licences held by the licensee, taking into account production decline estimates derived from historical production levels. The point where the lines cross is the crossover timeline.

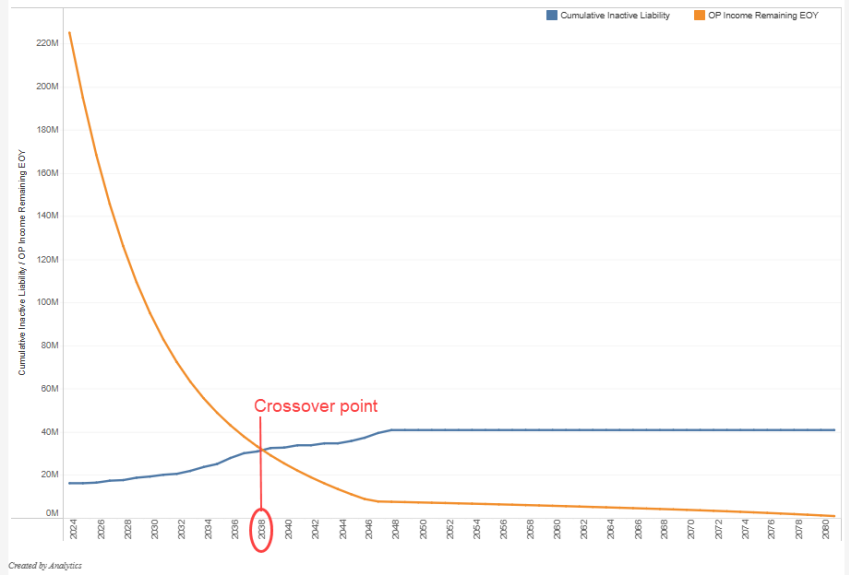


Figure 2. Illustration of crossover timeline

When a reserves report is provided by a licensee in connection with an application, we recalculate the crossover timeline for the sole purpose of assessing the application and making that specific decision. (We only use "proved developed producing" and "proved developed non-producing" reserves.) The LCA parameter of crossover timeline is *not* updated as a result of this re-evaluation. Reserves data provided to the AER is kept confidential as stated in the *Oil and Gas Conservation Rules*.

Appendix 2 Closure Spending Reporting Details

Table 13. Reportable closure spending – Well and facility abandonment

Category	Type	Description
Wells		
Partial well abandonment	All zonal abandonments completed	Cost incurred for zonal abandonment of all completed zones in a well being abandoned.
	Remedial operations completed	Cost incurred to conduct remedial cementing operations in the wellbore. This includes casing repairs, fishing operations, groundwater protection, and porous zone isolation.
	SCVF/GM repair in progress	Cost incurred to conduct SCVF/GM repair attempts during the abandonment of a well. Applicable costs include testing, source determination, and repair. This spending can be reported annually until the SCVF/GM incident is repaired.
	Cut and cap completed	Cost incurred to cut and cap the wellbore. This spending can be reported only once per licence and in the same year as the reported “Original Surface Abandonment Date” on the “Well Abandonment” page on OneStop
Re-entry and re-abandonment	Remedial operations completed	Cost incurred to conduct remedial cementing operations in the wellbore. This includes casing repairs, fishing operations, groundwater protection, and porous zone isolation. This spending can be reported only once per licence.
	SCVF/GM repair in progress	Cost incurred to conduct SCVF/GM repair attempts during the abandonment of a well. Applicable costs include testing, source determination, and repair. This spending can be reported annually until the SCVF/GM incident is repaired.
	Cut and cap completed	Cost incurred to cut and cap the wellbore. This spending can be reported only once per licence and in the same year as the reported “Original Surface Abandonment Date” on the “Well Abandonment” page on OneStop.
	Downhole plug repair completed	Cost incurred to conduct total zonal abandonment of the zones that required the existing downhole abandonment plug to be repaired.
Total well abandonment or re-entry and re-abandonment	Total abandonment completed	Cost incurred to fully abandon the wellbore (downhole and surface). This includes the cost of zonal abandonment, remedial operations (if any), SCVF/GM repair (if any), and cut & cap. This spending can be reported only once per licence. Well abandonment spending can only be reported when the corresponding AER licence status is abandoned. For more information on well abandonments and reporting requirements, refer to *Directive 020*.
Surface equipment removal spend (well site)	All unlicensed surface equipment removal completed	Cost incurred for removal of all unlicensed surface equipment from the well site. Report the surface equipment removal date on the OneStop “Progressive Reclamation” page before reporting this spending.

Category	Type	Description
Facilities		
Progressive facility abandonment	Abandonment in progress	Cost incurred for facility abandonment operations in progress for the year specified. This expense can be submitted for each year there was abandonment work occurring until the year of the reported "Equipment Removal Completion Date" on the "Facility Abandonment" page on OneStop. If subsurface infrastructure will be removed during remediation/reclamation, the expenses can be reported under the "progressive reclamation" spending type.
Total facility abandonment	Total abandonment completed	Cost incurred for the full abandonment of the facility. This expense can only be provided once for the facility licence and in the same year as the reported Equipment Removal Completion Date on the "Facility Abandonment" page on OneStop. If subsurface infrastructure will be removed during remediation/reclamation, the expenses can be reported under *Progressive Reclamation* spending type.

Table 14. Reportable closure spending – Well and facility remediation and reclamation

Category	Type	Description
Environmental site assessment (ESA)	Phase 1 completed	Cost incurred for the Phase 1 ESA work. Spending for additional Phase 1 ESAs can be submitted under the "Remediation" category, "Additional Site Assessments" type. Submit the Phase 1 ESA report via the OneStop Phase 1 ESA Module before reporting this spend.
	Initial Phase 2 ESA completed	Cost incurred for the initial Phase 2 ESA. Spending for additional Phase 2 ESAs can be submitted under the "Remediation" category, "Additional Site Assessments" type. Submit the Phase 2 ESA report via the Onestop RoSC Module before reporting this spend.
Remediation	Remedial action plan completed	Cost incurred for the completion of the remedial action plan. Spending for additional remedial action plans can be submitted under the "Additional Site Assessments" spending type. Submit the remedial action plan via the Onestop RoSC Module before reporting this spend.
	Risk management plan completed	Cost incurred for the completion of the risk management plan is reported under this spending type. This spending can be reported only once per licence. Spending for additional risk management plans can be submitted under the "Additional Site Assessments" spending type. Submit the risk management plan via the Onestop RoSC Module before reporting this spend.
	Additional ESAs	Cost incurred for additional ESAs for the year specified. Includes additional work such as supplemental Phase 1 ESAs, Phase 2 ESAs, remedial action plans, and risk management plans. This spending can be reported annually until remediation is complete. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year via OneStop.
	Remediation in progress	Cost incurred for remediation activities (e.g., dig and dump, in situ treatment, ex situ treatment, etc.) for the year specified. This spending can be reported annually until remediation is complete. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.
	Monitoring & maintenance in progress	Cost incurred for remediation monitoring and maintenance (e.g., groundwater monitoring to confirm plume migration) for the year specified. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.
Progressive reclamation	Reclamation in progress	Cost incurred for reclamation activities for the year specified. Includes all pre-reclamation assessment, replacement of soils, soil decompaction, and revegetation. This spending can be reported annually until reclamation is complete.
	Monitoring & maintenance in progress	Cost incurred for reclamation monitoring and maintenance for the year specified. Includes site condition and vegetation growth assessments, weed control, detailed site assessments, and reclamation certificate application preparation. This spending can be reported annually until a reclamation certificate is issued.
	All subsurface infrastructure removal completed	Cost incurred for removing unlicensed subsurface infrastructure on site. Report the subsurface equipment removal date on the OneStop "Progressive Reclamation" page before reporting this spend.

Table 15. Reportable closure spending – Pipelines and pipeline installation abandonment and remediation

Category	Type	Description
Abandonment	Pipeline line abandonment completed	Cost incurred for the abandonment of the line/segment. Pipeline line abandonment spending can only be reported when the corresponding AER license status is abandoned or removed. For more information on pipeline license amendment applications, refer to *Directive 056*.
	Pipeline installation abandonment completed	Cost incurred for the abandonment of the pipeline installation. Pipeline installation abandonment spending can only be reported when the corresponding AER licence status is abandoned or removed. For more information on pipeline licence amendment applications, refer to *Directive 056*.
Remediation	Risk management plan completed	Cost incurred for the completion of the risk management plan Spending for additional risk management plans can be submitted under the “Additional site assessments” spending type. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.
	Additional site assessments	Cost incurred for additional site assessments for the year specified. Includes additional site assessments such as Phase 1 ESAs, Phase 2 ESAs, remedial action plans, and supplemental risk management plans. This spending can be reported annually until remediation is complete. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.
	Monitoring & maintenance in progress	Cost incurred for remediation monitoring and maintenance for the year specified. This includes ongoing groundwater monitoring and costs associated with maintenance of a remedial program. This spending can be reported annually until remediation is complete. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.
	Pipeline remediation	Cost incurred for remediation activities for the year specified. This spending can be reported annually until remediation is complete. Submit the relevant report and RoSC related to ESAs or contamination management activities conducted in the activity year to the RoSC in OneStop.

Appendix 3 Tier Ranking in LCA

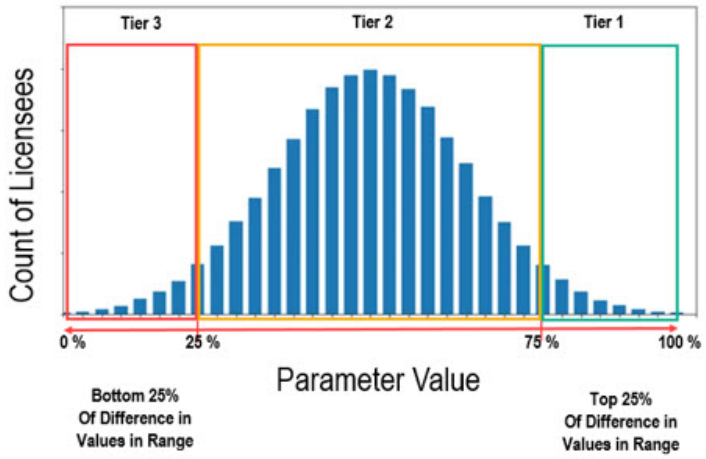
Introduction

A major design principal of the LCA is the ranking of the performance of a licensee or approval holder against other similar (peer) companies. This is done because companies of a similar production level, operating in similar markets, face the same challenges both economically and operationally and can reasonably be compared against each other. This approach offers an improved understanding of a licensee's performance as opposed to a simple comparison against a broadly based "industry average."

While all licensees in a peer group could be struggling in absolute terms for any particular parameter, there is still a relative level of performance to consider. It is possible to be the worst of the worst or the best of the best. So, it is important to consider both the parameter value (absolute performance) and the tier ranking (relative performance) of the parameter.

Parameter-Level Tier Rank Calculation

A parameter value's tier rank shows where that value fits within the range of values achieved in the peer group. The formula used is shown below.



$$Rank = 1 - \frac{best\ value - licensee\ value}{best\ value - worst\ value}$$

The table below shows both the range of values possible for each variably tier-ranked parameter and the directionality of the values.

Table 16. Parameter value range and direction

High score is better		Low score is better	
Parameter name	**Value range**	**Parameter name**	**Value range**
Production Trend	unbounded	Inactive Well Ratio	≥0
Closure Spend Rate	≥0	Marginal Well Ratio	≥0
Well Abandonment Rate (Produced)	≥0	Inactive Facility Ratio	≥0
Well Abandonment Rate (Non-produced)	≥0	*Directive 013* Noncompliance Rate	≥0
Well Reclamation Rate (Produced)	≥0	Field Noncompliance Follow-up Rate	≥0
Well Reclamation Rate (Non-produced)	≥0	Field Noncompliance Rate	≥0
Facility Abandonment Rate	≥0	Pipeline Incident Rate	≥0
Facility Reclamation Rate	≥0	Release & Spills Rate	≥0
Pipeline Abandonment Rate	≥0	Inactive Liability Trend	unbounded
		Mineral Lease Expiries	≥0

Example 1

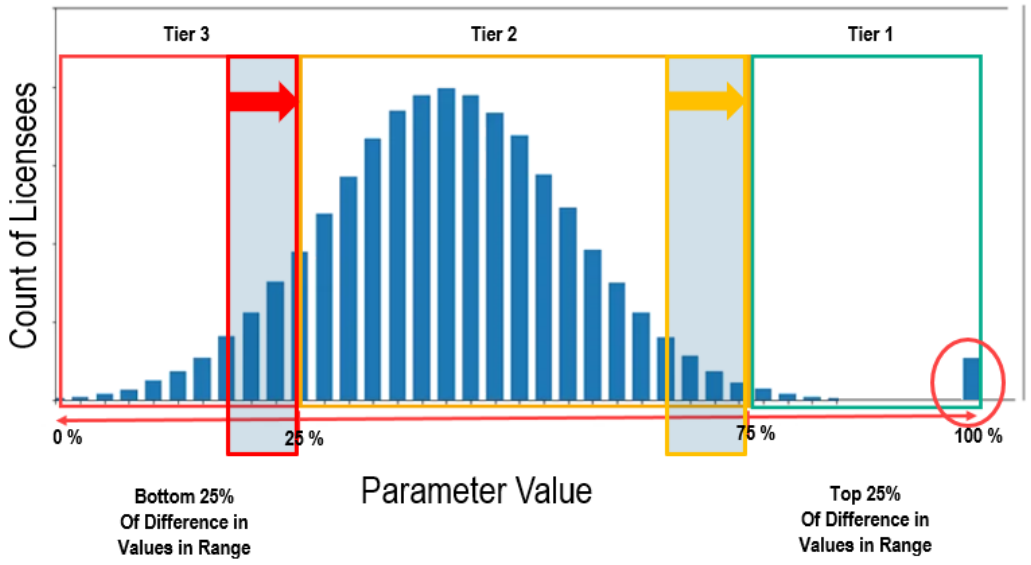
Parameter	production trend
Peer group best value	0.2779 (strong growth)
Licensee value	0.0416 (limited growth)
Peer group worst value	−0.0348 (small decline)
Rank	$1 - \frac{0.2779-0.0416}{0.2779-(-0.0348)} = 0.2443$
Tier	<0.25, so tier 3

Example 2

Parameter	field noncompliance rate
Peer group best value	8.08% (few noncompliances, approx. 1 in 12)
Licensee value	15.42%
Peer group worst value	35.29% (poor compliance record, approx. 1 in 3)
Rank	$1 - \frac{0.0808-0.1542}{0.0808-0.3529} = 0.7302$
Tier	>0.25 but <0.75, so tier 2

Handling Extreme Data points (Outliers)

As described above, parameter ranking is dependent on the range between the highest and lowest parameter values in the peer group. An extreme value (outlier) at either end of the dataset can widen this range, potentially skewing the ranking results.



Outlier values distort the typical normal distribution bell curve. A normal distribution is symmetrical around the mean value, so the following is true:

$$V_{max} - V_{mean} = V_{mean} - V_{min}$$

Which means that a skew ratio can be calculated as follows:

$$skew\ ratio = \frac{V_{max} - V_{mean}}{V_{mean} - V_{min}}$$

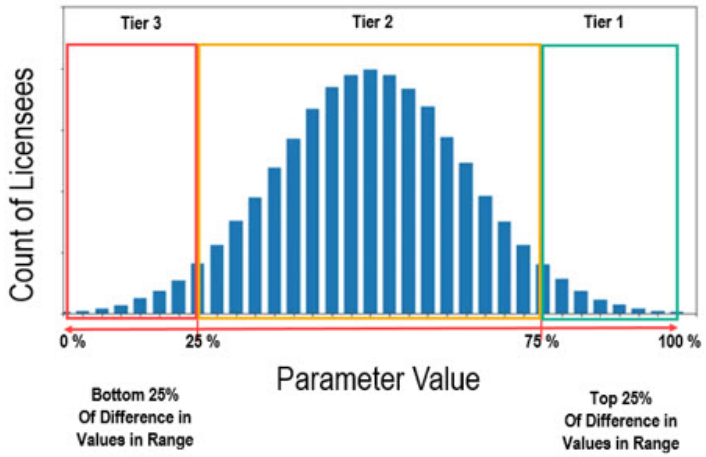
Where this ratio is >1, there is a high-value outlier; when the ratio is <1, there is a low-value outlier.

We mitigate the impact of the outlier by calculating a new maximum or minimum value such that there is a skew ratio of 1, and using this as a new ceiling or floor in the tier ranking calculation:

$$V_{newMax} = (V_{mean} - V_{min}) + V_{mean}$$

$$V_{newMin} = (V_{mean} - V_{max}) + V_{mean}$$

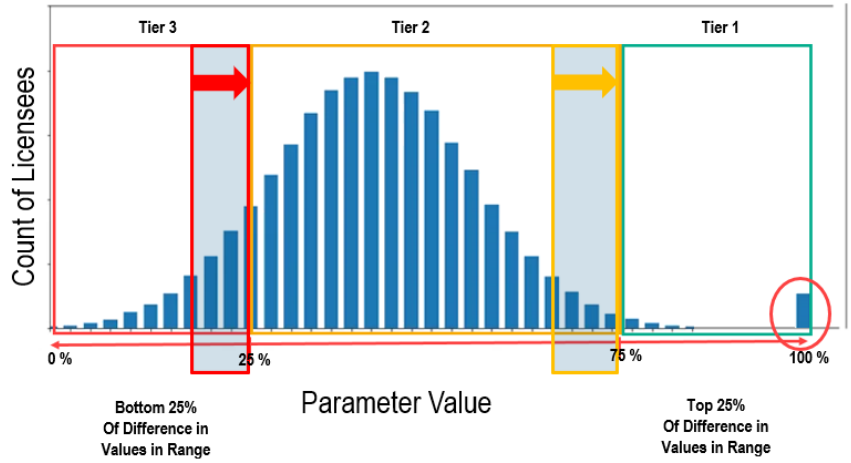
Scenario A: No Outlier



Parameter	closure spend rate
Peer group best value	12.68%
Peer group mean value	7.07%
Peer group worst value	1.45%
Tier boundaries	**4.26%, 9.87%**

In this case the licensee with a closure spend rate of 12.68% (higher than the mandatory spend quota) is the best performer and obtains a tier 1 ranking.

Scenario B: With an extreme high value outlier



Parameter	closure spend rate
Peer group best value	84.35%
Peer group mean value	8.65%
Peer group worst value	1.45%
Tier boundaries	**22.18%, 63.62%**

In this case the licensee with a closure spend rate of 12.68% is not the best performer; the outlier value shifts the tier rank boundaries and the peer group mean value. Now the licensee who has achieved a closure spend rate of 12.68%, comfortably over the mandatory spend quota, only obtains a tier 3 ranking.

Scenario C: Extreme high-value outlier corrected

In scenario B above, the skew ratio is calculated as follows:

$$skew\ ratio = \frac{0.8435 - 0.0865}{0.0865 - 0.0145} = 10.51 \text{ (an extreme high value outlier)}$$

We mitigate the impact of the high-value outlier by calculating a new maximum value such that there is a skew ratio of 1, and using this as a new ceiling in the tier ranking calculation:

$$V_{newMax} = (V_{mean} - V_{min}) + V_{mean}$$

In scenario B above, the new max value would be as follows:

$$V_{newMax} = (0.0865 - 0.0145) + 0.0865 = 0.1585\ (15.85\%)$$

This new value is then used in the ranking formula.

Parameter	closure spend rate
Peer group best value	84.35%
Peer group mean value	8.65%
Peer group worst value	1.45%
Tier boundaries	**22.18%, 63.62%**
Skew ratio	10.51
New peer group best value	15.85%
Corrected boundaries	**5.05%, 12.25%**

The licensee with the outlier value of 84.35% (higher than the new max. value), is ranked as tier 1 (100%). The licensee with a closure spend rate of 12.68%, that was previously and inappropriately in tier 3, is now ranked as tier 1 (77.95%).

Factor Roll-Up

The parameter tier ranking percent and the associated parameter weight are used to calculate the rolled-up factor value. The factor ranking is then calculated using the best and worst factor values in the peer group, and the licensee factor value, in the same way as the parameter ranking. Below is a full example.

	Parameter	Weight	Parameter Value	Parameter Ranking	Tier	Rollup Contribution	
Closure Factor							
	Closure Spend Rate	20%	6.88%	11%	Tier 3	0.0220	
	Inactive Liability Trend	20%	0.0111	95%	Tier 1	0.1900	
	Well Abandonment Rate (Produced)	10%	27.94%	20%	Tier 3	0.0200	
	Well Abandonment Rate (Non-produced)	5%	8.92%	5%	Tier 3	0.0025	
	Well Reclamation Rate (Produced)	10%	13.00%	32%	Tier 2	0.0320	
	Well Reclamation Rate (Non-produced)	5%	25.77%	55%	Tier 2	0.0275	
	Facility Abandonment Rate	10%	27.37%	66%	Tier 2	0.0660	
	Facility Reclamation Rate	10%	3.84%	17%	Tier 3	0.0170	
	Pipeline Abandonment Rate	10%	11.43%	30%	Tier 2	0.0300	
	Factor Value					**0.4070**	
	Peer Group Best Factor Value					**0.6148**	
	Peer Group Worst Factor Value					**0.0216**	
	Factor Rank	*1 -*	$\frac{0.6148 - 0.4070}{0.6148 - 0.0216}$		= *0.6497*		
						64.97%	**Tier 2**

Appendix 4 Validating Facility Operational Life-Cycle Statuses

It is the licensee's responsibility to validate the operational life-cycle status of their facilities. Where the authorization life-cycle status of a facility is "unknown," the AER considers the facility inactive and includes its liability in the licensee's assessed inactive liability.

Licensees are permitted to "link" a nonproduction reporting facility to the first downstream production reporting facility to which it delivers product. A nonproduction reporting facility can only be linked to one production reporting facility at a time, while a reporting facility may have more than one nonproduction reporting facility linked to it. If a company has active facilities (such as multiwell batteries) where the AER has assigned the life-cycle status as inactive, they can complete the facility linking template (available on the *Directive 011* landing page) and submit it to FacilityLifeCycle@aer.ca. After review and validation, life-cycle status will be updated in our system.

The AER uses inactive liability to determine a licensee's mandatory closure spend. The mandatory closure spend will not be adjusted once set. Licensees are encouraged to review and update their information facility linking information so their liabilities will be accurately reflected in the mandatory closure spend calculation. This may involve a licensee reviewing their licensed facility data in OneStop, requesting that the AER cancel the licence of a facility that was not constructed, or requesting that the AER update the link between a Petrinex reporting facility ID and an AER facility licence.

- **Reviewing licensee facility data in OneStop:** The OneStop Liability Assessment Report identifies the operational life-cycle status of your company's facilities. If you have questions about this report, please contact us at FacilityLifeCycle@aer.ca.
- **Cancelling a facility licence:** See questions 7 and 8 of the *Directive 056: Energy Development Applications and Schedules – Facility Applications FAQs*.
- **Changing the link between a Petrinex reporting facility ID and an AER licence:** See the "Changing a Facility Licence Link" tip in the Petrinex User Resource Centre.
- **Updating the licence-to-licence link for compressors and satellites:** In DDS, see Notifications > Licence.

OneStop also contains flowcharts that outline the process used to determine facility operational life-cycle status. The flowcharts can now be found under the Liability Assessment Report under the Glossary tab.

For further information regarding the facility operational life-cycle project, please contact FacilityLifeCycle@aer.ca.