

Notice of Proposed Directive Amendments

Directive PNG025: Licensee Liability Rating (LLR) Program

Background

The Ministry of Energy and Resources (ER) is consulting with the oil and gas industry on an amended version of *Directive PNG025: Licensee Liability Rating (LLR) Program* (the amended Directive). The amended Directive features changes to support the phasing out of the Present Value Salvage (PVS) factor in ER's LLR Program.

The Process

Over the past several months, ER has been developing the amended Directive in collaboration with the Orphan Fund Advisory Committee, which includes representation from the Canadian Association of Petroleum Producers, the Explorers and Producers Association of Canada and the Saskatchewan Headquartered Oil Producers. ER is now launching broader industry consultation on the amended Directive from **May 14, 2019 to June 4, 2019**. Once this consultation period has concluded, ER will review feedback received in the preparation of a final draft of the amended Directive to be brought forward for approval.

The amended Directive is expected to come into effect in the summer of 2019.

Summary of Proposed Changes

The amended Directive aims to update the LLR Program by phasing out the PVS factor, which has been part of the LLR Program since its inception in 2009. The PVS factor was originally used to recognize the value of equipment that might be located at an oil and gas site (0.75 for wells and 0.50 for facilities) and is multiplied by the abandonment and reclamation cost to calculate a total liability. However, experience with the LLR Program has shown that when sites became orphaned there is rarely anything of value that remained on site. ER has since taken steps to phase out the PVS factor in the deemed liability calculation for wells and facilities. In the context of a licence transfer, ER has adopted the policy of assigning a PVS factor of 1 for all wells and facilities for both the buyer and seller. While this has resulted in the wells and facilities of most oil and gas companies having a PVS factor of 1, there are still a number of companies that have PVS factors for their active wells and facilities of less than 1.

The amended Directive will complete this phase-out process by setting the PVS factor to 1 for all wells and facilities operated by oil and gas companies, benefiting the LLR Program as follows:

- All licensees are treated equally and assessed liability in the same manner for a given active well or facility site.
- The Saskatchewan Oil and Gas Orphan Fund is better protected as the deemed liability for an oil and gas site more accurately reflects the abandonment and reclamation costs if it falls into the orphan well program.
- The deemed liability calculation is simplified, making the liability value arrived at more transparent.

Miscellaneous Items of Note

- Sections 4.3 and 4.4 of the amended Directive have been modified to reference and be consistent with the terminology used in the new *Directive PNG031: Site Specific Liability Assessment* which will become effective in May 2019.
- The tables in Appendices 3, 4 and 5 of the amended Directive have been revised to provide more clarity on the existing requirements of the LLR Program and to present the information more effectively.

Review of Amended Directive

ER is seeking written comments on the amended Directive. Key amendments are outlined in a side-by-side, which is attached to this notice as Appendix A. A draft of the amended Directive is also attached as Appendix B. Please direct any comments or questions about the proposed amendments to:

ER.servicedesk@gov.sk.ca

Attn: Candy Dominique, Liability Regulation Manager, Liability Management
Energy Regulation Division

The deadline for submitting written comments is **June 4, 2019**.

APPENDIX A: Changes to Directive PNG025: Licensee Liability Rating (LLR) Program (Directive PNG025)

Existing Section/Wording	New Section and Wording	Explanation of Proposed Changes
<p>2.2 Deemed Liability Determination for a Well</p> <p>The deemed liability for a well is defined as the cost to fully abandon the well and reclaim the well site.</p> <p>The deemed reclamation liability for a well considers its surface location in relation to the applicable PNG field office administrative boundaries (as shown in Appendix 2). As shown in Appendix 3, the deemed abandonment liability of a well considers its surface location, well configuration/down-hole completion and total vertical depth of the well. Instances where a well is commingled or multi-zone completed, an additional 25% is added to the well abandonment cost derived from Appendix 3.</p> <p>The LLR Program defines the licensees future cost to abandon a well and reclaim the site as follows:</p> $\text{Deemed Liability} = (\text{Abandonment Cost} + \text{Reclamation Cost}) \times \text{PVS}$ <p>where:</p> <ul style="list-style-type: none"> • <i>Abandonment Cost</i> is obtained from Appendix 3; • <i>Reclamation Cost</i> is obtained from Appendix 4; and • <i>PVS</i> is the present value salvage factor as defined in section 2.4. <p>Abandonment or reclamation liability will not be assigned to a newly drilled well until one year after its spud date.</p>	<p>2.2 Deemed Liability Determination for a Well</p> <p>The deemed liability for a well is defined as the cost to fully abandon the well and reclaim the well site.</p> <p>The deemed reclamation liability for a well considers its surface location in relation to the applicable ER field office administrative boundaries (as shown in Appendix 2). As shown in Appendix 3, the deemed abandonment liability of a well considers its surface location, well configuration/down-hole completion and total vertical depth of the well. Instances where a well is commingled or multi-zone completed, an additional 25% is added to the well abandonment cost derived from Appendix 3.</p> <p>The LLR Program defines the licensees future cost to abandon a well and reclaim the site as follows:</p> $\text{Deemed Liability} = (\text{Abandonment Cost} + \text{Reclamation Cost})$ <p>where:</p> <ul style="list-style-type: none"> • <i>Abandonment Cost</i> is obtained from Appendix 3; and • <i>Reclamation Cost</i> is obtained from Appendix 4. <p>Abandonment or reclamation liability will not be assigned to a newly drilled well until one year after its spud date.</p>	<p>Deemed liability formula and parameter definitions updated to remove reference to Present Value Salvage (PVS) factor. This will effectively set the PVS to 1 for all wells, thus eliminating it from the deemed liability calculation under the LLR Program.</p>
<p>2.3 Deemed Liability Determination for a Facility</p> <p>The deemed liability for a facility is defined as the cost to decommission the facility and reclaim the facility site.</p> <p>For the purpose of determining the deemed liability cost of a specific facility, well equivalents are assigned. The well</p>	<p>2.3 Deemed Liability Determination for a Facility</p> <p>The deemed liability for a facility is defined as the cost to decommission the facility and reclaim the facility site.</p> <p>For the purpose of determining the deemed liability cost of a specific facility, well equivalents are assigned. The well equivalent</p>	<p>Deemed liability formula and parameter definitions updated to remove reference to PVS factor. This will effectively set the PVS to 1 for all facilities, thus eliminating it from the deemed liability calculation under the LLR Program.</p>

Existing Section/Wording	New Section and Wording	Explanation of Proposed Changes
<p>equivalent is a term used to capture the relative liability of a facility as compared to a well and takes into account factors such as facility type and design throughput capacity (i.e. total inlet rate for oil, gas, and water) provided within the facility licence application.</p> <p>The LLR Program defines the licensees future cost to decommission the facility and reclaim the site as follows:</p> <p><i>Deemed Liability</i> $= \text{Well Equivalent} \times (\text{Basic Abandonment Cost} + \text{Reclamation Cost}) \times \text{PVS}$</p> <p>where:</p> <ul style="list-style-type: none"> • <i>Well Equivalent</i> is obtained from Appendix 5; • <i>Basic Abandonment Cost</i> is \$10,000 per well equivalent; • <i>Reclamation Cost</i> is obtained from Appendix 4 and is based on the surface location of the facility in relation to the applicable PNG field office administrative boundaries as shown in Appendix 2; and • <i>PVS</i> is the present value salvage factor as defined in section 2.4. <p>Abandonment or reclamation liability will not be assigned to a new facility until one year after its licence issuance date.</p>	<p>is a term used to capture the relative liability of a facility as compared to a well and takes into account factors such as facility type and design throughput capacity (i.e. total inlet rate for oil, gas, and water) provided within the facility licence application.</p> <p>The LLR Program defines the licensees future cost to decommission the facility and reclaim the site as follows:</p> <p><i>Deemed Liability</i> $= \text{Well Equivalent} \times (\text{Basic Abandonment Cost} + \text{Reclamation Cost})$</p> <p>where:</p> <ul style="list-style-type: none"> • <i>Well Equivalent</i> is obtained from Appendix 5; • <i>Basic Abandonment Cost</i> is \$10,000 per well equivalent; and • <i>Reclamation Cost</i> is obtained from Appendix 4 and is based on the surface location of the facility in relation to the applicable ER field office administrative boundaries as shown in Appendix 2. <p>Abandonment or reclamation liability will not be assigned to a new facility until one year after its licence issuance date.</p>	
<p>2.4 Present Value Salvage Factor (PVS)</p> <p>The present value salvage factor is assigned to a well or facility to reflect the timing of abandonment and reclamation and the future value of equipment salvage. The PVS factor assigned under the LLR Program varies as follows:</p> <ul style="list-style-type: none"> • PVS = 0.75 for an active well • PVS = 0.50 for an active facility • PVS = 1 for the following situations: <ul style="list-style-type: none"> • inactive well or facility; • swab well; • water source well; 	<p>Deleted.</p>	<p>As all wells and facilities will now have a PVS of 1, the PVS factor is no longer to be part of the LLR Program. Therefore, this subsection is being removed from Directive PNG025 altogether.</p>

Existing Section/Wording	New Section and Wording	Explanation of Proposed Changes
<ul style="list-style-type: none"> • cancelled well or facility where surface disturbance has been identified; • well or facility deemed a “designated problem site” (as defined in section 4.4); or • where a licensee has been involved in a well or facility licence transfer (as either the buyer or seller), all well and facility licences currently held or licenced in the future by that licensee will be set to 1. <p>In situations where a well or facility licence is transferred, the PVS of both the seller and buyer will be affected. After a licence transfer, all the licensed wells and facilities of both parties, including those outside of the particular transfer application, will be irrevocably set to 1. This is a very important consideration for licensees with a PVS of less than 1 prior to the transfer, as their post-transfer liability will be higher.</p>		
<p>3. Licensee Liability Inventory Report</p> <p>Licensees can access their Licensee Liability Inventory (LLI) report, in pdf or Excel format, through <i>Saskatchewan.ca</i>.</p> <p>The LLI Report is updated on the 28th of every month and provides licensees with the following information:</p> <ul style="list-style-type: none"> • A list of the well and facility licences held by the licensee as identified in IRIS. • Deemed asset values associated with each well licence based on the equation provided in section 2.1. Please be advised that the LLI report pulls the production data for the preceding 12 months from Petrinex. Therefore, a report generated on August 28, 2017 would be using the oil and gas production volumes reported from August 2016 to July 2017. • Deemed abandonment and reclamation liability associated with each well based on the equation provided in section 2.2. • Deemed abandonment and reclamation liability associated with each facility licence based on the equation provided in section 2.3. • <i>LLR = Total Deemed Assets / Total Deemed Liability.</i> 	<p>3. Licensee Liability Inventory Report</p> <p>Licensees can access their Licensee Liability Inventory (LLI) report, in pdf or Excel format, through <i>Saskatchewan.ca</i>.</p> <p>The LLI Report is updated on the 28th of every month and provides licensees with the following information:</p> <ul style="list-style-type: none"> • A list of the well and facility licences held by the licensee as identified in IRIS. • Annual volume reflects whether a well has reported volumes (production or injection) within the last 12 reporting months, as indicated with a Y (Yes) or N (No). • Deemed asset values associated with each well licence based on the equation provided in section 2.1. Please be advised that the LLI report pulls the production data for the preceding 12 months from Petrinex. Therefore, a report generated on August 28, 2017 would be using the oil and gas production volumes reported from August 2016 to July 2017. • Deemed abandonment and reclamation liability associated with each well based on the equation provided in section 2.2. 	<p>Added reference to new “Annual Volumes” column in the LLI Reports. This column was added to help identify active/inactive wells held by a licensee when conducting evaluations, such as determining security deposit requirements for a proposed transfer.</p>

Existing Section/Wording	New Section and Wording	Explanation of Proposed Changes
<ul style="list-style-type: none"> • <i>Security deposit required = Total Deemed Liability – Total Deemed Assets.</i> Note: this does not take into account the amount of security deposit received. • Security deposit received is the licensee's deposit amount currently held by ER. <p>Licensees are encouraged to review/save their LLI reports monthly as ER will not supply historical reports. The licensee should report any discrepancies between the report and their own records to ER.Servicedesk@gov.sk.ca for review and adjustment, where applicable.</p>	<ul style="list-style-type: none"> • Deemed abandonment and reclamation liability associated with each facility licence based on the equation provided in section 2.3. • <i>LLR = Total Deemed Assets / Total Deemed Liability.</i> • <i>Security deposit required = Total Deemed Liability – Total Deemed Assets.</i> Note: this does not take into account the amount of security deposit received. • Security deposit received is the licensee's deposit amount currently held by ER. <p>Licensees are encouraged to review/save their LLI reports monthly as ER will not supply historical reports. The licensee should report any discrepancies between the report and their own records to ER.Servicedesk@gov.sk.ca for review and adjustment, where applicable.</p>	
<p>4.2 Licence Transfer Assessments</p> <p>If a licensee wishes to transfer a well or facility licence to another licensee, a licence transfer application must be completed, in conjunction with the other party, and submitted through IRIS.</p> <p>ER then conducts an LLR assessment on both licensees (buyer and seller) involved in the transfer to determine whether or not the transfer will require a security deposit to proceed. During the assessment, the security deposit calculation is based on the post-transfer liability of both licensees.</p> <p>If the licensee's (buyer or seller) post-transfer LLR is less than 1.0 <u>and</u> less than their pre-transfer LLR, a security deposit will be required. Whereas if the LLR assessment shows that the post-transfer LLR of either party is equal to or greater than 1.0, a security deposit may not be required. Pursuant to the OGCR, ER may specify any relevant factors to calculate the amount of security deposit required.</p> <p>Licensees will be notified, via email, of any security deposit requirements due to the pending licence transfer and provided</p>	<p>4.2 Licence Transfer Assessments</p> <p>If a licensee wishes to transfer a well or facility licence to another licensee, a licence transfer application must be completed, in conjunction with the other party, and submitted through IRIS.</p> <p>ER then conducts an LLR assessment on both licensees (buyer and seller) involved in the transfer to determine whether or not the transfer will require a security deposit to proceed. During the assessment, the security deposit calculation is based on the post-transfer liability of both licensees.</p> <p>If the licensee's (buyer or seller) post-transfer LLR is less than 1.0 <u>and</u> less than their pre-transfer LLR, a security deposit will be required. Whereas if the LLR assessment shows that the post-transfer LLR of either party is equal to or greater than 1.0, a security deposit may not be required. Pursuant to the OGCR, ER may specify any relevant factors to calculate the amount of security deposit required.</p> <p>Licensees will be notified, via email, of any security deposit requirements due to the pending licence transfer and provided 30</p>	<p>Removed the last paragraph that referenced the PVS factor as it is being eliminated from the LLR Program.</p>

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<p>30 days in which to submit the deposit. Provided that the eligibility criteria are met, the transfer will be completed. Licence transfer applications will be denied if the required security deposit is not received within 30 days.</p> <p>As stated in section 2.4, when a licence transfer is completed, the PVS factor for all the wells and facilities that both parties hold, currently and in the future, will be irrevocably set to 1.</p>	<p>days in which to submit the deposit. Provided that the eligibility criteria are met, the transfer will be completed. Licence transfer applications will be denied if the required security deposit is not received within 30 days.</p>	
<p>4.3 Unassessed Problem Sites – How they affect LLR Assessments</p> <p>Potential problem sites are identified through self-disclosure by the licensee or through an on-site inspection conducted by ER personnel. Inspections may be conducted in the course of normal ER field activities or at the request of the land owner.</p> <p>ER will notify a licensee of any site identified as a potential problem site and provide the licensee with an opportunity to respond to the identification prior to formally classifying the site as an “unassessed problem site” (UPS). If a licensee cannot establish that the potential problem site identification was in error, ER will notify the licensee that the site has been designated as a UPS and set the liability of the site at four times the standard abandonment and/or reclamation liability, or greater depending on the severity of the issue identified.</p> <p>When a UPS classification is assigned to a well or facility, ER will notify the licensee in writing that a site specific liability assessment (SSLA), conducted by qualified third party professional, is required within a specified timeframe. The unassessed value determined by ER will be used for monthly LLR assessment purposes until the licensee has submitted the SSLA to ER.</p> <p>For ease of identifying unassessed problem sites in Saskatchewan, ER updates the “Deemed Problem Site” column of the applicable licence within the LLR Well List or LLR Facility List (available on Saskatchewan.ca) with a “U”.</p>	<p>4.3 Potential and Unassessed Problem Sites – How they affect LLR Assessments</p> <p>Potential problem sites are identified through self-disclosure by the licensee or through an on-site inspection conducted by ER personnel. Inspections may be conducted in the course of normal ER field activities or at the request of the land owner.</p> <p>ER will notify a licensee of any well/facility site identified as a potential problem site and provide the licensee with an opportunity to respond. If a licensee cannot establish that the potential problem site identification was in error, ER will classify the well or facility site as an unassessed problem site (UPS) and set the liability of the site at four times the standard abandonment and/or reclamation liability, or greater depending on the severity of the issue identified. The unassessed value will be used for monthly LLR assessment purposes until a Site Specific Liability Assessment (SSLA) is submitted and accepted by ER.</p> <p>When an UPS classification is assigned to a well or facility, ER will notify the licensee in writing that a SSLA is required in accordance with <i>Directive PNG031: Site Specific Liability Assessment</i>, within a specified timeframe.</p> <p>For ease of identifying unassessed problem sites in Saskatchewan, ER updates the “Deemed Problem Site” column of the applicable licence within the LLR Well List or LLR Facility List (available on Saskatchewan.ca) with a “U”.</p>	<p>Changes made to reference and to be consistent with terminology used in the new <i>Directive PNG031: Site Specific Liability Assessment</i> (Directive PNG031), which is to come into effect in May 2019.</p>

Existing Section/Wording	New Section and Wording	Explanation of Proposed Changes
<p>If an unassessed problem site is transferred, the UPS liability, as determined by ER, will be multiplied by a factor of two post-transfer. This is to account for the uncertainty and risk involved in transferring a well/facility licence in the absence of an SSLA to quantify the liability. A licensee acquiring a UPS will have the UPS's liability calculated at this higher rate for monthly and transfer LLR assessments until the UPS identification is removed or changed to a "designated problem site".</p>	<p>If an unassessed problem site is transferred, the UPS liability, as determined by ER, will be multiplied by a factor of two post-transfer. This is to account for the uncertainty and risk involved in transferring a well/facility licence in the absence of an SSLA to quantify the liability. A licensee acquiring a UPS will have the UPS's liability calculated at this higher rate for monthly and transfer LLR assessments until the UPS classification is removed or changed to an assessed problem site.</p>	
<p>4.4 Designated Problem Sites</p> <p>Once an SSLA has been submitted to ER and reviewed, the site will be reclassified as a "designated problem site" and will remain in effect until abandonment and/or reclamation related progress has been made at the site. The assessed liability as determined by the SSLA will be used to set the abandonment and/or reclamation liability of the site. For designated problem sites, both monthly and licence transfer LLR assessments are conducted using the "assessed" value as determined in the SSLA.</p> <p>For ease of identifying designated problem sites in Saskatchewan, ER updates the "Deemed Problem Site" column of the applicable licence within the LLR Well List or LLR Facility List (available on <i>Saskatchewan.ca</i>) with an "A".</p>	<p>4.4 Assessed Problem Sites</p> <p>If the estimated cost and recommendations of the submitted SSLA are acceptable to ER, the site will be reclassified as an assessed problem site. The assessed liability as determined by the SSLA will be used to set the abandonment and/or reclamation liability of the site and will remain in effect until abandonment and/or reclamation related progress has been made at the site. For assessed problem sites, both monthly and licence transfer LLR assessments are conducted using the assessed value as determined in the SSLA.</p> <p>For ease of identifying designated problem sites in Saskatchewan, ER updates the "Deemed Problem Site" column of the applicable licence within the LLR Well List or LLR Facility List (available on <i>Saskatchewan.ca</i>) with an "A".</p>	<p>Changes made to be consistent with terminology used in the new Directive PNG031. Will refer to an "assessed" as opposed to a "designated" problem site.</p>
<p>Appendix 2: PNG Field Office Area Map</p>	<p>Appendix 2: ER Field Office Administrative Boundary Map</p>	<p>Updated the Appendix name to remove reference to the Petroleum and Natural Gas (PNG) division and instead refer to the Ministry of Energy and Resources (ER). Also changed the name to be consistent with how it is referenced within Directive PNG025.</p>

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Appendix 3: Provincial Well Abandonment Cost Table No mention of groundwater protection, vent flow repair and gas migration costs. Commingled or Multi-zone was shown throughout the table as: <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="background-color: #FFFFCC;">Commingled or Multi-zone</td> <td style="background-color: #FFFFCC;"></td> <td style="background-color: #FFFFCC;"></td> <td style="background-color: #FFFFCC;">+25% per completion</td> </tr> </table>	Commingled or Multi-zone			+25% per completion	Appendix 3: Provincial Well Abandonment Cost Table The “Commingled or Multi-zone wells” reference was moved out of the table and the following description was added below it: Where applicable, the following parameters are to be applied in addition to the above abandonment costs: <ul style="list-style-type: none"> • Commingled or Multi-zone wells +25% per completion; • Ground Water Protection Cost: \$25,300; • Surface Casing Vent Flow Repair Cost: \$30,900; • Gas Migration Cost: \$33,000. 	Rearranged how information was presented in the tables to be more concise and easier to navigate. Also included additional costs that were built into the LLR Program in 2007, but not previously reflected in Directive PNG025 in terms of groundwater protection, vent flow repair and gas migration costs. It is important to include these as one day they may be changed to reflect increases (e.g. Alberta's are set at \$46,288; \$169,309 and \$67,868 respectively).																																						
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Appendix 4: Well and Facility Reclamation Cost Table Appendix 4: Well and Facility Reclamation Cost Table <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>PNG Field Office Area</th> <th>Well Configuration</th> <th>Reclamation Cost</th> </tr> </thead> <tbody> <tr> <td>Any</td> <td>Cancelled Well or Facility (with surface disturbance)</td> <td>\$5,100.00</td> </tr> <tr> <td>Any</td> <td>Swab Well</td> <td>\$5,100.00</td> </tr> <tr> <td>Any</td> <td>Water Source Well</td> <td>\$5,100.00</td> </tr> <tr> <td>1</td> <td></td> <td>\$22,200.00</td> </tr> <tr> <td>2</td> <td></td> <td>\$22,200.00</td> </tr> <tr> <td>3</td> <td></td> <td>\$13,600.00</td> </tr> <tr> <td>4</td> <td></td> <td>\$22,200.00</td> </tr> </tbody> </table>	PNG Field Office Area	Well Configuration	Reclamation Cost	Any	Cancelled Well or Facility (with surface disturbance)	\$5,100.00	Any	Swab Well	\$5,100.00	Any	Water Source Well	\$5,100.00	1		\$22,200.00	2		\$22,200.00	3		\$13,600.00	4		\$22,200.00	Appendix 4: Well and Facility Reclamation Cost Table Appendix 4: Well and Facility Reclamation Cost Table <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>ER Field Office</th> <th>Well Configuration</th> <th>Reclamation Cost</th> </tr> </thead> <tbody> <tr> <td>Any</td> <td>Cancelled Well or Facility (with surface disturbance) Swab Well or Multi Well Swabbing Oil Battery Water Source Well</td> <td>\$5,100.00</td> </tr> <tr> <td>Area 1 Lloydminster</td> <td></td> <td>\$22,200.00</td> </tr> <tr> <td>Area 2 Kindersley</td> <td></td> <td>\$22,200.00</td> </tr> <tr> <td>Area 3 Swift Current</td> <td></td> <td>\$13,600.00</td> </tr> <tr> <td>Area 4 Estevan</td> <td></td> <td>\$22,200.00</td> </tr> </tbody> </table>	ER Field Office	Well Configuration	Reclamation Cost	Any	Cancelled Well or Facility (with surface disturbance) Swab Well or Multi Well Swabbing Oil Battery Water Source Well	\$5,100.00	Area 1 Lloydminster		\$22,200.00	Area 2 Kindersley		\$22,200.00	Area 3 Swift Current		\$13,600.00	Area 4 Estevan		\$22,200.00	Added “Multi Well Swabbing Oil Battery” and associated cost previously missed in being identified in Directive PNG025. Also, removed highlight, changed reference to PNG Field Office and added the Field Office Area name to the table.
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APPENDIX B



Licensee Liability Rating (LLR) Program

Directive PNG025

June 2019

Version 2.0

Governing Legislation:

Act: *The Oil and Gas Conservation Act*

Regulation: *The Oil and Gas Conservation Regulations, 2012*

Order:

Record of Change

Revision	Date	Description
0	October 1, 2017	Initial Draft (replacing Guideline PNG025).
1.0	May 2018	Approved First Version
2.0	June 2019	Amendment to complete phase out of PVS factor.

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Contents

1.	Introduction.....	4
1.1	Governing Legislation.....	4
1.2	Definitions	4
2.	LLR Equation and Terms	5
2.1	Deemed Asset Calculation for a Well.....	5
2.2	Deemed Liability Determination for a Well	6
2.3	Deemed Liability Determination for a Facility	6
3.	Licensee Liability Inventory Report	7
4.	LLR Assessments and Security Deposits	7
4.1	Monthly LLR Assessment.....	7
4.1.1	Enforcement Actions for Non Compliance of Security Deposit Payment.....	8
4.2	Licence Transfer Assessments.....	9
4.3	Potential and Unassessed Problem Sites – How they affect LLR Assessments.....	10
4.4	Assessed Problem Sites.....	10
4.5	Security Deposits.....	11
4.5.1	Payment of a Security Deposit.....	11
4.5.2	Refund of Security Deposit	11
4.6	Appeal of a Security Deposit Requirement	12
5.	Liability Reduction	13
5.1	Well Abandonment	13
5.2	Facility Decommissioning	13
5.3	Acknowledgement of Reclamation	13
5.4	Application for Full Exemption from Reclamation	14
5.5	Multiple Licences on a Lease.....	14
5.6	Well or Facility Licence Transfer	14
5.7	Well Downhole Configuration.....	15
Appendix 1:	LLR Factors.....	16
Appendix 2:	ER Field Office Administrative Boundary Map	17
Appendix 3:	Provincial Well Abandonment Cost Table	18
Appendix 4:	Well and Facility Reclamation Cost Table.....	19
Appendix 5:	Facility Well Equivalent Table.....	20

1. Introduction

The Licensee Liability Rating (LLR) Program assesses the financial risk that a licensee's unfunded well and facility liability poses to the Saskatchewan Oil and Gas Orphan Fund (SOGOF). The Ministry of Energy and Resources (ER) manages the financial risk through the collection of security deposits to ensure the Orphan Fund Procurement Program has the funds available to carry out the abandonment and reclamation work when a licensee or working interest owner is defunct.

This Directive is intended to provide clarification on the policies and procedures used by ER to determine a Licensee's Liability Rating and security deposit requirements under the LLR Program.

The fees (security deposit, orphan fund fee, and orphan levy) under the LLR Program are only applicable to Oil and Gas Producers. Therefore, any licensee holding well and facility licences for purposes other than oil and gas production (such as potash mining, storage facilities, or waste facilities) would be exempt from these fees.

Inquiries regarding Directive PNG025 should be directed to the ER Service Desk at 1-855-219-9373 or ER.Servicedesk@gov.sk.ca.

1.1 Governing Legislation

The requirements outlined in this Directive are based on *The Oil and Gas Conservation Act (OGCA)* and *The Oil and Gas Conservation Regulations, 2012 (OGCR)*. Licensees should consult these documents in conjunction with this Directive.

It is the responsibility of all licensees, as specified in the legislation, to be aware of and to ensure compliance with these requirements through the life-cycle of any well or facility licensed in Saskatchewan.

1.2 Definitions

Integrated Resource Information System (IRIS): means an online business system that supports the development and regulation of Saskatchewan's energy and resources industry. Through IRIS, the oil and gas industry completes regularly performed business activities and regulatory tasks with the province online.

Petrinex: is a centralized web based shared computer system that hosts and disseminates upstream well and facility volumetric data for government regulator and industry operator stakeholders. Each month industry operators load volumetric data for the wells and facilities they operate into Petrinex and it is then available to the Regulators and industry operators for their specific needs. Petrinex also includes the Enhanced Production Audit Program (EPAP) for both Saskatchewan and Alberta, Oil Valuation in Saskatchewan only, and other functionality. Petrinex was developed and is administered jointly by the Regulators and industry operators.

Saskatchewan.ca: is the Government of Saskatchewan's website which is available at www.Saskatchewan.ca. This website contains additional information related to the programs managed by the Ministry of Energy and Resources.

2. LLR Equation and Terms

The LLR Program assesses the inventory of all wells and facilities held by a licensee to determine potential financial risk to the SOGOF in terms of the licensee's future costs to abandon and reclaim their wells and facilities. The basic tool used, by ER, to assess this potential risk for each licensee is the LLR Equation:

$$LLR = \frac{\text{Total Deemed Well Asset}}{\text{Total Deemed Well Liability} + \text{Total Deemed Facility Liability}}$$

The LLR is the licensee's deemed asset to deemed liability ratio as determined by the minister under the authority of *The Oil and Gas Conservation Act*. A licensee's deemed asset value is measured in terms of their net production value. The deemed liability is the total cost for the future abandonment and site reclamation of all of a licensee's wells and upstream facilities.

The detailed discussion of each of the LLR equation parameters is provided in the following sections.

2.1 Deemed Asset Calculation for a Well

The LLR Program calculates the deemed asset value of a licensee (based on the oil and gas production volume reported to Petrinex) as shown in the following formula:

$$\text{Deemed Asset} = AOE \times \text{Industry Netback} \times \text{Return Period}$$

where:

- *AOE* is the calculated annual oil equivalent production volume, in cubic metres, attributed to a well over a 12 month period;
- *Industry Netback* is a rolling three-year provincial industry average netback as determined by the minister and provided in [Appendix 1](#); and
- *Return Period* is equivalent to three years.

The AOE is determined by the minister in accordance with the following formula:

$$AOE = AOP + \left[\left(\frac{AGP}{C_f} \right) (1 - S_f) \right]$$

where:

- *AOP* is the sum of the most recent 12 months of annual oil production, in cubic metres, that is attributable to a the licensee's wells;
- *AGP* is the sum of the most recent 12 months of annual gas production, in thousand cubic metres, that is attributable to the licensee's wells;
- *C_f* is a conversion factor, provided in [Appendix 1](#), that, when divided into a gas production volume in thousand cubic metres, provides the economic equivalent volume of oil in cubic metres and is a rolling three-year industry average; and
- *S_f* is a shrinkage factor, provided in [Appendix 1](#), which expresses the percentage of total provincial gas production that is not sales gas and is a rolling three-year industry average.

2.2 Deemed Liability Determination for a Well

The deemed liability for a well is defined as the cost to fully abandon the well and reclaim the well site.

The deemed reclamation liability for a well considers its surface location in relation to the applicable ER field office administrative boundaries (as shown in [Appendix 2](#)). As shown in [Appendix 3](#), the deemed abandonment liability of a well considers its surface location, well configuration/down-hole completion and total vertical depth of the well. Instances where a well is commingled or multi-zone completed, an additional 25% is added to the well abandonment cost derived from [Appendix 3](#).

The LLR Program defines the licensees future cost to abandon a well and reclaim the site as follows:

$$\text{Deemed Liability} = (\text{Abandonment Cost} + \text{Reclamation Cost})$$

where:

- *Abandonment Cost* is obtained from [Appendix 3](#); and
- *Reclamation Cost* is obtained from [Appendix 4](#).

Abandonment or reclamation liability will not be assigned to a newly drilled well until one year after its spud date.

2.3 Deemed Liability Determination for a Facility

The deemed liability for a facility is defined as the cost to decommission the facility and reclaim the facility site.

For the purpose of determining the deemed liability cost of a specific facility, well equivalents are assigned. The well equivalent is a term used to capture the relative liability of a facility as compared to a well and takes into account factors such as facility type and design throughput capacity (i.e. total inlet rate for oil, gas, and water) provided within the facility licence application.

The LLR Program defines the licensees future cost to decommission the facility and reclaim the site as follows:

$$\text{Deemed Liability} = \text{Well Equivalent} \times (\text{Basic Abandonment Cost} + \text{Reclamation Cost})$$

where:

- *Well Equivalent* is obtained from [Appendix 5](#);
- *Basic Abandonment Cost* is \$10,000 per well equivalent; and
- *Reclamation Cost* is obtained from [Appendix 4](#) and is based on the surface location of the facility in relation to the applicable ER field office administrative boundaries as shown in [Appendix 2](#).

Abandonment or reclamation liability will not be assigned to a new facility until one year after its licence issuance date.

3. Licensee Liability Inventory Report

Licensees can access their Licensee Liability Inventory (LLI) report, in pdf or Excel format, through Saskatchewan.ca.

The LLI Report is updated on the 28th of every month and provides licensees with the following information:

- A list of the well and facility licences held by the licensee as identified in IRIS.
- Annual volume reflects whether a well has reported volumes (production or injection) within the last 12 reporting months, as indicated with a Y (Yes) or N (No).
- Deemed asset values associated with each well licence based on the equation provided in [section 2.1](#). Please be advised that the LLI report pulls the production data for the preceding 12 months from Petrinex. Therefore, a report generated on August 28, 2017 would be using the oil and gas production volumes reported from August 2016 to July 2017.
- Deemed abandonment and reclamation liability associated with each well based on the equation provided in [section 2.2](#).
- Deemed abandonment and reclamation liability associated with each facility licence based on the equation provided in [section 2.3](#).
- $LLR = \text{Total Deemed Assets} / \text{Total Deemed Liability}$.
- $\text{Security deposit required} = \text{Total Deemed Liability} - \text{Total Deemed Assets}$. Note: this does not take into account the amount of security deposit received.
- Security deposit received is the licensee's deposit amount currently held by ER.

Licensees are encouraged to review/save their LLI reports monthly as ER will not supply historical reports. The licensee should report any discrepancies between the report and their own records to ER.Servicedesk@gov.sk.ca for review and adjustment, where applicable.

4. LLR Assessments and Security Deposits

The LLR assessments are conducted for the following two purposes:

- 1) Monthly LLR assessments for each licensee are conducted as a means of assessing a licensee's ongoing financial fitness with respect to their ability to address future abandonment and reclamation costs.
- 2) When a licensee applies to transfer well and/or facility licence(s) to another party, an LLR assessment is conducted to determine whether or not the transfer will require a security deposit from either the buyer or seller to proceed.

4.1 Monthly LLR Assessment

ER conducts the monthly LLR assessment of each licensee using the [LLI Reports](#) (run on the 28th). Licensees that maintain their LLR at or above 1.0 will not be subject to security deposit requirements. Should a licensee's LLR fall below 1.0, and the security deposit owed be greater than \$10,000, the resulting security deposit must be submitted within 30 days of a notice provided by the ministry. The licensee's security deposit requirement is calculated as:

$$\text{Security Deposit Required} = \text{Total Liability} - \text{Total Assets} - \text{Total Security on Account}$$

Similarly, if a licensee was invoiced and their LLR remains below 1.0 in the following months, an additional security deposit invoice will be issued, where required, for the difference and must be submitted within 30 days.

Security deposit invoices will be mailed to the licensee using the address provided in IRIS. Therefore, the licensee must ensure that IRIS has the current address listed so that communications are received in a timely manner. If a correction is required, the licensee should contact ER.Servicedesk@gov.sk.ca to have the information updated.

4.1.1 Enforcement Actions for Non Compliance of Security Deposit Payment

Where a licensee fails to provide security deposit payment within 30 days, the amount owing is a debt to the minister and may be collected in any manner the minister considers appropriate, including in the manner provided in the OGCA. Prior to obtaining a Court issued judgment against the licensee to collect the outstanding debt, ER may issue a series of Minister's Orders requiring the licensee to suspend operation, abandon wells, decommission facilities, or reclaim well/facility sites by a given date in lieu of the security deposit payment.

Should the required security deposit payment be received by ER at any time during the enforcement process indicated below, any Minister's Orders or judgments issued relating to the recovery of the outstanding security would be rescinded/discharged.

Therefore, where a security deposit has not been received in the amount and time specified, ER may take any or all of the following enforcement actions.

Suspension Minister's Order

If the required security deposit is not received within the required 30 days, a Suspension Order will be issued by the minister requiring the licensee to suspend operations of all well and facility licences listed on the order, until the required security has been paid.

Suspension of a licence removes all rights and privileges authorized by the licence. Once a licence is suspended, the licensee is no longer authorized to operate the well or facility.

Continued operation of a well or facility for which the licence has been suspended is a violation of the OGCA and is therefore prohibited. Pursuant to the OGCA, any well or facility licences that continue to operate or produce after the suspension deadline will be identified and the licensee will be issued a Minister's Order requiring the forfeiture of the illegal production to the Crown.

The suspension of a well or facility licence does not remove the licensee's obligations or liability assigned under the LLR Program associated with the suspended site.

Abandonment Minister's Order

If the licensee has carried out the Suspension Order but not submitted the required security deposit by the suspension deadline, an Abandonment Order will be issued by the minister requiring the licensee to abandon the wells and facilities listed on the order. Working interest participants (WIPs) will also be served a Minister's Order notifying them of the deadline to abandon the sites listed in the order or provide the outstanding security deposit.

If the licensee has not complied with the Abandonment Order or submitted the required security deposit by the abandonment deadline, ER will assume care and custody of the wells and make arrangements to have them abandoned. The abandonment expenses incurred are a debt due to and recoverable by the Crown from the licensee and any of the identified WIPs.

Reclamation Minister's Order

If the licensee has carried out the Abandonment Order, but not submitted the required security deposit by the abandonment deadline, a Reclamation Order will be issued by the minister requiring the licensee to reclaim the applicable well and facility sites listed on the order.

If the licensee has not complied with the Reclamation Order or submitted the required security deposit by the reclamation deadline, ER will assume care and custody of the wells and make arrangements to have them reclaimed. The reclamation expenses incurred are a debt due to and recoverable by the Crown from the licensee and any of the identified WIPs.

Judgment from the Court of Queen's Bench

The minister may file a certificate with the Court of Queen's Bench to recover any debt owed. The amount of debt specified in the certificate would include any outstanding security deposit along with any cost incurred in relation to care and custody, abandonment, or reclamation work ER carried out on the licensee's well and/or facility sites.

The certificate filed has the same force and effect as if it were a judgment obtained against the person in the Court of Queen's Bench for the recovery of a debt in the amount specified in the certificate, together with any reasonable costs and charges respecting its filing.

4.2 Licence Transfer Assessments

If a licensee wishes to transfer a well or facility licence to another licensee, a licence transfer application must be completed, in conjunction with the other party, and submitted through IRIS.

ER then conducts an LLR assessment on both licensees (buyer and seller) involved in the transfer to determine whether or not the transfer will require a security deposit to proceed. During the assessment, the security deposit calculation is based on the post-transfer liability of both licensees.

If the licensee's (buyer or seller) post-transfer LLR is less than 1.0 and less than their pre-transfer LLR, a security deposit will be required. Whereas if the LLR assessment shows that the post-transfer LLR of either party is equal to or greater than 1.0, a security deposit may not be required. Pursuant to the OGCR, ER may specify any relevant factors to calculate the amount of security deposit required.

Licensees will be notified, via email, of any security deposit requirements due to the pending licence transfer and provided 30 days in which to submit the deposit. Provided that the eligibility criteria are met, the transfer will be completed. Licence transfer applications will be denied if the required security deposit is not received within 30 days.

4.3 Potential and Unassessed Problem Sites – How they affect LLR Assessments

Potential problem sites are identified through self-disclosure by the licensee or through an on-site inspection conducted by ER personnel. Inspections may be conducted in the course of normal ER field activities or at the request of the land owner.

ER will notify a licensee of any well/facility site identified as a potential problem site and provide the licensee with an opportunity to respond. If a licensee cannot establish that the potential problem site identification was in error, ER will classify the well or facility site as an unassessed problem site (UPS) and set the liability of the site at four times the standard abandonment and/or reclamation liability, or greater depending on the severity of the issue identified. The unassessed value will be used for monthly LLR assessment purposes until a Site Specific Liability Assessment (SSLA) is submitted and accepted by ER.

When an UPS classification is assigned to a well or facility, ER will notify the licensee in writing that a SSLA is required in accordance with *Directive PNG031: Site Specific Liability Assessment*, within a specified timeframe.

For ease of identifying unassessed problem sites in Saskatchewan, ER updates the “Deemed Problem Site” column of the applicable licence within the LLR Well List or LLR Facility List (available on *Saskatchewan.ca*) with a “U”.

If an unassessed problem site is transferred, the UPS liability, as determined by ER, will be multiplied by a factor of two post-transfer. This is to account for the uncertainty and risk involved in transferring a well/facility licence in the absence of an SSLA to quantify the liability. A licensee acquiring a UPS will have the UPS’s liability calculated at this higher rate for monthly and transfer LLR assessments until the UPS classification is removed or changed to an assessed problem site.

4.4 Assessed Problem Sites

If the estimated cost and recommendations of the submitted SSLA are acceptable to ER, the site will be reclassified as an assessed problem site. The assessed liability as determined by the SSLA will be used to set the abandonment and/or reclamation liability of the site and will remain in effect until abandonment and/or reclamation related progress has been made at the site. For assessed problem sites, both monthly and licence transfer LLR assessments are conducted using the assessed value as determined in the SSLA.

For ease of identifying designated problem sites in Saskatchewan, ER updates the “Deemed Problem Site” column of the applicable licence within the LLR Well List or LLR Facility List (available on *Saskatchewan.ca*) with an “A”.

4.5 Security Deposits

One of the ways ER manages the financial risk to the SOGOF, in terms of that licensee's future costs to abandon and reclaim their wells and facilities, is through the collection of security deposits. As stated in [section 4.1](#), a licensee whose LLR is less than 1.0 may be advised by ER that a security deposit is required.

The collected security deposit may be refunded to a licensee when eligible or forfeited to the SOGOF to carry out the abandonment and reclamation work when a licensee/working interest participant is defunct.

4.5.1 Payment of a Security Deposit

The security deposit must be provided in the form of an irrevocable letter of credit (LOC) or cash payment. Cheques and LOCs should be made payable to the **Minister of Finance – The Oil and Gas Orphan Fund**. Payment, along with the applicable stub/voucher for which the security deposit is required, should be sent to:

Ministry of Energy and Resources
1000, 2103 - 11th Avenue
REGINA, SK S4P 3Z8

ER will accept payment in the following forms: LOC, cheque, bank draft, electronic funds transfer (EFT), direct deposit, online payments, and wire transfers.

The irrevocable LOC must be obtained from a recognized Canadian Bank, Credit Union, or Trust Company guaranteeing payment upon presentation to the issuer. ER will only accept renewable irrevocable LOCs issued by an eligible financial institution in the exact legal name of the licensee required to pay the security deposit. ER provides a blank LOC form (available on *Saskatchewan.ca*) detailing the required contents.

A licensee may change their security deposit payment method at any time. However, the existing form of security deposit will not be released until the replacement security deposit has been received and processed by ER.

Questions regarding security deposit payment should be directed to the service desk at 1-855-219-9373 or ER.Servicedesk@gov.sk.ca.

4.5.2 Refund of Security Deposit

Licensees may be eligible for a refund of their security deposit, being held under the LLR Program, provided that for six consecutive months, the licensee is both in an overpayment situation, and has improved or maintained their LLR each month.

A licensee can determine if they are in an overpayment situation (i.e. where security deposit received is greater than the security deposit required) by reviewing their monthly [LLI report](#). ER expects licensees to review this information and request a refund when eligible.

The eligible refund amount is dependent on the licensee's LLR (which has been maintained or improved each month for six consecutive months). For instance, where the licensee's current:

- LLR \geq 1.0, the licensee may be entitled to a full refund of the security deposit held on account.
- LLR $<$ 1.0, the licensee may be entitled to a partial refund of the security deposit. The amount refunded would be equivalent to the overpayment amount seen in the first month of the six consecutive months.

ER will waive the six month waiting period for a licensee in an overpayment situation, who is actively working towards reducing the liability for which the security deposit is being held. A licensee would be eligible for a full refund of the security directly related to the abandonment and/or reclamation liability where:

- a well or facility licence has been transferred;
- a well has been abandoned;
- a facility has been decommissioned; or
- a well or facility site has received an Acknowledgment of Reclamation (AOR) or Full Exemption from Reclamation approval, in accordance with the *Acknowledgement and Reclamation Requirements Directive (PNG016)*.

To obtain a security deposit refund under the LLR Program, ER requires the licensee to provide a formal request in writing. Refer to *Saskatchewan.ca* for details regarding the application process in terms of:

- when a licensee is eligible to apply for a refund;
- the application form and submission requirements;
- how to submit the application; and
- how the application status is communicated to the licensee.

If eligible, the licensee may submit the completed *Security Deposit Refund Request Form* (available on *Saskatchewan.ca*) for consideration. Depending on the form of security deposit being held, an approved refund would be processed in the following manner:

- **Full/partial cash refund** – ER will return the cash to the party that originally submitted the payment.
- **Full LOC refund** – ER will return the original LOC, via registered mail, to the issuing financial institution, after which time the licensee would need to contact the bank to obtain the refund.
- **Partial LOC refund** – ER will provide a letter to the licensee authorizing their request to reduce the LOC. Once received, the licensee would provide the letter to their issuing financial institution to provide an amended or replacement LOC to the ministry.

Where a refund is granted, any further inquiries regarding when the refund will be issued should be directed to the ER service desk at 1-844-213-1030 or ER.Servicedesk@gov.sk.ca.

4.6 Appeal of a Security Deposit Requirement

The Saskatchewan LLR program is designed to be flexible and provides licensees that have an LLR below 1.0 with the ability to submit an appeal. The appeal must be comprehensive, containing documentation and cost data on all of the LLR factors used in the calculation of the licensee's LLR. To apply for an appeal, ER requires the licensee to provide a formal request in writing submitted via email to ER.Servicedesk@gov.sk.ca.

The netback value portion of the appeal must include a completed licensee netback calculation as well as all financial information supporting the calculation. If a licensee does not have three years of history, the netback calculation must include the industry average for those years required to make up the three year period.

The site specific section of the appeal must contain a detailed third party abandonment cost estimate for each licensed well and facility including problem wells (gas migration, surface casing vent flows, etc.). It must also contain third party reclamation cost assessments for each of the licensee's licensed wells or facilities. Reclamation costs must be based on actual site conditions, including contaminated sites, for each of the company's locations.

5. Liability Reduction

A licensee may be eligible to reduce the abandonment and/or reclamation liability associated with a well or facility licence assigned under the LLR Program. The following sections provide potential options for liability reduction which licensees may consider, where applicable.

5.1 Well Abandonment

In order to zero the abandonment liability associated with a licensed well, it must be properly abandoned in accordance with the OGCR and *Directive PNG015: Well Abandonment Requirements*.

5.2 Facility Decommissioning

In order to remove the abandonment liability associated with a licensed facility, the site must be fully decommissioned by:

- removing all process equipment, tanks, buildings, and any associated equipment or structures;
- removing all produced liquids; and
- appropriately disposing of any structural concrete.

A decommissioning report must be submitted via email to ER.Servicedesk@gov.sk.ca which includes:

- facility licence number;
- surface location of the facility;
- facility type;
- legal survey;
- clearly labeled photo log depicting the entire lease; and,
- a letter signed by a representative within the company requesting the status of the facility updated to abandoned and the deemed abandonment liability set to zero.

5.3 Acknowledgement of Reclamation

Once a well is abandoned or a facility is decommissioned, the site must be assessed and reclaimed in accordance with the OGCR and *Directive PNG 016: Acknowledgement of Reclamation Requirements*. The licensee must apply for an AOR through IRIS. If ER approves the AOR application, the reclamation liability is set to zero.

5.4 Application for Full Exemption from Reclamation

Where a licensee has abandoned a well or decommissioned a facility but cannot complete the reclamation work required as the entire lease is being used by another well/facility operation, the licensee may apply for a Full Exemption from Reclamation through IRIS. Where the surface overlap involves well/facility licences held by another licensee, the Exemption from Reclamation application form must be jointly completed by both licensees.

If ER approves a Full Exemption from Reclamation application, the reclamation liability of the exempted well/facility licence is set to zero and the future reclamation responsibility of the site is transferred to the other well/facility licence identified within the application.

5.5 Multiple Licences on a Lease

Where a licensee has more than one well or facility licence which exist on a single surface lease, the licensee may qualify for a reclamation liability reduction. In order for the application to be accepted, the well and facility licences must be non-abandoned and currently hold reclamation liability.

Should ER approve the reduction request, the reclamation liability of the highest well or facility licence would be retained and the remaining licences would be reduced to 10% of their original reclamation amount.

To apply, ER requires the licensee to submit the completed *Multi-Licensed Site Reclamation Liability Reduction Form* and required attachments for consideration. Refer to [Saskatchewan.ca](#) for details regarding the application process in terms of:

- when a licensee is eligible to apply for a reduction;
- the application form and submission requirements;
- how to submit the application; and
- how the application status is communicated to the licensee.

Example: A licensee has two active wells within a single surface lease which each hold a reclamation liability of \$13,600. After the licensee's request is approved, the total reclamation liability of the site would be reduced by \$12,240 (based on the values in the example below).

Active Licence	Reclamation Liability	
	Before Request	After Request
Vertical Well Licence	\$13,600	\$13,600
Horizontal Well licence	\$13,600	\$1,360
Total:	\$27,200	\$14,960

5.6 Well or Facility Licence Transfer

Licensees may consider transferring well and/or facility licences to another eligible party as a way to reduce their total liability on their [LLI Report](#). Refer to [Saskatchewan.ca](#) for details regarding eligibility requirements and how to apply for a licence transfer.

5.7 Well Downhole Configuration

Under the LLR Program, wells are deemed with an abandonment liability as described in [section 2.2](#). Licensees may refer to their [LLI Report](#) to determine the abandonment cost assigned to a specific well based on its field office area, depth, and configuration. The downhole completion for a well is automatically assigned based on the well type. For example:

- oil wells are assumed to have a “Tubing and Rod” configuration,
- gas, disposal, and injection wells are assumed to have a “Tubing Only” configuration,
- cased wells are considered “Empty, Not Perforated”,
- completed wells are considered “Empty, Perforated”, and
- commingled or multi-zone completed wells will have an additional 25% added onto the abandonment cost associated with the well.

Where an actively operating well has a downhole configuration other than what it is currently assigned, the licensee may apply to have the abandonment liability adjusted. ER requires the licensee to:

- attach a workover report (or similar document) in IRIS which describes the downhole configuration. Inquiries regarding how/where to attach this information may be directed to the ER Service Desk at 1-855-219-9373.
- submit a formal request in writing, via email, to ER.Servicedesk@gov.sk.ca for consideration which identifies the:
 - licence number,
 - current liability and downhole configuration assigned under the LLR Program,
 - actual downhole configuration and corresponding liability, and
 - reason why this well’s downhole configuration differs from what is typically seen.

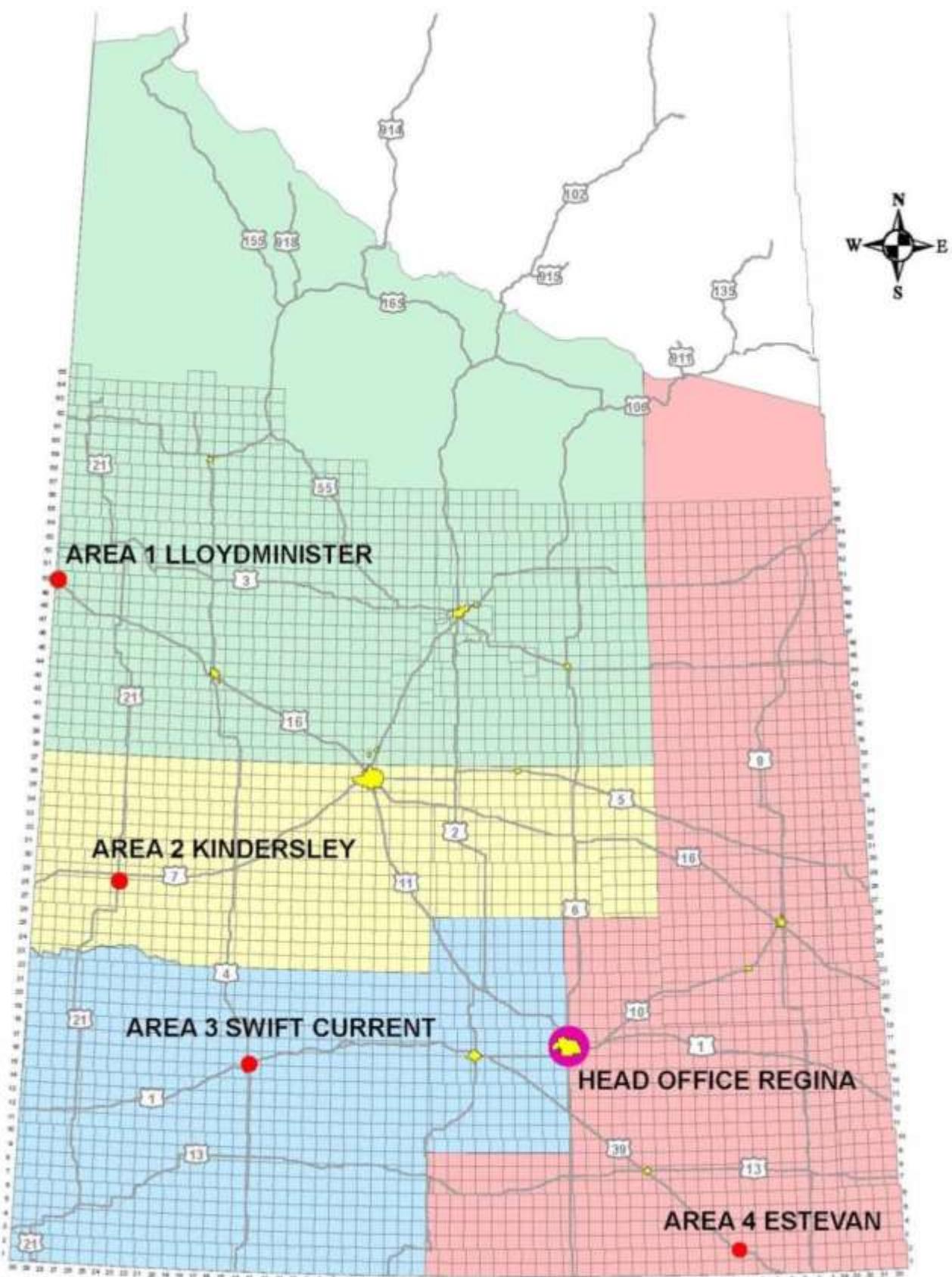
Please be advised that if an adjustment is granted, the licensee must notify ER if the well’s downhole configuration changes in the future as a subsequent liability adjustment may be required.

Appendix 1: LLR Factors

Industry Average Netback (\$/m ³ OE)	Oil Equivalent (OE) Conversion Factor (C _f)	Shrinkage Factor (S _f)
\$148.98	0.9715 Mm ³ gas/m ³ oil	23.0%

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Appendix 2: ER Field Office Administrative Boundary Map



Appendix 3: Provincial Well Abandonment Cost Table

Area 1. Lloydminster

Total Vertical Depth (m)	Empty, Not Perforated Swab Wells Water Source Wells	Empty, Perforated	Tubing Only	Tubing & Rods
0 - 1199	\$5,100	\$12,300	\$16,800	\$18,900
1200 - 1999	\$5,100	\$13,700	\$18,100	\$31,300
2000 - 2499	\$5,100	\$15,100	\$32,600	\$34,500
2500 - 2999	\$5,100	\$16,900	\$39,000	\$41,500
≥ 3000	\$5,100	\$19,800	\$49,500	\$53,900

Area 2. Kindersley

Total Vertical Depth (m)	Empty, Not Perforated Swab Wells Water Source Wells	Empty, Perforated	Tubing Only	Tubing & Rods
0 - 1199	\$5,100	\$11,800	\$17,500	\$20,100
1200 - 1999	\$5,100	\$13,100	\$26,300	\$28,500
2000 - 2499	\$5,100	\$14,500	\$30,000	\$32,300
2500 - 2999	\$5,100	\$16,200	\$38,200	\$40,700
≥ 3000	\$5,100	\$16,200	\$38,200	\$40,700

Area 3. Swift Current

Total Vertical Depth (m)	Empty, Not Perforated Swab Wells Water Source Wells	Empty, Perforated	Tubing Only	Tubing & Rods
0 - 1199	\$5,100	\$11,800	\$17,500	\$20,100
1200 - 1999	\$5,100	\$13,100	\$26,300	\$28,500
2000 - 2499	\$5,100	\$14,500	\$30,000	\$32,300
2500 - 2999	\$5,100	\$16,200	\$38,200	\$40,700
≥ 3000	\$5,100	\$16,200	\$38,200	\$40,700

Area 4. Estevan

Total Vertical Depth (m)	Empty, Not Perforated Swab Wells Water Source Wells	Empty, Perforated	Tubing Only	Tubing & Rods
0 - 1199	\$5,100	\$12,300	\$16,800	\$18,900
1200 - 1999	\$5,100	\$13,700	\$18,100	\$31,300
2000 - 2499	\$5,100	\$15,100	\$32,600	\$34,500
2500 - 2999	\$5,100	\$16,900	\$39,000	\$41,500
≥ 3000	\$5,100	\$19,800	\$49,500	\$53,900

Where applicable, the following parameters are to be applied in addition to the above abandonment costs:

- Commingled or Multi-zone wells +25% per completion
- Ground Water Protection Cost \$25,300
- Surface Casing Vent Flow Repair Cost \$30,900
- Gas Migration Cost \$33,000

Appendix 4: Well and Facility Reclamation Cost Table

ER Field Office	Well Configuration	Reclamation Cost
Any	Cancelled Well or Facility (with surface disturbance) Swab Well or Multi Well Swabbing Oil Battery Water Source Well	\$5,100.00
Area 1 Lloydminster		\$22,200.00
Area 2 Kindersley		\$22,200.00
Area 3 Swift Current		\$13,600.00
Area 4 Estevan		\$22,200.00

Appendix 5: Facility Well Equivalent Table

Facility Type	IRIS Facility Sub-Type	Design Throughput Capacity	Well Equivalent (WE)
Multi Well Oil Battery	Crude Oil Multiwell Group Battery	0 - 50 m ³ /day	5
	Crude Oil Multiwell Proration Battery	50 - 6933.3 m ³ /day	$[(vol - 50) \times A] + 5$ A = 0.005084745 vol = design throughput capacity per day of oil (m ³)+gas (10 ³ m ³)+water (m ³)
	Heavy Crude Oil Multiwell Proration Battery		
Multi Well Oil Battery	Heavy Crude Oil Multiwell Group Battery	> 6933.3 m ³ /day	40
	Thermal In-Situ Battery		
Gas Processing Plant	Gas Plant	0 - 900 10 ³ m ³ /day	10
		900 - 5700 10 ³ m ³ /day	$[(vol - 900) \times C] + 10$ C = 0.00625 vol = design throughput capacity per day of oil (m ³)+gas (10 ³ m ³)+water (m ³)
Multi Well Swabbing Oil Battery	Crude Oil Multiwell Swab Battery	Any	1*
Cleaning Plant Custom Treating Facility	Custom Treating Facility	Any	5
Gas Compression Facility	Compressor Station (Non-Reporting)	Any	5
Multi Well Gas Battery	Gas Multiwell Group Battery Gas Multiwell Proration Battery	Any	5
LPG Storage Facility	Underground Gas Storage Underground NGL Storage	Any	5
Injection/Production Satellite	Oil Satellite (Non-Reporting)	Any	2
Waste Plant/Reclaimer/Skim Oil	Cavern Waste Facility Surface Waste Facility	Any	5
Water Injection/Disposal	Disposal Pressure Maintenance	Any	2.5
EOR Injection	Enhance Recovery Scheme	Any	4
Oily Byproduct Storage	Oily Byproduct Storage Structure	Any	5
Water Source Facility	Formation Water Source Fresh Water Source	Any	2

*Multi Well Swabbing Oil Batteries have a fixed abandonment cost of \$5,100.