

# Ministry of Energy and Resources

## Oil and Gas Regulatory Cost Recovery Levy Annual Report for 2020-21

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## 1.0 Introduction

Since its introduction in 2014, the Oil and Gas Regulatory Cost Recovery Levy (“The Administrative Levy”) has helped to ensure that Saskatchewan’s regulatory system meets public expectations for regulatory oversight of the oil and gas industry. The levy has contributed to the modernization of systems supporting activities of the regulator and resulting in improved service to the industry.

The levy recovers 90 per cent of the regulatory costs for oil and gas regulatory activities of the Ministry of Energy and Resources (ER), Ministry of Environment (ENV), and Ministry of Agriculture (AG). For the 2020-21 fiscal year however, only 50% of the levy was levied to the oil and gas industry and invoicing was delayed until October 2020 to support industry during challenges brought on by COVID-19 and price disruptions.

The publication of the annual report delivers on the Government of Saskatchewan’s commitment to transparency on the levy administration and regulatory performance indicators. This report has two main sections: an overview of Administrative Levy finances; and a review of service levels for the various regulatory services that are delivered.

## 2.0 Regulatory Highlights and Accomplishments for 2020-21

In line with ER's commitment to deliver *best-in-the-west* regulatory services, the Ministry embarks on continuous collective efforts to ensure a sound regulatory framework. Below are the regulatory highlights and accomplishments for 2020-21:

- *Directive S-01: Saskatchewan Upstream Petroleum Industry Storage Standards* was amended to support updates to the Integrated Resource Information System (IRIS).
- *Directive PNG001: Facility Licence Requirements* was amended to support recent updates to IRIS.
- *Directive PNG016: Acknowledgement of Reclamation Requirements* was amended to support recent updates to the IRIS to automate administrative processes relating to the Acknowledgement of Reclamation (AOR) Program.
- *Directive PNG017: Measurement Requirements for Oil and Gas Operations* was amended to introduce changes to Gas Oil Ratio requirements for heavy oil facilities.
- *Directive PNG025: Licensee Liability Rating (LLR) Program* was amended to support recent updates to IRIS to automate administrative processes related to the LLR Program.
- Developed and implemented the *Pipeline Geohazard Program*, a site specific audit program to manage ongoing risks associated with pipeline watercourse crossings.
- Launched Phase II of the pipeline licensing module as the Pipeline Regulatory Enhancement Program (PREP) wrapped up in 2019-20.
- Commenced the consultation process to support the drafting of a new Directive for Acknowledgement of Reclamation (AOR) on Salt Impacted Sites.
- Completed Phase 2 of the *Well Log Scanning Project*.

### 3.0 Covid-19 Relief Measures

The 2020-21 fiscal year saw the oil and gas industry impacted in various ways by the COVID-19 pandemic. In response to the unprecedented economic downturn stemming from the pandemic, ER introduced a variety of relief measures to support the oil and gas industry. Key relief measures included:

- Reducing the industry portion of the Administrative Levy by 50% and delaying the invoicing of the remaining balance until October 1, 2020. This provided industry with a relief of \$11.4 million to address immediate liquidity challenges.
- Extending full compliance implementation for *Directive PNG017: Measurement Requirements for Oil and Gas Operations Implementation* and *Directive PNG076: Enhanced Production Audit Program* until April 1, 2021.
- Suspension of certain reporting non-compliance penalties.
- Allowing for the deferral of certain activities impacted by COVID-19 restrictions.
- Deferral of enforcement on outstanding Licensee Liability Rating Program (LLR) security invoices.
- Extension of not yet expired authorizations until December 31, 2021.  
(<https://publications.saskatchewan.ca/#/products/104969>)

As COVID-19 restrictions have been amended, the various relief measures have been rescinded. Bulletins to this effect can be found at <https://publications.saskatchewan.ca/#/categories/2566>

## 4.0 Administrative Levy Calculation

ER assesses an annual Administrative Levy against all licensees of wells and pipelines in accordance with provisions outlined in *The Oil and Gas Conservation Regulations, 2012*.

The amount of the annual invoice is tied to the number of wells in the various well classes (these are based on the volume of oil and gas produced from the well) and the length in kilometres for various classes of pipelines in operation in the previous calendar year. For example, the Administrative Levy calculated and invoiced for the 2020-21 fiscal period was based on the performance of wells and the length of pipelines operating during the 2019 calendar year.

An annual adjustment factor established by an Order in Council adjusts each year's payment to account for changes in the revenue requirements of the Government of Saskatchewan for the provision of regulatory services. Administrative Levy invoices are typically issued in the second fiscal quarter of the year, after approval of the provincial budget.

Each well and pipeline is charged a base fee multiplied by an adjustment factor. The adjustment factor is set annually to ensure that 90 per cent of forecast regulatory expenses are recovered. The provincial budget for regulatory services affects the Administrative Levy rates, as do changes in the number of wells, volume of production, and pipeline lengths.

The following table summarizes the calculation of the base Administrative Levy revenues for each of the well levy classes and pipeline classes as well as the calculation of the adjustment factor that is applied to the base amounts for invoicing purposes for the 2020-21 fiscal period. As previously noted, these are based on the performance of wells and the length of pipelines operating during the 2019 calendar year.

Annual Adjustment Factor Calculation, 2020-2021				
Class	Production (cubic metres/year)	Base Rate by Class	Number of Well Licences	Base Revenues
1	Service Wells	\$100	5,767	\$576,700
2	0.1 to 300.0	\$100	27,643	\$2,764,300
3	300.1 to 600.0	\$125	7,802	\$975,250
4	600.1 to 1,200.0	\$312	6,235	\$1,945,320
5	1,200.1 to 2,000	\$750	3,224	\$2,418,000
6	2,000.1 to 4,000.0	\$1,250	2,225	\$2,781,250
7	4,000.1 to 6,000.0	\$1,625	525	\$853,125
8	6,000.1 and above	\$1,875	492	\$922,500
9	Wells other than abandoned	\$25	35,168	\$879,200
		<b>TOTAL</b>	<b>89,081</b>	<b>\$14,115,646</b>

<b>Pipeline Class</b>	<b>Status of Pipeline Segment</b>	<b>Base Rate by Class per km:</b>	<b>Length (kms)</b>	<b>Base Revenues</b>	
1	Flowlines	NIL	NIL	NIL	
2	Operating	\$40	23,207	\$928,298.24	
3	Discontinued	\$20	2,186	\$43,724.82	
<b>TOTAL</b>			<b>25,394</b>	<b>\$972,023.06</b>	<b>B</b>
<b>TOTAL BASE AMOUNT (C=A+B)</b>				<b>\$15,087,669.06</b>	<b>C</b>
<b>2020-21 Regulatory Budget:</b>				<b>\$25,230,100.00</b>	
<b>Industry Share (90%):</b>				<b>\$22,707,090.00</b>	
<b>Industry Share After Reduction (45%):</b>				<b>\$11,353,545.00</b>	<b>D</b>
<b>Annual Adjustment Factor (E=D÷C):</b>				<b>0.752505</b>	<b>E</b>

## 5.0 Financial Reporting

<b>ADMINISTRATIVE LEVY REVENUE AND REGULATORY COSTS</b>		<b>2020-21</b>	<b>2020-21</b>
<b>(\$000s)</b>		<b>Budget</b>	<b>Actual</b>
	ADMINISTRATIVE LEVY INVOICED (50% - INDUSTRY SHARE)		11,322
	ADMINISTRATIVE LEVY INVOICED (50% - MINISTRY SHARE)		11,322
	TOTAL ADMINISTRATIVE LEVY		22,644
	LESS: REGULATORY COSTS INCURRED (90%)		21,278
	VARIANCE		1,366
	2020-21 VARIANCE – INDUSTRY SHARE (50%)		683
	2019-20 VARIANCE CARRY FORWARD		4,779
	ACCUMULATED VARIANCE CARRY FORWARD (As OF April 1, 2021)		5,462
<b>COST DETAIL</b>			
1	Energy Regulation Division (ERD) Executive	916	1,297
2	Field Services	4,746	4,690
3	Liability Management	1,193	1,623
4	Resource Management	1,904	1,712
5	Information Management	2,101	1,660
6	Client Support	1,459	1,406
7	Pipeline Regulation Enhancement Program	600	0
8	Surface Rights Arbitration Board	229	153
9	Central Learning Fund	0	27
10	Information Technology and Database Costs	6,622	5,847
11	Central Overhead and Costs	3,680	3,594
	<b>TOTAL MINISTRY OF ENERGY AND RESOURCES</b>	<b>23,540</b>	<b>22,010</b>
<b>OTHER MINISTRIES</b>			
12	Agriculture	600	588
13	Environment	1,300	1,044
	<b>TOTAL COSTS: ALL MINISTRIES</b>	<b>25,350</b>	<b>23,642</b>
	<b>ADMINISTRATIVE LEVY 90%</b>	<b>22,815</b>	<b>21,278</b>

Reference	Description
1	<p>ERD Executive (Includes Regulatory Affairs Unit)</p> <ul style="list-style-type: none"> <li>• Regulatory/legislative process modernization and enhancement and directives and guideline content development and management;</li> <li>• Development of processes and tools to assist in risk assessment practice, consistency in business activities and in addressing emerging issues;</li> <li>• Administrative Levy reporting and accountability;</li> <li>• Inter-jurisdictional coordination, engagement and monitoring; and</li> <li>• Facilitating red tape/program reviews</li> </ul>
2	<p>Field Services</p> <ul style="list-style-type: none"> <li>• Policy and program development related to the safe, environmentally sound operation of wells, facilities and pipelines;</li> <li>• Monitoring and inspecting wells, facilities and pipelines, including enforcement actions as required;</li> <li>• Responding to and providing oversight for activities related to incidents involving wells, facilities and pipelines and ensuring reclamation activities are undertaken for such incidents;</li> <li>• Providing on-the-ground support to landowners and operators related to the development, operation and abandonment of wells, facilities and pipelines;</li> <li>• Working with provincial and municipal agencies to address issues related to oil and gas development on private and public lands;</li> <li>• Responding to public complaints and inquiries;</li> <li>• Conducting corporate audits of companies to ensure compliance with the Safety Loss Management Systems (SLMS), in particular their Integrity and Emergency Management Programs.</li> <li>• Auditing submissions for facility and pipeline licence applications to ensure the applications were entered correctly and declaration questions answered correctly.</li> </ul>
3	<p>Liability Management</p> <ul style="list-style-type: none"> <li>• Reclamation standards, procedures and practices;</li> <li>• Licensee Liability Rating (LLR) administration;</li> <li>• Well and facility reclamation (AOR);</li> <li>• Orphan well fund administration and procurement;</li> <li>• Liability and reclamation compliance;</li> <li>• Care and custody of “at risk” sites;</li> <li>• Management of severely contaminated sites; and</li> <li>• Well and facility transfer approvals.</li> </ul>
4	<p>Resource Management</p> <ul style="list-style-type: none"> <li>• Developing and applying policies, programs and standards to ensure resource development that utilizes wells (oil, gas, potash, coal, helium, hydrogen, lithium etc.) occurs in a responsible manner to maximize resource potential, prevent waste, ensure equitable production of resources, ensure public safety and protect the environment;</li> </ul>

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- Monitoring all wells to ensure responsible reservoir development, set policy and approve development related to well spacing modifications, enhanced oil recovery/waterflood projects, underground (reservoir/cavern) storage/disposal projects, carbon dioxide storage projects, geothermal projects, acid gas disposal project, and disposal wells, including establishing any special conditions related to their operation;
  - Establishing production allowables, completion allocations, spacing areas, pools, forced pooling and units for oil and gas production;
  - Establishing and waiving logging and testing requirements.
  - Determining oil and natural gas reserve estimates;
  - Managing the reduction of greenhouse gas emissions from venting and flaring; and
  - Ensuring air quality standards are achieved.

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5 Information Management

- Well, facility and seismic information collection, monitoring and validation, publication;
- Drilling core and cuttings collection, storage and administration;
- Measurement standards, audits and compliance;
- Data submission standards, procedures and compliance requirements (geological well data, maintenance of reporting facility infrastructure information, volumetrics and valuation);
- Management of Enhanced Production Audit Program (EPAP) and Enhanced Valuation Audit Program (EVAP);
- Data submission penalty assessment and waivers;
- Seismic planning and program reporting management; and
- Licensing, sale and distribution of electronic data.

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6 Client Support

- Developing standards related to improving the regulatory services provided to clients;
- Operating the ER service desk for the full suite of activities of the Ministry;
- Issuing licences through the IRIS system, including coordinating approvals by the various business units;
- Operating the single-window service delivery model with the Ministry of the Environment and the Ministry of Agriculture;
- Coordinating service enhancements and bug fixes within IRIS and Petrinex systems;
- Managing the content of the Saskatchewan.ca web site related to ERD programs and services;
- Developing and managing industry training and orientation modules related to the use of ERD's online services; and
- Providing support in the delivery of large IT projects within the division including the oversight and delivery of organizational change management.

7	<p>Pipeline Regulation Enhancement Program</p> <ul style="list-style-type: none"> <li>• Creating efficiencies for government and industry by integrating all pipeline licensing and reporting requirements into IRIS;</li> <li>• Developing spatial data tools consistent with Saskatchewan Enterprise Geographic Information System (EGIS) standards that will support industry and assist the regulator in assessing and managing pipeline risk; Retroactively licensing approximately 80,000 flowlines (well to battery gathering lines) and any remaining licence-exempt pipelines.</li> </ul>
8	<p>Surface Rights Arbitration Board</p> <ul style="list-style-type: none"> <li>• The Arbitration Board, governed by The Surface Rights Acquisition and Compensation Act, is used as a last resort when a landowner or occupant and an oil/gas or potash operator are unable to reach an agreement.</li> </ul>
9	<p>Central Learning Fund</p> <ul style="list-style-type: none"> <li>• Tuition costs for ERD employees that are reimbursed by ER.</li> </ul>
10	<p>Information Technology and Database Costs</p> <ul style="list-style-type: none"> <li>• Operating costs of IRIS, including IT costs for the support and maintenance of IRIS to enable the licensees and regulators to audit and measure their respective performance activities; and</li> <li>• Amortization costs of capitalized IRIS IT projects and the operating costs of the legacy systems replaced by IRIS that are in the process of being phased out.</li> </ul>
11	<p>Central Overhead and Costs</p> <ul style="list-style-type: none"> <li>• Allocation of central accommodation, IT and benefit costs attributable to Administrative Levy activities;</li> <li>• Accommodation costs for the Subsurface Geological Laboratory where core samples gathered in accordance with regulations are located;</li> <li>• Amortization costs of capitalized Subsurface Geological Laboratory assets and capitalized Fields Services branch field assets; and</li> <li>• Staff development.</li> </ul>
12	<p>Ministry of Agriculture</p> <ul style="list-style-type: none"> <li>• Salary, expenses, and mileage, for site inspections, review of new project proposals, abandonment inspections, lease spills, seed mix reviews and approvals; and</li> <li>• Salary and operating costs for one regional manager, one agreement coordinator to prepare leases and address industry inquiries, and Regina staff involved in policy development, rate review, billing, collections and accounting associated with active leases.</li> </ul>

## Ministry of Environment

- Salaries and operating costs for ecological protection specialists from the Landscape Stewardship Branch responsible for review and approval of oil/gas industry proposals;
- Time spent by support staff within the branch on the oil/gas program; salaries and operating costs for the manager in the branch who is responsible for the program;
- Time for registry staff from the Corporate Services Branch responsible for producing and completing all land dispositions associated with industry;
- Oil/gas industry related time for staff at the ENV's Conservation Data Centre, which provides rare and endangered species information to industry for use in planning exploration and development; and
- Time allocated to the regional wildlife and fisheries biologist to associate with industry, and issues/proposals for Environmental Assessment Branch staff.

## 6.0 Staff Development

The Ministry of Energy and Resources continues to prioritize training and development of staff. For 2020-21, training and development expenditures were over \$72,000. Training opportunities for staff within the ERD included but was not limited to: SAIT Measurement Inspection; H2S Alive; First Aid/CPR; Quality Management Systems Lead Auditor Training; Emotional Intelligence; IT Project Management; Geographic Information Systems Technology; Methane Emissions Management; SST Certification; and Oil & Gas Production Operator.

The Administrative Levy also supported the hosting of ERD's virtual staff meeting which facilitates training and learning related to regulatory practices and initiatives for all of the Division's staff. As well, staff participated in training related to policy development and governance through the Johnson-Shoyama Graduate School of Public Policy.

## 7.0 Regulatory Services

The following subsections provide details with respect to regulatory services provided to industry and the service levels achieved compared to any established service level targets.

### 7.1 Applications

#### a. Review Confidential Period

A total of 8 applications were processed during 2020-21 with a turnaround time of 27.5 business days.

		2020-21	
		Total Applications	Turnaround Time (Business Days)
<i>Review Confidentiality Period</i>		8	27.5

#### b. Licence Application and Transfers

In 2020-2021, ER processed 1,006 well licence applications (573 non-routine, 433 routine) with an average turnaround time of 11 days for non-routine applications which is within the documented service standard target of 14 days. A total of 107 facility licence applications were processed, with an average turnaround time of 21 days for the 63 non-routine applications. ER's average turnaround time for processing non-routine pipeline applications was 8 days.

This metric includes the cumulative time required by AG, ENV and ER to approve non-routine licence applications through the single window well and facility licence application process in IRIS. The following table shows the number of licences processed in 2020-21.

		2020-21	
		Total Applications	Turnaround Time (Business Days)
<i>Well Licence</i>	Routine*	433	--
	Non-Routine	573	10.9
	Total	1,043	6.2
<i>Facility Licence</i>	Routine*	44	--
	Non-Routine	63	21.2
	Total	107	16.1
<i>Pipeline Licence</i>	Routine*	204	--
	Non-Routine	12	8.3
	Total	216	0.5

\* Turnaround time for Routine applications is 0 days as they are approved on same day.

ER approved 184 licence transfer applications (83 Transfers, 15 Amalgamations, 86 Pre-Transfer assessments) out of a total of 232 applications that were processed. This resulted in a transfer of 10,146 well licences, 757 facility licences, and 70 pipeline licences.

<b>2020-21</b>		
	Total Applications	Turnaround Time (Business Days)
<i>Licence Transfer</i>	232	7.6

**c. Production and Measurement**

From April 2020 to March 2021, ER processed 102 production and measurement related applications, a decrease of 103 applications from the previous year, with a weighted average turnaround time of 12.7 business days. The following table shows the number of production and measurement related applications reviewed in 2020-21.

<b>2020-21</b>		
	Total # of Applications	Turnaround Time (Business Days)
<i>Concurrent Production</i>	3	25
<i>Good Production Practice (GPP)</i>	11	32.5
<i>Maximum Permissible Rate (MPR)</i>	72	8.7
<i>Measurement Exemption</i>	15	12.7
<i>Measurement, Accounting and Reporting Plan</i>	1	41.9

**d. Reservoir**

From April 2020 to March 2021, ER processed 338 reservoir related industry applications with a weighted average turnaround time of 9.5 business days. The following table shows the number of reservoir related industry applications processed in 2020-21.

<b>2020-21</b>		
	Total Applications	Turnaround Time (Business Days)
<i>Additional Wellbore</i>	33	2.4
<i>Commingling</i>	46	12.3
<i>Enhanced Oil Recovery (EOR)</i>	21	37.1
<i>Project Commencement</i>	4	23.2
<i>Reclassification</i>	54	4.2
<i>Recompletion</i>	51	2.9
<i>Spacing Modification</i>	49	5.6

<i>Waterflood</i>	77	13.8
<i>Well Test</i>	3	2

e. Repair, Abandonment and Liability

From April 2020 to March 2021, ER processed 5,478 repair, abandonment and liability-related industry applications with a weighted average turnaround time of 4.6 business days. This was an increase of 1,842 applications and an average decrease in processing time of 1.8 days. The following table shows the number of repair, abandonment and liability related industry applications processed in 2020-21.

	<b>2020-21</b>	
	Total Applications	Turnaround Time (Business Days)
<i>Acknowledgment Of Reclamation</i>	135	42.4
<i>Non-Routine Abandonment</i>	4,363	3.3
<i>Well Repair</i>	162	1.3
<i>Full Exemption from Reclamation</i>	69	32.9
<i>Accelerated Site Closure</i>	666	0.0
<i>Partial Exemption from Reclamation</i>	83	28.2

f. Storage

From April 2020 to March 2021, ER processed 7 storage project related industry applications with a weighted turnaround time of 12.9 business days. The following table shows the number of storage project related industry applications processed in 2020-21

	<b>2020-21</b>	
	Total Applications	Turnaround Time (Business Days)
<i>Storage Project</i>	3	13.9
<i>Geothermal Project</i>	4	12.3

g. Units and Forced Pooling

From April 2020 to March 2021, ER processed 3 units and forced pooling related applications, a decrease of 9 applications from the previous year, with a weighted average turnaround time of 97.4 business days. The following table shows the number of unit and forced pooling related applications reviewed in 2020-21.

<b>2020-21</b>		
	Total Applications	Turnaround Time (Business Days)
<i>Forced Pooling</i>	2	39.5
<i>Unit Amendment*</i>	1	213.2

*\* Turnaround time for New Unit and Unit Amendments relates to the utilization process from beginning to end, not the time it takes for ER to review an application, which is considerable less.*

#### h. Logging Amendment

A total of 77 applications were processed during 2020-21 with an average turnaround time of 1.9 business days.

<b>2020-21</b>		
	Total Applications	Turnaround Time (Business Days)
<i>Logging Amendment Application</i>	77	1.9

#### i. Pipelines

From April 2020 to March 2021, ER processed 856 pipeline related applications, an increase of 339 applications from the previous year, with a weighted average turnaround time of 0.6 business days. The following table shows the number of pipeline related applications reviewed in 2020-21.

<b>2020-21</b>		
	Total Applications	Turnaround Time (Business Days)
<i>Leave to Open</i>	162	0.2
<i>Amendments</i>	694	0.7

## 7.2 Field Operations

Through the Field Services Branch, ERD provides services related to: the monitoring and inspecting of wells, facilities and pipelines; provision of oversight for activities related to incidents; and ground support to landowners and operators in the areas of development, operation and abandonment of wells, facilities and pipelines.

The Branch successfully integrated its *Working Alone* policy into an all-in-one application, that uses the power of location to coordinate and track its staff activities. The application uses multiple Enterprise GIS solutions available to all of government, by enabling the app development and completion of to-do-lists, update of staff status, creation and management of

assignments, along with reporting, data management and storage. Initial efforts focused on a small user group with plans for the expansion to all of the Regina Field Office staff for the 2021 field season. The application assists in meeting and exceeding the OH&S Regulatory requirements for working alone.

Other key accomplishments include:

- Completion of well, facility and pipeline inspections and incident activities listed in sub-section 7.2(b) below;
- Completion of audits outlined in sub-section 7.5(d) below;
- Utilized the Remotely Piloted Aircraft System (RPAS) to complete inspections for 34 pipeline watercourse crossings in 2020-21. RPAS Photogrammetry of Watercourse Crossings is a technology used to further assess and enhance the monitoring of pipeline watercourse crossings. This high level remote sensing terrain analysis tool facilitates the measurement of slopes and riverbanks and monitoring of boundary movements; and
- Developed three (3) Access databases for corporate and submission audits and for the monitoring of watercourse crossings.

#### a. Well, Facility and Pipeline Inspections

During 2020-21, ER conducted a total of 9,778 inspections related to wells, facilities, incidents, rigs and pipelines. The inspections were either regular inspections or in response to a complaint and involved the review of the following items:

- Well Identification/Signage
- Measurement Equipment
- Berm Construction and Maintenance
- Surface Casing Vent Installation
- Surface Casing Venting
- Production Casing Venting
- Engine Exhaust Location
- Tank Location and Spacing Requirements
- Chemical Containment
- Spill Clean-up
- Weed Control
- Housekeeping
- Lease Under Water
- Equipment Storage
- Filling and Leveling of Excavations
- H<sub>2</sub>S Odours – Both on and off Lease
- Sour Gas Management System
- Other Odours
- Residence Setback
- Flare Combustion

	<b>2020-21</b>
<b>Inspection Type</b>	<b>Total Inspections</b>
<i>Facility</i>	167
<i>Incident</i>	387
<i>Measurement - Gas Facility</i>	0
<i>Measurement - Other</i>	7
<i>Measurement - Oil Facility</i>	39
<i>Measurement – Waste Disposal/ Pressure Maintenance Facility</i>	6
<i>Measurement - Well</i>	61
<i>Rig</i>	23
<i>Well</i>	9,014
<i>Pipeline</i>	74
<b>Total</b>	<b>9,778</b>

Leveraging data that is now more readily assessable within IRIS, ER continues to undertake more informed and risk-based inspections. These types of inspections require more planning, evaluation and take longer to conduct but are aimed at identifying potential issues that pose the greatest risks. ER staff continue to re-inspect sites for follow up action and now spend more time on inspections related to incidents, facilities as well as measurement audits.

Non-compliance issues identified result in notifications being sent to the licensee. Note, in many inspections more than one non-compliance issue was identified. Most notifications provide a 30-day time frame for industry to return to compliance for each issue. The exception is when public safety is an issue; then immediate shut down takes place until compliance is achieved.

b. Incidents

In 2020-21, the Saskatchewan upstream oil and gas industry reported a total 426 incidents to the Ministry. To help oil and gas companies educate and train their spill-response personnel, ER officials participate regularly in spill exercise and spill-response unit meetings.

	<b>2020-21</b>
<b>Incident Type</b>	<b>Total Incidents</b>
<i>Natural Gas</i>	47
<i>Oil</i>	76
<i>Other</i>	134
<i>Refined Product or Chemical</i>	5
<i>Water</i>	164
<b>Total</b>	<b>426</b>

## 7.3 Care and Custody

During 2020-21, ER had expenditures of \$178,945 for the care and custody of pre-orphaned sites. These are sites that, at the time the work was required, were not officially deemed as orphaned, but the responsible company refused or was unable to meet its obligations. The work conducted under the care and custody program is typically emergent in nature.

These expenditures were significantly larger in magnitude as compared to expenditures for 2019-20 which were \$14,832. Expenditures under the Care and Custody Program can vary significantly from year to year depending on the number of sites, severity of the issues requiring care and the work that is required at each site. As an example, expenditures in 2014-15 were \$432,123, which is the maximum annual expenditure for the program thus far.

Examples of the work conducted under this program are abandonment of wells with unsafe pressure conditions or leaks, spill response, removal of contaminated soil adjacent to surface water, removal of fluid from tanks and other receptacles, hauling and disposal of refined chemical barrels, and mowing.

## 7.4 Other Regulatory Services

### a. Information Management

Information Management services include the services required to collect, validate and disseminate data. During the monitoring of the data through external procedures, issues within the Petrinex system were identified and changes were implemented to better assist operators in the reporting of information. The changes that were made to Petrinex include:

- Allowance for negative oil price reporting;
- Expanded Gas Oil Ratio (GOR) functionality to allow for backdating of GOR Factors and increase the threshold for a submitted GOR factor;
- Added new product type of Hydrogen;
- Multiple updates to Royalty/Tax Payer (RTP) report to aid industry with updates to their RTP records;
- Ability for ER to request non-compliance error reports on demand, which enables the Ministry to better serve clients pertaining to non-compliance errors; and
- Business Associate (BA) supporting documentation storage on Petrinex.

Other efforts are undertaken to support the ER's objective of collecting and disseminating accurate information in order to support resource management, industry development and other government programs, as well as improving public access to data. Such efforts include:

#### Facility Data:

- 555 records were identified for review and followed-up on with industry to ensure accuracy of the data and that necessary amendments were submitted;
- 57 custom data requests;
- 160 Reporting Facility Infrastructure changes in Petrinex;
- 169 *Service Now* cases were processed;

- 7 GOR applications were processed;
- 17 EVAP Declarations were reviewed;
- EPAP Workflow were reviewed; of these:
  - 212 were Declaration Review Workflows
  - 188 were BA Workflows
  - 202 were Industry Review Workflows
  - 48 were Regulatory Review Workflows

#### Well Data:

- 722 comprehensive well data audits were performed;
- 7,238 IRIS work items were completed;
- 5,194 IRIS review items were completed;
- 1,016 service now cases were processed;
- 3,853 fluid analysis types were corrected;
- 3,454 casing string data were reviewed and corrected;
- 488 other well file clean-up;
- 21 seismic exploration programs were processed;
- 17,684 well logs were audited as part of Phase 2 Well Log Scanning Project.

#### Saskatchewan Subsurface Geological Warehouse:

- Total core pulled for viewing: 410 wells for a total of 6794 boxes of core;
- Total core shipped out: 25 wells for a total of 523 boxes of core;
- Total core received and processed: 105 wells for a total of 2,530 boxes of core;
- Total drill cuttings received and processed: 105 wells for a total of 16,343 vials;
- Total drill cuttings pulled for viewing: 43wells for a total of 6,692 vials.

#### Measurement and Compliance:

- Created a guideline outlining how to measure and report hydrogen;
- Provided measurement inspection training to Field Inspectors;
- Developed inspection sheets for single well batteries which increased the number of single well battery inspections for the 2020-21 fiscal year;
- Acquired additional staff to assist with processing applications and review of inspections. As a result:
  - 42 service now cases were processed; and
  - 6 Reporting Facility Obligation work items were processed (functionality introduced in December 2020).

#### b. Client Support

ER provided regulatory support to industry in 2020-21 through the ER Service Desk which handled 16,159 phone calls and emails. A total of 104 IRIS and 122 Petrinex change requests were made to address errors and enhancements, resulting in 664 hours of user acceptance testing being completed.

Key initiatives during 2020-21 included:

- 7 new online training modules were developed to support industry on the major regulatory initiatives in the 2019-20 fiscal year;
- ER developed a process to enable the approval of well licence applications that cross unit boundaries which has allowed industry to expand their drilling programs.
- Work continued to make improvements to the risk-based framework for reviewing non-routine well licence applications prior to issuance which resulted in a slight increase of 1.1% in total denials for the fiscal year. In November 2020, the Client Support branch modified its framework to work in greater cooperation with industry partners and internal business areas, in order to reduce the total number of denied applications. Leading up to November, there was a denial rate of 7.9%, and towards the end of fiscal year, there was a decrease to 4.4%.
- ER reduced the number of licence cancellation performed by Ministry from 7.4% in 2019-20 to 5.8% in 2020-21.

### c. Policy Development

The following updates to ER's policies, programs and services were completed:

- *Directive S-01: Saskatchewan Upstream Petroleum Industry Storage Standards*; amended to support updates to IRIS;
- *Directive PNG001: Facility Licence Requirements*; amended to support recent updates to IRIS;
- *Directive PNG016: Acknowledgement of Reclamation Requirements*; amended to support recent updates in IRIS to automate administrative processes relating to the Acknowledgement of Reclamation (AOR) Program;
- *Directive PNG017: Measurement Requirements for Oil and Gas Operations*; amended to introduce changes to Gas Oil Ratio requirements for heavy oil facilities;
- *Directive PNG017: Measurement Requirements for Oil and Gas Operations* and *Directive PNG076: Enhanced Production Audit Program (EPAP)* were provided an extension of one-year before full implementation was required;
- *Directive PNG025: Licensee Liability Rating (LLR) Program*; amended to support recent updates to IRIS to automate administrative processes related to the LLR Program;
- Published *Guideline PNG035: Estimating Venting and Fugitive Emissions* and a supplemental vent volumes estimation calculator tool to aid industry in calculating gas volumes;
- Published two (2) new guidelines for supporting well abandonments - *Guideline PNG015: Applications for Commingled Abandonments*, which provides industry an opportunity to evaluate potential candidates for commingled abandonment between the Milk River and Medicine Hat formations; and *Guideline PNG044* which provides clarity around the base of ground water evaluation and remedial cementing requirements;
- Completed Phase 2 of the *Well Log Scanning Project*; and
- Completed publication of the Area Field Offices and Production Areas boundaries to ER's Enterprise GIS warehouse and subsequent publication to ER's GeoPlanner and

GeoAtlas online applications. These publications will assist industry and the public to identify where reporting of field and production activities may occur.

#### d. Pipeline Compliance Audits

Two virtual corporate audits were completed in the last quarter of the 2020-21 fiscal year. There were no major findings in either audit, with a total of 20 minor findings and 7 observations. To support the quality of audits, 7 staff have been trained as Lead Auditors in compliance with ISO auditing standards (ISO 14001 and ISO 9001). Five (5) of the auditors participated in the virtual audits this year, either as auditors or as observers.

Retroactive Designated Pipeline Licensing Plans were all received from companies with flowlines or previously exempt pipelines to license. No administrative penalties were imposed on any Business Associate (BA) for failure to comply. There are plans in place to continue to work with BAs intending to get their designated pipelines licensed in the years they committed to.

#### e. Liability Management

The Liability Management Branch carefully monitored all licence transfer applications and scrutinized transfers containing significant uneconomic liabilities in order to protect the industry from exposure to excess orphan fund expenditures.

The 2020-21 fiscal year saw the implementation of a working group that focused on a creation of a new Directive that would achieve site closure (Acknowledgement of Reclamation) for large salt contaminated sites and in turn reduce industry liability associated with these types of sites. The group met several times throughout the year and were able to reach consensus on the structure and framework of the Directive. The new Directive is expected to be implemented in 2021-22.

Late in the 2020-21 fiscal year, the Branch began work on drafting the new regulations called *The Financial Security and Site Closure Regulations (FSSCR)* which will feature new provisions and enhancements to strengthen Saskatchewan's oil and gas liability management system. This new regulation will include enhancements of the current Licence Liability Rating (LLR) program, Proportional Risk Assessments for transfers and an Inactive Liability Reduction Program.

#### f. Improvement Initiatives

2020-21 saw the introduction of many innovative improvements to ER's processes and services. In addition to improvements elaborated on previously, the following improvements were completed/initiated this year:

- Implemented and presented the Oil and Gas Content Review initiative with final review recommendations. A few enhancements/changes were identified as an approved quick-win solution will be developed and implemented as a course of action;
- Designed, developed and launched the IRIS User Survey to collect feedback, suggestions and input from IRIS users. Survey results will be shared with industry once analyzed and will be used as guide for continuous improvement efforts;

- Commenced work to further enhance the resubmission and pad set functionality in IRIS. The anticipated changes and enhancements are expected to expedite licence applications requiring review from the Ministry of Environment and/or Ministry of Agriculture and prevent duplication of efforts in the process;
- Launched Phase 2 of the pipeline licensing module as the Pipeline Regulatory Enhancement Program;
- Developed three (3) access databases for corporate and submission audits and for the monitoring of watercourse crossings;
- Made enhancements to the GeoPlanner application Version 3. to support industry in their oil and gas developments;
- Prepared final vendor data extracts for pipelines including an associated glossary to provide content relating to data and data field descriptions;
- Successfully completed Phase 2 of the IRIS Pipelines Infrastructure Project (IPIP) as a result of industry feedback and ER business requirements. The Phase 2 improvements included:
  - Automation of pipeline calculation and invoicing components of the Annual Administrative Levy, thereby eliminating the need for ER to manually calculate and invoice the pipeline portion of the levy;
  - A more robust and interactive map-based experience for pipeline related activities within IRIS;
  - Providing pipeline related data into COGNOS to allow for a more advanced approach to business analytics; and
  - Enhancement to the way ER identifies and processes applications involving watercourse crossings;
- Developed and implemented an intuitive configuration table for the IRIS Inspection Module which now allows ER staff to add, edit and deactivate inspection item types;
- Implemented a new enhancement to flag wells that require base of groundwater protection. This enhancement better informs licensees and ER staff when developing and reviewing well abandonment programs as well as assessing the associated liability of wells requiring base of groundwater protection measures;
- Implemented a new enhancement to flag gas migration or surface casing vent flow issues that are discovered on a well. This enhancement will allow for better tracking and identification of wells with potential subsurface issues;
- Developed and implemented a new pipeline licence transfer process as part of the Liability Management project. The new process automates the transfer process and provides a risk-based approach to reviewing pipeline licence transfers;
- Implemented an enhancement to the Retroactive Pipeline Licensing batch run process to allow for faster processing times and more detailed feedback for unsuccessful submissions;
- Developed a risk matrix of uninspected wells by using applied data and spatial analytics. The methodology developed took into account a wells inherent risks, proximity to environmental and demographic factors and the overall operator/operational risk factors;
- Upgraded the Administrative Levy IRIS functionality to include pipeline and flowline data, calculation and related invoicing;
- Implemented IRIS functionality to allow for obligations to be assigned to a reporting facility obligation;

- Updated the Measurement Exemption form and created example documentation for Measurement Exemption;
- Upgraded IRIS to include a new application type - '*Venting/Flaring Application*' which aligns with *Directive PNG036: Venting and Flaring Requirements*, and replaces the '*Application for S10 Economic Evaluation*';
- Upgraded IRIS to include a 'Production/Injection' tab for Pool and Unit screens in IRIS, along with additional ability for users to download summary and detail production reports from those screens;
- Upgraded IRIS to include an 'Obligation' functionality to projects as part of "The Obligation Management Enhancement project". The functionality includes:
  - A new 'Obligation' tab under the Project details screen. Obligations are set on a project (i.e., EOR, Waterflood, Storage, Spacing Modification, Pilot, and Other) to be fulfilled or honored by an operator in order to meet regulatory requirements.
  - A new project obligation '*Report Project Commencement*' which replaces the '*Project Commencement*' Application in IRIS.
  - A new recurring project obligation '*Submit Progress Report*', which replaces the email submission process;
- Upgraded IRIS to include a functionality that allow authorizations for Good Production Practice (GPP) to be entered on a licence application. This allows for Allowable Rate of Production - GPP to be assigned to a new completion when the licence is issued.
- Implemented a new Liability Management module within IRIS to support government and industry in tracking and managing well abandonment and reclamation programs. Structured applications for the Licensee Liability Rating (LLR) program, Orphan Well Program and Acknowledgement of Reclamation (AOR) program have now transitioned, into IRIS. These changes are fully automated and enhance the existing business process related to these programs;
- Implemented Routine and Non-Routine Acknowledgement of Reclamation (AOR) through IRIS. A key feature is the development of an online checklist based on the risk that the well site poses to the environment that would decide whether the AOR application would go Routine or Non-Routine. The system would provide an automatic AOR approval removing associated liabilities for all Routine Applications and Non-Routine applications would go through the full technical review;
- Initiated the Reclamation Declaration Application project for IRIS development. The aim of the project is the temporary reduction in reclamation liability on sites that have been fully restored but waiting on vegetation growth;

#### g. Surface Rights Board of Arbitration

The Surface Rights Board of Arbitration (SRBA) is an arbitration board used as a last resort when a landowner or occupant and an oil/gas or potash operator are unable to reach an agreement for surface access to private land and related compensation. In 2020-21, the SRBA received 34 Applications for Rental Review. The Board held 3 hearings on matters in the SRBA purview, issued 3 Right of Entry Orders and 3 Compensation Orders. Note that this information is only up to the end of 2020.

## h. Resource Management

Resource management services include services required to manage the production of oil and natural gas resources in Saskatchewan. Key accomplishments in 2020-21 included:

- Updated the form for Good Production Practice (GPP) applications to provide additional clarity in the application process;
- Updated the Spacing Modification process for oil well development, and developed the concept of minor/major applications to streamline application and approval process;
- Ongoing development of an in-house database for estimating annual oil and gas reserves;
- Developed an application guide for removing equipment essential to the proper control of a well – *Guideline PNG040*;
- Updated the guidelines for commencement, termination and annual reporting related to Waterflood and EOR projects;
- Updated the application form for Forced Pooling Application to reflect changes in the OGCA; and
- Updated the application forms for Reservoir Storage Project Application and Cavern Storage/Disposal Project Application to provide additional clarity in the application process.

## 7.5 Ministry of Agriculture

In 2020-21, AG issued 12 new surface leases including the review of project proposals, site inspections and field work. The Ministry also completed 717 surface lease renewals, 7 surface lease abandonments, and approximately 260 surface lease amendments, numerous seed mix approvals, and attended four (4) Saskatchewan Petroleum Industry/Government Environment Committee (SPIGEC) meetings.

AG implemented the Footprint Reduction Initiative Program. This initiative provides an opportunity for oil and gas companies with a current petroleum and gas lease with the Ministry to amend their leases to reflect the number of acres currently being impacted and thus reduce the overall cost of rent. As of March 31, 2021, 48 companies had submitted 8,112 amendments.

## 7.6 Ministry of Environment

In 2020-21, ENV processed 1,080 oil and gas project proposals of which 575 were deemed to be non-routine applications. Site inspections were associated with a significant number of those projects, including pre and post construction inspections and inspections that were undertaken during construction. The non-routine projects require significant review time due to several factors such as siting on environmentally sensitive lands, proximity to endangered species and crown administered lands. The Ministry currently administers in excess of 875 oil and gas dispositions on both Crown and Park land. Significant effort has been spent working with

industry regarding new technology and new companies to Saskatchewan, as well as numerous abandonment programs.

Economic challenges within the oil and gas sector has significantly impacted the industry. These economic challenges have negatively impacted the number of submissions for new well licenses relative to previous years along with the impact of the COVID-19 pandemic. It is anticipated that there will be increased activity for the upcoming fiscal year.

Ministry staff also undertook numerous meetings with proponents, and attended all Saskatchewan Petroleum Industry and Government Environment Committee (SPIGEC) meetings.