Liability Narrative

Date: September 19, 2019

Issue

The recent and prolonged economic downturn has exposed policy and regulatory gaps in the provincial liability management framework and highlighted that the framework is largely reactive when it comes to managing companies and their liabilities.

s. 24(1)(a) [redacted]. Please refer to attachment 1 for further details.

Highlights

- Industry is responsible for managing liability associated with energy development. Inactive inventories are growing at a rate of 5 per cent annually; however, our data shows industry closure rates are not keeping pace. Industry is not prioritizing end-of-life obligations.
- The AER administers programs to manage liability within the policy framework set by the Government of Alberta (GoA), and can only make minor adjustments within our jurisdictional authority to the liability framework.

s. 24(1)(a)

- [redacted]
- [redacted]

- Industry has been requesting the AER and GoA make required changes to the liability framework for the last few years, including changes outlined by the Orphan Well Association (OWA), in a July 17, 2019 letter, to increase their mandate. Please refer to attachment 2 – OWA letter to Ministers Savage and Nixon and attachment 3 – OWA Augmentation Summary of Benefits and Risks.

- Draft rule changes are with the GoA for approval under Section 22 of the *Responsible Energy Development Act*. The AER requests these rules be approved to allow the AER to move forward with the development of inventory reduction targets and to ensure financial information provided to the AER can remain confidential for the licensee capability assessment (formerly referred to as corporate health).

Current status

- The AER is actively working on multiple liability initiatives within our jurisdictional authority to ensure energy development and closure occurs in a viable manner that ensures public health, safety and environmental protection. This includes taking a more holistic approach to evaluating a licensee's capacity, capability and commitment to meet their end-of-life obligations.

- While the liability framework is under review, a land-slide of orphaned liabilities are moving through the system to the OWA. A series of significantly sized insolvencies are underway that will result in a step-change in orphan sites (see attachment 4 – Insolvencies in Alberta 2019-09-18 Confidential). Furthermore, a number of mid-size companies are ceasing operations with others showing signs of near-term failure. Combined, the financial distress of these companies represents a potential OWA inventory increase of up to a 480% in the next 24 months (see attachment 5 – Confidential Summary of Insolvency Volumes).

- Under the current framework, the AER is faced with a regulatory dilemma with distressed companies:
    - Managing liabilities by using existing tools (e.g. collecting security and meeting closure obligations) creates a risk of tipping them into insolvency earlier; or
    - Having patience while companies continue to operate temporarily to recover any remaining value left in the company (e.g. allowing grace with security and closure obligations) before operations are ceased and their liabilities moved to the industry-funded OWA.

Background

- The AER has a foundational and important duty: protect the public and the environment.
    - Paramount to fulfilling this duty is ensuring licensees and approval holders in the conventional oil and gas, pipeline, coal mine, oil sands mine and in situ sectors fulfill their regulatory

requirements to address their liabilities by decommissioning, remediating and reclaiming their sites when operations are finished.

- The Alberta Energy-led liability management review began in 2017 and incorporated feedback from numerous stakeholder groups, including landowners, municipalities, industry, NGOs, other government agencies and indigenous communities to better define the problem and start working towards a solution.
  - The review contributed to the identification of key issues, and the development of recommended policy amendments that continue to remain valid. Implementing these policy recommendations would make a substantial difference in the AER's and GoA's ability to address those issues.

Analysis

Issue 1 - Lack of timely closure: There is no legislation in place to allow the AER to create enforceable requirement for the timely closure of energy infrastructure. Currently, industry is not allocating sufficient budget resources to closure activities resulting in inventory not moving through the lifecycle in a timely manner. Regardless of commodity prices, there has been inadequate allocation of capital resources to curb the growing liability deficits and debt.

Oil and Gas

- The inventory of inactive wells increased from 60,000 to 93,000 over the past ten years, an average annual growth of 5 per cent. There are over 90,000 licensed facilities in Alberta. The number of inactive facilities is uncertain; however, less than 3% have been fully reclaimed.
- Many operators spend the minimum required to meet regulatory compliance for closure and it is insufficient to keep up with the mounting liabilities.
- The number of well abandonments and reclamation certificates has stayed relatively constant over the last 10 years, regardless commodity prices. Industry has focused on closure activities that improves their Liability Management Ratio (LMR) which is an inaccurate predictor of a licensee's overall health and does not drive the behavior needed to address the issue.
  - While the Area-Based Closure program encourages more closure work, it remains voluntary until the AER has the authority to set closure spend targets. Currently, licensees that hold 65% of the liability are participating in the program.
- Industry conducts reclamation activities on sites with lower liability, not higher liabilities that may contain soil and groundwater contamination. For example, out of the current inventory of reclamation

certified well sites, 80% of them never produced hydrocarbons, while 44% of abandoned wells never produced hydrocarbons. These wells and sites are the lowest cost to abandon and reclaim.

- The AER is using the Licensee Capability Assessment tool (see attachment 6 – Licensee Capability Assessment) to better understand licensee's ability to address its end-of-life obligations. We have been seeing benefits from this approach, as it allows for a more comprehensive assessment of a licensee's financial capability, including assessing annual closure targets, to address their liability. AER requires GoA support to fully implement this new tool and shift away from the LMR assessment.

Mining

- Mine approval holders are not actively seeking reclamation certification on lands no longer required for active mining as there is a lack of consistent criteria for acceptable reclamation standards and a lack of set timelines for reclamation to be completed.
  - As of 2018, approximately 36,000 hectares have been disturbed for coal mining, 31 per cent of this has a status of permanently reclaimed, while only 6 per cent is reclamation certified.
  - Approximately 101,000 hectares have been disturbed for oil sands mining at the end of 2018, 7 per cent has been permanently reclaimed, while only 0.1 per cent is reclamation certified.

Issue 2- Unfunded and legacy liabilities: Certain types of liability are left without a financial backstop.

- Pipeline liability is not assessed or captured in the current regulatory framework. The same is true for liabilities associated with certain facilities and well types. These omissions have contributed to the current day unfunded liabilities.
- Sites closed prior to the existence of regulation that may have contamination or post closure issues.
- Oil and Gas Sites that are past the 25-year *Environmental Protection and Enhancement Act* (EPEA) warranty period for reclamation (company remains responsible for contamination indefinitely).
- Legacy sites where no standards were in place at the time of closure, or which met standards of the day, but no longer have a licensee/approval holder to address post closure issues. Examples include: Smoky River Coal Mine, legacy coal mine sites not closed to current standards (e.g. collapsed features), and those closed prior to the existence of current regulations.
- Liability issues that continue beyond the lifespan of the oil and gas and mining sectors when current backstops (e.g. OWA) cease to exist. This includes scenarios such as leaking abandoned wells, contamination issues, and infrastructure that has not been abandoned and reclaimed, etc.

Issue 3 s. 24(1)(a) [redacted]

- s. 24(1)(a) [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

Risks of inaction

s. 24(1)(a) [redacted]

- s. 24(1)(a) [redacted]

s. 24(1)(a)

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Recommendations

s. 24(1)(a)

- [redacted]
- [redacted]

s. 24(1)(a)

1) [redacted]
2) [redacted]

s. 24(1)(a)

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3) [redacted]

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Next Ste[redacted]

s. 24(1)(a)

- [redacted]
- [redacted]
- [redacted]

Prepared by: Jackie Medeiros, Senior Specialist; Anita Lewis, Senior Advisor; and Melissa Barg, Senior Advisor, Closure and Liability.

Attachment:

1. Fundamental Issues with Current Liability Management Framework

2. OWA Letter to Ministers Savage and Nixon

3. OWA Augmentation Summary of Benefits and Risks

4. Insolvencies in Alberta 2019-09-18

5. Confidential summary of insolvency volumes

6. Licensee Capability Assessment

7. Worst-Case Liability Scenario

8. CAPP Perspectives on Liability Management Letter

Attachment 1: Fundamental Issues with Current Liability Management Framework

Industry bears the responsibility for managing the liabilities associated with their end-of-life obligations. While the AER is responsible for administering programs within the policy framework set by the Government of Alberta, it is clear the current liability management framework needs improvement.

The current liability management system is largely reactive; we are not proactively managing companies and their liability. It is imperative the framework change to meet today's realities and to ensure that the liability associated with end-of-life obligations remains with industry.

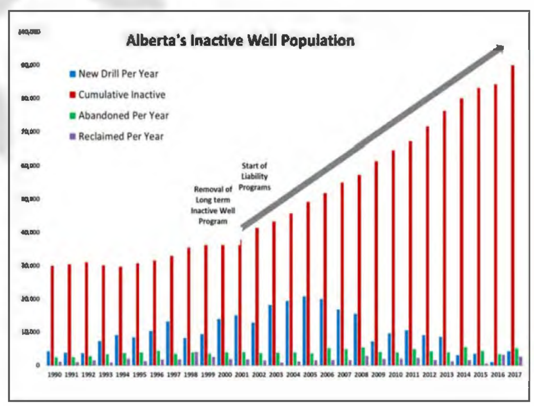
There are three fundamental issues with our current liability management system where policy changes are required:

Issue1: Lack of Timely Closure

Energy infrastructure is not moving through the lifecycle to closure in a timely manner. Alberta does not have targets for how much is spent on closure work or timelines in place outlining when inventory must be decommissioned and reclaimed. Jurisdictions such as British Columbia, Texas and New Mexico have implemented enforceable closure timelines that are achieving the outcome rapidly diminishing inventories of inactive infrastructure. Only voluntary closure spend targets through the Area Based Closure program exist in Alberta, with the result that budgets for closure activities are being reallocated away from Alberta to British Columbia, where timelines for inventory reduction are enforceable with penalties for inaction.

Oil and Gas

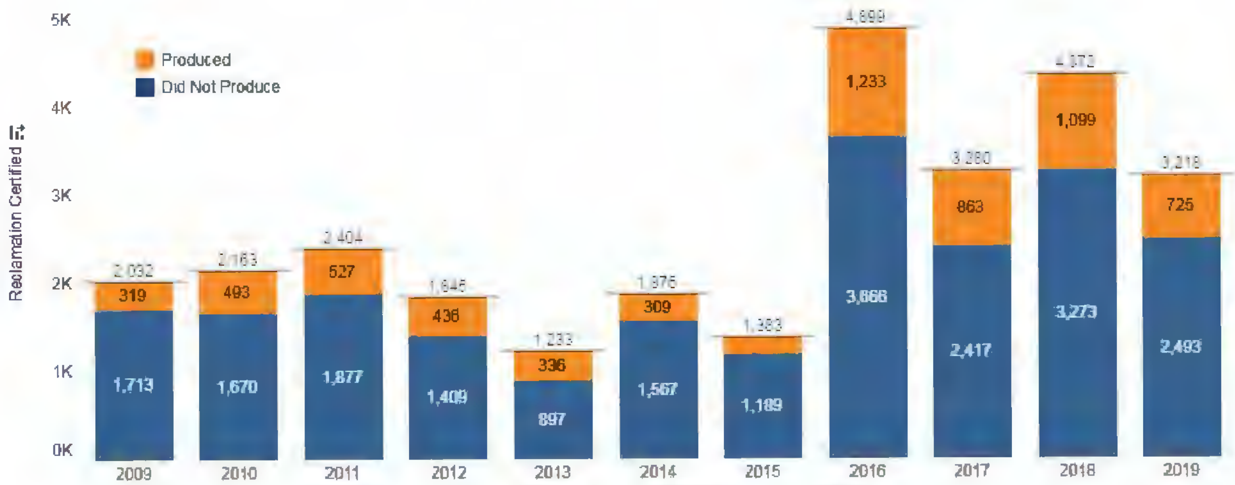
The inventory of inactive wells increased from 60,000 to 93,000 over the past ten years and growth has averaged around 5 per cent during that time. At the same time, surface well abandonments stayed relatively flat despite changes in commodity prices. In addition, there are over 90,000 licensed facilities. The number of inactive facilities is uncertain; however, less than 3% have been fully reclaimed. This is a lost opportunity; liabilities are not being addressed even during periods of high commodity prices.



We know from monitoring industry closure activity that in the absence of targets or timelines, some licensees focus only on regulatory requirements and closure work that improves their Liability Management Rating (LMR), a ratio that measures a licensee's deemed liabilities against their deemed assets. As a result, industry does not allocate appropriate funding or address all closure obligations, including the remediation of contaminated sites, resulting in increasing liabilities. There are also currently no risk-based timelines for the remediation of contamination. As a result, sites may be left contaminated indefinitely. In addition, we know the LMR is a poor indicator of a licensee's overall health. The AER's Licensee Capability Assessment, which complements the existing LMR assessment, considers multiple factors, including the financial, operational, closure and compliance performance of a licensee to allow for a more accurate understanding of a licensee's ability to meet its closure obligations through the lifecycle of energy development.

44% of abandoned wells never produced hydrocarbons, while 80% of reclamation certified well sites never produced hydrocarbons. This indicates that industry focuses low cost well abandonments and reclamation activities on sites with lower liability, not higher liabilities due to soil and groundwater contamination. Without timelines and targets, industry will continue to focus on sites that are cheaper and easier to reclaim, leaving more complex and contaminated sites in an inactive or abandoned state.

Reclamation Certified Wells – Produced versus Not Produced



Directive 011 - Licensee Liability Rating (LLR) Program: Updated Industry Parameters and Liability Costs (D011) uses outdated information to assess assets and liabilities and does not include all deemed liability in the calculation of the LMR. For example, it excludes all pipelines, partial upgraders, borrow pits, remote sumps, and access roads etc.

Liability is underestimated on Site-Specific Liability Assessments (SSLAs) and contamination in general since we do not currently have an accurate picture of surface and subsurface liability in Alberta. We are working on an alternative model for estimating liability and collecting closure costs through our OneStop system and we anticipate this data could eventually replace our D011 estimates for oil and gas.

Mining

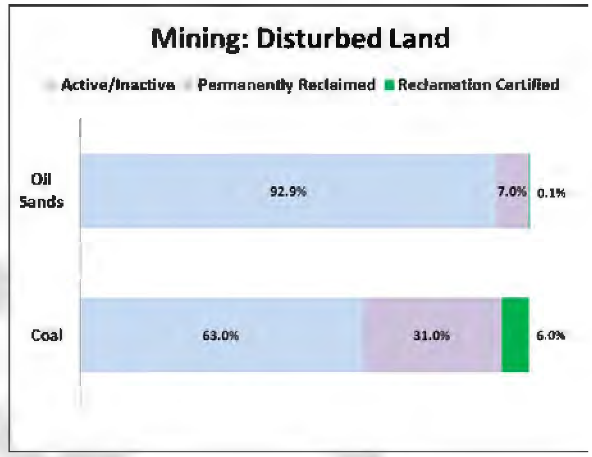
Under an *Environmental Protection and Enhancement Act* (EPEA) approval, approval holders must prepare for reclamation throughout the lifecycle of a mine.

While approval holders regularly undertake some progressive reclamation work to meet the requirements of their EPEA approval, they are not actively seeking reclamation certification on lands no longer required for their mines. There are no closure criteria outlining the thresholds that must be met to support progressive reclamation through appropriate stage gates or for a reclamation certificate to be issued. An example of this is tailings management, where a lack of clear criteria for addressing closure using existing and new technologies makes it difficult for approval holders to sufficiently reclaim their lands. Additionally, when reclamation certificates are issued there are ongoing maintenance considerations with infrastructure (e.g. dams and culverts) that remains on the landscape post closure.

Once a reclamation certificate is issued, there is a lack of clarity around who is responsible for funding and undertaking monitoring and maintenance of post closure infrastructure.

There were 18 coal mines in the Mine Financial Security Program (MFSP) in 2018: 11 operating, one suspended, five in the decommissioning & reclamation stage, and one that is completely reclamation certified.

As of 2018 approximately 36,000 hectares have been disturbed for coal mining: 63 per cent of the area disturbed is being used for mining activities or has not yet been permanently reclaimed, 31 per cent has status of permanently reclaimed, while only 6 per cent is reclamation certified.



There were nine oil sands mines in the MFSP in 2018. Approximately 101,000 hectares have been disturbed for the purposes of oil sands mining: 93 per cent of the area disturbed is being used for mining activities or has not yet been permanently reclaimed, 7 per cent has been permanently reclaimed, while only 0.1 per cent is reclamation certified.

Mining companies are also exempt from *Directive 067 – Eligibility Requirements for Acquiring and Holding Energy Licences and Approvals* and are therefore not subject to the same controls and scrutiny as *Oil and Gas Conservation Act* licensees. This allows major integrated companies to appear less of a risk than they actually are.

Issue 2: Unfunded and Legacy Liability

While government is responsible for setting policy, the AER is only responsible for policy assurance, which includes administering legacy sites on behalf of the Crown. Legacy sites include those that fall outside of the Orphan Well Association (OWA) backstop, or that do not have a responsible party. Many of these legacy sites, like the former Smoky River Coal Limited (SRCL) mine site, are on Crown lands. As the owner of these lands and as the policy maker, the Crown is responsible for making policy, including determining the acceptable standard for the closure of legacy sites and deciding who is responsible for paying for such closure.

In many cases, the security retained or recovered for the abandonment and reclamation of legacy sites such as the SRCL mine site has been exhausted. The AER must apply to the Crown for funding the reclamation of legacy sites through the Environmental Protection and Enhancement Fund (EPEF). The AER has yet to receive funding from the EPEF to address the environmental and public safety risks of legacy sites. Without clear policy direction and defined regulatory responsibility from government with regards to the management and closure of legacy sites, both the government and AER will be exposed to potential liability and the credibility of both parties is at stake.

Policy changes are required to address unfunded liability that exists from energy development activities where there is no financial backstop, including:

1) Sites closed prior to the existence of regulation. Environmental standards for remediation and reclamation did not exist prior to 1963 for private land and prior to 1978 for crown land. Sites that were already abandoned were exempt from legislation put in place after their closure.

2) Sites with closure issues found post EPEA warranty period. Section 142 of the *Environmental Protection and Enhancement Act* permits the issuance of an Environmental Protection Order after a reclamation certificate has been issued if further work is required to conserve and reclaim land that was not apparent at the time the reclamation certificate was issued. Licensees remain responsible for liability for up to 25 years after the issuance of the reclamation certificate. After that, any future liability becomes the responsibility of the Crown.

3) Post closure issues found on sites that met the standards of the day, but where a licensee/approval holder no longer exists. For oil and gas, examples include leaking abandoned wells; while in mining issues may arise with dam structures and culverts that were left as part of the closure. There is no backstop for this residual liability as there is no licensee/approval holder and ultimately the Crown could be responsible.

4) Legacy sites with no licensee/approval holder, which the AER administers on behalf of the Crown. These are sites that fall outside of the OWA backstop, including wells that do not qualify for the OWA program and legacy sites like the SRCL mine.

    - There are approximately 24 known legacy sites without a person responsible (7 with known contamination)
    - There is the potential for unknown contamination on approximately 622 wells within 10 kilometres of Edmonton, Calgary and Red Deer that have RecCertified and RecExempt status issued before 2003, and which are held by licensees that are no longer active (struck or dissolved as per the corporate registry). After 2003, EPEA required contamination assessment as part of the reclamation certificate process.

5) Legacy coal mine sites not closed to current standards and on which development is occurring. The main issue is with subsidence (sinkholes) on the land due to improper closure of the underground mine, which can pose environmental and public safety risks of varying degrees of severity.

6) While tailings pond liabilities are currently part of MFSP, approval holders had historically incorrectly categorized tailings pond liabilities as operating costs, resulting in an underestimating MFSP liability.

7) Liability issues that continue beyond lifespan of the oil and gas and mining sectors when current backstops (e.g. OWA) cease to exist. This includes scenarios like leaking abandoned wells, contamination issues, pipeline degradation, etc.

Issue 3: Inadequate Security Collection in Existing Framework

The current liability calculations are not an adequate reflection of liability in the province. While the regulatory framework allows for the collection of security as a backstop for liability, it is not currently an effective measure of control.

Oil and Gas

The AER is working in partnership with the industry associations to better reflect liability numbers for oil and gas. The draft working model estimates liability to be 2.5 times higher than the D011 calculations. However, determining and accurate liability calculation is difficult as the extent and severity of contamination in Alberta is unknown. To better understand current costs of closure activities, companies that are participating in the ABC program are reporting their closure spend costs into the OneStop system. Once there is sufficient data in OneStop, the AER may use the annual submitted data to calculation liability.

The AER currently has the regulatory authority to demand security throughout the lifecycle of the activity; however, the current regulatory approach is to collect security when a licensee's Liability Management Ratio (LMR) is 1.0 or lower to mitigate liability risk. LMR only considers two parameters; deemed liability and production-based assets. It does not consider a holistic view of a company's financial, compliance, operational or closure performance or provide the business intelligence needed to proactively identify companies at risk of distress.

The AER has found that 54 per cent of companies entering insolvency proceedings had a LMR greater than 1.0 and as high as 28.9. Due to the focus on LMR, security is only collected when licensees are exhibiting financial distress, affecting their ability to put money towards undertaking closure work. The LMR process was developed in consultation with industry and government which is why the AER has not typically collected security up front when a new approval/license is issued even though we have the authority.

As of July 2019, the current deemed liability for the oil & gas sector is $30.20B. Only $224M is currently held as security, less than 1% of the deemed liability. The security we collect from licensees is not enough to cover their liabilities. While we do have the OWA as a backstop, it was only designed for companies with small amounts of liability, and not the mid-sized companies we see going insolvent today.

The prolonged economic downturn and low commodity prices are resulting in larger companies going insolvent and leaving their liabilities to the OWA. The OWA has been flooded with assets of companies unable to fulfil their regulatory obligations over the past five years. Between May 2016 and January 2019 (prior to the Supreme Court of Canada's Redwater decision), receivers and trustees involved in 28 insolvencies have renounced their interest in over 10,000 AER-licensed sites, and the OWA's inventory of wells has increased by more than 300 per cent.

Industry members, who fund the OWA, do not want to continue to bear the burden for other industry members not paying their fair share. The OWA, working with CAPP and EPAC, has recommended legislative changes to the GoA to provide the OWA with improved tools to maximize the use of its funds. This will decrease the number of orphaned assets that become sterilized or stranded – despite still having value, while continuing to allow the OWA to conduct closure of uneconomic orphaned assets. Please refer to attachment 3 – OWA Augmentation Summary of Benefits and Risks.

The orphan levy has quadrupled from $15M in 2014 to $60M in 2019-20 in an attempt to keep pace with the inventory growth. While the budget is expected to increase even more, it is still not enough to address the growing inventory and the gap between the amount of security collected and the costs of addressing the liability to current closure requirements.

If current market conditions continue, the known failures could grow OWA's inventory by up to 160% within 12-24 months (this factors in court pace on insolvencies). There is the potential of up to a 480% increase in OWA inventories should companies currently demonstrating signs of distress fail as well. Refer to attachment 5 – Confidential Summary Insolvency Volumes.

Innovation in the way we manage liability is hindered by the current regulatory tools available to the AER for the collection and use of security. The AER only has authority to collect security via cash and letters of credit, even though there are other options for securitization (e.g., surety bonds, insurance, qualified environmental trusts), which impacts licensees' ability to access capital and maintain cash flow.

Mining

The Mine Financial Security Program (MFSP) aims to protect the province from unfunded liabilities associated with coal and oil sands mines. Mining approval holders are responsible for the suspension, abandonment, remediation, and reclamation of land disturbed by resource development.

While the coal mining industry opted to pay full financial security (equal to MFSP liability) at the inception of the program, the amount of security collected does not adequately address all closure costs in the event an approval holder walks away from its obligations.

For oil sands mines, the program allows an approval holder to manage risk through predetermined financial deposits. Changing economic conditions cause these financial deposits to be triggered, at which point the approval holder will be required to post additional financial security.

Additional security is only required when a project:

- has MFSP assets less than three times its MFSP liability
- is nearing the end of the mine productive life, or
- is not meeting its targeted reclamation plans.

There are several issues with the practices of managing risk through predetermined financial deposits:

- The financial deposit collected up front is designed to place a project in a care and custody state, it does not address abandonment and reclamation obligations.
- Overestimated asset values delays security collection.
- Allows for mines to be added in to existing approvals, moving the end-of-mine-life goalpost that ensures reclamation security increases proportionately later in mine life.

The asset to liability approach does not consider a holistic view of a company's financial, compliance, operational or closure performance. Similar to the situation in oil and gas, security is not being collected at the right time.

Currently, $1.46B of security (~ 5% of the liability) has been collected to offset $28.35B in liabilities secured by assets under MFSP. We must ensure the MFSP is responsive enough to address changes in economic conditions at the individual mine and sector level to prevent the costs for mine closure being passed to the province.

Redwater Decision

The Supreme Court of Canada's Redwater ruling found that in insolvencies the estate (managed by receiver/trustee) remains responsible for end of life obligations. Regulatory obligations, including end of life obligations, must be addressed before any funds are distributed to the insolvent party's secured creditors. While the ruling restores Alberta law to what existed prior to the Redwater lower court decision, it does not address instances where there is not enough money in an estate to address regulatory and closure obligations, and it does not address the ultimate issue that managing end-of-life obligations in insolvency is too late in the lifecycle.

For insolvencies since the Redwater decision in 2019, the AER requires that end-of-life obligations must be addressed to the greatest extent possible before creditors receive financial recovery. Addressing end-of-life obligations helps reduce the amount of inventory sent to the OWA, and thus the pressure on the industry-funded levy. These obligations can be addressed in several ways, such as transferring licences to responsible operators, completing closure work, or the posting of security from proceeds in the estate for use by the OWA. The AER recognizes the important role of insolvency professionals in managing the orderly transition of inventory, and does not object to reasonable and appropriate fees of insolvency professionals during the insolvency process.

Direction from the Minister of Energy was provided on September 11, 2019 which reinforced AER's approach that included a balanced and cooperative approach with insolvency professionals. The direction from the GoA reinforced the SCC's decision that as "licensees" receivers and trustees carry responsibilities for managing end of life obligations. We will continue to apply a practical and collaborative approach to address end of life obligations with receivers and trustees and understand that receivers and trustees must balance their dual role of maximizing proceeds while minimizing orphans. GoA confirmed that if AER sees unreasonable/ uncooperative behaviour, AER may continue to use all tools to ensure end of life obligations are met.

Orphan Well Association

Alberta Oil and Gas Orphan Abandonment and Reclamation Association
1005, 850 – 2nd Street SW, Calgary Alberta, T2P 0R8
www.orphanwell.ca

Orphan Well Association

July 17, 2019

Honourable Ms. Sonya Savage
Minister of Energy
324 Legislature Building
10800 – 97 Avenue
Edmonton, AB T5K 2B6
via email: minister.energy@gov.ab.ca

Honourable Mr. Jason Nixon
Minister of Environment and Parks
323 Legislature Building
10800 – 97 Avenue
Edmonton, AB T5K 2B6
via email: aep.minister@gov.ab.ca

Dear Ministers:

The Orphan Well Association (OWA) is a not-for-profit organization, created from a joint industry and government initiative. The OWA's role is to complete the abandonment and reclamation of upstream oil and natural gas "orphans" in Alberta. Orphans are oil or natural gas wells, pipelines, facilities or associated sites left behind by defunct or insolvent companies which have been legally deemed as orphans by the Alberta Energy Regulator (AER). The OWA's mandate and scope of authority are set out in provincial legislation largely pursuant to the *Orphan Fund Delegated Administration Regulation* and the *Oil and Gas Conservation Act*. Although the OWA is a delegated authority of the AER, our funding comes principally from the oil and natural gas industry, which has contributed nearly $400 million to orphan site closure since the inception of the OWA. Our funding has been further supported in the last two years through a $235 million loan from the provincial government, which is appreciated by all members.

The inventory of orphan properties has significantly increased over the past five years as a result of a number of factors, including low commodity prices and the incorrect Redwater decision, which was reversed by the Supreme Court of Canada. Since April 2014, we have seen our inventory of wells to be abandoned increase from 162 to the current inventory of more than 3,000. The OWA has abandoned nearly 2,300 wells over that same period.

The OWA has identified and recommended to the provincial government several legislative changes we believe are important to provide clarity in our mandate, protect those that are undertaking this work and to limit the number of sites that become orphans. These changes are recommended by the OWA, and the industry associations that support it, to manage the number of orphans and to protect the OWA and its Board members. The AER has been working diligently with the OWA to prepare a legislative package, which will be ready for fall sitting.

The need for legislative change is highlighted by the recent collapse of Trident Exploration (Trident) during which the OWA took the unprecedented step of appointing PricewaterhouseCoopers (PwC) as the receiver to ensure a responsible operator was in place to manage the Trident sites, and thereby protect public safety and the environment. Had the OWA not done so, there would have been several 1,000 wells flowing natural gas with no on-site responsible personnel. The OWA believes the receivership process is the best vehicle to safeguard and effectively manage the unpredictable collapse of a corporate entity like Trident. A receiver is also best suited to transfer as many valuable assets to other corporations and limit the potential financial impact to the OWA and the oil and natural gas producers who provide our funding.

In the last several weeks, the Trident situation has further highlighted the need for legislative change. As you are likely aware, the OWA Board of Directors took the defensible but aggressive interpretation of its authority and mandate to fund the Trident receivership. The attached letter from PwC highlights the issues the OWA has needed to grapple with as we were asked to decide whether it was more appropriate to use Orphan Levy funds to maintain the receiver, or have the receiver discharged and all the sites left without a competent operator. From an economic standpoint, it is easy to see the value of paying $2 million to ensure an entity is in place to protect public safety and avoid hundreds of millions of dollars in potential liability from being borne by the industry. Unfortunately, due to the limited scope of the OWA's authority under legislation, this could be interpreted by some as not part of our mandate. Our volunteer Directors are taking a degree of personal liability by doing what is best for all parties in the province without the protection they deserve.

We ask the Government of Alberta to provide us with a firm commitment that the legislative changes required will be enacted in the fall 2019 sitting to provide our Directors and organization with the appropriate tools, protection, flexibility and clarity of mandate. In addition, we request that Alberta Energy appoint a senior official to take a seat on our Board of Directors as contemplated in our bylaws and to support our important mandate. Without such a commitment, the members of the Board of Directors, which includes representatives from industry, the AER, government and the public, will not be able to adequately fulfil the OWA's mandate to mitigate the number and associated impact of orphan wells in Alberta.

Thank you for your consideration. If you have questions or wish to discuss these issues further, please do not hesitate to contact me directly at 403.267.1113 or brad.herald@capp.ca.

Sincerely,

Brad Herald

Brad Herald
Chair of the Board of Directors, Orphan Well Association
Vice-President, Western Canada Operations, Canadian Association of Petroleum Producers

cc: Mr. Gordon Lambert, President and CEO, Alberta Energy Regulator

/attachment: June 26, 2019 letter from PricewaterhouseCoopers to the OWA

Orphan Well Association
Suite 1005, 850 – 2nd Street SW
Calgary AB, T2P 0R8

Attention: Lars De Pauw

June 26, 2019

Subject: Trident Exploration Corp. - in Receivership

Dear Mr. De Pauw:

On May 3, 2019, on application of the Orphan Well Association ("**OWA**"), the Court of Queen's Bench of Alberta appointed PricewaterhouseCoopers Inc. LIT, as receiver ("**Receiver**") of Trident Exploration Corp. ("**Trident**" or the "**Company**").

As the OWA is aware, on April 30, 2019, the Company's board of directors resigned and all employees were terminated, leaving approximately 3,700 oil and gas wells unattended, of which approximately 2,200 wells were not shut in. As at the date of Receivership, the Company's bank accounts had zero balances and there were no funds available to shut in the wells, manage field safety matters, seek alternative solutions to transfer the Company's assets to viable entities and to administer the Receivership.

Since the date of the Receiver's appointment, the Receiver has focused its attention on taking possession and control of the Trident assets to safely shut in the approximately 2,200 wells. To this end, the Receiver has, among other things:

- Contracted Veracity Energy Services Ltd. ("**Veracity**") to provide:
    - Field and operational support;
    - Develop a plan to safely shut in the 2,200 wells Trident left on production;
    - Coordinate the assistance of former Trident field employees/contractors;
    - Field emergency management;
    - Assistance with production accounting and reporting for April revenues; and
    - Assistance with identifying potentially saleable assets;
- Obtained insurance (as the Company's insurance policy expired on April 30, 2019);
- Sold surplus field equipment;
- Worked on transferring operatorship of certain wells and facilities;
- Monitored existing and potential environmental conditions, including wildfires;
- Fielded calls from affected parties, including partners, landowners, and creditors, with respect to the Company's operations;
- Worked with former employees to understand Trident's financial position, the causes of its insolvency, the location and condition of its assets and the totality of its liabilities;

- Solicited offers for Trident's assets from partners and third parties;
- Retained legal counsel and received legal advice on various pending matters;
- Taken preliminary steps to consider the Receiver's legal rights and remedies to recover funds from third parties that are withholding funds owing to Trident;
- Catalogued and boxed approximately 3,500 boxes of well, surface and mineral files; and
- Fulfilled its statutory obligations as Receiver and Officer of the Court.

Since the commencement of the Receivership, the Receiver has been concerned with having access to sufficient funds to properly manage the affairs of the Company. In fact, the Receiver had to delay the shut in process until such time as it had sold sufficient surplus equipment to ensure that it could pay Veracity and other third party contractors the costs of the shut in and initial administrative services. Until June 24, the Receiver was of the understanding that the OWA would provide approximately $1 million in funding for the ongoing costs of the receivership. As of the date of this letter, neither the Receiver, the Receiver's legal counsel nor Veracity have been paid for their services over the last two months.

As shown in the attached Cash Flow Forecast (**Appendix A**), without immediate funding the Receiver would be forced to cease all activities and to discontinue in the responsible operator role. Veracity would be directed to pull out of the field and focus only on responses to immediate environmental concerns until such time as the Receiver could obtain a discharge of its duties from the Court. In that case, the Receiver would have to disclaim all of Trident's assets.

Furthermore, without funding, the Receiver would be forced to abandon its pursuit of the Ember and Pine Cliff offers (the "**Stalking Horse Offers**"), which would bring minimal or no cash proceeds into the estate but, as summarized below, are estimated to result in the transfer of approximately $232 million of Trident's abandonment and reclamation liabilities ("**ARO**").

Trident- in Receivership	Well Licenses (#)	Abandonment ($)	Reclamation ($)	Total ($)
Total Trident licensed wells	3,726	129,258,596	216,886,664	346,145,261
Stalking Horse Offers				
Ember offer: Trident licenses included	(1,182)	(36,947,100)	(73,012,459)	(109,959,558)
Pine Cliff offer: Trident licenses included	(2,145)	(62,891,918)	(112,894,364)	(175,786,282)
Less: Overlap between offers	557	17,517,157	36,119,829	53,636,986
Total Potential Transfers	**(2,770)**	**(82,321,861)**	**(149,786,993)**	**(232,108,854)**
Remaining after Stalking Horse Offers	**956**	**46,936,735**	**67,099,672**	**114,036,407**

The Receiver notes the above analysis does not include the ARO associated with Trident's pipelines. The well and facilities ARO estimates are from the XI Technologies ARO model.

If the Receiver is provided with the requisite funding, the Receivership would be maintained and the Receiver would continue to act as a responsible operator and fulfill its statutory duties and obligations.

Furthermore, the Receiver would continue to pursue the Stalking Horse Offers by:

- Working with Ember and Pine Cliff to resolve the overlap in the offers;
- Facilitate the due diligence process;
- Enter into APA's with Ember and Pine Cliff;
- Obtain Court approval of the APA's and a stalking horse process that would allow the Receiver to shop the APA's to the market to see if there is a higher offer; and
- Close the sales and facilitate the transfer of the wells, facilities and associated pipelines to the purchasers.

After the Ember and Pine Cliff APA's are completed, the Receiver would, with the assistance of an industry broker, assess and market the remaining properties, which may be of interest to the market and may further reduce Trident's well count and ARO, and/or bring additional funds into the estate.

In the event that the Receivership is maintained, the Receiver would like the OWA to provide direction with respect to the objective of the Receiver in balancing the strategy of:

(A) generating property sales to fund the costs of the estate; versus

(B) maximizing the well count and ARO that would be included in the Stalking Horse Offers.

The current Stalking Horse Offers include the majority of Trident's oil properties which, if sold in alternative transactions, may generate sufficient sale proceeds to fund the costs of the estate. The Receiver is of the view that the oil properties could generate proceeds of approximately $2.5 million, based on unsolicited offers received. However, the removal of the oil properties from the Stalking Horse Offers may result in fewer gas wells being included in the Stalking Horse Offers.

In summary, the Receiver sees three scenarios:

1. If funding is not received immediately, the Receiver would be forced to cease all activities and to discontinue in the responsible operator role and will disclaim all Trident's assets. The projected cash flow in this short term, wind down scenario is shown in **Appendix A**.
2. If $1 million of funding is received, the Receiver will pursue the Stalking Horse Offers but will exclude the Trident's oil properties from the Stalking Horse Offers. The oil properties would be sold to other interested parties to generate proceeds that would be used to repay funding received from the OWA (**Appendix B**).
3. If $2 million of funding is received, the Receiver will pursue the Stalking Horse Offers as presented above, which includes Trident's oil properties. However, in this scenario it is unlikely the Receiver would generate sufficient proceeds from other asset sales to fund the Receivership and the Receiver may be unable to repay the funding (**Appendix C**).

We are available to discuss the current situation at your earliest convenience.

Yours sincerely,

PricewaterhouseCoopers Inc. as
Receiver and Manager of
Trident Exploration Corp. et al.

Paul Darby, LIT
Senior Vice President

Trident Exploration- in Receivership **Appendix A**

Cash Flow Forecast (CFF) through July 15

$ in CAD

	Actual	Actual	Forecast	Forecast	Forecast	
	May	**24-Jun**	**1-Jul**	**8-Jul**	**15-Jul**	**Total**
Cash disbursements						
Contractors (accounting)	(46,995)	(31,215)	(9,600)	-	-	(87,810)
Operations (Veracity)	-	-	(116,768)	(78,523)	(5,000)	(200,291)
WEPPA priority	-	-	-	(35,000)	-	(35,000)
Office & file storage rent	-	-	-	(10,000)	-	(10,000)
Field ops, shut-in & sour clean up	-	-	(112,362)	(112,362)	-	(224,724)
General and administrative	(1,173)	(5,443)	(86,000)	(25,000)	-	(117,616)
Office move out and storage	-		(68,000)		-	(68,000)
Insurance	-	(60,496)	(250,000)	-	-	(310,496)
Work fees for sale process	-	-	-	-	-	-
Contingency and other	(524)	-	(300,000)	(50,000)	-	(350,524)
Operating disbursements	**(48,691)**	**(97,154)**	**(942,730)**	**(310,885)**	**(5,000)**	**(1,404,460)**
Cash receipts						
Collection of receivables	173,412	4,386	-	-	-	177,798
Production revenue	403,673	-	-	(201,836)	-	201,836
Oil asset sales	-		-	-	-	-
Gas asset sales	-		-	-	-	-
Equipment sales & misc.	308,942	1,148,103	-	200,000	-	1,657,045
Operating receipts	**886,027**	**1,152,489**	**-**	**(1,836)**	**-**	**2,036,679**
Professional Fees						
Receiver's fees	-		(227,850)	(182,000)	(75,000)	(484,850)
Receiver's counsel fees	-		(50,000)		(20,000)	(70,000)
Total professional fees	**-**	**-**	**(277,850)**	**(182,000)**	**(95,000)**	**(554,850)**
Net change in cash	**837,336**	**1,055,334**	**(1,220,580)**	**(494,721)**	**(100,000)**	**77,369**
Opening cash position	-	837,336	1,892,670	672,091	177,369	-
Estimated ending available cash	**837,336**	**1,892,670**	**672,091**	**177,369**	**77,369**	**77,369**

Trident Exploration- in Receivership **Appendix B**

Cash Flow Forecast (CFF) through October, 2019- Assumes sale of oil properties

$ in CAD

	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	
	May	**June**	**July**	**August**	**Sept**	**Oct**	**Total**
Cash disbursements							
Contractors (accounting)	(46,995)	(38,400)	(10,000)	(10,000)	(10,000)	-	(115,395)
Operations (Veracity)	-	(116,768)	(78,523)	(60,000)	(60,000)	-	(315,291)
WEPPA priority	-	-	(35,000)	-	-	-	(35,000)
Office & file storage rent	-	-	(10,000)	(10,000)	(10,000)	(10,000)	(40,000)
Field ops, shut-in & sour clean up	-	(112,362)	(210,500)	(200,000)	(100,000)	(50,000)	(672,862)
General and administrative	(1,173)	(98,828)	(50,000)	(50,000)	(50,000)	(50,000)	(300,000)
Office move out and storage	-	(68,000)	(39,200)	(25,000)	-	(110,880)	(243,080)
Insurance	-	(326,013)	(35,000)	(35,000)	(35,000)	(35,000)	(466,013)
Work fees for sale process	-	-	(100,000)	-	-	-	(100,000)
Contingency and other	(524)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(250,524)
Operating disbursements	**(48,691)**	**(810,371)**	**(618,223)**	**(440,000)**	**(315,000)**	**(305,880)**	**(2,538,165)**
Cash receipts							
Collection of receivables	173,412	-	-	-	-	-	173,412
Production revenue	403,673	-	(201,836)	-	-	-	201,836
Oil asset sales	-	-	-	-		2,500,000	2,500,000
Gas asset sales	-	-	-	-	-	2	2
Equipment sales & misc.	308,942	1,148,103	250,000	200,000	100,000	100,000	2,107,045
Operating receipts	**886,027**	**1,148,103**	**48,164**	**200,000**	**100,000**	**2,600,002**	**4,982,296**
Professional Fees							
Receiver's fees	-	(332,850)	(125,000)	(150,000)	(150,000)	(170,000)	(927,850)
Receiver's counsel fees	-	(50,000)	(75,000)	(75,000)	(75,000)	(100,000)	(375,000)
Total professional fees	**-**	**(382,850)**	**(200,000)**	**(225,000)**	**(225,000)**	**(270,000)**	**(1,302,850)**
Net change in cash	**837,336**	**(45,118)**	**(770,059)**	**(465,000)**	**(440,000)**	**2,024,122**	**1,141,281**
Opening cash position	-	837,336	792,219	22,159	(442,841)	(882,841)	-
Estimated ending available cash	**837,336**	**792,219**	**22,159**	**(442,841)**	**(882,841)**	**1,141,281**	**1,141,281**

Trident Exploration- in Receivership **Appendix C**

Cash Flow Forecast (CFF) through October, 2019- Assumes oil properties remain in Stalking Horse Offers and not sold separately

$ in CAD

	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	
	May	**June**	**July**	**August**	**Sept**	**Oct**	**Total**
Cash disbursements							
Contractors (accounting)	(46,995)	(38,400)	(10,000)	(10,000)	(10,000)	-	(115,395)
Operations (Veracity)	-	(116,768)	(78,523)	(60,000)	(60,000)	-	(315,291)
WEPPA priority	-	-	(35,000)	-	-	-	(35,000)
Office & file storage rent	-	-	(10,000)	(10,000)	(10,000)	(10,000)	(40,000)
Field ops, shut-in & sour clean up	-	(112,362)	(210,500)	(200,000)	(100,000)	(50,000)	(672,862)
General and administrative	(1,173)	(98,828)	(50,000)	(50,000)	(50,000)	(50,000)	(300,000)
Office move out and storage	-	(68,000)	(39,200)	(25,000)	-	(110,880)	(243,080)
Insurance	-	(326,013)	(35,000)	(35,000)	(35,000)	(35,000)	(466,013)
Work fees for sale process	-	-	(100,000)	-	-	-	(100,000)
Contingency and other	(524)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(250,524)
Operating disbursements	**(48,691)**	**(810,371)**	**(618,223)**	**(440,000)**	**(315,000)**	**(305,880)**	**(2,538,165)**
Cash receipts							
Collection of receivables	173,412	-	-	-	-	-	173,412
Production revenue	403,673	-	(201,836)	-	-	-	201,836
Oil asset sales	-	-	-	-			-
Gas asset sales	-	-	-	-	-	2	2
Equipment sales & misc.	308,942	1,148,103	250,000	200,000	100,000	100,000	2,107,045
Operating receipts	**886,027**	**1,148,103**	**48,164**	**200,000**	**100,000**	**100,002**	**2,482,296**
Professional Fees							
Receiver's fees	-	(332,850)	(125,000)	(150,000)	(150,000)	(170,000)	(927,850)
Receiver's counsel fees	-	(50,000)	(75,000)	(75,000)	(75,000)	(100,000)	(375,000)
Total professional fees	**-**	**(382,850)**	**(200,000)**	**(225,000)**	**(225,000)**	**(270,000)**	**(1,302,850)**
Net change in cash	**837,336**	**(45,118)**	**(770,059)**	**(465,000)**	**(440,000)**	**(475,878)**	**(1,358,719)**
Opening cash position	-	837,336	792,219	22,159	(442,841)	(882,841)	-
Estimated ending available cash	**837,336**	**792,219**	**22,159**	**(442,841)**	**(882,841)**	**(1,358,719)**	**(1,358,719)**

Context – OWA Authority Augmentation <u>(For AER & GoA purposes only)</u> **Dated:** 4-September-2019

The Orphan Well Association (OWA) was created in 2001 to manage the growing problem of orphan properties. Orphan properties are wells, pipelines, facilities, associated infrastructure and sites that do not have a legally or financially responsible/viable party

Increase in insolvencies and ceased operations

As a result of low commodity prices beginning in late 2014 and access to markets, an unprecedented number of corporate failures in the oil and natural gas industry have contributed to growth in the inventory of orphan properties, which includes orphaned wells, pipelines, facilities and sites. The orphan well inventory alone has increased from 162 orphan wells in April 2014 to over 3,000 by mid-June 2019. **An additional 8,600 properties are currently in active insolvencies (Sequoia and Trident mainly), which could triple the OWA's inventory.** The orphan levy has also increased from $15M in 2014 to $60M in 2019-20, and is expected to increase further to address the growing orphaned inventory.

In cases of ceased operations, or when there is no creditor to fund insolvency proceedings, or that creditor sees little value in doing so, the net result is no orderly sales process occurs, resulting in economic properties being orphaned along with uneconomic properties, further increasing the OWA's inventory. This also creates two types of orphaned inventory: oil and gas some properties which are valuable and productive, and non-oil and gas properties (e.g. land, vehicles or seismic data) are orphaned. Interested parties are hesitant to acquire valuable and productive orphaned properties from the orphan inventory as ownership of the different layers (surface and mineral lease, license) properties is uncertain.

s. 24(1)(a)

[redacted]

Analysis to date

The OWA's mandate and authorities have not been updated since the organization's creation 2001, during a very different economic context. In recent years, the Canadian Association of Petroleum Producers (CAPP) and OWA have conducted reviews of the OWA's mandate and authorities and have made a strong case to update existing and grant additional authorities to effectively manage the growing number of orphan properties.

OWA, along with CAPP and EPAC, are championing the proposed changes and willing to do the considerable work required to be operationally ready to use these tools. A number of these authorities will require the OWA Board (which includes AER, AEP (non voting member), CAPP and EPAC members) to develop strong controls in collaboration with the AER and in consultation with the industry associations, to ensure that the use of those authorities is within the purpose outlined below.

Any change from the existing status quo will require a decision from GoA to support the changes and prioritize the work to have it completed in a timely manner, since the proposed changes to the regulatory instruments will need cabinet level or legislature approval. Receiving this commitment from GOA has been ongoing with the GoA's Liability Management Steering Committee. OWA, CAPP and EPAC have been briefing government to request changes to the liability management framework, including OWA authority augmentation changes.

OWA Authority Augmentation Summary of Benefits and Risks <u>(Internal AER & GoA purposes only)</u>

s. 24(1)(a)

Theme	Overview	Change elements	Benefit of change	Risks of inaction
1. Clarify authorities	[redacted]			
2. Authority for LFP closure				

Theme	Overview	Change elements	Benefit of change	Risks of inaction
3. Own contaminated sites	[redacted]		s. 24(1)(a)	
4. WIPs and orphans				
5. Own, maintain and sell orphan properties				
6. Fund insolvencies				

Historical context

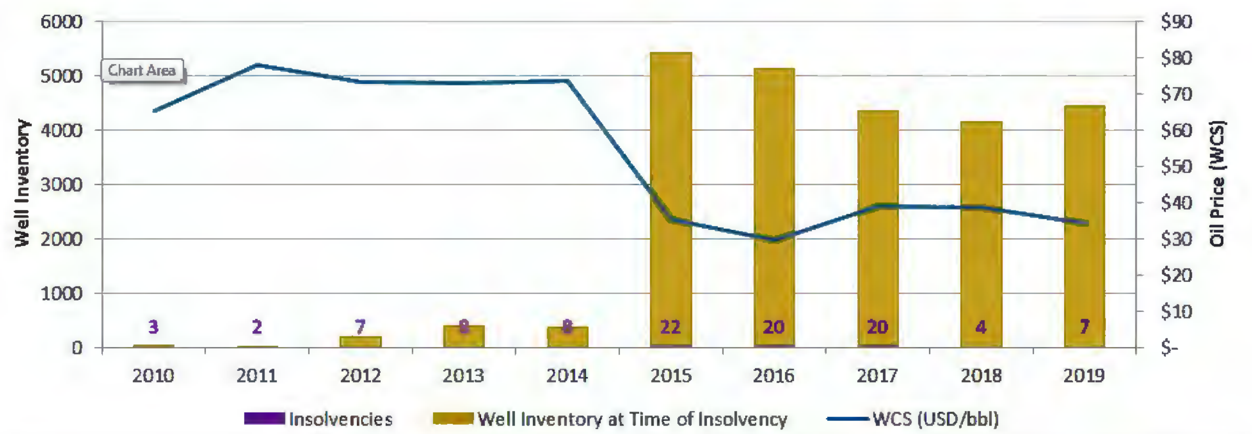
The Orphan Fund is a statutory fund that was created in the 1990s as a collaborative solution between government and industry to manage the growing problem of orphaned oil and gas sites in Alberta. Orphan properties usually emerge from unsold assets in insolvencies and where a licensee ceases operations and walks away. Orphan properties are designated as “orphan” by the Alberta Energy Regulator (AER) pursuant to Section 70(2) of the *‘Oil and Gas Conservation Act’* (OGCA). The OWA is a non-profit organization that operates as a financially independent entity pursuant to the authority delegated to it by the AER.

The delegation of powers, duties and functions to the OWA by the AER is effected by the *‘Orphan Fund Delegated Administration Regulation’* (OFDAR), which is a Cabinet-made regulation authorized by the OGCA. Section 3 of OFDAR specifies the powers, duties and the functions of the OWA. The Memorandum of Understanding (MoU) between the AER, OWA and Alberta Environment & Parks (AEP) delineates duties and functions of the AER, OWA and AEP. The MoU is required to be reviewed, and revised if necessary, prior to expiry in March 2020.

The OWA is overseen by a board of directors made up of representatives from the Canadian Association of Petroleum Producers (CAPP), the Explorers and Producers Association of Canada (EPAC), the AER and Alberta Environment and Parks. The OWA receives majority of its funding from the Orphan Fund Levy (OFL), invoiced and collected by the AER from the oil and gas licensees. The annual OFL is not sufficient to complete closure activities of all the orphan properties every year due to resource and cost constraints, and there are concerns with the sustainability of the fund.

- The Orphan Well Association (OWA) levy continues to increase to respond to its growing inventory. Companies in good financial health are increasingly carrying the burden and are growing frustrated
- While dry gas producers are feeling this acutely, this issue is affecting more than just dry gas producers
- Insolvencies have grown in number and magnitude since 2015; companies with larger inventories are going insolvent

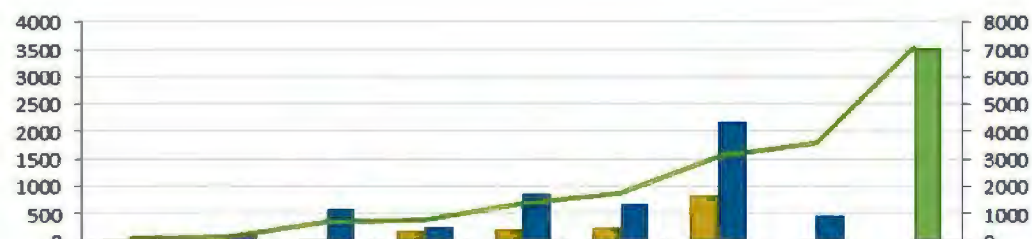
Well Inventory at Time of Insolvency & Oil Price



Note: Well inventory at time of insolvency is not representative of the inventory that goes to the OWA as receivers attempt to sell/transfer assets before renouncing assets to the OWA. Well counts above exclude reclaimed certified wells. Insolvency data includes Bankruptcies, Receiverships and CCAA; excludes Ceased Operations and Notice of Intention for Proposal.

OWA Well Inventory & Annual Well Abandonments

- The OWA's inventory continues to grow, and 2019 projections could see the inventory double



	2012	2013	2014	2015	2016	2017	2018	2019	2019 Projected **
Well Abandonment by OWA	14	18	43	185	232	259	820		
New Wells Received	74	106	586	258	855	666	2170	453	3540
Closing Inventory	74	162	705	768	1391	1778	3128	3581	7121
% of OWA Inventory Abandoned	19%	11%	6%	24%	17%	15%	26%		

Note: Annual data based on OWA fiscal year (e.g., April 2012 to March 2013)

** The numbers in the "2019 Projected" column are based on an estimate of 50% of wells being orphaned from the Trident & Sequoia active insolvencies and 2 Ceased Operations files in progress.

Created September 18, 2019

Executive Summary – Insolvency and Impending Orphaning Situation

Objective: Awareness that a slow-motion landslide of orphaned asset volumes is in progress. A series of significantly sized insolvencies are underway with large volumes of impending orphans, a number of ceased operations are happening regularly and more companies are showing potential of near-term failure.

Summary of Situation:

AER and the OWA are experiencing a slow-motion landslide of licencee failures. Several mid-sized companies are moving through insolvencies, with the bulk of orphaned volumes expected to fall to the OWA. Smaller companies' inventories are moving directly to OWA care from ceased operations.

Companies are failing under the weight of continued low commodity prices (primarily natural gas), banks reducing or withdrawing credit, and private investors unable to sustain continued losses. Lack of sales interest in the market has left few options to remain viable and low prospects for receivership sales. Creditors are apprehensive to fund receiverships since the Redwater court decision verified that regulatory obligations, including end of life obligations, must be addressed before funds are distributed to secured creditors. Investors are using LMR for purposes never intended, and reports indicate they're withdrawing credit as licencee liability ratios drop close to LMR 1.0, as investors are aware Directive 006 rules restrict divestiture options below 1.0.

If current market conditions continue, the known failures could grow OWA's inventory by up to 160% within 12-24 months (factors in court pace on insolvencies). There is the potential of up to a 480% increase in OWA inventories, should companies currently demonstrating signs of distress fail as well. *(Doesn't include Obsidian Energy, >7,000 assets, now in formal "strategic alternatives" phase.)*

Summary of Magnitude (All inventory, including wells, facilities, pipelines):

(As of Aug 30, 2019)	Current OWA Inventory (includes all assets)	Known Defunct Inventories Impending (all assets)	Potential Defunct Inventories (Signs of Distress, at significant risk)
Already orphaned to OWA	9,703		
Current Insolvencies		12,481	
Current Ceased Operations		3,214* (w OWA)	
Signs of Distress, top of VITAL list of risk			31,030
TOTAL VOLUMES IMPENDING and AT RISK	9,703	15,695	31,030
OWA tallies, if fully realized		25,398	56,428
Potential % of Change		***160% increase***	***480% increase***

Background:

A number of companies have long been teetering on the edge of insolvency. Companies are now failing in the wake of the Redwater ruling, continued low natural gas prices, growing inactive inventories and arrears for unpaid municipal taxes and surface leases catching up on them. More often than not, they now cease operations and disappear with no attempt at a receivership. This means immediate volumes of assets transferred to the OWA's inventory (the bulk of assets have no accountable working interest participants), to ensure the imperative that a responsible party has care and custody of the sites to mitigate risks.

In 2019 to date (as of August 30) there have been 18 insolvent companies representing nearly 10,000 licences. Only two of these 2019 failed companies have initiated receiverships to date, and two attempting CCAA. The remainder have ceased operations (Trident ceased operations but was petitioned into receivership by OWA). For comparison, in 2018, five companies failed representing 4,500 licences, four of whom initiated receiverships. In 2017, 20 companies went insolvent representing less than 5,000 licences, with 19 of these in receivership vs ceased operations.

The increase of current ceased operations has been exacerbated by the Redwater ruling. Banks and investors are apprehensive to fund insolvency proceedings, noting end of life obligations must be addressed first from any proceeds before creditor recovery. Banks also refer to a Directive 006 stipulation when assessing whether to withdraw credit and accelerate a failure, as D006 prevents transfers out, or requires security to allow divestiture / transfer of assets, from a transferee who falls below a Liability Management Ratio (LMR) of 1.0.

At present time, there are few prospects for marginally-producing assets to be sold and transferred to new owners. Distressed companies report they attempted sales, but were met with little interest in the current market, which they report has been eroded by commodity prices, politics at all levels and uncertainty of regulatory framework.

The Lexin sales process demonstrates the deteriorated market for assets. In Fall 2017, there were offers for ~25% of the assets. Court delays postponed action by more than 15 months. By January 2019, only 5% of the most productive assets were sold, leaving the remainder orphaned to the OWA and WIPs.

AER and other agencies are aware of the indications a company is failing and increasingly likely to cease operations. Within the AER, a sign of financial distress is companies defaulting on OFL and AER levies. Some seek payment plans while others remain unresponsive and are under statutory liens. AER assesses a series of factors to determine which companies are considered at significant potential risk. The top 40 at-risk companies are represented in the proceeding table.

Impact on OWA, Industry

The OWA has been asked to provide immediate care of ceased operations assets for companies holding thousands of assets. An additional ~3,000 assets are presently in progress of ceasing operations (past 6 weeks), and another ~3,000 from a single failing company is expected in the coming weeks. The vast majority of these assets are without WIPs and would require OWA care and custody barring receiverships or sales.

OWA is expecting to absorb huge volumes of inventory through existing receiverships which will soon be completing court processes. OWA faces the potential of large volumes, which under current regulations will mean massive volumes of abandonments, remediation and reclamation to execute on the near horizon. A significant portion of orphans are conventional, dry gas wells that would still be attractive for new owners when gas prices improve, (expected when transportation egress is resolved and LNG exports begins on the East and West Coasts). Without alternate options of inventory management and sales mechanisms available to the OWA, these orphaned yet productive assets will be prematurely abandoned, remediated and reclaimed and rendered unsellable.

Impact on Landowners and Government of Alberta

Thousands of landowners are being impacted by numerous struggling and failing licencees when they cease paying surface leases agreements. The Surface Rights Board (SRB) attempts to enforce payment, but where the assets are orphaned and the owners are defunct, the SRB pays out on surface lease contracts until such time as the sites are certified as reclaimed by the OWA.

Under normal circumstances, this takes the OWA many years. Under the current landslide of orphan volumes, this could reasonably be expected to take much longer. SRB payments come directly from provincial taxpayers, and therefore is becoming an exponentially large drain on Albertans and provincial coffers.

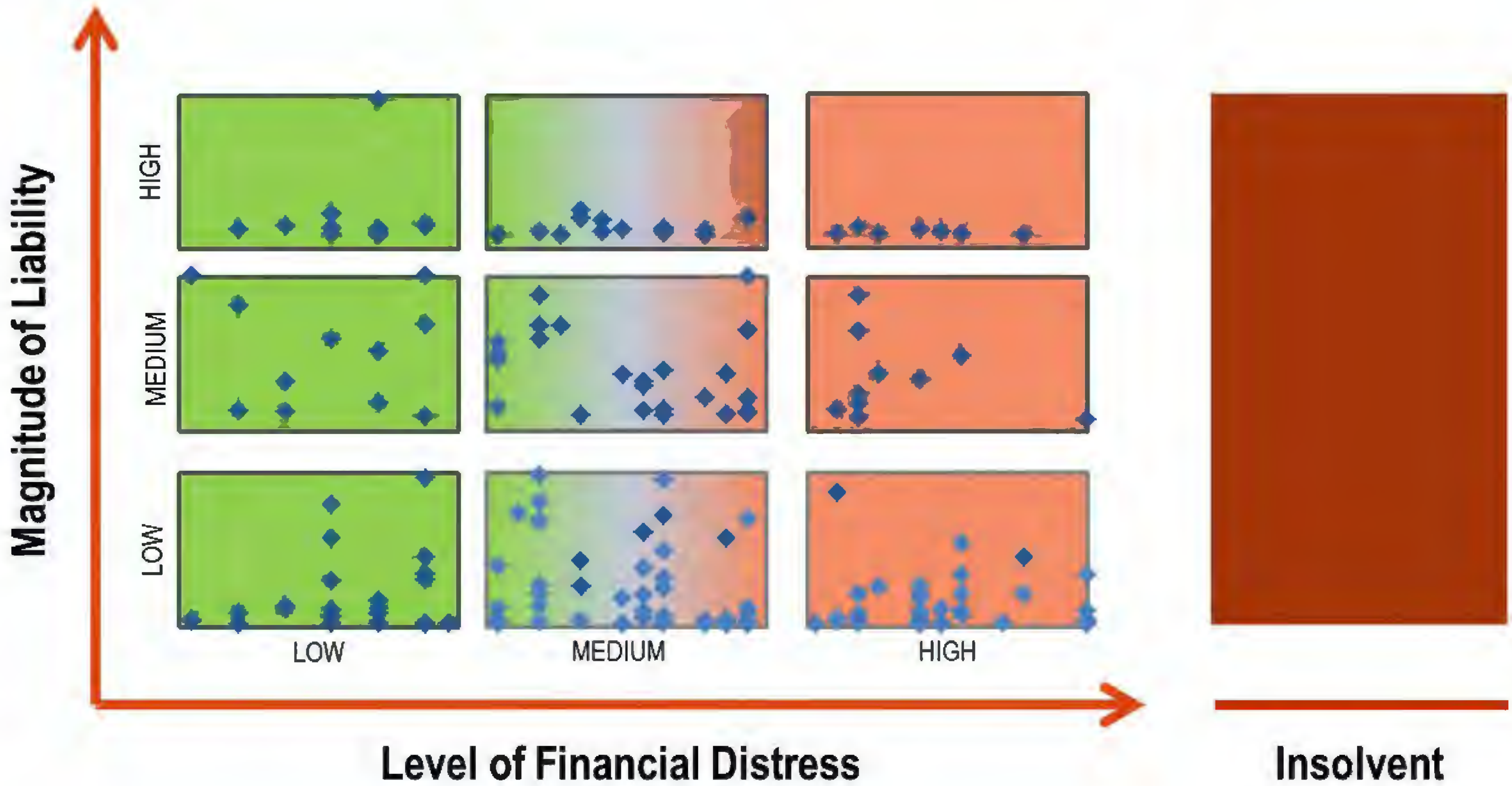
Next Steps

AER, supported by industry groups and the OWA, recommend immediate action and regulatory changes which would:

- enhance AER's ability to assess licencee capability beyond sole reliance upon and posting of LMR calculations; and
- empower the OWA with increased inventory management options, as is being brought forward through the OWA Augmentation Project.

Licensee Capability Assessment – Licensee Financial Risk Profile

- 186 licensees plotted using financial statements on or after December 31, 2018.



Note: Scatterplot created September 9, 2019

Attachment 7: Worst-case Liability Scenario

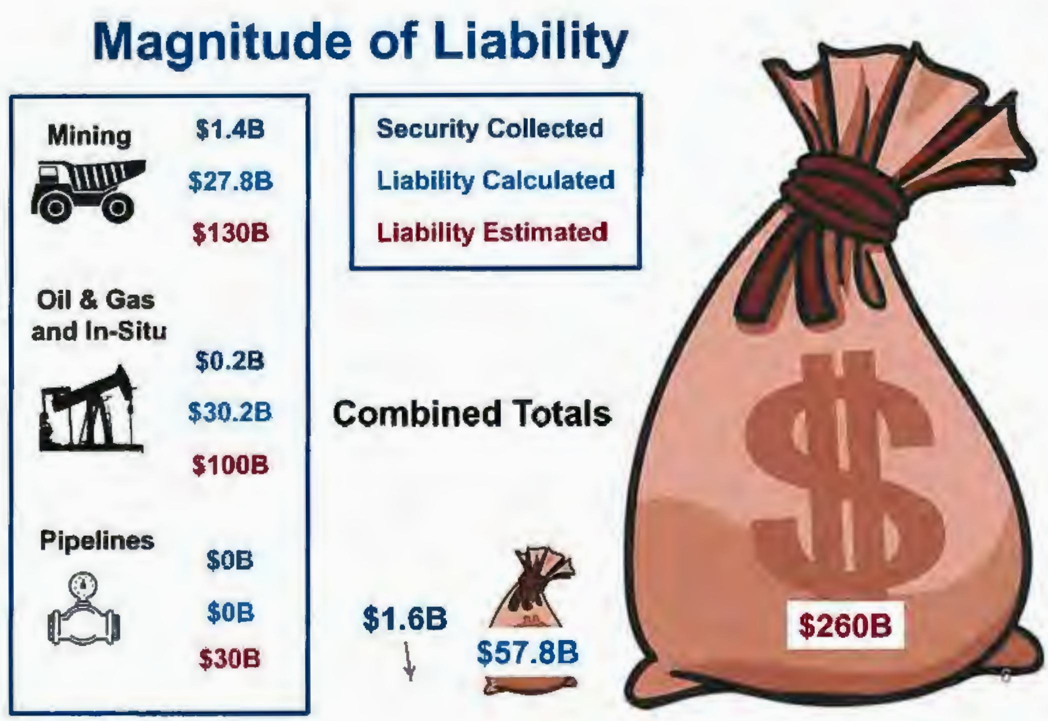
The assessment of liability in Alberta is an evergreen process. New methodologies and sources of information to quantify liabilities continue to evolve and be refined.

Please note, liability in Alberta is in a constant flux. There is a natural fluctuation of energy activities that impacts overall liability. This can include but is not limited to:

- Number of occurrences of new development being initiated
- Stage of the development and whether the activity is under construction or operation and what specific activities are occurring during that point in time
- Amount of closure activities being undertaken and those closure activities that are completed.
- For example, wells can move from an active to an inactive or inactive to active status on a regular basis which impacts the overall liability.

Additionally, technology, fuel prices, services rates and other variable costs impact liability in Alberta.

The worse-case scenario for liability in the province if the industry was to shut down immediately was estimated to be $260 billion. The following provides a breakdown of the estimate:



Mining Liability Estimate - Costs from discussions during a multi-stakeholder working group led were used as a proxy for liability. The working group was established to capture a diverse mix of opinions/views and values used for liability was not agreed upon by all stakeholders.

- Worst-case estimate is $130 billion and may include tailings management plans (for treating FFT and RTR), estimates inventory at the end of life, treatment of water, maintenance/replacement of pumping equipment, monitoring activities to move from RTR to RFR, etc.

Oil & Gas and InSitu Liability Estimate:. AEP shared information with AER on updated reclamation costs as a result of their work. The AER updated and developed specific table based on data as a proxy to determine a potential estimate of liability for abandoned and not reclaimed wells

- The average minimum and maximum range for reclamation costs and remediation costs adjusted for the proportion of sites that need phase 2.
    - Remediation per site: $34 K - $118K (2 - 3.5 times higher than D11)
    - Reclamation: $52 K - $93K (~ 3 times higher)
    - D011 estimates for remediation and reclamation: $17K – $34K
- In addition, the draft liability model, developed in partnership with the industry associations as part of the ABC program, shows a 2.5 times increase over D011 liability for oil and gas. Closure spend data submitted through OneStop by participants in the ABC program will validate the draft model over the next few years.
- Worst-case estimate for oil & gas and insitu is $100 billion.

Pipeline Liability Estimate: the AER used the NEB abandonment cost estimates (ACE) review (https://www.cer-rec.gc.ca/pplctnflng/mjrpp/bndnmntcststmt2016/index-eng.html) to help develop pipeline estimate.

- Worst-case estimate is $30 billion in liability including remediation costs.

CAPP CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

June 24, 2019

Honourable Ms. Sonya Savage
Minister of Energy
324 Legislature Building
10800 - 97 Avenue
Edmonton, AB T5K 2B6

via email: minister.energy@gov.ab.ca

Dear Minister Savage:

Re: CAPP Perspectives on Opportunities to Enhance the Closure and Liability Framework in the Upstream Oil and Natural Gas Industry

The Canadian Association of Petroleum Producers (CAPP) represents companies, large and small, that explore for, develop and produce natural gas and oil throughout Canada. CAPP's member companies produce about 80 per cent of Canada's natural gas and oil. CAPP's associate members provide a wide range of services that support the upstream oil and natural gas industry. Together CAPP's members and associate members are an important part of a national industry with revenues from oil and natural gas production of about $101 billion a year. CAPP's mission, on behalf of the Canadian upstream oil and natural gas industry, is to advocate for and enable economic competitiveness and safe, environmentally and socially responsible performance.

Alberta's inventory of inactive and orphaned oil and natural gas sites has grown significantly over the past several years, largely as a result of the sustained commodity price downturn, solvency challenges for operating companies, and impacts from the lower court decisions regarding the Redwater matter.

CAPP shares the concerns of government, landowners, Indigenous Peoples and other stakeholders about the growing number of inactive and orphaned oil and natural gas sites, and is committed to working collaboratively to address these challenges. CAPP members are particularly affected by liability associated with orphan sites as industry funds the Orphan Well Association (OWA) levy. Accordingly, CAPP and our members have a strong interest in enhancing Alberta's closure and liability framework to ensure that it is efficient and effective, and remains primarily focused on corporations discharging their environmental obligations in a proactive and timely manner.

In September 2017, CAPP submitted its recommendations to the Alberta Government-led Liability Management Review. At the time, CAPP advocated for policy and regulatory changes in three strategic opportunity areas to reduce the risk of continued increasing orphan site liability and encourage proactive and efficient closure of inactive upstream oil and natural gas sites.

Since 2017, there has been some progress with respect to the aforementioned strategic opportunities, but more needs to be done. CAPP strongly believes that our 2017 recommendations remain valid and align closely with the platform commitments of your Government to "*streamline the process for well and facility abandonment and environmental reclamation*" and *"to overhaul the liability management framework in Alberta.*"

To this end, CAPP supports continued and collective actions by the regulated community, government and the Alberta Energy Regulator (AER), to streamline closure processes and create a modernized liability management framework. Furthermore, we believe that implementation of policy and regulatory enhancements in the following three areas will result in a closure and liability management framework that is effective, sustainable, and supports a competitive oil and natural gas sector, thereby enabling economic growth and jobs creation while also ensuring environmental restoration. CAPP notes that the recommendations outlined below do not include upstream oil and natural gas sites that fall within the scope of the Mine Financial Security Program, Large Facility Program, or Oilfield Waste Liability program.

Strategic Opportunity 1: Mandatory Inactive Liability Reduction across the Upstream Sector

CAPP strongly believes that an enhanced closure and liability management framework requires the mandatory reduction of inactive liability across the upstream oil and natural gas sector to minimize collective orphan site liability risk to the OWA fund. However, these requirements must also be efficient and predictable to ensure the regulated community is competitive. Accordingly, CAPP does not support site-based timeline requirements for closure but instead believes that all operators should be required to annually reduce a proportion of their corporate inactive liability.

This type of approach to closure and liability management is currently used as part of the AER's voluntary Area-Based Closure (ABC) program and has proven to yield significant efficiencies compared to a site-based timeline approach. Notably, the ABC program requires closure spending based on an annual corporate target and reduces red tape by providing operators with variances to low-risk regulatory requirements. In this way, ABC enables flexibility via corporate liability reduction programs focused at a portfolio level rather than at the site level, and thereby helps streamline the process for closure. Simply put, allowing operators to focus closure efforts within regional oil or natural gas fields brings step-change cost reductions due to scale and operational savings. This approach therefore also allows operators to re-invest the savings achieved through ABC to yield a greater degree of liability reduction for the same level of closure spending.

For this reason, CAPP strongly supports the ABC approach to liability reduction and further believes that the program should be mandatory across the upstream sector. In light of continued challenges within our industry, we recognize that the associated annual liability reduction requirement must be flexible, sustainable, and support competitiveness of the oil and natural gas sector. Accordingly, we believe that the stringency of the liability reduction target should increase predictably over time to reach the level required to arrest and ultimately reverse the growth of the sector's inactive site inventory. This approach to stringency also allows some flexibility given current low commodity prices and associated corporate cash flow availability for closure spending. The approach must also be flexible to adapt to the range of current and future resource recovery techniques, and reflect operating considerations for different types of development.

Strategic Opportunity 2: Modernized Liability Management System to Enhance Risk Mitigation of Orphan Site Liability

A modernized closure and liability management framework would enhance risk-assessment and risk-mitigation throughout the lifecycle of upstream oil and natural gas development, including during asset transfers, to minimize the exposure of the OWA to unfunded closure liability. Changes should also be made to ensure that orphan liability is appropriately managed in light of the Supreme Court of Canada (SCC) decision in the Redwater matter.

The current liability risk mitigation framework (i.e., the Liability Management Rating system) does not adequately assess risk of corporate failure. Consequently, the OWA and by extension the regulated community have been exposed to excessive financial risk that has resulted in the orphan levy quadrupling to $60 million in 2019-20 from $15 million five years ago. Further levy increases are expected.

CAPP understands the AER is developing a system to assess corporate health and better scrutinize transfer applications, and that this system is expected to be coupled with selective and risk-based securitization. CAPP supports this proposed overhaul to the liability management framework and encourages the AER to begin consultations with the regulated community on this corporate health test as soon as possible.

As well, an outcome of the SCC Redwater decision is that secured creditors may be averse to funding the insolvency process, and insolvency professionals may be reluctant to accept insolvent estates, if funds recovered go entirely to closure. This may result in economic assets being orphaned along with uneconomic assets. Consequently, certain policy and regulatory changes with respect to management of orphan sites are required to facilitate the efficient disposition of orphaned economic assets. These changes include the ability to appoint a receiver to manage an insolvent estate; and the ability to hold, sell and operate assets in limited circumstances to maximize value to the OWA fund.

Strategic Opportunity 3: Creation of a Legacy Fund to Address Post-Closure Legacy Issues

Lastly, CAPP believes there is a need to create a long-term legacy program (and associated fund) to effectively manage post-closure issues and support the implementation of risk-based (e.g., streamlined) regulatory requirements for closure. A legacy fund would be jointly funded by resources owners and resource developers to provide a financial backstop to fund post-closure remediation of legacy upstream oil and natural gas sites. Legacy sites are those that were reclaimed to the standards of the day, but are now without a responsible party and, due to issues arising in certain instances, require post-closure remedial work to assure environmental protection. The concept was broadly supported by participants in the 2017 Liability Management Review.

Conclusion

CAPP is encouraged by the steps taken to date by the AER to enhance the rate of inactive liability reduction, adopt outcome and risk-based changes to streamline closure activity, and enhance risk mitigation of orphan site liability. But more must be done to enhance the current system and ensure the competitiveness of the upstream oil and natural gas industry. CAPP sees significant opportunities to work collaboratively with your Government, the AER and stakeholders to streamline the process for abandonment and reclamation and overhaul the liability management framework to ensure it is efficient and that the public and OWA remain protected.

CAPP would like to thank you for considering our perspectives, and we look forward to a continued discussion on these issues. Should you have any questions related to the details contained herein, please contact Brad Herald, Vice-President, Western Canada Operations (403-267-1113 or brad.herald@capp.ca).

Sincerely,

Tim McMillan
President and Chief Executive Officer,
Canadian Association of Petroleum Producers

Jonathan Wright
President and Chief Executive Officer,
Nuvista Energy Ltd.
Chair, CAPP Alberta Policy Group
Chair, CAPP Closure and Liability Priority Steering Group

cc: Mark Taylor, Executive Vice President, Operations Division, AER