

Landowners' Guide to Oil and Gas Development

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Andrew Read, Barend Dronkers, Benjamin Israel, Binnu Jeyakumar, Nina Lothian

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**3rd
Edition**

all new and
revised

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Andrew Read • Barend Dronkers • Benjamin Israel • Binnu Jeyakumar • Nina Lothian
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The contents of this guide are entirely the responsibility of the Pembina Institute and do not necessarily reflect the view or opinions of those acknowledged above.

The purpose of this guide is to provide Albertans with accurate, factual and unbiased information on oil and gas development and landowner rights. We have made every effort to ensure the accuracy of the information contained in this guide at the time of writing. However, the authors advise that they cannot guarantee that the information provided is complete or accurate and that any person relying on this publication does so at their own risk. This guide should not be treated or relied upon as legal advice. This document cannot take the place of professional advice from a lawyer, professional in land and energy issues, or other qualified experts.

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Landowners' Guide to Oil and Gas Development

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Introduction to the third edition

We are proud to release the third edition of the *Landowners' Guide to Oil and Gas Development* both electronically and in print free to the public. The intent of the new Landowners' Guide is to provide all parties with access to a common body of information about citizens' rights in Alberta as they relate to oil and gas development. We hope it will serve as a valuable tool for landowners, those who rent land, real estate professionals, the oil and gas industry, and any members of the public who may have oil and gas development close to or on their property.

First released in 2001 as *When the Oilpatch Comes to Your Backyard*, and revised in 2004, the guide was a resource that rural residents and landowners remember fondly more than a decade later as an impartial and comprehensive resource. It was seen as a tool to help landowners feel more empowered in their conversations, interactions and negotiations with oil and gas producers. These readers discovered what environmental issues they needed to consider before signing a surface lease or right-of-way agreement. They learned the roles of the various government bodies and where they could seek independent advice. As well, members of the public discovered what to do if they were affected by developments on adjacent property.

Since 2004, however, much has changed. New rules and technologies are impacting landowners differently. Specifically, the Alberta government has introduced new legislation, regulations and procedures; the responsibilities of some departments have changed; and since 2013, the Energy Resources and Conservation Board has been replaced with the Alberta Energy Regulator which is instituting significant changes in the regulatory space for oil and gas in the province.

The shale revolution represents a completely new and extensive type of oil and gas resource and this industry is developing at a rapid pace. Shale oil and gas development is also occurring in new locations, bringing activity to landowners who may have never experienced development in their area. While hydraulic fracturing uses some similar equipment and techniques as other conventional oil and gas wells, there are also considerable differences — its operations are generally more intensive (more equipment, large well sites, longer duration on site, etc.), and it comes with some unique considerations for maintaining your property and protecting the surrounding environment.

With new communication tools and styles it was also time to improve availability of the guide by providing electronic versions in addition to printed copies — although hard copies will still be available for those with internet connection challenges.

The third edition reflects the considerable changes that have occurred and provide readers with the information to understand how oil or gas operations and policy and regulatory system work.

One of the most significant learnings we've heard in our work with many knowledgeable people in the field is that early involvement is critical. The earlier that stakeholders start to discuss and get involved in the planning and development stage, the more likely it is that all stakeholders can find ways to work out issues and settle on mutually beneficial solutions. We heard this advice from people across the spectrum — landowners, industry and regulators — and it reflects their experiences in both discussions that ended well and those that ended poorly.

It is with this in mind that we encourage readers to read Section 1 in its entirety, as it provides important background information and advice to keep in mind while reading through the guide. If a nearby oil or gas project is not yet approved by the Alberta Energy Regulator, Section 2 will provide you with the context you need to know about being involved in the project before a decision is made. We understand that many readers may not read the guide from cover to cover, but instead choose to read what is most relevant. With this in mind, we have made the guide available online both in individual chapters (to download over slow internet connections), or as a whole. However, we do recommend taking the time review as much of the guide as possible as there are many linkages and internal references throughout that will provide a more complete understanding of oil and gas development in Alberta.

Section 1

Getting Started



1. Getting Started

1.1 What this guide provides

The intent of the new Landowners' Guide is to provide all parties with access to a common body of information about citizens' rights in Alberta as they relate to oil and gas development. This guide is for landowners, those who rent land, people who do business related to land (real estate professionals, etc.), oil and gas companies and their employees, and members of the public who have an interest in the responsible development of oil and gas. It outlines what to expect with oil and gas development as well as ways to get involved in planning and decision-making processes to ensure the responsible development of oil and gas. It provides information on legally required minimum standards that apply to any company engaged in resource development activities. The guide also suggests ways you can encourage a company to adopt best practices to reduce possible impacts of energy development on air, land and water quality.

This guide can help those unfamiliar with the regulations, activities, etc. related to oil and gas development to quickly understand how the system works and what their rights are. It provides accessible answers to these complex questions:

- If a permit agent knocks at your door and says a company wants to conduct seismic exploration on your land, how do you decide whether to grant permission?
- If a land agent tells you a company plans to drill a well or put a pipeline on your land, what do you need to know before you start negotiations? How do you decide whether any special conditions are needed in a surface lease or right-of-entry agreement?
- If there are plans to build a well or pipeline near your home, is the company obliged to tell you or consult with you?

This guide does not act as legal advice, and cannot take the place of legal advice. Although the guide should give you a good sense of where to start and what issues to consider, we would encourage you to seek out help from one of the numerous contacts described in Appendix B, or a consultant or lawyer familiar with land and surface rights issues with oil and gas development.

1.2 How to find what you need

The content is organized to help readers quickly find the information they need. A detailed index is included.

Section 2 focuses on the many elements that you need to know before activity has started, such as when you should be notified about planned activities, how to engage a company about your concerns, and how to engage with others.

Several chapters outline the activities and relevant details related to the initial stage of resource development, from exploration for oil or gas to the location and construction of wells, pipelines and facilities. Sections 3, 4, 5 and 6 each contain a series of questions that you may want to ask before signing a permit, lease or right-of-way agreement. Section 7 addresses emergencies, while Section 8 describes issues that may arise during operations and some potential impacts on land, air or water. Section 9 outlines the requirements for abandoning wells and reclaiming land.

While Sections 3 to 9 primarily address the physical environment, later chapters provide information and advice on dealing with administrative issues, including compensation for surface rights access and right-of-entry orders (Section 10). The public hearing process is outlined in Section 11.

Appendix A provides contact information for a range of government departments and boards, and Appendix B for lawyers, professional bodies and non-profit organizations. The remaining appendices contain a summary of government legislation (Appendix C), a handy example checklist of costs you should keep track of (Appendix D), and a glossary (Appendix E). Words that are defined in the glossary are italicized the first time they appear in a section. Text boxes throughout the document highlight information of special importance or interest.

In this document we use the words “landowners” and “residents” as specific terms, although for brevity we may only refer to landowners in the text. While all major terms are defined in the glossary (Appendix E) it is helpful to clarify three of these here.

A **landowner** is the person or persons whose name(s) appears on the certificate of title to the land issued under the Land Titles Act.¹

¹ All Alberta government acts and regulations are available on the government website at <http://www.qp.alberta.ca/>

A **resident** is person occupying a residence on a temporary or permanent basis. Although similar and often used interchangeably, an occupant is the person, other than the owner, who has certain rights to the land. The occupant may also be referred to as the tenant. The occupant may be in actual possession of the land or be shown as a person who has an interest in the land (which may be noted by a caveat on a certificate of title under the Land Titles Act). In the case of government-owned land, such as a Crown grazing lease, the occupant is the person shown in the records to have an interest in the land. Sometimes the occupant on a Crown lease is also referred to as the lessee. The AER distinguishes between landowners, occupants, residents and Crown disposition holders, which is important in the context of who a company is obligated to consult or notify before they submit an application (see Section 2.1).

An **operator** is the person or company that has the right to conduct surveys or extract the oil, gas or other minerals. In this document we use the term “company” as well as operator.

1.3 A note on mineral rights

Most Albertans do not own the minerals that lie under the surface of their land. This guide focuses on the rights of landowners and others who lease or occupy the land but do not own the mineral rights. Those belonging to the minority who actually own the mineral rights on their land (as indicated on their legal mineral title) should conduct additional research before starting negotiations or entering into an agreement with any company seeking access to their mineral rights. They may find it helpful to contact the Freehold Owners Association who has many resources about freehold mineral rights (Section B.3.7). While the ownership issues are different, much of the general information in this guide will still be relevant.

Those who own or legally occupy land have specific rights with respect to development on their land. As well, the Alberta Energy Regulator (AER) requires a company to consult or notify certain groups adjacent to development who may be directly and adversely affected by oil and gas activity (see, for example, Section 2.1). People who can demonstrate that they may be directly and adversely affected are entitled to submit a statement of concern to the AER; this may allow you to be involved in the regulatory process to bring forward changes or issues that could change the project. Regardless of the AER processes and requirements, if you want more information and/or want to see changes to some development near to you, you should reach out to the company as well as the AER.

Consultation and notification requirements for Aboriginal and Métis people are managed differently than requirements for landowners and occupants, and are primarily handled through the AER's aboriginal consultation unit in collaboration with the Aboriginal Consultation Office.² While the general environmental information presented is relevant irrespective of land ownership, there are other pieces of legislation that govern consultation and development of oil and gas on Aboriginal land, and these are outside the scope of this guide.

An individual's rights vary according to the activity in question. For example, an individual's rights with respect to seismic lines or surveying are different from those that pertain to drilling an oil or gas well. In geophysical operations on private land the landowner or occupant can refuse entry, while in other cases they can negotiate but have no right to refuse entry.³ It is thus important to be aware of your rights for specific circumstances.

1.4 A note on the new Alberta Energy Regulator

The regulation of the oil and gas industry has changed significantly in the last decade. Previously, several ministries and bodies were involved in approving energy resource projects. In 2013, the new Alberta Energy Regulator was set up as a “one-stop shop” to create a more streamlined process for upstream oil, gas and coal development within Alberta and to remove overlapping jurisdictions. Its responsibilities include applications for exploration and development; inspections, compliance, and environmental protection; and reclamation, remediation and abandonment. Appendix A outlines how different government bodies are involved in the regulation of the industry.

The Responsible Energy Development Act (REDA) has fundamentally changed how the oil and gas industry is regulated in Alberta. The new Regulator now has responsibility for both environmental management and energy development —mandates that were previously the responsibility of two different government bodies. Project proponents are no longer required to seek approvals from multiple provincial authorities. This has resulted in a streamlined process where projects are often approved faster and with fewer guaranteed opportunities for public involvement in a formal process such as a hearing.

² AER, “Aboriginal Consultation.” <http://www.aer.ca/rules-and-regulations/by-topic/aboriginal-consultation>

³ This does not apply to agricultural leases on Crown land.

There are very few examples in the regulations where the Regulator is required to hold a hearing and thus far, the Regulator has recommended very few applications for a hearing. This may be due in part to the fact that the AER has been given considerably more discretion to determine when a hearing will be held for a project approval, and that it is not obligated to hold a hearing under most circumstances. Generally there is a better chance to resolve concerns through negotiation and dispute resolution as this usually results in less cost, less time, and less frustration for all parties. But hearings can be a tool for considering larger, more complex concerns in depth and can be useful in situations where parties can not come to a resolution. However as a result of changes to the AER requirements to hold hearings and the resulting reduction in hearings, landowners or others who consider themselves to be directly and adversely affected have had a considerable reduction in their bargaining power and ability to get unwilling companies to come to mutually satisfactory outcomes.

The AER has rolled out many internal efforts to engage stakeholders such as landowners and nearby residents earlier and in less formal ways to avoid a lengthy hearing. There is a greater emphasis by the Regulator for companies to build relationships before a project begins, and to resolve conflicts through their Alternative Dispute Resolution process (Section 2.4). Because of this, as a person who may be impacted by development nearby, you are more likely to influence a project outcome by building relationships with the company in the early stages of a project's development, before the company applies to the AER for their approval. If these discussions don't lead to a satisfactory outcome but the company applies to the AER anyway, and the AER sees that you have acted in good faith, it is more likely that the project will be recommended for a hearing should that be necessary. If the AER doesn't believe you have acted in good faith, REDA's regulations provide the AER with the discretion to dismiss your request for a hearing, and you may be left with fewer opportunities to address your concerns.

1.5 General advice when dealing with oil and gas development

When researching and discussing this guide with Albertans, we heard some key pieces of advice. We heard this advice from landowners, industry, regulators, etc and was informed from their experiences and lessons learned from discussions that went well and those that didn't go well. These nuggets of advice may help ensure you are ready when the land agent comes knocking.

Build relationships

Building and maintaining relationships with company representatives, AER staff, and neighbours who are also affected and interested may help ensure you are informed about any upcoming activities. After a project is underway, it is helpful to get to know your local AER field inspector, to build trust and familiarity and to help ensure that they can investigate promptly when issues arise.

The relationship with your neighbours can be a great asset. If your neighbours have experienced oil and gas development on their land, they may be able to help you understand what types of impacts or changes you might expect with similar activities, what additional information you should ask the oil and gas companies for, and what to consider when signing your surface lease agreement. Neighbours can act as an early notification network so you are aware of the activity in the area, or they can keep you updated about what a company has proposed to them, so you can compare notes if the company approaches you. Additionally, if you haven't already engaged a third party to help in your negotiations, neighbours can attend any discussions with the company and provide an additional perspective about what the company representative told you. While neighbours often shy away from discussing topics of money and compensation, it might be worth breaching that subject. The company is already aware of what compensation has been negotiated for similar projects nearby, so unless you are communicating with your neighbours who have negotiated similar agreements, the company representative will know more than you about the range of compensation that could be offered. Section 10 also provides insight into negotiating compensation, and we've included an example cost chart in Appendix D.

Engage early: as soon as you know

The best time to influence the details of a project is well before the company is ready to submit their application to the AER. It is often difficult to find out about specific projects that may be proposed in your area until the projects are well underway and you begin to see the stakes in the ground. However, if you begin seeing development in a nearby section of land, it may indicate that broader development is planned for your area. You should take the time to reach out to company representatives, talk to your neighbours, and contact the AER to find out more details about the project and potential oil and gas activity in your area.⁴ If you believe the project may affect you,

⁴ You can reach out to the AER's stakeholder engagement team through the AER's general inquiries line, at 1-855-297-8311 or inquiries@aer.ca.

make your concerns known to the company as soon as you can, and contact the AER and submit a pre-application concern so that the issue is flagged with the Regulator (Section 2.1.3 and 2.5).⁵

If you don't make your concerns known to the company, and the company is not aware of any outstanding concerns, they are permitted to submit an expedited or routine application to the AER. This may result in you losing the opportunity to submit a statement of concern, as the AER is not obligated to set and wait for a filing deadline to lapse before making a decision on an application.

Be diligent

When you go into negotiations or consultations, make sure to “tie up your horse”, even if you feel like negotiations have gone well and you have developed a good deal of trust with the company representatives. Move to get the outcomes from good discussions put down on paper and included in your surface lease. If a company commits to an additional measure, confirm with the company the extent of that commitment and the consequences for lapsing on their commitment, and put that in writing as well. Also consider that, while things may be going well now, it is important that there is an established process for conflict resolution (what will both parties do if negotiations break down). Get this included in the surface lease as well.

Don't feel shy about asking as many questions as you can to better understand the company's position, and make it a habit to follow up and fact check what they tell you. Make sure to ask:

- What are the company's plans future development?
- How does this project fit in with these plans, and other development in the area?

Many sections throughout this guide contain questions that you should ask, but these are just a handful to get you started. The more questions you ask, the better positioned you are to negotiate. There are other sources of information if you don't understand something that a company has told you and if this Landowners' Guide or a neighbour doesn't have the answer for your questions. The Farmers' Advocate Office (Section A.4) and the AER's stakeholder engagement team (Section A.2.4) may be able to help address your questions.

⁵ Note that if the company does submit an application and you feel your concern is unresolved, you must still submit a statement of concern.

Contact any local groups in the area, such as a nearby synergy group (Section B.4.1), and ask if best practices have been developed for the area that you can encourage the company to abide by. Throughout this guide, we have also described additional measures you can discuss with the company that act as best practices. The AER may also be able to walk you through some additional best practices. If a company agrees to follow a best practice, again: put it in writing.

Compensation for your time and energy should be in the agreement from the start. Keep track of the time spent researching, negotiating with company representatives, visiting the well site, or fixing damages. We've included example cost trackers in Appendix D, which should give you an idea of what records to keep.

Know your future plans

Even if a land agent hasn't yet knocked on your door, you should be prepared with an understanding of what your future plans are for your land. For example, if you have plans to subdivide your land for your children when they inherit your land, understanding how a well or pipeline may affect these plans is crucial. Wells and pipelines have setbacks that may limit the locations where you can build a residence (section 3.1.2 and 4.4), so you may be surprised to find out that when it comes time to build, your ideal location for a new home is not an option. Or, the proposed house location may be outside a setback, but be located downwind of one of the oil or gas facilities on your land.

Taking some time to even preliminarily determine what your plans are will allow you to identify and communicate how development may impact your future plans. If you are committed enough to the idea of subdividing, it might be worth approaching your municipality now to get the process started and on paper. In general, the more details you can provide about your situation, the more strongly you can make your case when negotiating with a company or submitting a statement of concern. In a statement of concern, it is crucial to clearly explain how a proposed development directly and adversely affects you, so it is not enough to state that you are concerned because you may one day subdivide your land or build a home. For example, explain that the proposed project location limits where you have already assessed you'll put a future house, and show the potential locations you are left with and why they are not satisfactory. It may seem that you are outlining obvious facts, but as one person put it, when making your case: "if you're talking about a pig, you need to take a picture of your pig."

Find the win-win

In negotiating theory, it is important to know your best alternative to a negotiated agreement.⁶ In other words, you need to understand the best you can do if a company isn't cooperative with you, and the best the company can do if you don't cooperate with them. This outlines your bargaining power when negotiating a surface lease or in consultations with a company proposing a project nearby.

The more you prepare for negotiations with this in mind, the better the outcomes you are likely to achieve. If your demands to the company don't compare to a company's alternatives, negotiations are likely to fail. In practice, that may mean the company will seek a right-of-entry order from the Surface Rights Board and compensation may be set in a compensation hearing. However most companies are likely interested in negotiation first — they could be inclined to ensure the relationship with you is on good terms, and it saves them time and money. Understanding when your demands pass this threshold where it is no longer beneficial to continue negotiating helps ensure they stay at the table.

Clarity on your own alternatives is important. Unless you are a freehold mineral rights owner, you are negotiating with little control over access to the Crown-owned oil and gas beneath your feet. You need to understand what alternatives you are left if negotiations break down.

1.6 Finding the right government board, agency or department

You may need to be contact with several government departments or agencies related to development nearby to you. The roles of these and other government bodies are described in Appendix A. Here we provide a quick reference list, in alphabetical order, of some of the government bodies you may want to contact and the most important phone numbers. The table indicates the section where each board, department, etc. is described, but they are referred to in many sections throughout the guide.

⁶ A “best alternative to a negotiated agreement” or BATNA is a concept coined by Roger Fisher and William Ury in *Getting to Yes: Negotiating Without Giving In* (1981).

Quick reference list for selected government bodies

Alberta Energy Regulator (AER)	Section A.2	
	Regulates oil and gas wells, provincial pipelines and facilities (does not deal with compensation)	
	Handles conservation, reclamation and contaminant remediation for oil and gas development	
	General Inquiries:	403-297-8311
	Toll-free:	1-855-297-8311
Alberta Environment and Parks (AEP)	Section A.3	
	Conducts environmental monitoring and develops environmental policies (NOT responsible for regulating oil and gas development).	
	Toll Free:	310-3773
Farmers' Advocate Office (FAO)	Section A.4	
	Provides advice on lease agreements and negotiations, and offers water well restoration or replacement program	
	General Inquiries	310-3276
National Energy Board (NEB)	Section A.12	
	Regulates interprovincial and international pipelines	
	General Inquiries	1-800-899-1265 or 403-292-4800
	For a pipeline emergency, Transportation Safety Board's 24-hour hot line	819-997-7887
	All other emergencies related to a NEB-regulated company's operations, facility or activity	403-807-9473
Registrar of Land Agents	Section A.7	
	Handles questions about land agents (housed within Alberta Labour)	
	General Inquiries	780-415-4600
Surface Rights Board (SRB)	Section A.3.1	
	Addresses compensation issues and right-of-entry orders	
	General Inquiries	780-427-2444

All Government of Alberta staff and Members of the Legislative Assembly (MLAs) can be reached toll-free from anywhere in the province by first dialling the Alberta Government RITE line at 310-0000, then entering the area code and number you wish to reach. If you do not know who to call, you can dial 310-0000 and then press "0" to get the operator. Tell the operator the subject you are calling about and ask to be connected

to the right person. If you do not have a touch-tone telephone, stay on the line. The Government of Alberta publishes a telephone directory of staff and MLAs as well as department information.⁷

⁷ Alberta Government, “Government staff directory.” <http://www.alberta.ca/staff-directory.cfm>

Section 2

Before the Project Starts



2. Before the Project Starts

The best opportunity to influence the details of a project is before its application has been submitted to the Alberta Energy Regulator. The pre-application stage is the time when you can try to minimize impacts to you and your family, as the project is more likely to be influenced at this stage. If the project is on your land, you should carefully consider the surface lease agreement to ensure it reflects your concerns and demands, and captures what you have agreed upon with the company. If a project is not on your land, the company may not be required to directly notify you about a project but you can still raise any concerns you have with the company and the Alberta Energy Regulator before they happen.

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Before a company can submit an application to the Alberta Energy Regulator (AER) for an oil and gas project, it must notify or consult affected *residents* and *landowners* in the region as part of its participant involvement program. When you hear about a proposed project, you can use this guide to find out more about issues that may be important to you, so that you can articulate your concerns during this pre-application stage. The company must wait 14 days for those who were notified to raise concerns before it can submit its application to the Regulator.

If you own or live on the land where the proposed development lies, the company will approach you about surface rights access, which gives you some ability to *negotiate* additional measures above and beyond the requirements that the company is obligated to follow.

Depending on the type of project, you may or may not be notified of the project application, even if you believe you are affected by the decision. If you were not originally included in the participant involvement program and weren't notified personally, make sure that you raise your concerns with both the company and the Regulator, and submit a *pre-application concern* (see Appendix E Glossary for definitions). The company must show the Regulator that it has addressed (or attempted to address) your concerns.

In many cases, landowners/*occupants* and companies do manage to negotiate an agreement. If the company and those potentially affected by their operations are unable to agree before an application is submitted to the Regulator, they can use the AER's *Alternative Dispute Resolution* program to help facilitate their discussion. After the company submits its application, you can also raise your concerns formally through a *statement of concern* and ask the Regulator to make a decision on the application through a *hearing*. If the negotiations fail, or the company does not negotiate in good faith, you can form a group to meet and negotiate with the company as a collective, or use the media to raise awareness about your concerns and increase the likelihood that the company will address them.

Throughout every step of the process, it is important to keep a paper trail of all your interactions with the company, including when you found out about the project, when company representatives were on your land, and any complaints or statements of concern you file. Additionally, keep track of any costs you incur, including time spent researching the project application, time inspecting your property after a company has entered, and damages to fences or trees, etc. An example cost chart is included in Appendix D.

The initial steps of the regulatory process are summarized in Figure 1.

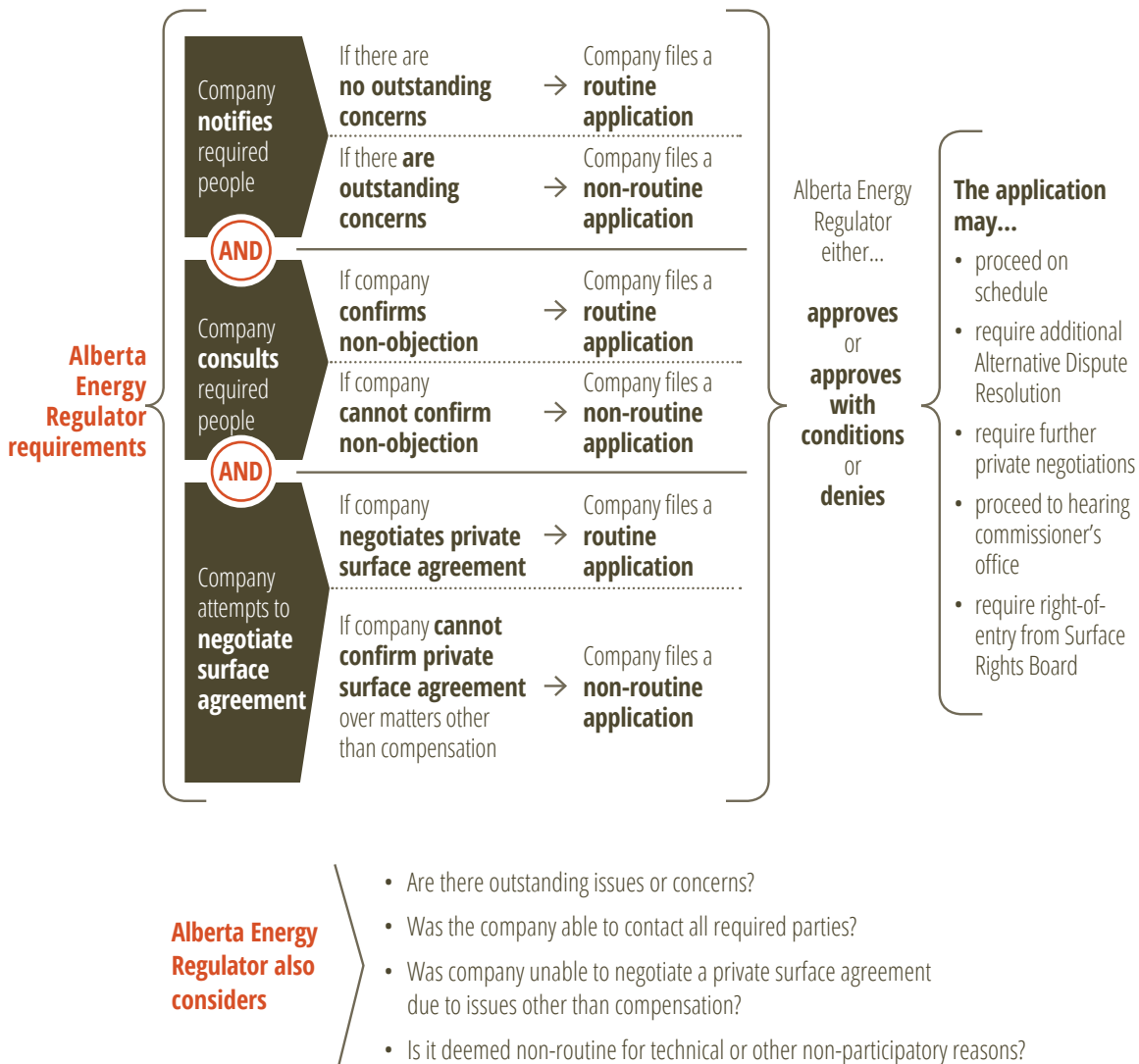


Figure 1. Notification and approval process

2.1 Public consultation, notification and involvement

The AER requires the energy industry to inform and consult all those “whose rights may be *directly* and *adversely affected* by the proposed application”.¹ There is no formal

¹ AER, Directive 056; Energy Development Applications and Schedules (2014) section 2.1. AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

definition of who may be directly and adversely affected, but the company will likely interpret this to mean those who are described in the minimum consultation and notification requirements, outlined in the AER's Directive 056 and summarized in Table 1 below. The AER encourages those who may or may not be directly affected to engage with the company early, ideally while the company is in the pre-application phase.² As a landowner, it is important that you maintain a certain degree of participation throughout the life cycle of a project.

Section 2 of Directive 056 sets out how a company is expected to consult or notify the public about a proposed well, pipeline or other oil and gas facility.³ There are further special requirements for the notification of those living within the *emergency planning zone* of a *sour gas* well or pipeline (see Section 5.4), set out in Directive 071.⁴ Appendix 11 of Directive 056 describes the entire participant involvement process. Minimum consultation and notification requirements are also summarized here in Table 1.

2.1.1 Required consultation and notification

For **consultation**, the applicant company (or the representative *land agent*) is obliged to conduct a face-to-face meeting or telephone conversation with landowners in the required consultation area. Consultation implies a two-way process: not just informing people, but also listening to their concerns and responding to them. The company must provide an information package about the proposed project, and the relevant AER information brochures and packages as specified in Directive 056 (see Section 4.3 for details, applicable to all types of development). When consulting, the company must also obtain a confirmation of nonobjection, which does not necessarily have to be in writing. A surface rights agreement signed by landowners or occupants is a form of nonobjection.

Notification involves, at a minimum, sending people and/or local authorities a written notice about the proposed project and an information letter from the AER. Additionally, the company must offer copies of relevant AER publications and brochures (including some of those supplied to the consulted landowners), and must be available either in person or by telephone to answer any questions. Companies will send the materials to

² AER, Directive 056, section 2.1.

³ AER, Directive 056, section 2.

⁴ AER, Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry (2009).

the address on the land titles, so to ensure that you receive the proper notification confirm that the address on your land titles are up to date.

After the company completes its notifications, they must wait 14 days to allow notified parties to raise concerns about the application before the company can apply to the AER. If the company does not receive the required confirmation of *non-objection*, or if they are aware of outstanding concerns from those they notified or from other people, they may still submit their application to the AER but they must apply through the *non-routine application* process, and send a copy of the public notice of application directly to the concerned party. This provides an opportunity for the concerned parties to file a statement of concern, as the AER will not make a decision on the application until the filing deadline in the application notice has passed. If there are no outstanding concerns, objections, or other technical reasons designated by the AER that require a company to file through a non-routine route, then the company may be permitted to submit a routine application. In this case, typically, no deadline for statements of concern is outlined in the application notice, and the AER may proceed to make a decision on the application immediately.

Since notification requirements differ depending on the size and type of a project or facility, in some instances you may be consulted and informed as a nearby landowner, while in others you may have to find the information yourself. Table 1 below is a summary of relevant consultation and notification requirements to landowners, residents⁵ and occupants⁶. This table is not comprehensive, and does not summarize additional parties that may be consulted or notified, such as local authorities, urban authorities and airports. Consult the AER's Directive 056 or direct more specific questions to the AER's *stakeholder* engagement group for more details on the AER's notification and consultation requirement.

⁵ A resident is defined by the AER as a person occupying a residence on a temporary or permanent basis.

⁶ An occupant is defined by the AER as “a person other than the owner who is in actual possession of land; a person who is shown on a certificate of title or by contracts as having an interest in the land that confers a right to occupy the land; in the case of Métis land, a person having a right or interest in land recorded on the Métis title register pursuant to the Métis Settlements Land Registry Regulation; the holder of a permit for a coal mine.”

Table 1. Summary of the minimum consultation and notification requirements under the AER, outlined in Directive 056

Single well, multiwell pad, commercial or source water well (<i>Category B well</i>)⁷ No hydrogen sulphide (H ₂ S)	
Consult	Landowners and occupants (regarding consultation on well site location and well site access) Residents within 200 m Residents within 300 m (if continuous flaring for single oil wells)
Notify	Landowners within 100 m <i>Freehold</i> coal rights owners or <i>lessees</i> Crown disposition holders
Single well and Multiwell pad (<i>Category C well</i>) Contains > 0.00 mol/kmol H ₂ S, release rate less than 0.3 m ³ /s	
Consult	Landowners and occupants (regarding consultation on well site location and well site access) Landowners within 100 m (regarding consultation on the <i>setback</i>) Residents within 200 m or residents within the Emergency Planning Zone (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Single well (<i>Category D well</i>) H ₂ S release rate between 0.3 and 2.0 m ³ /s	
Consult	Landowners and occupants (regarding well site location and well site access); Landowners within 500 m (regarding consultation on the setback) Residents within 200 m or residents within the Emergency Planning Zone (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Single well (<i>Category E well</i>) H ₂ S release rate greater than 2.0 m ³ /s	
Consult	Landowners and occupants (regarding well site location and well site access); Landowners within 1.5 km (regarding consultation on the setback) Residents within the Emergency Planning Zone
Notify	Freehold coal rights owners or lessees Crown disposition holders

⁷ The category types of wells are determined by hydrogen sulphide (H₂S) content, H₂S release rate, and proximity to the public. These are outlined further in Directive 056.

Proximity critical well (Category E well) H ₂ S release rate between 0.01 and 0.1 m ³ /s Within 500 m of an <i>urban centre</i> (project will be filed as a non-routine application)	
Consult	Landowners and occupants (regarding well site location and well site access) Landowners within 100 m (regarding consultation on the setback) Residents within 200 m or residents within the Emergency Planning Zone (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Proximity critical well (Category E well) H ₂ S release rate between 0.1 and 0.3 m ³ /s Within 1.5 km of an urban centre (project will be filed as a non-routine application)	
Consult	Landowners and occupants (regarding well site location and well site access) Landowners within 100 m (regarding consultation on the setback) Residents within 200 m or residents within the Emergency Planning Zone (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Proximity critical well (Category E well) H ₂ S release rate between 0.3 and 2.0 m ³ /s Within 5 km of an urban centre (project will be filed as a non-routine application)	
Consult	Landowners and occupants (regarding well site location and well site access) Landowners within 500 m (regarding consultation on the setback) Residents within 200 m or residents within the Emergency Planning Zone (whichever is greater)
Notify	Freehold coal rights owners or lessees
Facility for an exempt single well (Category B facility)⁸ If deemed non-routine through objections/concerns Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowners and occupants Residents within 300 m
Notify	Crown disposition holders
Gas processing plant, multiwell gas battery, multiwell oil battery, compressor station, gas fractionation plant, multiwell bitumen battery (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner, occupants Residents within 500 m

⁸ Exempt single well facilities are described in AER, Directive 056, section 5.5.1.

Notify	Landowners and occupants within 1.5 km Crown disposition holders
Oil satellite (multiwell), bitumen satellite (multiwell) (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner, occupants
Notify	Crown disposition holders
Injection/disposal facility (water or enhanced oil recovery (EOR)), custom treating facility, straddle plant (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner, occupants Residents within 500 m
Notify	Landowners and occupants within 1.5 km Crown disposition holders
Gas processing plant, gas battery (single or multiwell), oil battery (single or multiwell), compressor station (Category C facility) Less than 1 tonne per day of sulphur inlet	
Consult	Landowner, occupants Residents within 1.5 km
Notify	Landowners and occupants within 2.0 km Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders
Oil satellite (single or multiwell), bitumen satellite (single or multiwell) (Category C facility) Less than 1 tonne per day of sulphur inlet	
Consult	Landowner, occupants
Notify	Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders
Gas processing plant, gas battery (single or multiwell), oil battery (single or multiwell), bitumen battery (single or multiwell), compressor station (Category D facility) More than 1 tonne per day of sulphur inlet	
Consult	Landowner, occupants Residents within 1.5 km
Notify	Landowners and occupants within 3.0 km Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S)
Oil satellite (single or multiwell), bitumen satellite (Single or multiwell) (Category D facility) More than 1 tonne per day of sulphur inlet	
Consult	Landowner, occupants
Notify	Crown disposition holders Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S)

Natural gas or oil effluent pipeline (Category B or C Pipeline)	
Non-sour or sour service (up to 10 mol/kmol H ₂ S)	
Consult	Landowners and occupants on the <i>right-of-way</i>
Notify	Residents within 200 m (for larger pipelines) Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders
Pipeline tank farm, oil loading/unloading terminal, compressor station, pump station (Category B Pipeline)	
Pipeline downstream facilities	
Consult	Landowners and occupants on the right-of-way Residents within 500 m
Notify	Landowners, occupants within 1.5 km Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders
Natural gas or oil effluent pipeline, high vapour pressure (HVP) pipelines (Category D Pipeline)	
Level 1 – 4 gas pipelines (more than 10 mol/kmol H ₂ S)	
Consult	Landowners and occupants on the right-of-way (and within 100 m for Level 2, 3, 4 natural gas pipelines)
Notify	Landowners, occupants and residents within 500 m (and within 1.5 km for level 3 or 4 pipelines, or within 200 m for HVP pipelines) Residents within the Emergency Planning Zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders

This is only a summary of information relevant for rural residents and landowners, and is not exhaustive. To ensure the accuracy of these requirements and for other consultation and notification requirements, refer to the most updated version of Directive 056.⁹

2.1.2 Involvement by others

The notification radius for a given project is only a minimum; the industry itself is expected to determine if more people in the area have an interest and should be involved.¹⁰ People living outside the consultation or notification radius, or beyond the proposed emergency planning zone (in the case of a sour gas related project), may also have concerns. A company must try to deal with all questions, concerns and objections during the public involvement process before they file their application, even if the objections are from people considered outside the minimum radius or likely to not be

⁹ AER, Directive 056, tables 5.1, 5.2, 6.1, 6.2 and 7.1.

¹⁰ AER, Directive 056, section 2-2.

considered directly and adversely affected.¹¹ A company may reach a broader public by holding an open house or other public meeting, and advertising it in the local media. An open house can last several hours, giving members of the public the chance to come at any time and potentially meet one-on-one with company representatives. The same information should be provided as the people in the participant involvement program received, such as the specific details of the project application. While they let you view the company's displays and ask their staff questions, open houses do not always provide the best opportunity for you to learn about the concerns of others in your community. If possible, ask the company to host a public meeting where everyone can ask questions and hear the company's response together.

If you are not directly notified by a company about development, you may find out about a project before an application is submitted by talking with your neighbours, looking for survey stakes, or seeing public notifications posted in local newspapers. You can also review mineral lease sales maps to see which companies have purchased mineral leases in your area.¹²

2.1.3 Addressing your concerns before the application

In order to receive an *expedited* project approval, the company has to confirm for the AER that consultation with the required parties has taken place and that they have dealt with the concerns of those who have been notified and/or consulted on the application, and of any others outside these groups who have concerns that the company is aware of. If the company is not obligated to notify you at this stage of the process and isn't engaging with you in consultations, you can still submit a 'pre-application concern' through the AER's stakeholder engagement specialists.¹³ This notifies the AER that there are outstanding concerns and should ensure the company engages with you, all in the time period before an application is submitted to the Regulator.

If there are any outstanding objections to their plans, or the company was not able to secure a surface lease or a confirmation of non-objection from the required persons, stating that they have no outstanding concerns, the company must notify the AER and

¹¹ AER, Directive 056, section 2.3.3.

¹² This map is quite primitive and can be difficult to load and navigate. It is recommended you use Internet Explorer or Firefox as a internet browser. You can zoom into your region to see which leases are nearby. Alberta Energy, "Interactive Maps".
<http://www.energy.alberta.ca/OurBusiness/1072.asp>

¹³ Different than the standard AER contact lines: stakeholder.engagement@aer.ca

file a *non-expedited* (also known as a *non-routine*) *application*, which includes a summary of the outstanding concerns or issues.¹⁴ Additionally, the AER may require the application to be filed as non-expedited for technical reasons. If the company enters the non-expedited or non-routine process, the AER will not make a decision on the application until the statement of concern filing deadline has passed.¹⁵

Even if you have submitted a pre-application concern, you must submit a statement of concern when the company files their application, as the pre-application is not considered as part of the decision. The AER will then review the problems and decide whether to issue a licence, encourage a dispute resolution process to find a solution between the two parties, or hold a regulatory hearing. If the application was submitted as a routine application, the notice of application may not include a filing deadline for a statement of concern, and you should expect that the AER will make a decision on the application quickly. If the AER makes a decision before you can submit your statement of concern, you can ask the Regulator to reconsider its decision (Section 11.1.9), or request a regulatory appeal (Section 11.2).

For more information on submitting a statement of concern, see Section 2.5 below.

2.1.4 Specific concerns to raise

If you think that operations could affect your water supply, you should ask the company to complete a comprehensive water test before development starts, with a test immediately after *drilling* has finished and six months after. These tests should be followed by documented annual tests and inspections of your water sources (Sections 8.4.1 and 8.4.2). Specify what you would like to be tested, to ensure that the testing covers the types of contaminants that may affect you. This will likely differ for each region, underlying geology, company and technology. Some basic tests may not be comprehensive enough to identify contaminants of concern, so it is best to do your research and ask for advice. If you are worried about health effects of air emissions from a nearby *flare* (Section 8.2), you may be able to ask the company to install more efficient technology, or capture additional gas that the Regulator does not require them to *conserve*. For any concern, you should file a pre-application concern, followed by an official statement of concern once the application has been submitted.

¹⁴ AER, Directive 056, Section 2.3.3.

¹⁵ The statement of concern filing deadline is listed in the Notice of Application, but may be up to 30 days from when the application was submitted to the Regulator.

People are sometimes concerned about the proximity of sour gas developments to their homes due to impacts to their health and safety (Section 4.6.2), or decreasing property values.¹⁶ Companies are required to define an emergency planning zone around a sour gas development. The size of the zone depends on the concentration of hydrogen sulphide (H₂S) in the gas and the release rate of the gas. Landowners and residents within the zone must be consulted and notified during the development phase, and must be notified if impacted during any sour gas event. Companies must also collect names of susceptible residents so that these can be given early notification of any emergency and evacuated before a general evacuation is called (Section 4.6.1 and Section 7.2).¹⁷ See Section 4.6 for more information on emergency response plans.

The AER has improved their proliferation requirements to limit excess sour gas developments. Before a company applies to construct a new pipeline or processing facility, it must contact other *operators* in the area to investigate whether it is feasible to upgrade a facility or form a partnership with existing operators instead of constructing a new facility.¹⁸ During the consultation and notification period, you can ask the company how it plans to meet these AER requirements.

2.1.5 Notification after application submission

A Public Notice of Application must be made for all applications submitted to the AER. Depending on the project, this may be advertised in your local newspaper or through some other form. The Notice of Application includes details and supporting documentation about the project such as the nature of the activity applied for, the legal land location, contact details for the company, and the deadline for filing a statement of concern. Applications will be available to view at the AER's Public Notice of Application tool¹⁹ for 30 days after the date they were filed, even if a decision was made on the

¹⁶ Peter Boxall, Wing Chan and Melville McMillan, "The Impact of Oil and Gas Facilities on Rural Residential Property Values: A Spatial Hedonic Analysis," *Resource and Energy Economics*, 27 no. 3 (2005). <https://ssrn.com/abstract=894562>

¹⁷ For information on who is consulted and who is only notified, see AER, Directive 071, section 4.3.

¹⁸ AER, Directive 056, section 5.9.3.

¹⁹ AER, "Public Notice of Application." [http://search.aer.ca/pnoa-en/search/theme/pnoa?fq\[\]=feed_str:all&sort=recent](http://search.aer.ca/pnoa-en/search/theme/pnoa?fq[]=feed_str:all&sort=recent)

application before 30 days.²⁰ A company is also expected to send the notice of application to anyone who has raised concerns about the project. You may also find additional information about a project before or after it is approved on the Integrated Application Registry.²¹

The AER publishes various notices and decisions on its website, and there are several places where you may find information about an application. For more information about the AER website, see Section A.2.6.

2.2 Direct negotiations with a company (for issues other than compensation)

As a landowner or member of the affected public, it is advisable that you try and resolve issues with a company in a non-adversarial manner, even if you don't agree with the proposed project. This is the best attitude to have when starting negotiations, and will increase your credibility with the AER should negotiations fail and dispute resolution is pursued. Entering the conversation with a more adversarial approach may make it harder for you to successfully negotiate any terms you wish to include and potentially lead to a less-than-ideal outcome for you.

Depending on the type of development proposed for your land, you should closely consult the relevant section in this guide (See Section 4 for oil and gas wells, Section 5 for pipelines, or Section 6 for batteries, gas compressors and other facilities) to ensure you fully understand the potential implications. Each section has a series of questions for you to ask the company. You should be careful to consider the potential worst-case impacts, and try to negotiate with companies to ensure that these are minimized or negated.

Many times the company will approach you with a standard lease agreement, but you should take the time to negotiate additional clauses to protect yourself from impacts you identify. For example, if you are concerned about the impacts of increased traffic, you can negotiate to have the company plant trees along the road of concern to act as a windbreak and protect you from dust. If the company plans to flare, you can negotiate

²⁰ Expedited, also known as routine applications, do not have a deadline for a statement of concern, but the Regulator may make a decision as soon as they have been processed by the AER.

²¹ Alberta Energy Regulator, "Integrated Application Registry."
https://dds.aer.ca/iar_query/FindApplications.aspx

to ensure the company gives you additional advance notice of each flaring event, or notice of flaring in the case where you otherwise may not have been notified.

When negotiating with a company, keep the following in mind:

- Keep track of all the time you have spent on the negotiation process, including researching the company or project, attending meetings, or dealing with anything related to the impacts on your property. It helps establish how you are directly affected, and the cost of your time to remain engaged. (See sample cost tracking table in Appendix D.)
- Take some time before negotiations start to outline the most critical issues for you, and your bottom-line objectives in a negotiated agreement.
- For successful negotiation, both parties must be able to obtain some of their objectives and be willing to reach an agreement. Recognize that some give and take may be necessary, especially since not cooperating may shut down conversations and be counterproductive in protecting your interests.
- Be polite. Even if you disagree with what the company is doing, or with your neighbours' actions, it does not help to be adversarial.
- Get everything in writing. This applies both to individual landowners, who should include everything that is agreed to in the lease agreement, and to others who are not actually leasing the land. If you have a verbal agreement or telephone conversation with a company representative, ask them to confirm it in writing. At the same time, write down what you believe has been agreed to, and if the company does not send you its own written statement, ask the representative to confirm your record of what was said. The representative can endorse your record by putting their signature on it. If they will not do this, you will have to continue negotiating. You might need to give a copy of this correspondence to the AER (or, in some cases, the Surface Rights Board) if negotiations later fail or if it represents a change from what the company initially negotiated for.
- Ask the company to explain anything you do not understand. If something they have written is ambiguous, ask for written clarification. If the company does not provide it, contact the AER or other regulatory body and ask them to get clarification for you.
- Keep your own record of all telephone conversations with the company and with the regulators.
- Be persistent. If the company does not respond to your concerns the first time, keep asking.

- If, as an individual landowner or group, you find that direct negotiations with a company are not progressing, consider using the Alternative Dispute Resolution process (Section 2.4.1).
- Continue to negotiate where possible even if the Alternative Dispute Resolution process has not worked and a hearing has been called. The company may be prepared to compromise rather than incur the costs and delays of holding a hearing. Of course, it is also important to remember not to get involved in argument and not to make threats, as this may undermine your credibility and effectiveness in the negotiations.
- Avoid any deal that makes agreement on all of the issues of concern conditional upon your agreeing not to participate in a hearing. Occasionally it may not be possible to resolve all issues. However, a public hearing will be shorter and more focused if some issues have been eliminated. This benefits all the parties involved: you, the company and the AER.
- Decide if it is better to negotiate as a group. Suggestions for setting up a group are given in Section 2.7.
- Remember that the land agent is only a representative of the company, and cannot bind the company unless the company agrees to terms.

2.3 Signing the lease agreement

If you do not object to the project plan, or all your issues have been resolved and you decide to withdraw any objection, you, as a landowner, will be ready to sign the lease agreement. You would likely benefit by seeking advice from a lawyer or surface rights consultant before you sign, if one has not already been involved during negotiations. These expenses are usually considered reasonable, and you should ensure the company compensates you for these costs.

Be sure to read the agreement carefully and study the map of the survey that outlines the area where the company wants access. Never sign a lease without first reading the lease agreement, even if you have discussed the details with the land agent. You will be committing your property to a project that may have implications on your land for decades, so it is important to ensure, to the best of your ability, that the lease agreement protects the interests of your family and your neighbours and the health of your land for as long as the project will exist. See Section 4.5 (for oil and gas wells), Section 5.3 (pipelines and right-of-way) and Section 6.5 (for batteries, gas compressors, and other facilities) to help ensure you are asking the right questions to protect your interests.

Before signing a lease, read Section 10 (Compensation and Surface Rights Access).

A land agent is required to leave a copy of the proposed surface lease or right-of-way agreement with the *owner* for at least 48 hours (excluding holidays) for review before negotiations can resume.²² An owner is defined as anyone who has the “right to dispose of an interest in land” and includes:

- the fee simple owner
- a person who has a registered interest in the land (includes a person who has an interest in Crown land)
- anyone who is in possession or occupation of the land.²³

However, a company may ask if you wish to sign a waiver, so that you can sign the agreement straight away. It is highly recommended that you take the 48-hour period to review the proposed agreement. If you sign the waiver and the agreement without taking the 48 hours to review it, you should be absolutely sure about all aspects of the lease agreement and should have resolved all issues. If you need more than 48 hours to study the agreement, advise the company and take it.

At least 48 hours after the proposed agreement was given, the company could apply for a licence from the AER and then a *right-of-entry order* from the Surface Rights Board. Before the company applies for a right-of-entry order, according to the Land Agent Licensing Regulation, the land agent must resume or attempt to resume negotiations after the 48-hour period.²⁴ However, in practice, the company may not attempt to resume negotiations with you. When applying to the Surface Rights Board, the company will refer to the last offer (not necessarily the last best offer), and the reasons why it was refused.

If there are outstanding concerns, the AER will encourage companies and landowners to use dispute resolution to try to reach an agreement before filing an application. Even if the company files an application, it will take some time for the company to get a licence or a hearing, during which time negotiations can continue.

²² See Alberta, Land Agents Licensing Act, RSA 2000, c L-2, s 17.

http://www.qp.alberta.ca/1266.cfm?page=L02.cfm&leg_type=Acts&isbncln=9780779774609

²³ See Land Agents Licensing Act, s 1(f).

²⁴ Alberta, Land Agents Licensing Regulation, 227/2001, s 9.

[http://www.qp.alberta.ca/1266.cfm?page=2001_227.cfm&leg_type=Regs&isbncln=978077976846](http://www.qp.alberta.ca/1266.cfm?page=2001_227.cfm&leg_type=Regs&isbncln=9780779768462)

Remember that the agreement is written by the company and has their interests in mind, so you should study it carefully to make sure it meets your needs. The company will probably use a lease based on the one issued by the Canadian Association of Petroleum Landmen. There are different versions of this lease agreement and, even if it looks similar to one you have signed before, it is important to read it completely. If you do not agree with any clause, get advice (see below), discuss it with the land agent, and decide if you need to amend it or strike it out. A lease agreement should say exactly what the company is required to do, as this will reduce problems later. It would be wise to add an addendum to your agreement with additional clauses to address actions the company will be required to do as per your negotiations.

The lease agreement may include a clause that will allow the company to reduce the annual lease rent once surface structures have been removed from the site and the site *reclaimed*, but before the *reclamation certificate* has been issued. The Surface Rights Act makes no provision for such a reduction in compensation so you are not obliged to agree to such a clause.

Some, if not most, agreements may have an additional “delay” clause that would allow the company to drill any time up to 365 days. This may mean that payment will not be paid until the company actually enters the property to drill.

Registering your agreement (Private Surface Agreement Registry)

Once a lease agreement is signed by both parties, it becomes a binding legal agreement on the current owner and all future owners of the land, if it is assigned to them.²⁵ The company will register the lease agreement with the Land Titles Office. You should make sure to register your written contract with the AER as a *private surface agreement* (PSA) on the Private Surface Agreements Registry.²⁶ Although this will require you to disclose the amount of compensation you agreed to, the AER does not review the terms or details of the agreement unless there is a request for an order to comply by an owner or occupant of the land (known as a Section 64 request). Additionally, if you enter into a new agreement with a company, you may also register it.

²⁵ Land may sometimes be sold without including the rights associated with the surface lease. In this case, the former landowner, not the new purchaser, receives the surface rights payments from the company.

²⁶ AER, “Private Surface Agreements Registry.” <http://www.aer.ca/applications-and-notices/private-surface-agreements-registry>

Confidentiality

You **should not** agree to a confidentiality clause with the company in your surface rights agreement. While this clause will not prevent you from registering the agreement on the PSAR (the Responsible Energy Development Act²⁷ allows agreements to be registered even if a confidentiality provision exists)²⁸, such a clause will prevent you from speaking out about any concerns you may have, publicly or even just with your neighbours.

Getting advice

If you, as the landowner or occupant, are uncertain about any of the terms of the lease, it is important to get advice; you can contact your lawyer, the Farmers' Advocate Office (Section A.4), a landowner or surface rights consultant, the Alberta Surface Rights Federation (Section B.4.3), or other landowner groups or associations in your area (Section 13).

If you have outstanding concerns about the well site or operation you should not sign the agreement and should contact the AER (Section A.2). The company must have the landowner's approval of the location before it can obtain a drilling licence from the AER without applying for a right-of-entry order (Section 10.3), so the AER needs to know if there are problems. Companies must operate in an environmentally and technically acceptable manner, interfering as little as possible with the use of the land, but the AER staff cannot ensure this unless they are alerted to potential problems by the landowner.

While most rights of entry are negotiated directly with the landowner, some landowners join a surface rights group in an attempt to bargain collectively. The Alberta Surface Rights Federation (Section B.4.3) will tell you if there is a group in your area. Some people join *synergy groups*, where government, industry and landowners come together to deal with issues (Section 2.6). The AER can tell you if there is a synergy group in your area or you can check the Alberta Synergy website.²⁹

²⁷ Alberta, Responsible Energy Development Act, SA 2012 c R-17.3, s 64 (2).

http://www.qp.alberta.ca/1266.cfm?page=r17p3.cfm&leg_type=Acts&isbncln=9780779784073

²⁸ AER, "Private Surface Agreement Registry Q & A." <https://www.aer.ca/about-aer/what-we-do/q-and-a-psar>

²⁹ Synergy Alberta, <http://www.synergyalberta.ca>

2.3.1 Enforcing the lease

If an issue arises from the surface agreement and you believe the company has failed to comply with a term or condition in your agreement, you can file a private surface agreement with the AER (described above), and submit a section 64 request under the Responsible Energy Development Act (REDA) (Section C.1). After receiving the request, the AER will forward a copy to the company who will be asked to respond. If the Regulator determines that the company has not complied with the conditions of the agreement, the Regulator can order the company to comply.³⁰ For more information see the AER's *EnerFAQs: How to Register a Private Surface Agreement*.³¹

If a company fails to comply with the terms of the lease agreement, and you do not have a registered private surface agreement, you should still inform the AER. This includes telling the AER if the company ignores a special condition that was agreed to in writing between you and the company.³² Even if the complaint falls outside the jurisdiction of the Regulator, they will help determine whether the company is in compliance with the regulations, and what route is best to help pursue your concerns with the company.

2.4 Alternative dispute resolution

2.4.1 Working with the Alberta Energy Regulator

If you need help with negotiations, you can ask the Alberta Energy Regulator (AER) to facilitate your meetings with land agents or company representatives. They have trained staff who can act as facilitators at everything from informal “kitchen table” meetings to more formal discussions between you and the company.

If direct negotiations fail, parties can use the Alternative Dispute Resolution (ADR) process. The ADR process is an alternative to the hearing process, which can be

³⁰ Alberta, Responsible Energy Development Act.

³¹ AER, *EnerFAQs: How to Register a Private Surface Agreement* (2015). <http://www.aer.ca/about-aer/enerfaqs/enerfaqs-psa>

³² Occasionally it may be possible to request a hearing by the AER, if the issue relates to a matter that the Regulator might have written into a licence, had there been a hearing. For example, if the company agreed in writing not to test a well by flaring, but then conducts a flare that causes harm, you may ask the Regulator to conduct a hearing under section 39 of the Energy Resources Conservation Act.

expensive and require a considerable time and financial commitment from all parties. The process may be used for any disputes related to energy development in Alberta (projects under the jurisdiction of the National Energy Board use a similar process, see Section 2.4.2.). The ADR process may involve *facilitation*, *mediation*, negotiation, *arbitration* or a combination of these strategies (see Appendix E Glossary for definitions). The ADR process isn't limited to issues within the jurisdiction of the AER, so in some cases this process may enable a broader range of issues and resolution than what the AER can typically regulate, such as compensation. The process can be used at any point in the project life cycle, from the project planning phase until after the project is complete. Typically, the ADR program is voluntary, unless required by hearing commissioners after an application has been recommended for a hearing.

The AER will attend ADR meetings to facilitate and provide regulatory and other information, or act as mediators or negotiators. Mediation is helpful when situations are too complicated or controversial to be settled through facilitation alone. Mediation is usually provided by trained AER mediators; however, in some cases the AER may recommend, or you can request, a neutral third-party mediator who has experience with the energy industry. Those involved in a dispute can select an external mediator, either from the list on the AER website,³³ or from the ADR Institute of Alberta (Section B.1.2).

Before full mediation through the ADR program is pursued, negotiating parties should consider engaging in a preliminary Alternative Dispute Resolution (PADR) meeting. This preliminary meeting will decide who will take part in the discussions, the issues to be discussed, how the mediator will be selected, the role of advisors (such as AER staff, lawyers and technical experts), what options are available to resolve the dispute, and how costs will be allocated. One of the principles of the PADR program is that the industry participants should cover the nominal costs of the preliminary meeting, including direct third-party costs incurred by landowners and public. Anyone considering using PADR or ADR should read the AER's guidelines.³⁴

³³ AER, "ADR Third-Party Mediators." <https://www.aer.ca/applications-and-notice/adr-third-party-roster>

³⁴ AER, *Manual 004: Alternative Dispute Resolution Program and Guidelines* (2013). <https://www.aer.ca/documents/manuals/Manual004.pdf>

The AER's Alternative Dispute Resolution process has existed in some form or another since the early 2000s. In 2014, the ADR program resolved 90% of its cases fully or partially.³⁵

If you want to work in good faith to resolve issues with the company, but it seems that negotiations may be lengthy and involve considerable time reviewing and writing documents, it is not unreasonable to ask the company to provide partial or even full compensation. When a company reimburses some or all of the costs, individuals and groups can be more effectively involved in the process, and the company demonstrates that it is willing to cooperate and shoulder the responsibility for inconveniencing landowners.

Although there are no formal cost recovery guidelines, the AER works with parties to determine cost recovery. You should ensure that you agree in writing with the company what they will cover for costs. Usually, the AER will facilitate this conversation at the beginning of the ADR process (such as the preliminary ADR meeting), to ensure that costs do not remain the focus of the conversation for too long. Like the cost recovery program in the hearing process, costs might include your time and expenses, such as long-distance telephone charges and photocopying. If travel is involved, mileage, meals and accommodation costs should be recorded. Where possible, receipts should be obtained for all the expenses, and you should keep track in writing the time needed for all discussions, meetings or research. In the case of small groups and coalitions, it may be best to ask the company to pay the group for time involved, leaving the group to allocate the fund based on the relative contribution of time from its members.

You may want to get a sense of the company's past compliance history, as a good track record may give you more confidence in the outcome of negotiations and the project as a whole. You can view their publicly available compliance record on the AER's Compliance Dashboard.³⁶ The compliance dashboard will include more recent incidents under the AER, but you may need to contact the AER Inquiries line to get a more complete history. You can also contact Environment and Parks information services, which may be able to give you a summary of a company's environmental compliance record before the creation of the AER. Although the AER boasts a high compliance

³⁵ AER, *ADR Annual Summary for 2014*. <http://www.aer.ca/documents/reports/ADRAnnualReport-2014.pdf>

³⁶ AER, "Compliance Dashboard." <http://www1.aer.ca/ComplianceDashboard/index.html>

rate,³⁷ much of the enforcement system relies on self-reporting and it is not unheard-of for companies to breach, unintentionally or otherwise, rules and requirements.

It is important to know that the ADR process is confidential. This allows parties to speak freely, and to determine appropriate solutions to the issues at hand without being hampered by concerns about confidential information being shared outside the group. However, this may limit your ability to speak about some of your issues in public, including in subsequent hearings related to the conversation, or to share with your neighbour for their conversations with the same company. All parties to the ADR process must agree to allow any resolutions from the process to be unbound by the ADR confidentiality clause in order for you to speak publicly about it.³⁸

If the application has been submitted, yet you feel that a company is not seriously trying to minimize potential impacts, you can ask the AER to hold a hearing by submitting a statement of concern after the application has been submitted to the Regulator (Sections 2.5 and 11.1). If a hearing is recommended, but the hearing commissioners feel that you have been less than cooperative in trying to resolve the issue outside of a hearing, they have the power to deny you cost reimbursement for the hearing process. Therefore, you should make a reasonable effort to address your concerns through negotiation or the ADR process before deciding to pursue a hearing.

2.4.2 Working with the National Energy Board

If there are difficulties concerning the location of an interprovincial pipeline, timing and method of construction, or protection of the land associated with that pipeline, you and the company can use the National Energy Board (NEB) Appropriate Dispute Resolution process (which is a similar process to the AER's Alternative Dispute Resolution process, discussed above).³⁹ You and the company can also use this dispute resolution process, if you wish, to discuss the amount of compensation to be paid for the use of land or damage caused by construction or maintenance of the pipeline. However, as the NEB does not have a mandate to decide compensation, if the company

³⁷ AER, "How does the AER Regulate the Oil and Gas Industry?" 2015. <https://www.aer.ca/about-aer/spotlight-on/unconventional-regulatory-framework/how-does-the-aer-regulate-the-oil-and-gas-industry>

³⁸ Alberta, Alberta Energy Regulator Rules of Practice, 99/2013, s 7.7. http://www.qp.alberta.ca/documents/Regs/2013_099.pdf

³⁹ NEB, *Appropriate Dispute Resolution: Guidelines* (2003). <https://www.neb-one.gc.ca/bts/ctr/gnnb/pprprtdsptrsltn/2003adrguidelines-eng.pdf>

and landowner cannot come to an agreement using the NEB process, they have to ask the Minister of Natural Resources to appoint a negotiator or an arbitration committee. The arbitration committee can, among other things, decide whether the company must pay compensation in a lump sum, or as annual or periodic payments.⁴⁰ If the NEB Appropriate Dispute Resolution process fails, matters will be dealt with at an NEB hearing (Section 11.4).

More information about the NEB, pipeline regulations, and your rights as a landowner can be found in the NEB landowner's guide.⁴¹

2.5 When the application is filed: submitting a statement of concern

If negotiations have failed and you want the AER to formally address your concerns (other than compensation) after the company has submitted their application, the next step is to submit a statement of concern to the AER. If the AER is aware of any outstanding concerns, the company is required to submit their application through the non-expedited process, and the AER will not make a decision on an application until after the filing deadline outlined in the notice of application has passed.⁴² The notice of application will also outline other relevant information about the proposed project, and what you specifically need to address in your statement of concern. Companies are expected to send the notice of application to anyone who has outstanding concerns from the pre-application process. For example, anyone who submitted a pre-application concern should receive a notice of application. It is important for you to submit a statement of concern at this stage of the process if you want to trigger a formal process and ensure your concerns are still considered by the Regulator, because the Regulator is very unlikely to recommend an application for a hearing if no statements of concern have been submitted.

⁴⁰ Canada, National Energy Board Act, SC 1985, c N-7, s 98. <http://laws-lois.justice.gc.ca/eng/acts/n-7/FullText.html>

⁴¹ NEB, *Pipeline Regulation in Canada: A Guide for Landowners and the Public* (2010). <https://www.neb-one.gc.ca/prtcptn/Indwnrgd/index-eng.html>

⁴² Notice of applications are found on the AER website, and may also be issued in public newspapers in your area.

When submitting a statement of concern, you need to concisely explain why you believe you are both directly and adversely affected by the Regulator’s decision; the nature of your objection to the application; and the outcome you are looking for.⁴³ To try and ensure the AER accepts your statement of concern and your request for a hearing, you should clearly establish the connection between the concern you’d like addressed, and how it may negatively impact you. It is helpful to be precise, and to “spell it out” for the AER. What may seem like an obvious connection between the project and the issue of concern won’t necessarily be obvious to those reviewing your statement of concern, and the AER won’t consider facts that aren’t brought before it. Include all relevant details to establish why the project or a specific element of a project is connected to the concern you are expressing. For example, if you are concerned about flaring, it may help to include a map that outlines where the potential flare stack may be located in relation to your house, where you spend time in your garden, where animals are located, or where your children play outside. If you believe that the close proximity of the project to where you spend your time will exacerbate a health issue, clearly outline this.

In addition to the details about your concern, you need to include other relevant details, such as your contact information and your location relative to the location of the proposed energy resource activity. It is important to submit your objections within the filing period. The AER will consider your statement of concern when reviewing the application, and, if your statement of concern meets the requirements, assess whether it will hold a hearing.

You can review recent participatory and procedural decisions from the AER on their website. You will likely only find decisions on statements of concern that have not been recommended for a hearing,⁴⁴ but these may give you a good sense of how the AER decides who is directly and adversely affected as these decisions briefly outline the reasoning for not recommending the application for a hearing.⁴⁵ Currently, the AER has a fairly narrow interpretation of who is directly and adversely affected — typically people who are not the direct landowners or immediately next to a project have a difficult time establishing that they are directly and adversely affected.

Statements must be submitted in writing; calling the Regulator does not count as submitting a statement. Statements of concern must be submitted individually by each

⁴³ Alberta Energy Regulator Rules of Practice, s 6(1).

⁴⁴ This is the current practice of the AER at time of writing.

⁴⁵ AER, “Participatory/Procedural Decisions”. <http://www.aer.ca/applications-and-notices/decision-reports/participatory-procedural-decisions>

concerned party, or as a single submission on behalf of a group by one designated representative under the group name (see Section 2.7 below for more information on working with groups).

You must submit your statement within 30 days of the notice of the application, or by the date specified in the notice (which will be less than 30 days). The AER must wait for the period for filing a statement of concern to pass before they will approve a project, unless a project is submitted as a “routine application”. Companies are allowed to fill a routine application if they do not require regulatory leniency, and if there are no outstanding concerns.⁴⁶ If the Regulator does not receive any statements of concern, they likely will not hold a hearing. If the Regulator has already made a decision on an application, then they may not consider a statement of concern, so it is important to submit your statement as soon as possible.⁴⁷

Any statement of concern you submit will become part of the public record, so you should not include personal, medical, financial, or other information that you wish to remain confidential. If you have information that may aid in making your case that you are directly and adversely affected but that you wish to keep confidential, it may help for you to indicate that this additional relevant information is available but confidential and that you would reveal it to the Regulator at a later time. You may wish to contact the AER’s stakeholder engagement team to determine the best way to include this information.

Consult the AER’s *EnerFAQ: Expressing Your Concerns* for more information about statements of concern.⁴⁸

If the project is already approved and it is too late to submit an official statement of concern, you can submit a request for a Regulatory Appeal or a request for an reconsideration (see Section 11.2 or 11.1.10).⁴⁹

⁴⁶ Exceptions, including routine applications, are described in Alberta Energy Regulator Rules of Practice, s. 5.2(2).

⁴⁷ Alberta Energy Regulator Rules of Practice, s. 6.2(1c).

⁴⁸ AER, *EnerFAQs: Expressing Your Concerns* (2015). <http://www.aer.ca/about-aer/enerfaqs/enerfaqs-expressing-your-concerns>

⁴⁹ AER, *Upstream Oil and Gas Facility Complaint Form*. http://www.aer.ca/documents/liability/Complaint_form.pdf

2.6 If all dispute resolution fails

Sometimes it is not possible to reach agreement, even through a combination of negotiation, facilitation, or mediation. If this is the case, the company or landowner can ask the AER to consider holding a hearing (Section 11), or apply for a right-of-entry order through the Surface Rights Board (described in more detail in Sections 10.3.1 and 11.3.1)

If you are thinking about asking the Regulator to hold a hearing, you need to have strong evidence of the damage that an energy development could potentially cause you or your family, or reasons why it is not in the public interest to allow the project to proceed. While the AER has rarely prohibited a development, it may attach conditions to licences that address concerns that the hearing board had with the application. You will likely get a more satisfactory resolution of problems if you try to negotiate and then, if necessary, ask the AER to facilitate or arrange mediation through the ADR process, rather than do nothing and simply refuse access.

Occasionally a landowner may be so strongly opposed to a proposed development that they are unwilling to attempt negotiation. If that is the case, it is important to consider the implications. If a landowner refuses to negotiate and makes it clear from the start that “No means No,” the company will inform the AER when they submit their application. The AER may suggest that the landowner should negotiate with their facilitator or with a third-party mediator, but if this is still unsuccessful, the company may ask the AER for a hearing. If a landowner has not tried to resolve the issues through negotiation or explained to the AER why any anticipated *adverse effects* cannot be handled through negotiation, the AER may dismiss the objection and approve the application without a hearing. If a hearing is triggered, the hearing panel may not grant costs to the landowner if they believe that the issue should have been dealt with through the ADR process. Thus, before taking this stand it is crucial for a landowner to consider their chances of securing all of their demands at a hearing, given the fact that the AER has made very few decisions that actually prohibit development.

If, after weighing the above considerations, you do decide to fight an application, you will need to make a strong case. You may also want to garner the support of as many surrounding neighbours as possible. Each person should write a clear statement of concern to the AER, sending a copy before the deadline to the AER, as outlined in the Notice of Application. Copies should also be sent to the company proposing the development, the relevant MLA, the energy and environment critics for opposition parties, and relevant media. If the application is non-routine (for example when there

are outstanding issues that the operator has identified), you should have 30 days to submit a statement of concern, in which you can suggest that the project be considered by a hearing. The AER has full discretion for when a hearing is triggered, but is most likely to decide to trigger a hearing when one or multiple parties, considered by the Regulator to be directly and adversely affected, makes their case that the issue is best resolved by hearing.

Adequate preparation for a hearing, including obtaining legal counsel and arranging appropriate technical expert witnesses, is essential; Section 11 provides more information on hearings.

2.7 Forming a group with landowners and concerned citizens

Working as a group with other landowners and concerned persons and sharing your time, energy and knowledge can strengthen your position when negotiating with a company or taking part in a dispute resolution process.

If you have concerns about the proposed development that have not been resolved in initial discussions with the company, you may want to get in touch with your neighbours. Inform them about the proposed project and invite them to join you if they share similar concerns. This may involve no more than arranging to attend an open house together or negotiating with the company as a group.

In addition to forming a group to work on your local issue, it is a good idea to find out if there is a group working on oil and gas related issues in your region. Regional groups may have a specific or unique mandate, and some may have affiliations with other organizations such as surface rights groups. For example, it might be worthwhile to contact your local airshed group, if you have concerns about the impacts of flaring.

Local and regional groups and individuals also participate in synergy groups. The AER and the Canadian Association of Petroleum Producers encourage the development of synergy groups, where local people work together with representatives of the government and companies to exchange information and resolve issues. There are dozens of synergy groups in Alberta; you can find out if there is one in your area by contacting the AER or checking the Alberta Synergy website.⁵⁰ The Alberta Surface

⁵⁰ Synergy Alberta. <http://www.synergialberta.ca/>

Rights Federation can tell you if there is a surface rights group in your area. Appendix B provides contact information for various organizations and groups that can offer advice.

Starting a group

If you decide to form a new group, contact as many people as possible, especially if you would like to influence the details of a project before they are finalized, or if you plan to submit a statement of concern when the company files their application with the AER. You may find some people reluctant to join, even if they have concerns about a project, because they do not want to create a fuss or are afraid of potential implications of being vocal about their concerns. Others who do not understand the issues might join if you take the time to explain. Some may assist behind the scenes, even if they are unable to play a public role. Always respect the views of others; you want to find allies, not create enemies. Be aware that you might face backlash, perhaps from neighbours who stand to gain financially from the proposed activity. Remain calm and recognize that there will be opposing views within any community, especially surrounding the potential issues with oil and gas development.

Once you have a core group committed to working on the issue, you need to list your concerns and decide how you want them addressed. It is best to start by negotiating directly with the company, preferably in face-to-face meetings (Section 2.2). It may help to have a facilitator or mediator to help with these discussions. However, if negotiation through the ADR process is unsuccessful, you may want to hold a public meeting, contact public figures, start petitions or bring your grievances further into the public sphere by engaging the media (Section 2.8).

In some cases, the AER and the company will encourage you to negotiate as a group. If you negotiate as a group, consider engaging a single representative or advocate for the group as a whole, so that they can advocate for a cohesive approach. This may be difficult if you don't share the same concerns as other people, but it is likely in everyone's best interest to agree on common issues and what you would like to be done. However, companies have at times discouraged groups from negotiating together, saying that they prefer to work with individual landowners so that they can address specific issues. If you wish to ensure that the company negotiates with your group, it is important to have a clear idea of what solutions are possible for your concerns, and to maintain a sense of professionalism about the process to ensure that the company takes your group seriously.

When you form a group, it is not essential to establish a formal organization, such as a legally chartered society or association. Working through the legal and bureaucratic

steps of establishing a society can take a lot of time and energy away from the key task of dealing with the proposed energy project. Since you will need to provide an address for correspondence with the AER and company, identify individuals who can act as contacts for the group and someone to be responsible for handling any money collected.

While it isn't necessary, there are some benefits to establishing a formal organization. In the unlikely event that a company decides to sue, they will likely sue the organization rather than individual citizens; the organization may become bankrupt but not its individual members.

In the future, the AER may move to more regional approvals, approving large projects or multiple projects at once rather than approving projects one by one. In these instances, it will likely benefit people in the area to coordinate together to amplify any concerns they have with the approvals, outcomes or process. Although this AER approval process is in its preliminary stages, if the AER does begin approving projects using an area-based or regional-based process, coordinated groups from the project area will become even more important.

Meetings

If a group has a formal meeting with the company, try to get an independent person to take minutes so that you do not have to rely solely on the company minutes. It is helpful if the minutes reflect the discussion, rather than only the assumed conclusions. Action items should be listed separately. It may be useful to record the meeting as an addition to the minutes; note that it is sometimes difficult to get a clear recording of all speakers.

Make sure that everyone receives a copy of the written minutes so they can read them carefully before the next meeting. Watch for errors of omission or emphasis, as well as for inaccuracies in what is actually reported. It is important to go through the minutes at the next meeting to give everyone an opportunity to raise issues; if anyone disagrees with something reported, they should ask for the minutes to be amended. You must ensure that minutes are accurate before they are signed. The company may use the minutes as evidence if negotiations fail and there is a hearing.

If you plan a public meeting, be sure to check the sports calendar and other local events so you select a date that will ensure maximum attendance. Invite as many people as you can by telephone or email, but also advertise the meeting in the media (Section 2.8.2). It is a good idea to invite the company and the AER (or, if appropriate, the Farmers' Advocate or the Surface Rights Board) so they can hear everyone's point of view. Also

invite local municipal councillors and, if there is a health issue, an official from Alberta Health Services.

Meeting logistics

- Plan the meeting carefully so everyone who is involved knows what needs be done.
- Give adequate notice of the meeting and send out a reminder (by phone or email) to key people on the day before.
- Put out seats for the number of people you expect to attend; however, keep some reserves on-hand.
- Provide refreshments and allot time for brief breaks if the meeting will be lengthy (over an hour).
- Arrange to ‘pass the hat’ before the coffee break, with a request for donations to help pay for room rental and other expenses. Do not leave this until the end of the evening as some people may leave early.
- Choose a capable person to act as the meeting facilitator. Decide who will effectively present your group’s concerns and point of view.
- Draw up a clear agenda and keep to it. If people want to raise other issues, allow for a open-floor question period at the end.
- Consider what medium you will use to present your case (slideshow, hand written/created materials, or solely an oral presentation).
- Arrange for someone to take minutes.
- As people arrive, or during the course of the evening, invite them to sign a list, giving their name, address, email, and telephone number, so you can contact them about future developments.

At the start of the meeting, the facilitator should introduce any guests and propose an agenda. Then the spokesperson for the core group — who should not be the same person as the facilitator — should explain why the meeting has been called, and outline the group’s main concerns and questions. At the appropriate time, members of the public should be invited to give their views. Ask them to give their names when they speak. The company, the AER, or other government body and any other guests should be invited to express their views if they wish. At the end of the meeting, the facilitator should call on a representative from the core group to outline any next steps, such as a formal meeting with the company to review ideas put forward that evening, and invite people to volunteer their help.

Meeting followup

If the AER or company does not attend the meeting, it is a good idea to inform them of the conclusions reached at the meeting, communicate any outstanding concerns, and possibly provide them with a copy of the minutes. The group may also want to send a copy to the media (Section 2.8), or perhaps bring a contentious issue to the broader public by writing in to the local paper, posting on social media, or providing local media with an interview.

Much of the work in negotiating with a company will be done by the smaller core group. How often you hold public meetings will depend on the circumstances, but such a meeting will probably only be necessary if there is a major development or change in the process, for example, if a hearing is called.⁵¹

You may also want to set up a fundraising committee as it is unlikely that you will get enough from passing the hat at a meeting to cover all your costs. Some people may prefer to help with fundraising rather than write letters, get involved with negotiations or prepare evidence for a hearing.

To keep other local people informed, you could issue a short newsletter, send media releases, or set up a group website. You could also ask the company if they will set up a website on which they post notices of meetings and minutes of the meetings they have with you.

2.8 Involving the media

2.8.1 The role of the media

The media can help you reach a wider public, which in turn will make other residents aware of the proposed project and your concerns. This can help build support for your activities and increase the chance of successful negotiations with the company.

Media attention can also ensure that the AER (or other government or regulatory body) is aware of and involved in your issue. It is important that you keep the regulators informed about developments in case the media asks them to comment. The greater the publicity and concern about an issue, the more attention it will likely receive.

⁵¹ For more information about AER hearings, see Section 11.1.

You may also find media useful if all attempts at alternative dispute resolution has failed. Many companies are concerned about their public image and want to avoid negative publicity.

“Media” includes the following:

- Social media (Facebook, Twitter, and locally relevant blogs)
- Local, regional and national newspapers.⁵² Do not forget the free local papers that focus on advertising but also often carry news items or event information
- Online news sources
- Magazines dedicated to sectors such as agricultural producers and the oil and gas industry
- Local and regional radio stations
- Community and regional television stations

If you are planning a meeting, the media can help you reach a wider public. Your local paper or radio station may make free public service or community announcements. The local paper will likely publish a letter to the editor about your activities. In addition, you may want to place an advertisement in local newspapers, or announce the meeting date and purpose through social media channels (local Facebook groups, community blogs, local websites). You will likely have to share the cost of some of these activities amongst yourselves, but if you “pass the hat” at a meeting, you may get enough to cover some of the costs.

Find out how soon you need to submit a notice or advertisement when fixing the date of the meeting. Media often have an advertising deadline several days or weeks prior to publishing. The advertisement should appear at least a week before the event or meeting date. You can suggest to a newspaper the page on which you would like the advertisement placed, but they may not be able to meet your wishes.

2.8.2 Issuing a media release

If you have a message to get out, distributing a media release can be very helpful. It should not be long, but should consider the following:

- Decide what your main message is and state this clearly in the first sentence.
- Include a brief outline of your key concerns and your desired outcome.

⁵² You can obtain information about local newspapers from the Alberta Weekly Newspaper Association at 780-434-8746, info@awna.com, or www.awna.com.

- If you want to let people know you are holding a meeting, remember to include information on:
 - What is taking place
 - Why it is being held
 - When it is being held
 - Where it is being held
 - Who will be attending and who has been invited
- At the bottom of the release, put one or more contact names with phone numbers, email addresses and website if applicable so that anyone interested can contact you for more information.
- Put a short title at the top of the release — something eye-catching, but not overly sensational — and the date it is being released.
- Keep the release brief — less than a page. If you want to provide more information, put it in a “backgrounder” on a separate sheet that follows the news release. A backgrounder usually has factual information rather than opinions. Use bullets to clearly identify each new point.
- If you want to send the release to media in advance of your official public announcement, you can send it “under embargo.” Write in bold type at the top of the news release that it is “Under embargo until (date and time),” and the media should respect this and not publish the information before the specified time. Sending out a release early, under embargo, gives the media an opportunity to contact you to get more information before the news breaks.
- Find out in advance what the deadline is for your local newspaper. The deadline for a weekly paper is likely to be two or three days before it appears in print. You may want to time the announcement (or the date of the embargo) for the day that your local paper is published, so they can run the story at the same time as it appears in a regional paper or on local radio.
- A service like the Alberta Weekly Newspapers Association can deliver a release to nearly all provincial weekly papers in a matter of hours.⁵³

When your news release is ready, email, fax or deliver it to your local and regional newspapers, radio and TV stations. Contact information for press releases, letters to the editor and advertising managers can often be found online.⁵⁴

⁵³ Alberta Weekly Newspapers Association, “Press Release Service.” <http://www.awna.com/press-release-service>

⁵⁴ ABYZ Newslinks lists media contact information: <http://www.abyznewslinks.com/canadab.htm>

As all media outlets get large numbers of news releases, it is a good idea to follow up the release with a phone call. You may want to call a few media contacts before sending out the release to give them some background to the story. It is worthwhile offering to meet with local media to explain the situation and give them more details. You may need to inform them about the issues that concern you, such as the health implications of sour gas wells and flaring, or the risk of water well contamination. By giving them background information you have gleaned from the AER, Farmers' Advocate or Surface Rights Board, you will help them put your story in context. For example, if you are concerned about a potential leak, you might want to draw their attention to the number of leaks and spills that occur in Alberta each year as reported by the AER.⁵⁵ Many journalists do not have time to research all aspects of an issue themselves, but will be happy to use background information you have gathered from legitimate sources.

Don't forget to send a copy of your news release to both the company and the regulatory body dealing with the issue (such as the AER or Surface Rights Board). You might want to specifically address the release to the attention of the person in the company or board dealing with your concerns. It is not only a courtesy to inform the company and board; it will also enable them to be better prepared to respond to the media if they know in advance what you are saying.

It is also a good idea to send a copy of the release to your local elected representatives. They should be sent a separate invitation if you are inviting them to the meeting, but they will also be interested in seeing your release.

2.8.3 Talking to the media

Some important things to remember when dealing with the media:

- If being interviewed, stick closely to your message, referring to your news release as a reminder. It is helpful to write your talking points down in advance to help articulate the message. If you have additional points you want to raise, think about them in advance and talk about the most important things first; the paper may not have space to fully articulate all of your points.
- Try to anticipate the type of questions you are likely to be asked and think about your responses in advance.

⁵⁵ AER, *Pipeline Performance in Alberta 1990-2012*, Report 2013-B (2013).

<https://www.aer.ca/documents/reports/R2013-B.pdf>

- Always be polite and never refer to the company or any individuals in a defamatory way. Even if your frustration is warranted, showing it openly will generally not help you build public support for your position and could lead to a lawsuit. Do not get drawn into sensationalizing the issue by a member of the media, as they are looking for the most quotable material and this may not help your cause.
- Consider asking the media to include a contact telephone number or email address (do not use your primary private one) in any feature they write or present, so other people can get in touch with you. They will not always do this, but it's worth asking.
- The media will probably want to talk to the company to hear its side of the story or issue. Give any journalist who interviews you the name and number of the person in the company they should talk to. This will not only save them time, but also increase the chance that they will get the company's viewpoint quickly and run your story.
- Build up a good relationship with key journalists. If they run a good story, call to thank them. Keep them informed about any developments so that you may be able to rely on them to report the situation without issuing further news releases. However, be careful to come across as a useful source and not a pest. Contact them when there are new developments or new information that relates to what they have expressed interest in or covered before.

Section 3

Exploration for Oil and Gas



3. Exploration for Oil and Gas

This chapter examines your rights when a company wants to conduct a seismic survey on the land you own or occupy. It details the many steps of geophysical exploration and provides guidance on permit negotiation, how to provide input depending on whether you are a landowner or a lessee, potential risks and implications of seismic operations for your land, and how to lodge complaints.

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3.1 Overview of geophysical exploration

Geophysical exploration aims to discover whether saleable mineral resources lie beneath the land surface. Companies may conduct *seismic surveys* and drill test holes, or use other techniques that provide subsurface information.

Geophysical exploration is now regulated by the Alberta Energy Regulator (AER), governed by newer directives (issued in 2013) in addition to the Exploration Regulation (2006).¹

In seismic surveys, vibrations are sent through the ground using either dynamite charges placed below the ground in *shot holes* or large trucks that vibrate heavy plates on the ground (vibroseis). Data is recorded on receiving devices — either in two dimensions using one line of receiver “geo-phones” along a shot line, or more often now with a three-dimensional technique using simultaneous recording along multiple receiver lines. See Figure 2.

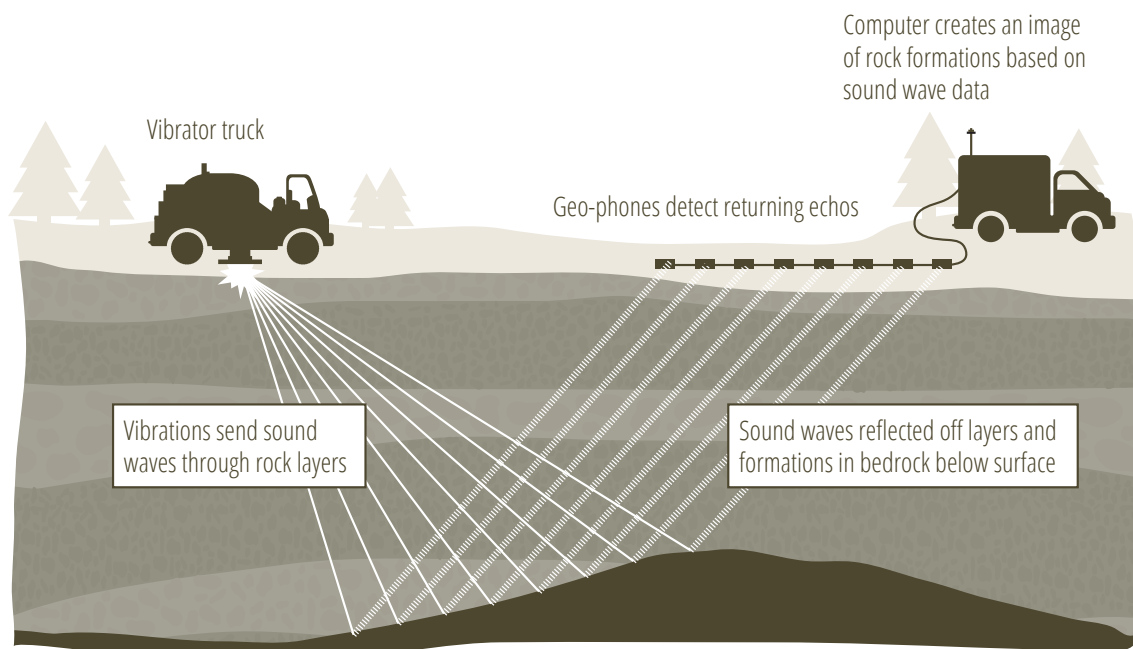


Figure 2. Schematic of exploration activities using vibroseis

¹ Alberta, Exploration Regulation, 284/2006, s 11.

3.1.1 Access to land

On private property

A company that wants to conduct seismic activities in the White Area (settled portion) of the province² will first send a *permit agent* to *negotiate* with the *landowners* and *occupants*.³ The permit agent should provide these parties with a Seismic Information Pamphlet⁴ that explains what seismic surveys involve and who to contact with a problem, query or complaint. Further information on seismic activity can be found in Seismic Operations and Landowners' Rights.⁵ A seismic *operator* is not allowed to enter private property unless the landowner or occupant (or that person's agent) gives permission. The landowner/occupant has the right to refuse access for seismic exploration.⁶ In the case where land is under an agricultural lease agreement, the permit

² "Since 1948, Alberta has been divided into two main areas, the Green Area (58%) and White Area (42%). The White Area (settled portion) consists of the populated central, southern and Peace River areas of the province. The Green Area (forested portion) includes most of northern Alberta as well as the mountain and foothills areas along the province's western boundary." Alberta Environment and Sustainable Resource Development, *Sustainable Forest Management: Current Facts & Statistics* (2011). <http://aep.alberta.ca/lands-forests/forest-management/forest-management-facts-statistics/documents/GeneralBoundary-CurrentFactsAndStatistics-2011.pdf>. White and Green areas of the province are defined on the Alberta Environment and Sustainable Resource Development Corporate Region Map (dated March 19, 2003). This chapter focuses on seismic exploration rules that apply to the White Area, with some guidance with respect to leased land in the Green Area.

³ The Exploration Regulation and associated directives set legal requirements that protect the rights of the landowner and occupant with respect to seismic operations and outlines when consent is required (Section C.3.3). While this regulation does not use the term "occupant," it does refer to a "person having lawful possession of the land."

⁴ Canadian Association of Geophysical Contractors, *Seismic Information Pamphlet*. https://www.cagc.ca/resources/book_store/seismic_info_pamphlet.pdf

⁵ Farmers' Advocate Office, *Seismic Operations and Landowners' Rights* (2012). [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1127](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1127). An updated version should be completed by the end of 2016

⁶ The right to refuse access applies only to seismic exploration; it does not apply to land surveys, access to construct a well or pipeline, or geophysical operations associated with *carbon capture and storage*, including monitoring. Also it applies only to privately owned land, not to agricultural leases on public lands. In the event access is refused, the company has no appeal. However it may decide to conduct exploration around the lands by using road allowances. A

agent must obtain the permission of the landowner as well as that of the leaseholder, as the seismic activity might cause impacts that last beyond the lease period. It is recommended that the agricultural lease includes details regarding how a negotiation with a seismic company should be handled to make sure *lessees'* concerns and constraints are heard. In any case, the landowner has exclusive right to refuse the geophysical operations and the seismic operator has no appeal.⁷

On leased public or Crown land

To access a grazing lease or farm development lease on *public* or *Crown land*, a company must first obtain from the Minister an approval to explore. The company then needs to obtain the leaseholder's consents in writing and inform them at least five days before carrying out any activities. If the leaseholder does not consent, the local public lands staff can be contacted to facilitate an agreement. If the local public lands staff are unsuccessful and the leaseholder refuses access, or they cannot reach agreement on compensation, the company can apply to the Surface Rights Board for a *right-of-entry order* (Section 10.3.1).⁸ If the leaseholder and company are unable to agree due to land use or operational concerns, either of them can write to the Local Settlement Officer to request a formal review. The officer will provide a written notice of his/her decision. If the leaseholder or company find the officer's decision unsatisfactory, either of them may write to the Provincial Exploration Review Committee within seven days of receiving the decision and ask the committee for a review. This review can overrule the Local Settlement Officer's decision or refer back to them with directions. The Committee's decision will be binding.⁹ (See Section 11.2 and Section C.3.3 for more information on the powers of both the Surface Rights Board and the Provincial Exploration Review Committee with respect to public lands.)

Notification of activity

Permit agents are required to notify *residents* and landowners within 400 metres of any proposed seismic line at least 48 hours before activity starts in the White (settled) Area

company that would conduct exploration on private land without the owner's consent faces a fine up to \$25,000.

⁷ *Seismic Operations and Landowners' Rights*, p. 2-3.

⁸ Alberta, Exploration Dispute Resolution Regulation, 227/2003, pt 2, s 19. Alberta government regulations are available at Alberta Queen's Printer, "Laws Online/Catalogue."
http://www.qp.alberta.ca/Laws_Online.cfm

⁹ Exploration Dispute Resolution Regulation, part 1.

of the province.¹⁰ Nearby landowners may want to request a pre-seismic test of the water quality and flow rates in their well.

The 8 steps of seismic exploration¹¹

1. The landowner is approached by the seismic company and a permit is negotiated and signed between the two parties.
2. Access routes are established (using existing gates and/or by cutting fences as specified in the permit).
3. Seismic lines are defined and cleared of brush and/or snow using a method authorized by the landowner.
4. Markers are placed along the length of each seismic line. The position of each marker is surveyed using Global Positioning Systems (GPS).
5. If the project uses an explosive energy source, shot holes are drilled and dynamite is loaded down each hole.
6. Recording devices known as geophones are placed on the ground surface according to the markers placed by the survey crew.
7. Vibrations are generated by detonating each shot hole in sequence (dynamite survey) or by positioning surface energy equipment (vibrators) on the seismic line and applying that type of surface energy in sequence. The energy waves, reflected back by the subsurface formations, are picked up by the geophones and relayed to the recording truck.
8. Shot holes are plugged and sealed, compensation to the landowner and/or the leaseholder is paid, and the Geophysical Operations Release form is signed.

3.1.2 Setbacks

A company must follow requirements for *setbacks*, that is, the minimum distances that seismic shot lines and test hole *drilling* must be from buildings, water wells, irrigation works, oil or gas pipelines, wells, etc. The actual setback depends on whether explosive or non-explosive operations are being conducted and, in the case of explosives, the size of the charge. The required distances are set out in the Exploration Regulation (Section

¹⁰ *Seismic Operations and Landowners' Rights*, p. 4.

¹¹ Adapted from *Seismic Operations and Landowners' Rights*, p. 1-2.

C.3.3) and the relevant exploration directive.¹² Companies are allowed to conduct seismic exploration within the minimum setback distance if they meet certain conditions: the company must use a reduced charge, and must obtain the written consent of the *owner* for any explosive exploration or test hole that is less than 180 metres from a structure or a water well, and for any non-explosive exploration that is less than 100 metres from a water well.¹³

Although a setback of 15 metres is required for domestic septic tank and mounds, landowners may ask for a smaller charge size close to any septic systems as these are very sensitive to vibrations caused by seismic testing.

3.1.3 Plugging of seismic holes

This section only applies when the seismic operator uses explosives charges.

As soon as a *seismic hole* is drilled, it must be marked with an approved permit tag, facing the shot hole and displayed less than 10 metres from it. The tag shows the permit number of the geophysical contractor and the exploration approval number.¹⁴

The maximum explosive charge size depends on the required setback distance to the nearest structure. In any case, the explosive charge cannot exceed 20 kg without approval from the Alberta Energy Regulator. If a company wants to use a greater charge, it must provide the regulator with justification and obtain written approval before loading the explosive charge in the shot hole.¹⁵

After the charge is loaded, the hole must be plugged. In the White Area of the province, the standard practice is to insert a plastic hole plug into the hole approximately one metre below the surface,¹⁶ followed by 40 cm of an approved product,¹⁷ such as

¹² *Seismic Operations and Landowners' Rights*; also in Alberta Environment and Parks, Exploration Directive 2006-15: Distance Requirements. Exploration Directives are listed at AER, "Exploration Directives & Forms." <https://www.aer.ca/applications-and-notice/application-process/exploration-directives-forms>

¹³ More information on water wells is provided in Section 8.4.1.

¹⁴ Alberta, Exploration Regulation, s 55.

¹⁵ Alberta Environment and Parks, Exploration Directive 2006-18: Charges in Shot Holes and Depth of Shot and Test Holes That Exceed Maximum Levels.

¹⁶ Shot holes may be deeper than one meter. However Exploration Directive 2006-18 establishes that the maximum allowable depth of a shot hole or test hole in a program of exploration is 20 meters. Any deeper shot or test hole must be approved by the AER.

bentonite, to help seal it. The hole is then filled to the surface with drill cuttings or other material from the hole. For identification purposes, the plastic plug is marked with the permit number of the company conducting the seismic work.¹⁸ Companies are allowed to spread drill cuttings, or other materials not required to fill the hole, over the surrounding ground. In rare cases the drill cuttings may have a very high clay content or a high concentration of salt that could affect the surface soil. In these instances the landowner may want to ask the company to remove excess drill cuttings from the site.

The explosive charge that was put into the hole must be detonated within 30 days and then the hole must be permanently *abandoned*. This includes cutting off the wire that was attached to the charge at ground level and ensuring that the hole is properly plugged.¹⁹ If any of the shot holes have been blown out by the explosive charge, they must be filled again, as indicated above.

The Exploration Regulation requires the company to abandon each shot hole immediately after the detonation of the charge (no definition or timeframe is given in the regulations guidance for “immediately”) so that water does not flow to the surface or move from one underground aquifer to another.²⁰ As an Alberta government publication recommends, landowners can negotiate with the seismic company to put the plastic plug closer to the bottom of each hole (which may be 15–18 metres deep) and fill from the plug to the ground surface with bentonite pellets.²¹ This would prevent the flow of *surface water* through the hole and into an underground aquifer, or the movement of water from one formation to another. Groups such as the Alberta Surface Rights Federation (Section B.4.3) have advocated in the past for requirements that resemble seismic regulations in Wyoming and water wells in Alberta, where shot holes are not just plugged at the top, but are completely filled from bottom to top with

¹⁷ This number is reduced to 20 cm if exploration takes place in the Green area of the province. Alberta Environment and Parks, Exploration Directive 2006-20: Permanent Abandonment of Shot Holes and Test Holes.

¹⁸ Exploration Directive 2006-20.

¹⁹ Exploration Directive 2006-20.

²⁰ Alberta, Exploration Regulation, s 45 and s 4151.

²¹ Alberta Agriculture, Food and Rural Development; Alberta Environment; and Agriculture and Agri-Food Canada, *Water Wells that Last*, eighth edition (2013), 69.

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/wwg404/\\$file/waterwells.pdf](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wwg404/$file/waterwells.pdf). See also Section 8.4.1.

bentonite (or a comparable impervious material).²² This practice alleviates concerns that pollutants, such as herbicides, pesticides, fertilizers, or *E. coli* bacteria from cattle, may enter the *groundwater* through improperly plugged shot holes. The Alberta Surface Rights Federation has crafted an addendum that you can add as a special condition to any geophysical exploration agreement for your land.²³

If water or gas is released from the ground when a seismic hole is drilled, the drilling must stop, no explosive must be set, and the company must contain the water or gas to the aquifer or stratum of origin using one of the approved methods.²⁴ The company must immediately submit a flowing hole report to the Alberta Energy Regulator. Additional precautions must also be taken for the next shot hole: it may be drilled only to a maximum depth that is 3 m less than either the drilled depth of the flowing hole or the point of encounter with water or gas in the previous shot hole.²⁵

3.2 Compensation

There is no legislated requirement for a company to pay compensation for entry and access for seismic activity, since the landowner can deny access. You may want to contact a surface rights or landowner consultant before you sign an agreement on compensation.

It is common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the

²² Unless the company can prove that an alternative method will provide better protection to groundwater and long-term land stability, the operators are required to fill the shot hole with bentonite from the top of the explosive charge to a depth above the final water level (except where the final water level will be within three feet of the surface). A non-metallic plug must be set three feet below the surface and the hole above the plug must be filled with drill cuttings and tamped. Wyoming Oil and Gas Conservation Commission, Rules, Chapter 4. Section 6 (q)(iv). Geophysical/Seismic Operations.

https://rules.wyo.gov/DownloadFile.aspx?source_id=9861&source_type_id=81&doc_type_id=110&include_meta_data=Y&file_type=pdf&filename=9861.pdf

²³ Alberta Surface Rights Federation, “Addendums: Geophysical Special Conditions Addendum.” <http://www.albertasurfacerights.ca/nav/addendums/geophysical.html>

²⁴ Alberta Environment and Parks, Exploration Directive 2006-17: Flowing Holes and Encountering Gas. The directive mentions one exception to this: when a shot hole becomes a flowing hole before a charge is detonated, the charge is to be shot.

²⁵ Exploration Directive 2006-17.

line(s). Compensation agreements should be defined similar to any other agreement. You have the full authority to set your own price.

Terms, dates and conditions need to be clear — for example if you say “no ruts,” then you should define a “rut,” such as “any tire depression that is deeper than 1 cm.”

While access fees are typically paid within 30 to 90 days following completion of the exploration program, payment may be requested prior to or shortly after the program starts. Seismic data is property but it is difficult to place a lien against it if access payments are delayed; as such, it is advisable to obtain payment before granting access.

The company is liable for any damages it causes. Advice on negotiating with a company is provided in Section 2.

Table 2. Your rights around oil and gas exploration on your land

I am the landowner	
What your input is	You can have a word on anything and make the final decision.
Decision process and appeal options	You have the final word. If you refuse access to your land for exploration, the company may decide to conduct seismic exploration from an adjacent property or using a road allowance.
How you can negotiate compensation	You are fully entitled to negotiate compensation; however, there is no legislated requirement that details the amount companies need to compensate.
I lease private land that is not under Agricultural Lease	
What your input is	The landowner has all rights to negotiate with the exploration company.
Decision process and appeal options	You don't have much say other than talking to the landowner, as this specific case is not detailed in regulation.
How you can negotiate compensation	You should ask the landowner to negotiate with the company a compensation for the inconvenience and potential damage, as it is common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the line(s).
I have an Agricultural Lease	
What your input is	It is recommended that your rights and compensation in the event of seismic exploration be detailed in the lease agreement.
Decision process and	It is usually recommended that the lease specify that the landowner has exclusive right to allow or refuse entry upon the land, while the lessee

appeal options	should be granted input regarding details such as access, timing, compensation.
How you can negotiate compensation	The landowner typically receives payment for entry, access and recording. As a lessee you receive compensation for crop damages and disturbance. If you disagree with the amount negotiated with the company you can apply to the Surface Rights Board, which may review the amount and make a compensation order. ²⁶ If, after the operations, you notice unexpected damage or destruction (to crops, livestock, buildings, etc.) you can apply to the Surface Rights Board for a compensation order. ²⁷
I lease public or Crown land	
What your input is	Companies need to obtain from the Minister an approval to explore. Once granted, they need to obtain your written consent.
Decision process and appeal options	If you refuse to provide the exploration company with your consent, the company can apply to the Surface Rights Board for Right of Entry. In case of operational or land use concern, you can request a review by a Local Settlement Officer (LSO), who will facilitate a negotiation between parties. If negotiation fails, the LSO makes an adjudicated determination. Under certain conditions you can appeal the LSO decision by making a request to the Review Committee, which may also seek to facilitate an agreement. The Committee should render a binding decision within 10 working days. ²⁸
How you can negotiate compensation	It's common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the line(s).

3.3 Questions to ask before granting right of entry

Before granting right of entry to your property by signing a permit agreement, you should find out exactly what is involved.²⁹ Here are some issues you may want to address in your written agreement with the company:

²⁶ Alberta, Exploration Dispute Resolution Regulation, 227/2003, pt 2, s 20.

²⁷ Exploration Dispute Resolution Regulation, pt 2, s 22.

²⁸ Exploration Dispute Resolution Regulation, pt 1.

²⁹ In this section, “you” is used to refer to the landowner or occupant.

Background

Where is the seismic activity planned on the property?

Ask to see the area on a map and on an aerial photo, if one is available. You can also see the area on Google Maps (or equivalent service) if the company provides you with the GPS coordinates of the line(s).

What type of equipment will be used?

Heavy equipment can compact the soil and impact crop growth in future seasons, especially if the ground is not frozen at the time of exploration. For this reason it is important to minimize the area affected by equipment. Compaction can be reduced if the company uses vehicles that have low ground pressure tires or tracks. Where appropriate, you may wish to negotiate the kind of equipment to be used.

Will helicopters be used to deliver equipment?

Helicopters might be used to reduce the amount of clearing needed for surveying and crew access. If noise from helicopters is likely to disturb livestock, the animals should be moved.

Are the source points placed to respect minimum distances from structures such as buildings, water wells, dams or septic tanks?

You may want to negotiate with a company to keep the source points of seismic waves further away than the minimum setback distances required by the Exploration Regulation.

When will the seismic work be conducted?

Seismic crews often work day and night, seven days a week.

After an agreement has been signed, how soon will the work start?

Inquire when the work will be carried out and discuss any concerns you may have with respect to the timing of operations.

Land

What will the company do to prevent disturbance of the soil by equipment?

If the topsoil is damaged it may take longer for the site to restore itself.

How many fence lines will be crossed?

It may be preferable to give the company permission to cut and repair fences, rather than have the seismic crews travel across much longer routes to use gates. A shorter route will minimize surface damage and soil compaction that can be caused by heavy equipment.

As a landowner, you may want to negotiate compensation for any fence cuts and repair the fence cuts yourself, to ensure the repairs are completed to your satisfaction.

Can any sensitive land be avoided?

Susceptible land (e.g., a spring-fed dugout, steep slopes subject to erosion) can be set “off-limit”; the company can be asked to offset their survey line around the area.

Can the clearing of trees be minimized?

Companies may be able to reduce the width of the survey line to 1.5 metres, by drilling shot holes from special all-terrain vehicles and hand-clearing receiver lines. Make sure that the width of seismic line is indicated on the contract, as it may be up to 8 metres.³⁰

In forested areas, clearing and cutting straight lines increases the vulnerability of wildlife to predators and hunters and has a visual impact. It is possible to reduce the line of sight by setting out a meandering line.

Will the route go through any trees?

Find out whether it is possible to realign the seismic line or offset it around the trees, if you want to keep them.

Will the company use wooden flags?

Wire pin flags are not allowed for seismic operations on private land in Alberta unless the landowner/occupant gives permission. Their use should be refused since normal farming activities, such as making silage or hay, can shred wire pin flags left in the fields, and can result in injury or death to livestock that eat the feed.³¹

³⁰ Seismic Operations and Landowners’ Rights, 14.

³¹ Alberta Environment and Parks, Exploration Directive 2006-14: Authorization for Testing and Use of Products in Exploration lists all seismic survey markers approved by the regulation.

Water

Will the company test your water well before and after the seismic activity?

A test before seismic activity will provide a baseline, should problems arise later. Ask to obtain a copy of the results.

Will the line be kept away from ditches and low-lying land?

This will prevent surface water and pollution from entering the seismic holes.

How will shot holes be plugged?

You may want to negotiate with the company to put the plug close to the bottom of the hole instead of the standard requirement of one metre below the surface.

What will be done with the drill cuttings?

Any drill cuttings left over after plugging the hole will usually be spread on the surface, but occasionally landowners want them removed, as explained in the text.

Will the company leave the land in the same condition as when they entered it?

It is best if all wastes are removed, since as burning of waste is often preferred option for companies and low temperature burning affects air quality.

Will the company fill any flowing shot holes?

Though a company is legally required to ensure that all shot holes are properly plugged (including any that may have blown out) to prevent any release of water,³² it is advisable that this requirement be explicitly stated in the permit agreement. Flowing holes have occasionally caused problems for landowners.

Will the company need to return in spring to clean up after winter operations?

You may prefer to ask if the company will pay you to carry out the clean-up operations. It is important for the landowner to conduct their own check, even when the company does the clean-up, to ensure that fences are intact, holes have been properly filled and no materials remain that could injure livestock.

³² Exploration Directive 2006-20.

How much compensation will you be paid?

Compensation should include money for crop loss, fence cuts, destruction of trees, or other adverse effects on the land.

Do you need a special condition to restrict access to certain locations?

Although the working operations are limited to the area specified on the permit form, a company may cross other lands for access.

Do you need a penalty clause in the agreement?

If the company has agreed to conditions beyond the legal requirements, you will have to enforce them yourself. It is difficult to enforce special conditions without a penalty clause, although this may not be easy to negotiate.

Have you included all agreed-to items in a written attachment to the permit form?

It is important to have everything in writing. This may include the way in which operations are conducted and their timing.

If you agree to provide access, you will be asked to give written consent. A standard permit form, Permit to Conduct Geophysical Operations (revised in 2009), should be used.³³ This form was developed by the Canadian Association of Geophysical Contractors, in association with the Farmers' Advocate Office and other government and industry bodies.³⁴ The permit should describe exactly where and when seismic activity will occur and indicate the amount of compensation to be paid by the company.

Include everything you want the company to do, and everything you want to ensure the company does not do, as written conditions in the permit agreement. You may want to execute an Addendum to the Permit if you need more space to list these. If you do so, it is imperative that the Permit refers to the Addendum.

³³ Farmers' Advocate Office. 2012. *Seismic Operations and Landowners' Rights*; [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1127](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1127). p. 12

³⁴ For information on the Canadian Association of Geophysical Contractors, see Section B.2.3. The permit form should be provided by the seismic operator. An example of the permit form is available at: <http://www.strathcona.ca/files/files/at-eep-feb2013-protocol-appendix2a.pdf>.

When all the seismic exploration is complete, be sure to review all seismic lines, checking to ensure that holes are properly plugged and that clean-up is complete (or scheduled to be completed) before signing the Geophysical Operations Release form.³⁵

3.4 Refusing permission for access

If, as a private landowner or occupant, you do not wish to have seismic activity take place on your land, you can refuse permission. In such a case, the seismic company is not allowed to enter the land and has no right to appeal. If a company comes onto your land when you have refused permission, it can be fined up to \$25,000³⁶ and you can treat it as an act of trespass. You can ask a geophysical inspector to investigate (Section 3.2), and can take the company to court to recover the cost of any damage.

If you refuse access for seismic operations, an oil or gas company may be able to obtain the information it needs about the geological structure under your property by doing seismic exploration from adjacent property. In this case, the company may return to you at a later date to ask permission to drill a well on your land.

If a company wants to conduct seismic testing on a leased roadway, they must first negotiate with the tenant. However, if negotiations fail, the company is permitted to use a leased road allowance (developed or undeveloped) for seismic testing.³⁷ In this case, the company must give written notice to the tenant 48 hours before entering the road allowance. This notice must state where the points of entry will be and that the company will be liable for any damage resulting from exploration activity.

3.5 Complaints

As a landowner/occupant, it is important for you to inspect for compliance when a seismic line is put across your land. If you have concerns, first try to resolve them with the seismic company (seismic agents do not have a home registering body to register complaints about conduct). It is advisable to obtain the name and company of the chief

³⁵ While this form is not available online, a facsimile can be found in the appendix 2a of *The Strathcona County Protocol for Seismic Surveying, Drilling, Construction and Operation of Oil and Gas Facilities in Strathcona County*. <http://www.strathcona.ca/departments/planning-development-services/oil-and-gas-in-strathcona-county/strathcona-county-protocol/>

³⁶ Exploration Regulation, schedule 2(1)(2).

³⁷ Exploration Regulation, section 10.

surveyor for the project. If there are concerns over the crew, first attempt resolution with the chief surveyor. Surveyors are also a registered profession and have a complaint process; contact the Alberta Land Surveyor's Association for details.

If your attempts with the seismic company are unsuccessful, you can call the Alberta Energy Regulator's Energy and Environmental Emergency 24-hour response line at 1-800-222-6514. Inspectors from the Geophysical Inspector Program³⁸ deal with problems relating to seismic activity and water wells, structural damage, permit disputes, surface damage, flowing or cratered shot holes, trespassing (and related damage), livestock damage, and miscellaneous inquiries.

Note that if you have negotiated specific requirements with the company (in addition to legal requirements) you will need to enforce these specific requirements yourself. Ideally you should inspect the area with a representative from the seismic company, document the problems, and send your written account (with photographs or videos, if appropriate) to the company.

If you have a problem with a water well that you believe to be caused by the seismic operations, you should first contact the seismic company using the contact information available on the permit form or the 400-metre notification information. You can also contact the Energy and Environmental Emergency line (1-800-222-6514) and ask for a thorough investigation to determine the cause of the water well problem.³⁹ If this remains unresolved, you may also contact the Farmers' Advocate Office to inquire about having your well inspected, repaired or replaced under the Water Well Restoration or Replacement Program.⁴⁰

Should you have concerns about the conduct of a permit agent, you can report this to the Canadian Association of Geophysical Contractors, to which many seismic companies belong (Section 13.2.3).

³⁸ This program is described at <https://www.aer.ca/applications-and-notices/application-process/geophysical-regulatory-enforcement-program>

³⁹ Farmers' Advocate Office. 2012. *Seismic Operations and Landowners' Rights*; [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1127](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1127). p. 5

⁴⁰ Alberta Agriculture and Forestry, "Well Water Replacement or Restoration Program." [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/ofa11059](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/ofa11059); See also Section A.4.

3.6 Adjacent landowners and occupants

You may be concerned about possible impacts on your land or water supply from seismic activity occurring on adjacent property. Companies are required to notify all residents within 400 metres of any planned seismic operations at least 48 hours before the activity starts.⁴¹ The notification can be done to each individual residence, using signage or public announcement. It must contain the name of the seismic operator, a contact name and phone number, as well as a description of the energy source.⁴² If you are concerned that your water supply may be affected, ask the company to test your well, or have it tested by a professional laboratory. This will provide you with baseline information on quality and flow of the water before the seismic testing starts.

If you have concerns or questions about the impacts of local seismic operations on your water well, or any other problems related to the seismic activity, contact the Alberta Energy Regulator and ask a geophysical inspector to investigate (Section A.2.5).

A company must notify a municipality, in writing, of their intention to conduct seismic operations before they apply to Alberta Energy Regulator for a licence.⁴³ When undertaking exploration on primary or secondary highways, the company is required to notify the Operations Manager for the Minister of Infrastructure and Transportation.⁴⁴

Even if your land is not within the notification area, you can contact the company and draw its attention to any concerns you have and request that these be addressed before the seismic program commences. If you want information about a specific exploration program, you can make a request in writing to the Alberta Energy Regulator.⁴⁵

⁴¹ In the White Areas of the province. Farmers' Advocate Office. 2012. *Seismic Operations and Landowners' Rights*; [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1127](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1127). p. 4

⁴² Geophysical Information Letter 001/01, Conducting Exploration Programs in Municipalities; <http://aep.alberta.ca/forms-maps-services/directives/lands-information-letters/documents/Lands-ExplorationMunicipalities-2001A.pdf>

⁴³ Alberta Environment and Parks, Exploration Directive 2006-06: Application for Exploration Approval.

⁴⁴ Alberta Environment and Parks, Exploration Directive 2006-11: Notice to Relevant Land Authorities and Holders of Forest Management Agreements and Timber Licenses.

⁴⁵ Alberta Environment and Parks, Exploration Directive 2006-04: Release of Program Information.

Section 4

Oil and Gas Wells



4. Oil and Gas Wells

As an oil and gas well is a long-term project, it is important to understand the details and process of drilling for oil and gas in Alberta so that you know your rights when it comes time to sign a lease on your land. Although the company is required to provide some information when they approach you to negotiate a surface access agreement, this chapter contains additional questions and information that you should consider carefully before you sign your name. If your well will contain sour gas (hydrogen sulphide, or H₂S), the company must meet additional requirements, which are summarized in this chapter as well. Finally, this chapter examines specific issues that you need to consider with respect to the construction and operation of hydraulic fracturing wells, a relatively newer form of oil and gas production in Alberta. While hydraulic fracturing uses similar equipment as other conventional oil and gas wells, the operations are generally more intensive and come with some unique considerations for maintaining your property and protecting the surrounding environment.

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Each year the Alberta Energy Regulator receives more than 47,000 applications related to oil and gas operations.¹

4.1 Overview of oil and gas wells

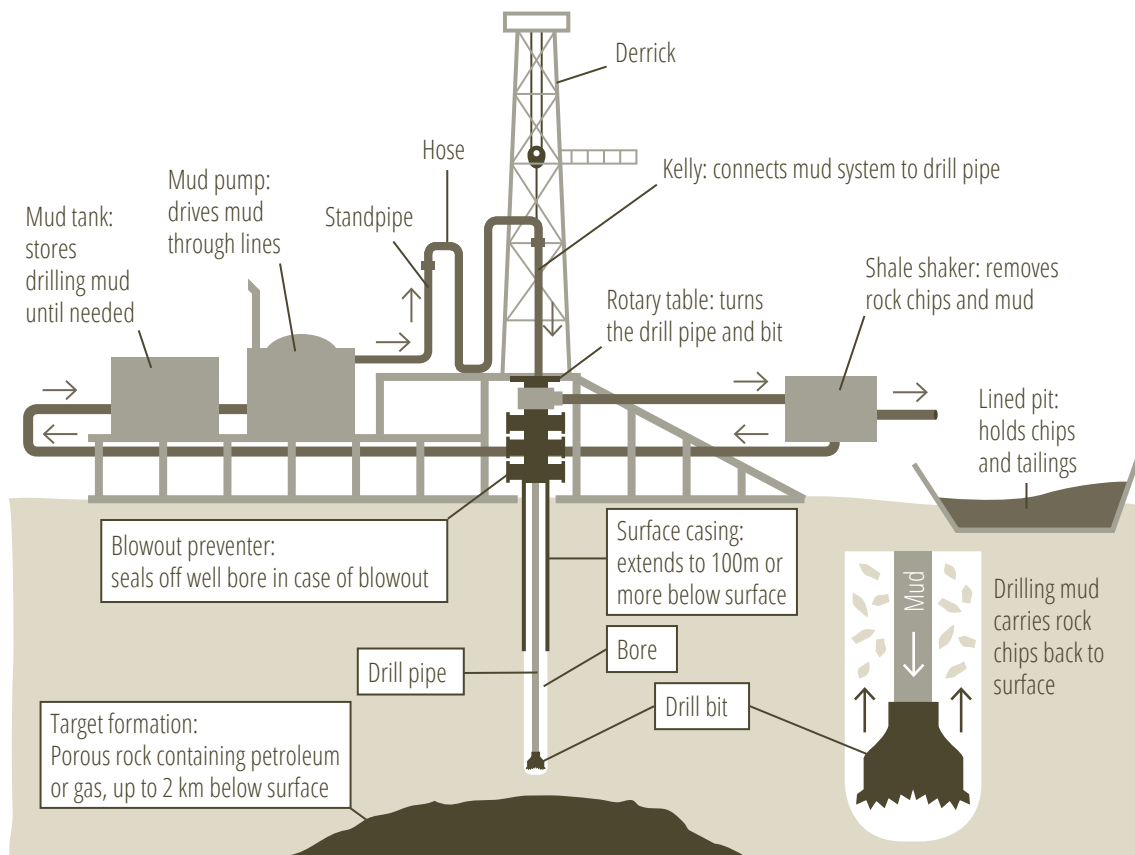


Figure 3. Schematic of typical drilling rig

4.1.1 Application for development

If a company has discovered a prospect of oil or gas, they will lease the mineral rights for development of that resource from Alberta Energy or from *freehold mineral rights* owners. Before they can actually develop the oil or gas, the company must submit a resource application to the Alberta Energy Regulator (AER). The AER needs to ensure

¹ AER, 2015/16 Annual Report, 47. <https://www.aer.ca/data-and-publications/publications/aer-annual-report>

that the company's plans optimize the extraction of the oil or gas but don't interfere with other companies that have adjacent mineral rights.

4.1.2 Well spacing

Traditionally, standard surface well spacing is one well per section (640 acres) for gas wells and one well per quarter section (160 acres) for oil wells.² *Shale gas* and *coalbed methane* wells are exempt from traditional spacing requirements, so well activity will likely be much denser.³ A company that uses *horizontal* fracturing may apply to the AER for a higher surface well density and use one pad for multiple wells *drilled* horizontally in different directions. Spacing units are described in AER's Understanding Oil and Gas Development in Alberta,⁴ which a company is required to give each *landowner* affected.⁵ Applying for reduced spacing units and directional drilling is now a common practice in Alberta, so it may be common in your area,⁶ and take the form of multi-well pads.

A company is not required by the AER to notify landowners and *occupants* if it wants to use higher well density than is the AER norm, but they may do so if the project is contentious.⁷ If you have concerns about an application for special well spacing, you can notify the company of your concerns and submit a *statement of concern* (Section 2.5), which would result in the application being considered *non-routine*.⁸ However, objections to well spacing by a *resident* or landowner will likely have to be addressed in the *negotiation* process for the project as a whole (see Section 2.2), through an the *Alternative Dispute Resolution* process (Section 2.4.1) or a public *hearing* (Section 11). If the company and landowners/occupants are unable to agree on the closer well spacing

² AER, Directive 056: Energy Development Applications and Schedules (2014), A-44. AER Directives are available at AER, "Directives." <http://www.aer.ca/rules-and-regulations/directives/>

³ AER, Bulletin 2011-29: Changes to the Province-Wide Framework for Well Spacing for Conventional and Unconventional Oil and Gas Reservoirs. (October 6, 2011). <http://www.aer.ca/rules-and-regulations/bulletins/bulletin-2011-29>

⁴ AER, Directive 056, A-44.

⁵ AER, Directive 056, section 2.2.2.

⁶ AER, Directive 056, A-44.

⁷ AER, Directive 065: Resource Applications for Conventional Oil and Gas Reservoirs (2010), section 7-11.

⁸ AER, "Non-routine Public Involvement Authorizations." <https://www.aer.ca/applications-and-notices/application-process/non-routine-public-involvement-authorizations.htm>

during the negotiation process, the company must report this to the AER when filing the resource application.

The AER has developed an Alternative Dispute Resolution (ADR) program which helps resolve issues and disputes between *stakeholders*. Any stakeholder involved in an energy dispute may contact the ADR team at any time for information and assistance. The ADR team will assist in arranging the logistics of a dispute-resolution meeting and will help with the preparation and facilitation of different options including direct negotiation, AER staff *mediation*, third-party mediation, and *arbitration*.⁹ More information about the ADR process is found in Section 2.4.1.

4.1.3 Disposal wells and CO₂ storage

While this section is primarily concerned with oil and gas wells, it is appropriate to note here the AER process for regulating disposal wells. AER Directive 065 includes notification requirements if a company wants to drill a well to dispose of oilfield or industrial waste. Landowners and occupants within 0.5 km of the proposed disposal well are to be notified,¹⁰ and the company has to check that they do not have any outstanding concerns. If a company is applying for approval for the underground disposal of *acid gas* or underground gas storage, the public will be notified if it contains any *hydrogen sulphide* (H₂S) through the distribution of an emergency response plan (Section 4.6.1).

AER Directive 065 also regulates the use of carbon dioxide (CO₂) for *enhanced oil recovery* or underground storage. In the near future, CO₂ will most likely be primarily used for enhanced oil recovery, replacing some of the water currently used to maintain the pressure in depleted reservoirs. In the future there may be an increase in *carbon capture and storage* (CCS) operations, where CO₂ is captured and stored underground solely to reduce releases of this greenhouse gas to the atmosphere.

⁹ AER, *EnerFAQs: All About Alternative Dispute Resolution (ADR)* (2015). EnerFAQs and Fact Sheets are available at AER, “EnerFAQs (Q&As)” <http://www.aer.ca/about-aer/enerfaqs>

¹⁰ AER, Directive 065, section 21.

4.2 Surveying

Before a company decides exactly where to drill a well, they may send in surveyors to find the best location for the well and access roads.

As a way to have the right information and establish a professional relationship with the surveyors it is a good approach to get the name of the responsible surveyor — they have ultimate authority for survey activities on your land. If issues arise with the surveying it is advisable to first talk with the responsible surveyor; if issues are not resolved, you may wish to file a formal complaint against the responsible surveyor with the Alberta Land Surveyors' Association.¹¹

The Surveys Act¹² and the Surface Rights Act¹³ allow a registered land surveyor to enter and conduct surveys on private land without prior consent,¹⁴ but the surveyor or the company that engages the surveyor is liable for any damage that the survey team may cause. The Alberta Land Surveyors' Association strongly encourages its members to contact landowners prior to coming onto a property and, in the event that a landowner is not home, to leave a card that a survey crew has been on the property. If entry for a surveyor is refused, the company can apply for a court order to gain access.

If you are a landowner/occupant with livestock, you may want to negotiate moving them from the area to be surveyed. It is advisable to check the area after the surveying has been completed to check for damages, and ensure that nothing has been left behind that could harm the animals.

4.3 The land agent calls

Before a company can apply to the AER to drill a well on private land or leased *public land*, they must send a *land agent* to consult with landowners, occupants and others

¹¹ See Section B.2.2. for information about the Alberta Land Surveyors' Association and their formal complaints procedure.

¹² Alberta, Surveys Act, RSA 2000, c S-26, s 16. Alberta government acts are available at Alberta Queen's Printer, "Laws Online/Catalogue." http://www.qp.alberta.ca/Laws_Online.cfm

¹³ Alberta, Surface Rights Act, RSA 2000, c S-24, s 14.

¹⁴ The Surface Rights Act requires surveyors make a reasonable attempt to give notice, but allows for surveyors to enter land if that they were not able to contact the landowner.

whose rights may be affected by their projects^{15,16} to request their consent as required under the AER's Directive 056.^{17,18} If consent is refused after the company has attempted to negotiate, once the company has received a licence from the AER they can apply for a *right-of-entry* order from the Surface Rights Board, as explained in Section 10.3.1. As indicated in Section 10.3.2, the landowner may also find it beneficial to have the company obtain a right-of-entry order. The company may also have to consult with or notify those living on neighbouring properties, depending on the distance of the property from the well and the type of well being drilled (see Section 2.1).

The minimum distances within which people must be consulted or notified for a new project application are set out in the AER Directive 056: Energy Development Applications and Schedules, and are broken down in Section 2.1.1. The directive has specific requirements not only for wells, but also for pipelines and facilities, such as *compressor* stations, *batteries* and *gas plants*. These are discussed in later chapters of this guide, but the initial meeting with the land agent will be similar in each case. While the directive sets the minimum consultation and notification requirements, the land agent must also assess the area and decide if other people (e.g., those living just outside the minimum distance requirements) could be impacted, and thus should be contacted before the company files its application with the AER.

Information you should receive

Where the AER requires consultation, the land agent must deliver both the company's public information package and information from the AER.¹⁹ The company's package should describe not only the type of project (e.g., the specific category of well, as

¹⁵ For more information on land agents, see Section A.7, or Alberta Labour, *Surface Rights and the Land Agent: A Guide for Landowners and Occupants Concerning Land Agents and Surface Rights Agencies*. <https://work.alberta.ca/documents/surface-rights-and-the-land-agent.pdf> Although the document is slightly dated, it still contains good information.

¹⁶ The Alberta Association of Surface Land Agents is described in Section B.2.1 and the Canadian Association of Petroleum Landmen in Section B.2.5. The main professional organizations that represent the oil and gas companies are the Canadian Association of Petroleum Producers (Section B.2.6) and the Explorers and Producers Association of Canada (Section B.2.10).

¹⁷ Surface Rights Act, section 12(1). The AER will accept documented verbal non-objection; the Regulator does not necessarily require written consent.

¹⁸ AER, Directive 056.

¹⁹ A full list of the information that a company must disclose can be found in AER, Directive 056, section 2.2.2

defined in Directive 056) and its location, but also whether any gas will contain H₂S. It must include information on *setback* distances, *flaring*, potential noise and traffic impacts, as well as the *emergency planning zone*, where relevant. The company is also required to reveal how the proposed development will fit in with its existing and future plans and discuss how setbacks might impact your future land use.

Read the information package very carefully—both the company’s information on the project and the AER documents that explain the input you can have in the process.

The AER documents include:²⁰

- a letter from the CEO of the AER, describing the AER public information documents, the company’s information package and the dispute resolution process, as well as listing the contact numbers for the AER regional offices
- AER brochure, *Understanding Oil and Gas Development in Alberta*
- *EnerFAQs: Proposed Oil and Gas Wells, Pipelines and Facilities — A Landowner’s Guide*
- *Expressing Your Concerns – How to File a Statement of Concern About an Energy Resource Project*

The company must also offer all current AER EnerFAQs publications that relate to the type of energy development, which might include:

- *All About Critical Sour Wells*
- *Explaining AER Setbacks*
- *Flaring and Incineration*
- *The AER and You: Agreements, Commitments, and Conditions*

Other EnerFAQs are listed in Section A.2.6; all can be found on the AER website.

This information will provide the basis for consultation with the landowner/occupant. Although actual developments may depend on the information gained from a new well, it is still a good idea to ask the company about their future plans.

²⁰ AER, Directive 056. Appendix 10 contains the letter and the brochure. Appendix 11 Understanding the Participant Involvement (PI) Process tells industry how the AER expects a company to inform and consult with the public. Section 2 gives the general requirements for participant involvement.

Remember, that if the well contains *sour gas*, the setback distances may be greater than for *sweet gas*; it will not be possible to use the land within the setback distance for residences and buildings until after the well is abandoned.

Section 5 deals with issues relating to pipelines and Section 6 covers oil batteries, compressors, and dehydrators.

Time to respond

It is a good idea to talk to your neighbours to find out about other companies operating in the local area and to inquire about their plans, thus giving you a fuller scope of expected development. Before companies file their application with the Regulator, companies must send out notification of their proposed development, and then allow the public in the participant involvement program (or others who have expressed concern) at least 14 calendar days to consider and respond to the notice. If a company receives confirmation of *non-objection* from all those who must be notified before the 14-day period has ended, they may file their application earlier.²¹ If after 14 days the company has not resolved all of the objections, they may file the application with the AER but must indicate that there are outstanding objections. This 14-day period is part of the participant involvement program, laid out in Directive 056. If all issues and concerns are resolved by the company before they file an application, they are entitled to file a *routine application*, which may allow for an *expedited* approval process (such as the Regulator making a decision before the filing period for a statement of concern is over). If there are outstanding concerns, the company must file a non-routine application, and there will likely be the full 30-day time period to file a statement of concern.

The requirements for companies regarding public consultation and notification are discussed in Section 2.1.

The following sections identify some issues you may want to discuss with the land agent, such as site selection, setbacks and various environmental considerations. These issues are summarized in a series of questions in Section 4.5. If you are unable to resolve issues relating to site selection, the terms of the proposed lease or any other health, safety, environmental, or socio-economic issue (except compensation), the

²¹ AER, Directive 056, section 2.3.2.

company may propose using the AER’s Alternative Dispute Resolution (Section 2.4.1) process to facilitate or mediate an agreement (Section 2.2). Any issues relating to compensation are dealt with by the Surface Rights Board (Section 10).

4.4 Site selection and setbacks

The land agent will show you on a survey plan where the company wants to drill the well. If you feel that the site they have chosen is problematic, explain why this is the case and ask them to evaluate alternative sites. The company may be able to change the surface location of a well without affecting their chances of finding oil or gas.

Ask the company to locate the well as far away as possible from your residence, buildings, and water wells, to minimize the impact on you and your family. Keep in mind the prevailing winds between your house and the well, as there may be flaring activity during the drilling period of the project.

An oil or gas well is not usually permitted within 100 metres of a dwelling, permanent farm building, school or *surface water* body, or within 40 metres of a surveyed road.²² The setback depends in part on the nature of the well, with greater distances required for sour gas wells than for oil wells and sweet gas wells. Check that the location of any water wells is shown on the survey plan and that the setback distances are satisfactory. Information on setbacks is provided in AER *EnerFAQs: Explaining AER Setbacks*.²³

The minimum setback distances for sour gas facilities are shown in Table 3. The setbacks for sweet gas wells are the same as for a Level 1 sour gas facility.²⁴ As a landowner, you may want to negotiate a larger setback in some circumstances.

²² Alberta, Oil and Gas Conservation Rules, 151/1971, section 2.110 (Alberta government regulations are available at Alberta Queen’s Printer, “Laws Online/Catalogue.” http://www.qp.alberta.ca/Laws_Online.cfm); see also AER, Directive 056, section 5.9.10.

²³ AER, *EnerFAQs: Explaining AER Setbacks* (2014).

²⁴ Oil and Gas Conservation Rules, section 2.110; see also AER, Directive 056, table 7.5.

Table 3. Setback requirements for sour gas wells

Level of facility	H ₂ S release rate (m ³ /s)	Minimum distance
1	<0.3	At least 100 m to a surface improvement (e.g. dwelling, permanent farm building, school or church)
2	0.3–2.0	At least 100 m to individual permanent dwellings and <i>unrestricted country development</i> ²⁵ At least 500 m to <i>urban centres</i> or public facilities
3	2.0–6.0	At least 100 m to individual permanent dwellings up to 8 dwellings per quarter section At least 500 m to unrestricted country developments At least 1.5 km to urban centres or public facilities
4	> 6.0	As specified by the AER, but not less than Level 3

Source: This table is based on information in AER Directive 056: Energy Development Applications and Schedules, Tables 5.5, 6.3 and 7.5²⁶ Refer to these tables for full details.

Note: Any well classified as a Level 1, 2, 3, or 4 sour well may also be classified as a *critical sour well*²⁷, which means there are stringent safety requirements, including an emergency response plan.

Further information on sour gas is provided in Section 4.6. For setback requirements for pipelines, see Table 4, and for batteries, gas compressors and other facilities, see Table 5.

²⁵ Unrestricted country developments refer to any collection of permanent dwellings outside an urban centre that number more than eight per quarter section.

²⁶ The AER refers to Category D pipelines (where the pipeline associated with the facility contains gas with more than 10 mol/kmol H₂S), and Category C, D or E facilities, which are classified according to the volume of sulphur inlet to the facility. This includes gas processing plants, some gas and oil batteries and *straddle plants*, etc. Facilities with less than 0.01 mol/kmol H₂S in the inlet stream are in Category B and thus exempt. See AER Directive 056, table 5.1 for full description of categories. The AER provides a H₂S Conversion Calculator on their website: <http://www.aer.ca/rules-and-regulations/directives/directive-056>

²⁷ AER, *EnerFAQs: All About Critical Sour Wells* (2015)

4.5 Questions to ask before signing a well lease agreement

Besides the physical aspects of a well, there are also financial considerations. Before signing a lease, you will also want to read Section 2 and Section 10. Some landowners prefer to request a right-of-entry order from the Surface Rights Board rather than signing a surface lease agreement with the company, even though they have reached agreement on all issues and on the amount of compensation. More information on right-of-entry orders when there is agreement, and the associated consent compensation order, is given in Section 10.3.2.

The AER provides a detailed list of “Questions you may want to use for discussion between you and a company” in *EnerFAQs: Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner’s Guide*.²⁸

The following list of questions identifies additional issues, especially with respect to environmental impacts, that you may want to discuss with the land agent before you sign a lease agreement. If you negotiate any special conditions that the company must meet, ensure that they are added in writing to the lease agreement.

Section 6.2 provides information on compressors, which are sometimes located on the well site. These may be needed when the well is built or later. They may also be centrally located to serve multiple wells. Some of these facilities may have long term impacts on you and your family, so make sure to review the questions at the end of Section 6 if they apply to you.

Section 8, which addresses potential impacts during the operation of oil and gas wells, may help you identify additional issues that are relevant to your situation.

Legal

Have you read the Letter from the AER Chairman and AER brochure Understanding Oil and Gas Development in Alberta, *EnerFAQs: Proposed Oil and Gas Development: A Landowner’s Guide* and other relevant AER FAQs?

²⁸ AER, *EnerFAQs: Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner’s Guide* (2015), 9.

The company's land agent will have given you or offered you these documents together with the company's information package and the outline surface lease agreement.

Have you read Negotiating Surface Rights?

This publication from the Farmers' Advocate Office is available online²⁹ or by calling their office.

Have you agreed how you want to settle any future issues?

Decide if you want to stipulate that the alternative dispute resolution process should be used as a first step. Ensure the agreement contains an arbitration clause that enables unresolved disputes to be settled under the Alberta Arbitration Act, without going to court.

Have you read about compensation in Section 10 of this guide?

It is important to negotiate and agree on compensation before signing the lease agreement.

Do you need to negotiate special compensation for any damage to special livestock?

If you have valuable purebred animals or breeding stock, you may want to negotiate a replacement value that is greater than the commercial value of ordinary livestock.

Is the arbitration clause in the agreement satisfactory?

You may want to negotiate that the company will pay the costs of arbitration.

Do you want to request a right-of-entry order from the Surface Rights Board rather than signing a lease?

Some landowners prefer to request a right-of-entry order from the Surface Rights Board, rather than sign a lease agreement, even if they have reached agreement with the company on all issues, including compensation. See Section 10.3.2.

²⁹ Alberta Agriculture and Forestry, *Negotiating Surface Rights* (2009) Agdex 878-1.
[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1126?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1126?opendocument)

Have you taken the time to read through the agreement carefully, to ensure that all the clauses are satisfactory? Is everything that you have negotiated with the company included in the written agreement?

The Office of the Farmers' Advocate can provide advice on wording clauses, if you need an addendum (See Section A.4 for more information about the Farmers' Advocate Office).

Do you need to check with a lawyer/consultant before signing the lease agreement to ensure that it meets your needs?

A lawyer or consultant who is knowledgeable about surface rights issues may help in negotiations. It can also be helpful to discuss issues with an experienced neighbour or landowner group.

Well type and location

Are you satisfied with the location of the well and access road?

Are the well and access road located to minimize inconvenience to you or your neighbours while still ensuring the company's ability to protect the environment? Is the well at least the minimum distance from buildings, water wells, etc.?

What type of well is being drilled?

If it is a sour gas well, read Section 4.6.

If it is a shale gas, tight oil or coalbed methane well, read Section 4.7.

Water

Is your water supply protected?

Ensure that the oil or gas well is far enough from your water well and other water bodies. Ask the company to test all water wells near the lease for depth, volume and water quality, both before and after drilling. Ensure the water samples are analyzed by a laboratory accredited for those specific tests by the Canadian Association of Environmental Analytical Laboratories and that you receive a copy of the results.

Does the company want to drill a water well on site to supply water while drilling?

A water well must be drilled according to AER requirements and be properly abandoned when no longer required.

How will surface water be managed on the lease site?

The company should ensure that off-site surface waters will not enter into the drilling area. On-site waters should be captured in a containment pond and disposed of with the drilling muds or tested prior to release off-site. You may want to include a clause in the lease agreement that notes the direction of drainage and requires the company to maintain natural drainage and install culverts or other works to ensure this.

Land**How will topsoil be protected?**

Find out how the topsoil will be conserved so that it can be used for reclaiming the site when the well is shut down, and where it will be stored. Ask if the subsoil will also be stripped and stored for use in reclamation (called “two-lift salvage”). Make sure that the company is not allowed to use coarse gravel or rock on the leased land unless this can be removed when the land is reclaimed.

How will weeds be controlled?

Decide if you want equipment to be steam-cleaned to remove weed seeds before entering your property,³⁰ and if you want weeds on the site to be controlled by mowing rather than with herbicides. You may want to ask the company to obtain consent before using any chemical, soil sterilants, pesticides or herbicides on your land.

Is the clause in the lease agreement that relates to fencing satisfactory?

You may want to add an addendum to the lease agreement to ensure that the fences and gates are complete before construction starts on the well. You also want to make the company responsible for locking gates. If you want to use the company access road to reach your own land, you need to ensure the responsibilities are clear.

³⁰ Alberta, Weed Control Act, 2008, c W-5.1, s 35 states: “No person shall move a machine or vehicle if the movement is likely to cause the spread of a restricted, noxious or nuisance weed.” These types of weeds are designated in the regulations or in local bylaws. Section 34 states: “No person shall deposit or permit to be deposited weed seeds or material containing weed seeds in a place where they might grow or spread.”

Are there any trees that you want to protect?

Tell the company what they should do with any trees that are cut down and if you want the merchantable timber, logs and firewood. You may want to include a penalty for trees that are cut or damaged without your permission.

Waste management**How will drilling wastes be managed?**

Try to learn as much about the types of drilling wastes that the well may produce, as they will have different risks associated with them. Decide if you want to arrange for the company to remove drilling wastes from your land or to deal with them in a specific way. It is advisable to have a separate agreement that covers drilling waste specifically that specifies access to the land, payment for access, clauses on damages and method to solve disagreements. Request that the company use tanks instead of a sump to store drilling waste. If the company will store the waste on your property, negotiate the location so that any potential spills are less likely to affect you or your water sources. [See Section 8.3 for more information on environmental issues with drilling wastes and AER's document "Common Questions and Considerations for Licensees and Landowners Contemplating Directive 050 Land Application Methods"³¹]

Do you have any requirements with respect to reclamation in addition to the AER standards? How soon will reclamation be carried out if no oil or gas is found at the site?

Specify if you want the site to be planted with native species or a certified seed to prevent erosion during use of the well site or upon reclamation. See also Section 8.6.

Does the agreement require the company to immediately notify you if there is a leak, spill or accidental release from the well and to pay compensation for damage?

The AER sets standards for dealing with leaks and spills; however, you may wish to negotiate additional provisions.

³¹ AER, Directive 050: Drilling Waste Management (2016).

Air quality

How long will the well be tested?

Will the company flare the gas or can they test inline?

Ask the company to evaluate the alternatives to test flaring, as it may be possible for them to test a well without flaring (Section 8.2.3). Determine if a high-efficiency incinerator would be preferable to a flare in your location. If flare testing is necessary, find out how long the test will last and negotiate under what conditions it will be carried out. This might include air quality monitoring during the flare testing, or a collection system to capture any excess gas.

Have you told the company if you are sensitive to air pollution?

If you or your family are very sensitive, you may want to move out or ask for flaring to be conducted only when the wind is from a direction that will blow any gases away from your residence. Clarify whether the company will compensate you for the expenses during this time. You can also request additional notification for any planned flaring or venting events, so that you can make arrangements to avoid the area when you may be affected the most. Although AER requirements regulate individual facilities, there is currently a gap in regulations to manage the cumulative impacts of air pollution.

For coalbed methane wells that need dewatering, how long will flaring last?

Ask if the company can install a pilot light on the flare stack, which will allow the gas to be collected in small amounts and burned intermittently instead of being vented. Ask if a high-efficiency incinerator would result in lower air pollution at your residence than a flare. Ask how soon the well might be tied in to a pipeline.

AER Directive 060³² includes requirements to eliminate or reduce the potential and observed impacts of these activities and to ensure that public safety concerns and environmental impacts are addressed before beginning to flare, incinerate, or vent.

Will there be any long-term effects on air quality?

You should try to ensure that there will be no routine flaring. Inquire whether solution gas from oil wells will be released to the air, flared or piped away (Section 8.2). Find out if the company can pipe gas to an existing gas plant or install a

³² AER, Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting (2016).

microturbine instead of flaring to the air. If you and your family are sensitive to emissions, ask to be informed before the company undertakes routine flaring.

If the well contains sour gas, how high will the H₂S content will be?

Make sure you are familiar with the company's emergency response plans (Section 4.6). Even with a sweet gas well or an oil well it is important to know what plans are in place to deal with an emergency.

Nuisances

How much noise will be created by the wellhead equipment and by company staff visiting the site to service it?

Ask if a compressor (Sections 6.2 and 8.5) will be located at the well site and how the noise will be minimized. Find out if oil will be trucked or piped out. You may want to ask the company to avoid trucking at night.

Is the proposed compensation adequate to cover the loss of land and inconvenience the well and access road will cause?

Make sure you have considered crop loss, adverse effects, inconvenience and nuisance when estimating the appropriate level of compensation. This might include the time you have spent working on the lease agreement, etc.

Will the company provide compensation if you are evacuated from your home, farm etc?

Compensation terms for evacuation should be included in the lease agreement.

If you are in an emergency planning zone but are not a party to an agreement, evacuation costs including stay away costs and loss of business may be your responsibility.

Will the company provide compensation if your water well is damaged?

This should be covered in the lease agreement.

Construction and expansion

Where will the pipeline be located?

If the well is successful, a pipeline will be needed. Its location can affect how you use the land (Section 5), so should be negotiated when discussing the well lease. You may

want to arrange the right-of-way easement for the pipeline and compression facilities at the same time as the lease agreement.

Will the company conduct a Pre-Construction Assessment Report?

This report provides a baseline against which to measure future reclamation work. It is not mandatory, but is encouraged by AER and the industry.³³

Are there any plans for future expansion that could affect you?

Unless it is already specified in the lease agreement, you may want to ask the company to obtain separate permission to

- *drill more than one well or expand operations beyond the initial well*
- *drill a water well on the lease*
- *construct a pipeline or above-ground powerline*
- *dispose of any sump fluids, toxic chemicals or other hazardous substances on the lease site*
- *cross your land or store any materials on land that is not included in the lease agreement.*

Is the company planning on drilling any additional wells or locate other facilities such as a compressor or dehydrator on your land or nearby?

If the company plans to locate a battery or compressor or another facility, see Section 6 for more information.

4.6 Sour oil and gas developments and emergency response plans

Sour oil is crude oil containing free sulphur, hydrogen sulphide (H₂S; see Appendix E Glossary) or other sulphur compounds; sour gas is gas that contains measurable amounts of H₂S. While many wells contain “sweet” gas (gas that does not contain measurable amounts of H₂S), an increasing proportion of wells in Alberta produce sour gas. As explained in Section 4.6.2, H₂S is acutely toxic to humans, even at low levels.³⁴

³³ Alberta Environment and Parks, *Pre-construction Assessment Report for Wellsites*, C&R/IL/00-8 (2000). <https://extranet.gov.ab.ca/env/infocentre/info/library/6889.pdf>

³⁴ See also T. Guidotti, “Hydrogen Sulphide,” *Occupational Medicine* 46, no. 5 (1996), 368.

About one-fifth of the gas produced in Alberta is sour, with varying concentrations of H₂S. Much of the new H₂S-bearing hydrocarbon development in the province is happening in areas that were originally drilled for oil.³⁵

4.6.1 Emergency response plans

The AER requires companies that produce sour gas to have an appropriate emergency response plan (ERP) to ensure quick action if there is an operational incident, ranging from a minor leak to a *blowout*. The AER's minimum requirements for ERPs are given in Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry.³⁶

All companies must have a corporate ERP so they can notify the public and respond to any unexpected event. The AER also requires a company to have a specific ERP for a critical sour well, a sour production facility, a sour gas pipeline or a high vapour pressure pipeline. A “critical” well (see Appendix E Glossary) is one that has a high H₂S release rate, or is close to an urban centre. The release rate is determined by both the percentage of H₂S in the gas and the amount of H₂S that can be delivered to the surface (see AER's *EnerFAQs: All About Critical Sour Wells*).³⁷

Even where a site-specific ERP is not required, it is a good idea for you as a landowner or occupant to discuss safety with the company and examine its corporate ERP so you know what will be done if there is a leak or other emergency. When a company is required to have a specific ERP they must consult or notify those within the emergency planning zone.

Emergency planning zone

An emergency planning zone (EPZ) is an area surrounding a well where residents or other members of the public may be at highest risk in the event of an uncontrolled release of H₂S. The company must be prepared to respond immediately to any event in the EPZ. The zone should be large enough to protect the public, so they can be informed and evacuated in case of emergency.

³⁵ AER, *Alberta's Energy Reserves & Supply/Demand Outlook for 2015*, ST98-2016, section 5.1.3.5.

³⁶ AER, Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry (2009).

³⁷ AER, *EnerFAQs: All About Critical Sour Wells* (2015).

The basic size of the EPZ will be determined by the maximum H₂S release rate, but the actual size of the final zone must take into consideration the nature of the terrain and other site-specific features. The extent of the zone will also reflect information gathered during the public involvement process. Directive 071 sets out in detail how a company must involve local government and the public in preparing a specific ERP. The company must provide the public within the EPZ a detailed information package that includes an explanation of the potential hazards, the H₂S concentration and release rates, the company's 24-hour emergency contact telephone number, and the potential health effects of exposure to H₂S and to sulphur dioxide (SO₂), which results from the combustion of H₂S. The package will also have a description of the procedures in place for responding to an emergency. Where people may be absent for extended periods (e.g., trappers or recreational property owners) the company must inform them by registered mail.

The company must review this information with all members of the public (or with the urban director of emergency management in an urban area) and address their concerns. In addition to obtaining input into the actual ERP, the company must obtain information from all those living and working in the zone, including the exact location of their residence/workplace and exit routes, key contact names and phone numbers, so that they can be alerted if there is an emergency.³⁸ The company must also identify those with special needs (for example, people with health or mobility problems), who may need to be notified or evacuated earlier than the general population. An indication of the type of information that the AER expects with respect to an ERP is given in Appendix 2 of Directive 071.

Companies must update ERPs biannually, and conduct a public awareness program with residents every second year. They are responsible for ensuring resident contact information is up-to-date.³⁹

Corporate emergency response plans

The AER requires all companies drilling for oil and gas to have a corporate ERP, which they can review on request. The ERP describes how a company will manage and communicate during an emergency and is used as a training manual for company employees. Directive 071 sets out the mandatory requirements for a corporate ERP. The

³⁸ The Freedom of Information and Protect of Privacy Act applies to the information that a company collects about residents, and how the company can use that information.

³⁹ AER, Directive 071, section 14.6.

plan must, among other things, set out a system to classify emergencies, using the AER's assessment matrix:⁴⁰

Alert — The company has identified a significant problem that is confined to the lease and is progressing towards a solution. Relevant company personnel have been alerted, but no additional personnel are required. The AER may or may not be contacted.

Level 1 Emergency — The problem is complex and deteriorating and may not be contained to the lease, and off-site management are involved. The AER are notified, along with the public within the EPZ who have requested early notification. Those with special needs and others may choose to voluntarily evacuate.

Level 2 Emergency — The hazard has likely extended past the leased area and isn't contained, which could jeopardize public health and safety. The public within the EPZ is likely notified, and could be given instructions to evacuate or shelter-in-place, according to the situation and the ERP. The company will notify the AER, the local municipality, and the regional health authority. The company may request assistance from local authorities.

Level 3 Emergency — Control of the situation has been lost and there are off-site impacts to the public. Evacuation or shelter-in-place will likely be activated, according to the ERP. The company requires assistance from outside parties to attempt to bring the hazard under control. If the hazard progresses beyond the EPZ, notification and evacuation will depend on the level of the concentrations of the hazardous gases (H₂S, SO₂, etc.). The AER fully implements the incident management system,⁴¹ which includes working with Alberta Emergency Management Agency (AEMA).

The ERP should set out how a company's ERP coordinates with the local municipal disaster services. As only large cities have safety professionals, if the ERP relies on

⁴⁰ AER, Directive 071, Appendix 4.

⁴¹ The Petroleum Industry Incident Support Plan is a provincial-level plan which directs multiple government agencies in the event of an emergency. The Energy Resources Conservation Board and the Alberta Emergency Management Agency, *Petroleum Industry Incident Support Plan* (2011). <http://open.alberta.ca/dataset/923e7f34-a999-4ec0-a8b3-c9e77bb39c7b/resource/3a493c78-1a4a-4e3a-9f05-3d672769cebe/download/6512904-2011-Petroleum-Industry-Incident-Support-Plan.pdf>

municipal staff to respond to a problem then the company will have to ensure that the municipality has enough staff who are adequately trained to deal with such an emergency and that they have the appropriate equipment.

There are no regulations in place regarding compensation in the event of an evacuation. The company is usually expected by the AER⁴² to cover reasonable costs incurred when evacuation is due to a company incident and there is potential for harm. If there is an issue of unpaid costs between a landowner and the company, the issue may be resolved through an Alternative Dispute Resolution (ADR) in the case of multiple issues between parties, or if compensation is the only concern, the issue may need to be resolved through a small claims court. If individuals need to claim on their personal insurance policies, they should ensure that the company's declaration of an emergency was endorsed by the municipality; if not, some insurance companies may not pay out on the claim. As sour gas emergencies can be life threatening, regardless of what municipal declaration, as a landowner you should follow the instructions the company has provided.

4.6.2 Risks of sour gas

While the acute effects of H₂S are of greatest concern, there are indications that cumulative low-level exposure can also affect health, even though it is not known what levels constitute a health risk to the general public or sensitive individuals.⁴³ A study of medical literature conducted by Alberta's health ministry found that young, healthy adults can tolerate short-term exposure up to 10 parts per million (*ppm*) H₂S without significant effects, but that values of 2 ppm induced bronchial obstruction in individuals with mild to moderate asthma.⁴⁴ The potential impacts of exposure to SO₂ have also received increasing attention.⁴⁵ This suggests that it is advisable for those with impaired

⁴² Previously, the AER required companies to pay costs associated with evacuation.

⁴³ S. Roth and V. Goodwin, *Health Effects of Hydrogen Sulphide: Knowledge Gaps*, prepared for Alberta Environment (2003). <http://aep.alberta.ca/air/state-of-the-environment/condition-indicators/documents/HealthEffectsHydrogenSulphide-2003.pdf>

⁴⁴ Alberta Health and Wellness, *Health Effects Associated with Short-term Exposure to Low Levels of Hydrogen Sulphide — A Technical Review* (2002), v. <http://www.health.alberta.ca/documents/Health-HS2-Exposure-2002.pdf>

⁴⁵ Health Canada, *Human Health Risk Assessment for Sulphur Dioxide: Analysis of Ambient Exposure to and Health Effects of Sulphur Dioxide in the Canadian Population* (2016). http://publications.gc.ca/collections/collection_2016/sc-hc/H144-29-2016-eng.pdf

health to identify themselves as being in the “special need” category when a company is compiling an ERP, so that they receive early warning of any potential release.

Reducing risks

Because of public concerns about the potential risks associated with sour gas, the Provincial Advisory Committee on Public Safety and Sour Gas was set up in 2000,⁴⁶ which led to the Public Safety and Sour Gas Report in 2007.⁴⁷ The 2007 report implemented a suite of recommendations around sour gas operations in Alberta. Among these changes was the lowering of H₂S and SO₂ thresholds to prompt evacuations of the public, and a commitment to inspect critical wells at least once during or immediately prior to drilling of the critical zone.

Additionally, the AER requires that companies conduct proliferation assessments for critical sour wells, pipelines and facilities and disclose the information so that impacts on the public could be minimized.⁴⁸ The AER expects companies drilling sour gas wells that are part of a larger project to disclose the project and, where possible, the extent of the planned development (i.e., the number of wells, pipelines and processing facilities that may be needed). They ask companies within a common area to minimize the effects of sour gas developments by sharing information, pooling efforts and using common roads, pipelines, and processing facilities.

4.7 About hydraulic fracturing

Some geological formations contain significant deposits of oil or gas trapped in shale rock and other types of geological formations (e.g. sandstone). These formations cannot be produced with conventional drilling and production technology because the formations are very non-porous so the oil and gas does not “flow” to the surface like conventional oil and gas. These kinds of geological formations are generally described as “tight” or “shale” formations.

⁴⁶ Provincial Advisory Committee on Public Safety and Sour Gas, *Public Safety and Sour Gas: Findings and Recommendations* (2000). <http://www.aer.ca/documents/reports/fnlrprt.pdf>

⁴⁷ Alberta Energy and Utilities Board, *Public Safety and Sour Gas Final Report* (2007). https://www.aer.ca/documents/reports/PSSG_FinalReport_2007-03.pdf

⁴⁸ AER, Directive 056, section 8.3.

Hydraulic fracturing, which is a technological combination of fracturing and horizontal drilling technology, has provided the technological solution to “cracking” the oil and gas out of the formation. It is also informally known as “fracking”.

Conventional oil and gas reservoirs have driven Alberta’s historic oil and gas production, but new conventional reservoirs are now very rare while existing production is nearly depleted. However, there are still large formations containing shale gas and tight oil that have not yet been put into production. As a result, hydraulic fracturing is expected to dominate future oil and gas production in Alberta.

There are some significant differences between hydraulic fracturing and conventional oil and gas drilling:

- greater number/density of well sites
- greater number of wells per well site
- larger volume of fluids to handle (truck traffic, increased risk of spills, etc)
- more noise from sites (compressor trucks)
- more air pollution (increased flaring, venting, diesel exhaust from compressor trucks and other transportation)
- larger, longer-lasting surface disturbances

Hydraulic fracturing operations use similar kinds of equipment as conventional operations, but there are some notable differences that increase the intensity of the operation and significantly increase traffic to and from the site during the fracturing operation.

4.7.1 Fracturing and well completion

In hydraulic fracturing, a mixture of water and other substances is injected below the surface into tight, resource-containing rock formations to fracture them and facilitate the flow of oil or gas for production. Combining this technique with horizontal drilling increases contact with the oil-producing rock layers, and has allowed substantially more oil or gas to be produced from tight reserves.



Figure 4. Hydraulic fracturing site

The fluid injected into the reservoir contains water, a number of chemical additives, and a proppant. Proppant, typically sand, holds the fractures open and facilitate production. The chemical additives serve a number of different purposes, including separating water and oil, reducing fluid viscosity, reducing friction, managing pH, managing temperature, killing bacteria, and preventing clay swelling. These additives typically make up around 1% of the fracturing fluid.

FracFocus (fracfocus.ca) is a chemical registry website that provides information on fracturing fluids. The information that the companies are required to report to the AER via Directive 059 is now posted to the FracFocus database.

The fracturing fluid is injected in cycles to continually expand the fractures. After each pressurization and subsequent fracture, the pressure is dropped and the injection fluids, along with some *reservoir fluids* and gas, flow back to the surface. At the surface, efforts are made to separate out these fluids from the gas and subsequently store the fluids on the surface. Depending on the *operator* and location, these fluids are either reused in subsequent fracturing stages or collected to be disposed.

The gas that flows to the surface at this stage must also be managed. Early in a new development there is usually no infrastructure in place to capture and use the produced gas. Without the infrastructure to capture the produced gas (which is primarily natural gas but can include some fracture fluids, benzenes, and other hydrocarbons), it is vented, flared or incinerated. Of the three options, incineration, when properly done, provides a more complete combustion of the produced gases and generally minimizes the air pollutants released.

4.7.2 Well and subsurface integrity

In conventional production, all efforts are made to maintain reservoir pressure well below the reservoir fracture pressure. However, this is the opposite in hydraulic fracturing, where the intention is to exceed the reservoir fracture pressure to break the rock layer and allow oil or gas to flow. These higher operating pressures mean that more care is needed to ensure that damage is not done to the wellbore that would release fluids at or below the surface or that the fractures do not propagate beyond the formation to contaminate other subsurface zones.

The Alberta Energy Regulator (AER) stipulates additional requirements for hydraulic fracturing operations, in its Directive 083. To minimize this risk of wellbore damage, the Alberta Energy Regulatory requires the use of either a dual- or single-barrier system to isolate and contain fracture fluids in the event of a failure while also providing detecting and responding to failures if they arise. Single-barrier systems present higher risk and must be designed more carefully.

Fluids can also move through other existing wells drilled in the area (typically called “offset wells”) to contaminate other areas or reach the surface, if a pathway between wells is created during the fracturing process. To reduce this risk, the Alberta Energy Regulator requires that all existing wells within the area be identified and assessed to determine which may be at risk of being impacted by the operation. For each existing well determined to be at risk, well control plans must be created and documented at the fracturing operation to ensure that any movement of fluid is detected and responded to accordingly. However, a significant challenge currently is that there are a large number of very old existing wells that have never been identified or catalogued, making proper identification and management of well to well transmission very difficult.

If you are aware of any existing wells in and around your lands, it is best to identify them to the developer to ensure that they take the necessary precautions to maintain well integrity.

4.7.3 Flowback fluid management

As noted above, the fracturing process occurs in cycles. After each pressurization and fracture, the pressure is dropped which allows the injection fluids and some reservoir fluids and gases to flow back up the wellbore and to the surface. These *flowback fluids* must be captured, contained, and disposed of to avoid surface contamination.

The cost of the fracturing fluid and the large volumes produced motivates reuse of these injected fluids. The produced fluids are stored on site, where they can be separated and processed for reinjection. Pits can be used to store the flowback fluid; however, due to potential contamination from leaks and spills, above-ground storage tanks should be used to minimize risk. Double-walled storage tanks provide the highest degree of protection. Single-walled storage tanks can also be used, but must include a secondary containment system such as a surrounding dike with impervious liner. AER Directive 055 outlines the technical storage requirements for the upstream oil and gas industry.⁴⁹

The remaining fluid and drilling waste must be managed in the same manner as conventional operations, as discussed in Section 4.5.2.

4.7.4 Vehicle traffic

One of the most observable differences between traditional conventional production and hydraulic fracturing operations is the increased traffic to and from a hydraulic fracturing site. Due to the large volumes of water necessary for a fracturing operation, there is an associated increase in truck traffic to transport this water to the site and to remove the resultant wastes. This will increase traffic noise, congestion and dust in and around development areas during the fracturing process.

Some work is starting to be done to create water pipeline infrastructure that enables the transport of water to the well site without tanker trucks. You and your neighbors should ask the developer about their plans for water pipeline system as this can be a very effective way to dramatically reduce one of the largest nuisances to landowners.

⁴⁹ AER, Directive 055: Storage Requirements for the Upstream Petroleum Industry (2001).

Equitable Origins is producing a set of best management practices to ensure conformance with the EO100 Standard Provisions. The 2015 draft includes the following:⁵⁰

Operator ensures the integrity of the *casing* to reduce the risk of leakage of fracturing fluids, *saline groundwater* or hydrocarbons into a shallow aquifer due to imperfect sealing of the cement column around the casing.

Operator ensures that wells are properly sealed before perforation and stimulation.

Operator routinely tests well integrity using pressure testing and other methods that meet or go beyond regulation such as temperature, acoustic, or ultrasonic and that take into account potential decreases in well-bore integrity over time.

Upon *completion*, operator ensures the integrity of plug and abandonment measures and the isolation of freshwater aquifers.

4.8 Environmental considerations of hydraulic fracturing

4.8.1 Water use

Hydraulic fracturing operations typically use more water than conventional operations. This water can be drawn from surface, *groundwater* sources or alternative sources such as reused/recycled water, wastewater, and saline sources. In most cases, because water is only needed during the initial fracture stage, operators typically apply for Temporary Diversion Licences (TDLs) to access water.

The AER posts TDL applications when they are received, which provides an opportunity for landowners who believe that they may be *directly* and *adversely affected* to submit a statement of concern. If the operation meets the low-risk criteria specified by AER technical staff, a license is automatically issued; for example, diversions of small volumes of water from borrow pits which have captured water would be automatically approved. Otherwise, the AER conducts a technical review of the TDL application.

⁵⁰ Equitable Origin, *EO100™ Standard Technical Addendum: EO100.1: Shale Oil & Gas Operations* (2015), 12. https://d2oc0ihd6a5bt.cloudfront.net/wp-content/uploads/sites/1738/2016/05/EO100-for-Shale-Oil-and-Gas_DRAFT_v2.pdf

If water is to be sourced from a groundwater aquifer that also supplies your domestic or agricultural water, it is important that you request that a company demonstrate that sufficient water is available so that the aquifer is not depleted from the additional use. Further information related to groundwater use at oil and gas operations in general can be found in Section 4.5.3.

If surface water is to be used, the licence will stipulate the operational requirements to withdraw the water. It is standard for a TDL to require use of a fish screen in fish-bearing water bodies, and to limit withdrawals from watercourses to specified rates that are established to protect other users and the aquatic environment. Operational requirements exist for groundwater use as well, such as limiting drawdown on a pumping well. If you suspect that licence requirements are not being met, you should notify the AER and provide any supporting evidence.

4.8.2 Surface water and soil contamination

Water supplies must be protected through proper storage and disposal of fracturing fluids, as well as strict wastewater storage and treatment methods. However, surface water or soil contamination can occur if fracturing or flowback fluids are not managed properly. Spills can occur during day-to-day handling of fracture fluid, when flowback fluid production exceeds storage capacity, or when fracturing fluid or wastes are being transported to and from the site. Leaks occur if equipment is damaged or improperly operated.

The responsibility to remediate surface water or soil contamination is the same as discussed in Section 8.4.

4.8.3 Groundwater contamination

A primary concern for landowners is the potential contamination of a water aquifer that may result if a fracture, fault, or damaged well creates a pathway between the fracture formation and the aquifer. A number of ways have been identified for groundwater to become contaminated, including the upward migration of natural gas and saline waters from moving along leaky well casings, natural fractures in the rock, old *abandoned* wells, or permeable faults; the fracturing itself may also damage existing well casings.⁵¹ These pathways may allow for fluid and gas movement over long time frames and have the

⁵¹ Council of Canadian Academies, *Environmental Impacts of Shale Gas Extraction in Canada* (2014), xiii. <http://www.scienceadvice.ca/en/assessments/completed/shale-gas.aspx>

potential to cause substantial cumulative impacts on subsurface water quality. The known *remediation* techniques to remove the contamination are expensive and long-term, and therefore the risk of groundwater contamination has received significant public attention.

To reduce this risk, the AER requires that any hydraulic fracturing operation operating above or within 100 metres of the *base of groundwater protection* (BGWP) must perform an additional risk assessment to evaluate the potential for contamination from the operation. If the fractures are found to encroach on the BGWP, the operation must only use fracturing fluids that will not contaminate the water aquifer. While there are substantial requirements around well construction, integrity monitoring, etc. to further reduce the risk of groundwater contamination, some concerns have been raised by landowners that these regulations do not apply to deeper fractures in certain higher risk geology (e.g. sandstone) that can result in ground water contamination.

To minimize the *adverse effects* on water wells, hydraulic fracturing operations cannot operate within 200 metres of water wells and within 100 metres vertically from the final depth of any water well.

4.8.4 Air quality

After each fracture, the pressure is dropped and the injection fluids along with some reservoir fluids and gas flow back to the surface. The fluids are separated from the gas and stored on the surface, and usually reused in subsequent fracturing stages (see Section 4.1.3). The gas that flows to the surface at this stage must also be managed. As discussed in Section 4.7.1, the lack of infrastructure with new developments can create some issues with respect to managing the produced gas. Venting, flaring and/or incineration can still release contaminants into the air. If venting, flaring or incineration are occurring or planned for in a development near you, you should discuss with the developer about the plans for collecting produced gas. Economic, environmental, and health outcomes are best if produced gas is captured and collected into pipelines.

Multistage hydraulic fracturing wells produce, vent, flare and incinerate much more *solution gas* during well testing than conventional operations do. Other additional sources of air emissions include leaks of methane and VOCs from operating equipment; emissions from diesel-powered trucks and machinery; road dust; and evaporation from storage pits and silica dust. If multiple operations in a region are fracturing simultaneously, the cumulative production of air pollutants can result in nuisance problems or, in extreme cases, health impacts.

There is emerging research about the health impacts associated with exposure to this unique mixture of gases. However, the challenge is that the complexity of the research as a result of the subsurface reactions of these chemicals and the resulting cumulative risk to the public through different routes of exposure.⁵² There also remains an ongoing lack of baseline monitoring that has made it difficult to distinguish between ambient pollution and the additional pollution from these operations.⁵³ You should considering asking the company to complete comprehensive tests on your water supply, local airsheds etc as part of your lease.

4.8.5 Earthquakes

A number of earthquakes (also known as seismic events) have been linked to wastewater disposal and hydraulic fracturing operations, including operations in Alberta and B.C. As both wastewater disposal and hydraulic fracturing increase pressure in the sub-surface, there is a risk that they can trigger an earthquake.

Starting in 2013, the Alberta Geological Survey measured unexpected and persistent patterns of earthquakes west of the community of Fox Creek. By comparing the timing of the events with local operations, the earthquakes were determined to be associated with hydraulic fracturing.⁵⁴ As these operations continued and earthquake activity intensified, the AER issued Subsurface Order No. 2 in 2015 to establish new seismic monitoring and reporting requirements for hydraulic fracturing operations only in the Fox Creek area.⁵⁵

This Order requires operators to monitor earthquake activity within 5 km of their wells and to develop response plans to address potential events. If an operator measures an earthquake event greater than a 2.0 local magnitude (ML) they must report the event to the AER. If an operator measures an event greater than a 4.0 ML they are required to immediately cease operations. Operations are not allowed to recommence until the AER approves.

⁵² *Environmental Impacts of Shale Gas Extraction in Canada*, 146.

⁵³ *Environmental Impacts of Shale Gas Extraction in Canada*, 146.

⁵⁴ Gail M. Atkinson et al., “Hydraulic Fracturing and Seismicity in the Western Canada Sedimentary Basin,” *Seismological Research Letters* 87 (2016). doi: 10.1785/0220150263

⁵⁵ AER, *Bulletin 2015-07: Subsurface Order No. 2: Monitoring and Reporting of Seismicity in the Vicinity of Hydraulic Fracturing Operations in the Duvernay Zone, Fox Creek, Alberta*, February 2015. <http://www.aer.ca/documents/bulletins/Bulletin-2015-07.pdf>

In British Columbia, there were so many concerns with earthquake activity resulting from oil and gas activity that the B.C. Oil & Gas Commission conducted two studies (the 2012 Horn River study⁵⁶ and Montney Study⁵⁷). As a result of the studies' outcomes and increasing public concerns, the B.C. Oil & Gas Commission changed the permitting rules to require presence of ground motion monitoring during hydraulic fracturing activities and a ground motion monitoring report within 30 days of completing those activities.⁵⁸

4.8.6 Additional questions for hydraulic fracturing operations

Background

What equipment will you use to store and manage flowback fluids?

There are a few different ways of storing fluids on-site. Double-walled tanks provide the best containment, while single-walled tanks with a berm or simple lined pits provide less protection. Storage also must be the proper size to contain all fluids produced.

What is the expected level of vehicle traffic to and from the fracturing site?

Moving additional equipment and materials (as compared to conventional development) to the production site results in more truck traffic. This can cause a nuisance, safety concerns and damage to roads not designed for heavy truck traffic.

Land

Should I expect seismic activity resulting from your operations?

Fracturing has resulted in seismic activity in Alberta, and there are operational methods to reduce the frequency and severity of these events.

⁵⁶ B.C. Oil & Gas Commission, "Investigation of Observed Seismicity in the Horn River Basin" <https://www.bcogc.ca/node/8046/download>

⁵⁷ B.C. Oil & Gas Commission, "Investigation of Observed Seismicity in the Montney Trend" <https://www.bcogc.ca/node/12291/download>

⁵⁸ B.C. Oil & Gas Commission "Seismicity: What's Being Done." <https://www.bcogc.ca/public-zone/seismicity/whats-being-done>

Air

How will your flaring or incineration operations affect air quality in combination with other operations in the area?

Fracturing operations tend to produce larger volumes of air pollution than conventional operations. When operations are concentrated together, the cumulative air pollution can reach levels that can create odour, nuisance or potentially health impacts.

How frequently will you inspect the wells and associated infrastructure for leaks?

Methane leaks from the operations can have negative impacts on the local air quality as methane contributes to the creation of VOCs. Leaks can also contain other hazardous air pollutants.

It may be valuable to negotiate in your lease agreement that the operator follow the Best Practice guidance from EO100 on leak detection and repair:

“Operator ensures that all equipment on the well pad is equipped for minimizing methane and other air emissions, and conducts quarterly checks of this equipment to ensure it is working properly as part of a systematic Leak Detection and Repair Program.”⁵⁹*

Water

What chemical additives will you be using in your fracturing fluid?

A wide variety of different additives are used in fracturing, all with different toxicity. You should review these chemicals (information is available at fracfocus.ca) to determine what you might be exposed to.

How will your operation impact my water well?

Operations must take all measures to protect groundwater resources, especially when those resources are currently being used.

It may be valuable to negotiate in your lease agreement that the operator follow the Best Practice guidance from EO100 on water testing:

⁵⁹ EO100™ Standard Technical Addendum: EO100.1: Shale Oil & Gas Operations, 13.

“Operator conducts baseline and post-completion sampling of individual wells and surface water within a minimum radius of 2,500 feet, or regulator limit, whichever is greater, prior to drilling of wells and installs monitoring wells to monitor the quality of water in aquifers in productive use that are being drilled through. Testing includes levels of hydrocarbons, arsenic, mercury and total dissolved solids in aquifers and surface streams.”⁶⁰

Will you provide baseline monitoring for my water well quality?

You should require in the lease that a company provide baseline monitoring for your water well to ensure any changes in water quality from the operations are recorded

Will you provide ongoing monitoring of the level of water in water well?

You should require in the lease that the company provide regular annual measurement of the level of the water in your water well. Dramatic changes in your water well level can indicate that issues have occurred as a result of fracturing activity.

⁶⁰ EO100™ Standard Technical Addendum: EO100.1: Shale Oil & Gas Operations, 14.

Section 5

Pipelines



5. Pipelines

The section examines the issues that you as a landowner or occupant need to consider when the construction of pipelines will occur near or across your land. Although a company is required to provide you with some information, this chapter contains additional information and questions to ask when considering signing a pipeline right-of-way. For interprovincial or international pipelines, this section outlines the requirements that are governed by the National Energy Board.

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5.1 Overview of pipelines

Pipelines are used to transport oil and gas from wells to processing plants (e.g., oil *batteries* and *gas plants*) and from processing plants to market. Pipelines are also used to carry water that is produced by oil or gas wells (produced water) to processing plants so that it can be cleaned and disposed of. In unconventional production, pipelines also transport steam, CO₂ and *effluents* for injection.

Pipelines come in different sizes and have different pressures, depending on the volume and type of fluid or gas they contain. A pipeline's class, for regulatory purposes, is defined by an index that is based on a product of its size and length. *Class II pipelines* have an index less than 2690, and are generally small and/or short pipelines. Class II pipelines also include any pipeline regulated by the National Energy Board (NEB). All other pipelines are defined as *Class I*, and require approval from the Alberta Energy Regulator. Class is important, because it determines how environmental issues are handled (see Section 5.2.3).¹ Determination of the class of a pipeline under application is one of the first steps a *landowner* should take.

It is important to distinguish between pipelines that are regulated by the Alberta Energy Regulator (AER) and those that are regulated by the NEB, since the requirements may differ.

The AER regulates the majority of energy pipelines in Alberta, but Alberta Infrastructure is responsible for low-pressure gas distribution lines. The NEB regulates all pipelines that cross provincial or national borders.²

Pipelines must be operated in compliance with Canadian Standards Association (CSA) standards, specifically CSA Z462, which are enforced by both the AER and NEB. The Canadian Energy Pipeline Association is the professional body that represents all the major federally regulated pipeline companies in Canada (see Section B.2.7 for information on their landowner relations policy).

¹ Alberta Environment and Parks, *Environmental Protection Guidelines for Pipelines*, C&R/IL/94-5. (2014). Conservation and Reclamation Information Letters are available at Alberta Environment and Parks, "Information Centre."

<https://extranet.gov.ab.ca/env/infocentre/info/listing.asp?page=4&subcategoryId=50>

² Type of pipelines that are regulated by the AER are listed in AER, Directive 056: Energy Development Applications and Schedules (2014), table 6. AER Directives are available at AER, "Directives." <http://www.aer.ca/rules-and-regulations/directives/>

The beginning of a pipeline project involves contact with the energy company, a consultation and visit of the *land agent* who will discuss the route selection. Although the process of consultation and *negotiation* is similar to that for wells, there are different issues relating to pipelines that you need to consider. A good overview can be found in *Pipelines in Alberta — What Farmers Need to Know*.³

Rural gas distribution lines

The pipelines described in this section are gathering lines and transmission lines that operate at high pressure. Low-pressure gas distribution lines have different issues and requirements. There is no entry fee for gas distribution lines, as defined in the Gas Distribution Act.⁴ To make rural gas distribution affordable, rural landowners customarily allow gas distribution lines on their property for a nominal one-dollar fee and a compensation payment for crop damages.⁵

5.2 Pipelines regulated by the Alberta Energy Regulator

The AER regulates all oil and gas pipelines that link wells to facilities in Alberta, in accordance with the Pipeline Act, Pipeline Regulation and applicable CSA standards.⁶ Over half of all pipelines in Alberta are regulated by the AER; the remainder are utility pipes and those regulated by the NEB.⁷

There are a number of aspects of pipeline project development that are important for landowners to understand, including selecting a route through good consultation, ensuring proper pipeline *setbacks*, and understanding environmental impacts. This

³ Alberta Agriculture and Rural Development, *Pipelines in Alberta: What Farmers Need to Know* (2009) Agdex 878-4.

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1125?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1125?opendocument)

⁴ The Gas Distribution Act applies to lines with an operating pressure of 700 kilopascals or less, but excludes rural utility lines. Alberta, Gas Distribution Act, RSA 2000, c G-3, s 1(h). Alberta government acts are available at Alberta Queen's Printer, "Laws Online/Catalogue."

http://www.qp.alberta.ca/Laws_Online.cfm

⁵ *Pipelines in Alberta: What Farmers Need to Know*.

⁶ *Pipelines in Alberta: What Farmers Need to Know*.

⁷ AER, "Rules and Directives by topic: Pipelines." <http://www.aer.ca/rules-and-regulations/by-topic/pipelines>

section outlines how to resolve known issues and how to be prepared in case of an emergency.

5.2.1 Route selection

The first step in constructing a pipeline is for the company to survey the proposed route (Section 4.2). Before a company can apply to the AER for a permit to construct a pipeline the company will send a land agent to landowners and *occupants* to discuss the proposed route and ask them for input, such as the terms to access land. Once the route has been decided, the landowner and occupant are asked to enter into a negotiation to sign a *right-of-way* agreement (or pipeline *easement*).⁸ The agreement should list all the things the company must do when constructing, operating and eventually *reclaiming* the pipeline. Once the agreement is signed, a caveat is created on the landowner's land title, specific to the pipeline. For more information consult the AER Directive 056: Energy Development Applications and Schedules, which includes a full list of technical and public involvement requirements for pipelines, similar to that for wells. The licence to construct a pipeline expires if no work has begun within a year of its issue.⁹

In selecting the pipeline route, the surveyor must provide reasonable notice to the landowner when accessing their land. While the Surveys Act and Surface Rights Act allow access, they also place responsibility for damages with the surveyor.¹⁰ For pipelines, like wells, the company must obtain consent for right of entry from both the landowner and the occupant.¹¹

Objecting to the pipeline route

If you do not like the exact location of the proposed pipeline, you can object and/or suggest an alternative route. If you and the company are unable to negotiate a satisfactory location for the pipeline or if you disagree on other issues relating to the construction of the line, the procedure for pipelines is similar to that for wells: either party can request *mediation* or *facilitation* by AER *Alternative Dispute Resolution (ADR)*

⁸ For more information on land agents, see Section A.7, or Alberta Labour, *Surface Rights and the Land Agent: A Guide for Landowners and Occupants Concerning Land Agents and Surface Rights Agencies*. <https://work.alberta.ca/documents/surface-rights-and-the-land-agent.pdf>. See Sections B.2.1 and B.2.5 for professional associations.

⁹ AER, Directive 056.

¹⁰ Province of Alberta, Surface Rights Act 2000, current as of December 17, 2014, Section 14.

¹¹ Province of Alberta, Surface Rights Act 2000, current as of December 17, 2014, Section 12(1).

staff, or by a member of the third-party mediator roster (Section 2.4).¹² If it is still impossible to reach agreement, the pipeline company must file a *non-routine application*, telling the AER about the outstanding issues. The application process, *routine* and *non-routine*, is outlined in Directive 056. At this time, the company can also request an AER *hearing*. As a landowner, it is a good idea to inform the AER in writing of your concerns, so they can be considered when reviewing the application. Informing the AER in writing is considered a *statement of concern*, which should be sent to both the AER and to the pipeline company.¹³ Even when the company has filed its application, you and the company will usually continue with the appropriate dispute resolution process.

A hearing on a disputed pipeline application can be slow and expensive for a company, so they will usually try to resolve issues directly with the landowner before the hearing date. The hearing process is summarized in Section 11. For detailed information on the participant involvement process, see Directive 029: Energy and Utility Development Applications and the Hearing Process.

The AER can reject the company's application or grant the permit with or without conditions. The AER rarely rejects an application due to environmental issues, but may include conditions that reflect a landowner's concerns. If the AER gives the company a permit and you have not reached agreement with the company, the company will then apply to the Surface Rights Board for a *right-of-entry order*. The Surface Rights Board will usually grant the right of entry and determine the amount of compensation that the company must pay you as the landowner or occupant (Section 10.2).

Section 2 deals with negotiations and appropriate dispute resolution.

Remember that the AER only deals with issues relating to the pipeline itself; compensation is handled by the Surface Rights Board (Sections 10.2 and 11.2).

Issues to consider

Things to consider in the negotiation process of selecting a pipeline route include pipeline location and setback distances, the depth and number of buried pipes,

¹² It is important to know that AER does not mandate the use of ADR, nor does it negotiate on behalf of either party for resolving disputes or deal with matters relating to compensation.

¹³ AER, Directive 056, section 3.8 and Appendix 11 explain the application processes and the participant involvement process.

implications for *topsoil* removal, and specific requirements for pipe *abandonment* and reclamation of land at the end of project life. Compensation for pipelines, unlike for wells, is based on one-time payments that may include compensation for hiring legal assistance for the negotiation.¹⁴

The company must advise you about the type and size of the pipeline and its operating pressure. It is a good idea to inquire about the proximity and spacing of shut-off valves, and the location of tie-ins, *compressor* stations or pumping stations.¹⁵ You may also want to inquire about future plans if more oil or gas is developed upstream: ask whether the company might increase the pressure in the line by putting in more compressors, or lay a new pipeline parallel to the initial line.

Where topography and soil conditions are suitable, small-diameter plastic pipelines (often less than 10 cm but up to 15 cm in diameter) can be installed by plough-in operations, instead of the traditional trenching. This reduces the surface disturbance. Ploughed-in pipelines are given special regulatory treatment, including exemption from the requirement to obtain a *reclamation certificate*.¹⁶ AER regulation still requires pipeline companies to follow strict requirements regarding end-of-life activities, regardless of pipeline installation method. In 2001, Alberta Environment identified some concerns with ploughed-in pipeline construction and emphasized that the work must be carried out using the right equipment under the right environmental conditions.¹⁷ The most suitable pipeline construction method will depend on timing and soil conditions.

In-depth technical requirements for pipelines are detailed in Directive 056, including setback distances, leak detection, and emergency response plan requirements. The directive also covers discontinuation, abandonment and removal of pipe.

¹⁴ *Pipelines in Alberta: What Farmers Need to Know*.

¹⁵ Valve spacing is in accordance with CSA standards and takes into account pipeline profile, water crossings, etc. If the valve is some distance away, it will take longer to stop the flow. Additional guidance on spacing and pipeline safety is available in the *Landowner's Guide to Pipelines* (Pipeline Safety Trust, 2011).

<https://puc.sd.gov/commission/pipelinesafety/landownersguide.pdf>

¹⁶ Province of Alberta, *Conservation and Reclamation Regulation*, AR 115/93 with amendments up to and including Alberta Regulation 169/2014, section 15.1. Rural gas utility pipelines as defined in the Rural Gas Act are also exempted from reclamation certificates.

¹⁷ Alberta Environment, *Ploughed-In Pipelines* (2001), Conservation and Reclamation Information Letter C&R/IL/01-4.

Other unique requirements exist for steam distribution pipelines, which are regulated by the Pipeline Regulation (under authority of the Pipeline Act) and governed by the Alberta Boiler Safety Authority.

Also, the company will always need access to its pipeline when flowing. This working area must be defined through the landowner and company negotiations. You may want to include specific requirements in the pipeline agreement, or create a separate agreement with the company.

5.2.2 Setbacks

When reviewing the proposed route for the pipeline, consider whether the pipeline might affect future plans you have for the land, such as the location of new farm buildings or plans for subdivision. Depending on what is flowing through the pipeline, the setback may be wider than the right-of-way, which could constrain options for future land developments. Even if the pipeline is constructed to carry *sweet gas*, it may later be approved to carry *sour gas*, which could result in greater setback distances for buildings.

A setback is the minimum distance that must be maintained between an energy facility and various surface developments for land use and public safety purposes.

Setback distances from the pipeline depend on the level of *hydrogen sulphide* (H₂S) gas contained in the flowing natural gas or oil effluent. Table 5.5 in Directive 056 summarizes minimum distances from the pipeline to permanent dwellings, *unrestricted country developments*, *urban centres* and public facilities. The higher the level of H₂S gas, the higher the minimum distance required. Since 2005, Directive 026 requires the same setback rules to be applied for oil effluent pipelines, which can potentially release sour gas that is contained in the oil.¹⁸ For both natural gas and oil effluent, the regulated threshold to apply the minimum setbacks distance is at least 10 mol of H₂S per 1 kmol of natural gas. Below this threshold gas is considered “sweet”, as opposed to “sour”.

¹⁸ Alberta Energy Regulator, *Directive 026: Setback Requirements for Oil Effluent Pipelines* (2005), section 1. <https://www.aer.ca/rules-and-regulations/directives/directive-026>

Sweet gas or oil — The required pipeline setback distance is the width of its right-of-way. However, there are special requirements for high vapour pressure lines, including the provision of an emergency preparedness plan.¹⁹

Sour gas or oil — The setback distances depend on the volume of sour gas that would be released if the pipeline ruptured, as indicated in Table 4. To calculate the volume, engineers account for the distance between shutoff valves and diameter of the pipe. The minimum setback distance from a permanent dwelling is 100 metres, applied to Level 1 sour gas pipelines; other developments require larger setbacks.²⁰

Table 4. Setback requirements for sour gas pipelines

Level of facility	H ₂ S volume (m ³)	Minimum distance
1	<300	At least 100 m to a pipeline right-of-way
2	300–2,000	At least 100 m to individual permanent dwellings and unrestricted country development At least 500 m to urban centres or public facilities
3	2,000–6,000	At least 100 m to individual permanent dwellings up to 8 dwellings per quarter section At least 500 m to unrestricted country developments At least 1.5 km to urban centres or public facilities
4	>6,000	As specified by the AER, but not less than Level 3

Source: This table is based on information in AER Directive 056: Energy Development Applications and Schedules, Tables 5.5, 6.3 and 7.5.²¹ The reader should refer to these tables for full details.

¹⁹ Alberta Energy Regulator, *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry* (2008), section 5 and 8. <https://www.aer.ca/rules-and-regulations/directives/directive-071>

²⁰ AER, Directive 056, table 5.5.

²¹ The AER refers to Category D pipelines (where the pipeline associated with the facility contains gas with more than 10 mol/kmol H₂S) and Category C, D or E facilities, which are classified according to the volume of sulphur inlet to the facility. This includes gas processing plants, some gas and oil batteries and straddle plants, etc. Facilities with less than 0.01 mol/kmol H₂S in the inlet stream are in Category B and thus exempt. See AER, Directive 056, table 5.1 for full description of categories. The AER provides a H₂S Conversion Calculator on their website: <http://www.aer.ca/rules-and-regulations/directives/directive-056>

5.2.3 Environmental issues

Since 2014, environmental impacts from pipelines are regulated by the AER;²² guidelines for pipeline development have been outlined by Alberta Environment and Parks.²³ Adherence to and consideration for the guidelines are particularly important for Class II pipelines, which are not bound by a formal review process.

Read *Environmental Protection Guidelines for Pipelines* before signing a lease agreement.

Class I pipelines — those that are relatively long and/or large, and not regulated by the NEB — must be approved by the AER and meet any specific conditions in this approval in addition to those in the guidelines. However, both Class I and II pipelines must follow the same environmental protection guidelines.²⁴ The guidelines point out the importance of identifying potential environmental concerns through pre-construction site assessments and pre-planning, taking precautions to minimize the amount of remedial work after construction, and proper operations and maintenance activities, including hydrostatic testing of old and new pipelines.

You may need to discuss or negotiate one or more of the following concerns with the land agent, making sure to include provisions in the pipeline agreement:

Pipeline route selection

- minimize right of way requirements by considering existing/future pipelines
- avoid forested areas, areas with environmental sensitivities and high wildlife value, and archeological or historic sites
- if tree stumps will need to be removed from the entire width of the right-of-way, this must be negotiated

Scheduling and timing

- avoid weather that could contaminate/move soils
- if reclamation does not immediately follow construction, timing of *backfill*, topsoil replacement and revegetation efforts will need to consider factors such as access to fields for spring seeding, weed control, livestock movement in

²² Alberta, Environmental Protection & Enhancement Act, RSA 2000, c E-12.

²³ *Environmental Protection Guidelines for Pipelines*.

²⁴ *Environmental Protection Guidelines for Pipelines*.

- presence of temporary right-of-way fencing, and erosion monitoring and prevention
- consult with Alberta Fish and Wildlife about constraints they may have to protect wildlife

Construction

- follow environmental guidelines for clearing the pipeline right-of-way and salvaging the topsoil, to be replaced when backfilling the pipeline with minimal loss; practices should minimize soil disturbance
- when backfilling, ensure adequate compaction of backfill material to prevent soil slumping and erosion
- when grading, ensure that results do not cause increased erosion, slope instability and sedimentation, which would reduce success of reclamation
- consult the guide for specific requirements on water crossings
- the company should document and remediate all contamination, following up construction with soil sampling

The above requirements are high-level, but the guidelines also have very specific requirements — for example, consideration for removal of any tree stumps, rocks or other debris from the right-of-way; the reseeding of the surface with appropriate seed (e.g., native grasses); the location of any above-ground structure associated with the pipeline; and the minimum depth at which a pipeline is buried (with respect to deep surface operations).

Monitoring

When the pipeline is operating, the company is responsible for monitoring leaks and spills. You may want to ensure that the company notifies you of any leak or break that occurs in the pipeline, and tells you how they are repairing the damage and cleaning up.

You may also want to find out how the company will monitor for corrosion, which can cause leaks or other pipeline failures. Ask if the pipeline route will be inspected by air or land and how often the pipeline itself will be checked internally. You should inquire if the pipeline will be cathodically protected (which means that a low-voltage current is passed through it) to reduce the risk of corrosion. If the substance being transported in the pipeline changes, corrosion control needs to be re-evaluated by the company.²⁵

²⁵ AER, Directive 056, sections 6.9.3, 6.9.17 and 6.11.2.4.

You will also want to know if the temperature of material in the pipeline will affect the temperature of surface soil, since warmer soil above the pipeline can cause the crops to ripen at different times than the rest of the field, which makes harvesting difficult.

A number of other environmental issues that should be considered when negotiating with a company are identified by questions in the next section.

Pipeline failures are discussed in Section 8.1.2. Leaks of oil or *saline water* may contaminate soil and affect vegetation. While much of the spilled hydrocarbon and saline water can be contained and removed quickly, the affected sites can take years to completely recover.

5.3 Questions to ask before signing a pipeline right-of-way agreement

Some landowners prefer to request a right-of-entry order from the Surface Rights Board rather than signing a right-of-way agreement with a company, even though they have reached agreement on all issues and on the amount of compensation. The reasons landowners prefer this are explained in Section 10.3.2.

Before signing a lease, read Section 10 on compensation. Section 10.3 discusses the use of a right-of-entry order.

Before you decide whether to sign a pipeline right-of-way agreement with a company, it may be helpful to seek answers to the following questions:

Legal

Have you read the AER brochure *Proposed Oil and Gas Development: A Landowner's Guide* and other relevant AER FAQs that the company's land agent will have given or offered?²⁶

The company's land agent will have given or offered you these documents, together with the company's information package, and outlined the right-of-way agreement.

²⁶ AER, *EnerFAQs: Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner's Guide* (2015), 9. https://www.aer.ca/documents/enerfaqs/AER_EnerFAQs07_Landowner.pdf

Have you read Pipelines in Alberta — What Farmers Need to Know?

This publication from the Farmers' Advocate office is available online²⁷ or by calling their office.

Does the agreement allow for additional pipelines to be constructed along the right-of-way in the future?

If you wish to prevent this, you should ask for a clause limiting the right-of-way agreement to one pipeline.

Will the pipe be left in the ground after abandonment? Does the agreement provide for the eventual clean up and abandonment of the pipeline and reclamation of the land when the pipeline is no longer in use?

If you want the pipeline removed, you should inquire if this can be included in the initial agreement. (Alberta Environment does not recommend line removal where it causes significant additional disturbances.) You should also ensure that all liens that the company may have registered are removed when the pipeline is abandoned.

Have you agreed how you want to settle any future issues such as poor vegetation establishment and reduced crop yield due to soil compaction, a sinking trench or damage to surface drainage?

You may want to stipulate that the alternative dispute resolution process should be used as a first step, before escalating this through a legal process. The agreement should contain an arbitration clause that enables disputes to be settled under the Alberta Arbitration Act, without going to court.

Have you read about compensation in Section 10 of this guide?

It is important to negotiate and agree on compensation before signing the lease agreement.

Do you want to request a right-of-entry order from the Surface Rights Board rather than signing a lease?

Some landowners prefer to request a right-of-entry order from the Surface Rights Board, rather than sign a lease agreement, even if they have reached agreement with the company on all issues. See Section 10.3.2.

²⁷ Pipelines in Alberta: What Farmers Need to Know.

Is everything you have negotiated with the company included in the written agreement?

The Office of the Farmers' Advocate can provide advice on wording, if you need an addendum.

Do you need to check with a lawyer or other consultant before signing the right-of-way agreement to ensure it is satisfactory?

A lawyer or consultant knowledgeable about surface rights issues can help with negotiations.

Background

Is the pipeline in the best location, given the surface water drainage, water wells and other environmental considerations?

You also need to consider whether the location of the line will affect future plans for farm expansion or the creation of a subdivision.

What is intended to be transported through the pipeline (oil, diluted bitumen, natural gas, condensate, other)?

Depending on the material to be transported, there may be other construction materials or operational requirements that reduce the risk of leakages or other accidents.

How deep will the pipe be buried?

Determine if you need to specify a minimum depth for the pipeline to prevent interference with farm operations, such as deep ploughing.

If the pipeline will contain sour gas, has the company worked with other companies in the area to minimize the amount of sour gas infrastructure in your area?

The AER has increased their proliferation requirements to limit additional sour gas developments in areas of development is already concentrated.²⁸ Before a company applies to construct a new pipeline or processing facility, it must contact other

²⁸ AER, Directive 056, section 5.9.3.

operators in the area to investigate whether it is feasible to upgrade a facility or form a partnership with existing operators instead of constructing a new facility.²⁹

Water

Is the pipeline close to a water well?

If so, ask the company to test the well before they start construction.

Land

How will the topsoil be protected?

The agreement with the company should state how the topsoil will be removed, how it will be conserved to prevent erosion, and how the land will be reclaimed to the same condition that existed prior to the company's operations. You should find out what the company will do to minimize soil compaction along the right-of-way and where heavy vehicles will be moving during construction.

How will weeds be controlled?

Decide if you want the equipment to be steam-cleaned to remove weed seeds before entering your property. Cleaning also prevents establishment and further spreading of soil-borne diseases such as clubroot, especially for canola crops.³⁰ Take note of cleaning stations that may be closely situated to your lands.

You may want to ask the company to obtain consent before using any chemical, pesticides or herbicides. This is especially important for certified organic farms, or if you use organic production practices.

Do you require the company to construct any fences or gates to prevent livestock from straying?

Ensure that the company is required to maintain and immediately repair any fences to your satisfaction. Include compensation requirements. You may also ask to be compensated for managing fences yourself, and for moving and feeding livestock at a separate location.

²⁹ AER, Directive 056, section 5.9.3.

³⁰ "Clubroot is a serious soil-borne disease of canola, mustard and other crops in the cabbage family." Alberta Agriculture and Forestry, *Alberta Clubroot Management Plan* (2015), 1. [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex11519](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex11519)

Do any trees have to be felled?

Tell the company what they should do with any trees that have to be felled and if you want merchantable timber, logs and firewood. Typical options for wood disposal are burning, mulching or a combination of both. Excessive mulch depth on the right-of-way may impact vegetation re-establishment. You may also want to include a penalty for trees that are cut or damaged without your permission.

Does the company need any temporary workspace outside the right-of way while the pipeline is being constructed?

If so, include this in the agreement, or sign a separate agreement for workspace use. Compensation for workspace should be valued similar to right-of-way.

Do you want to specify that all travel and movement of personnel, equipment, vehicles, etc. occurs along the surveyed right-of way?

You might want to include a penalty if the company's activities extend outside the right-of-way without your prior approval.

Waste management**Will the company clean up quickly after the pipeline is constructed?**

The right-of-way agreement should require the company to quickly clean up the right-of-way, including removal of all stumps, rocks, roots and other debris. Also, clarify with the company how to dispose of waste (e.g. hauling or burning).

Do you have any special requirements with respect to reclamation?

You may want to specify how the land is reclaimed and whether you want the company to reseed the land using a specific seed type. You may want to indicate the date by which this is to be completed. The company should redistribute and level the topsoil, cultivate (to remediate compaction), prepare an adequate seedbed, and reseed the land where required. Any special requests cannot breach regulation(s).

Does the agreement require the company to immediately notify you about any leak or spill?

This is an AER regulatory requirement. In addition to this specific requirement, you will also want to be told how any leak or spill will be contained and cleaned up.

Nuisances

Is any above-ground installation required on the right-of way?

If so, you should ensure that it will be located in an area that causes the minimum inconvenience and will be clearly marked and that a surface lease is negotiated.

Is the proposed compensation adequate to cover the crop loss, adverse effect, nuisance and inconvenience that will occur while the pipeline is being constructed?

If there is any above-ground installation on the pipeline, you should arrange for annual compensation for loss of use and adverse effect, with the rental being reviewed every five years.

Does the company agree to cover costs for any accidental damage that may arise due to the location of the pipeline or above-ground installations?

It is a good idea to check that you are not liable for any accidental damage.

As explained above, should you be unable to resolve issues with the pipeline and company, as a result of asking the above questions or otherwise, the company must file a non-routine application as explained in Section 5.2.1.

If there are any outstanding problems once a pipeline has been constructed, such as inadequate clean up of the right-of-way, drainage problems, or trench sinking, you should first try to resolve the difficulties directly with the company. If this is not successful you can contact the Farmers' Advocate Office (Section A.4) or the regional conservation and reclamation inspectors of the AER (Section A.2.2). Any leak should be reported to the AER (Section A.2.1).

5.4 Response to problems and emergency response plans

If problems such as leaks do occur, they are usually noticeable during construction or within two years of operation. One common problem area is clean-up of the right-of-way. Land cleared or used during construction is also supposed to be reclaimed to an equivalent original state; this too can be a source of conflict.

Pipeline trench sinking from inadequate backfilling, soil compaction or erosion and sedimentation should be compensated for by the company, as should drainage problems

that include changes in the natural flow of water. Any slumping of land, and its reclamation to an equivalent state prior to pipeline installation, is the responsibility of the pipeline company. Compensation payments by the company include payment for crop loss and damages.

Common problems and suggestions for resolving them are listed in the Pipelines in Alberta document.³¹

If problems are not resolved, call or write the company. Failing this, the AER or the Farmers' Advocate may offer assistance when the company is unable or unwilling to resolve the concern(s). If a portion of the pipeline becomes exposed, also notify the AER to ensure corrective work is completed. Also, when excavation work is planned be sure to consult the Safe Excavation Near Pipelines guide published by the AER, which lists all landowner and industry responsibilities.³²

Disputes over damages are best resolved through an *arbitration* process with the company. When damages do not exceed \$25,000 and are identified within two years of occurrence, they may be considered by the Surface Rights Board.

5.4.1 Emergency response plans

All companies are required to have a corporate emergency response plan (ERP) so that they know what action to take in the event of leaks from a pipeline and the risk of explosion.³³ For sweet gas pipelines and those with low levels of H₂S, a corporate response plan is sufficient. For sour gas and oil effluent pipelines with higher levels of H₂S (where the pipeline contains more than 10 mol/kmol of H₂S), and for high vapour pressure lines, an *emergency planning zone* is calculated, and a specific ERP is required if there are occupied dwellings or campgrounds within the zone. The process is very similar to the ERP process for sour wells (Section 4.6.1).

In the case of sour gas and oil effluent pipelines, you should find out about the spacing between shut-off valves. In the case of a pipeline failure, these valves close to limit the amount of oil, gas or water that could escape to the amount between the valves. Companies should have the ability to shut down the pipeline and the shut-off valves

³¹ *Pipelines in Alberta: What Farmers Need to Know.*

³² AER, *Safe Excavation Near Pipelines: Requirements for Landowners and Industry*, 7th Edition (2013). <http://www.aer.ca/documents/reports/SafeExcavationNearPipelines.pdf>

³³ AER, Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry (2009).

automatically, as this is much quicker than manual shut-off. A company should report its threshold leak detection level — that is, the size of leak that would automatically result in a shutdown (as opposed to a small leak that could remain undetected).

Remember to “Call Before You Dig”: Call Alberta 1-Call at 1-800-242-3447 to locate pipelines and utility lines. Or “Click Before You Dig” at albertaonecall.com.

5.5 Pipelines regulated by the National Energy Board

The National Energy Board (NEB) is an independent federal regulatory agency that is responsible for, among other things, approving the construction and operation of interprovincial and international pipelines. A hearing is required for any applications to construct a pipeline more than 40 kilometres long,³⁴ or for any other applications at the discretion of the NEB. The NEB does not get involved with pipelines that lie completely within the borders of a single province. Whereas for Alberta pipelines, responsibilities are shared among several boards and departments (including the AER, the Surface Rights Board), the NEB is responsible for almost all aspects of the planning, construction, operation and abandonment of an interprovincial or international pipeline.³⁵

The issues involved in reviewing a transboundary pipeline application are similar to those for a provincial pipeline, as described in Section 5.2, and the same factors should be considered when landowners and occupants negotiate with a pipeline company. The NEB requires companies to anticipate the environmental issues and concerns that could arise from the proposed project and to discuss these with all levels of government, public interest groups, and affected landowners. In determining whether a pipeline project should proceed, the NEB reviews not only the economic, technical and financial feasibility of the project, but also the environmental and socio-economic impacts.

³⁴ NEB, *Pipeline Regulation in Canada: A Guide for Landowners and the Public* (2010), 36.
<https://www.neb-one.gc.ca/prtcptn/Indwnrgd/Indwnrgd-eng.pdf>

³⁵ The exception is unresolved issues concerning compensation, which are the responsibility of the Minister of Natural Resources Canada.

Unlike the AER, which may hold a hearing if landowners and a company are unable to negotiate an agreement, a hearing is part of the routine NEB process.³⁶ NEB hearings are dealt with briefly in Section 11.4.

Another helpful publication available from the NEB is *Living and Working Near Pipelines: Landowner Guide*.³⁷ Further information on the NEB is provided in Section A.12.

³⁶ *Pipeline Regulation in Canada*.

³⁷ NEB, “Living and Working near Pipelines.” <https://www.neb-one.gc.ca/sftnvrnmnt/dmgprvntn/lvngwrkngnrpplns/index-eng.html>

Section 6

Oil Batteries, Gas Compressors and Other Facilities



6. Oil Batteries, Gas Compressors and Other Facilities

In previous sections, we looked at the issues that arise with the development of new wells and pipelines. This section will briefly describe batteries, compressor stations, gas processing plants and large production facilities, and outline the regulatory requirements for these facilities. It also provides important questions to ask when a company approaches you to place these facilities on or near your land.

What’s in this chapter

6.1	Oil and gas batteries	6-4
6.2	Compressor stations	6-5
6.3	Gas processing plants	6-6
6.3.1	Risks of gas plants.....	6-8
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6.5	Questions to ask regarding batteries, compressors and facilities	6-10

The AER approval process and many of the issues for batteries, compressors and gas plants are similar to those discussed with respect to wells in Section 4. AER Directive 056: Energy Development Applications and Schedules sets out the requirements that a company must meet, including the consultation or notification of those who may be affected.¹

Batteries, compressors and gas plants go hand in hand with oil and gas wells, and sometimes a company may wish to build these facilities on the wellpad, or nearby as a collection point for other nearby operations. When a company applies for an approval for a facility, they are required to advertise their application and the Alberta Energy Regulator (AER) posts the application on their website. Specific consultation and notification requirements for facilities are noted in Section 2.1.1 .

After the application is submitted to the Regulator, you can file a *statement of concern* to the AER prior to the deadline indicated on the notice of application outlining any concerns you may have with how the project adversely affects you (See Section 2.5 and Section 11.1.3 for more information about submitting a statement of concern).²

Additionally, you should send your concerns directly to the company, although they will be notified of a statement of concern. Normally, the company will contact you and seek to resolve your concerns. If the company resolves your concerns by answering your questions or agreeing to a set of actions then you should contact the AER in writing indicating that you no longer have concerns about the project and what commitments the company has made to you. This may help ensure that the AER is aware of, and incorporates, these commitments in advance of approval of the facility. If the AER grants an approval it will set out requirements with respect to air emissions, handling of waste, protection of *surface water* and *groundwater*, etc. If you disagree with the Regulator’s decision on an application (if it was made without a *hearing*), you can appeal

¹ AER, Directive 056: Energy Development Applications and Schedules (2014), section 5.4 and table 5.1 set out the minimum consultation and notification requirements for facilities. Section 2 of this guide gives the general requirements for participant involvement, with the full process described in Appendix 11. AER Directives are available at AER, “Directives.”

<http://www.aer.ca/rules-and-regulations/directives/>

² You have the time limit set out in the Notice of Application to submit your statement of concern, which may be less than 30 days.

the decision. The Regulator has discretion whether it will hear an appeal, and can confirm, vary, suspend, or revoke any of its own decisions.³

If you are involved with a proposal to build a compressor, pumping station or gas processing plant you may wish to consult the Alberta Government's Code of Practice for Compressors and Pumping Stations and Sweet Gas Processing Plants.⁴ This sets requirements for air pollution control technology to limit emissions of nitrogen oxides, and for the management of wastewater and runoff.⁵

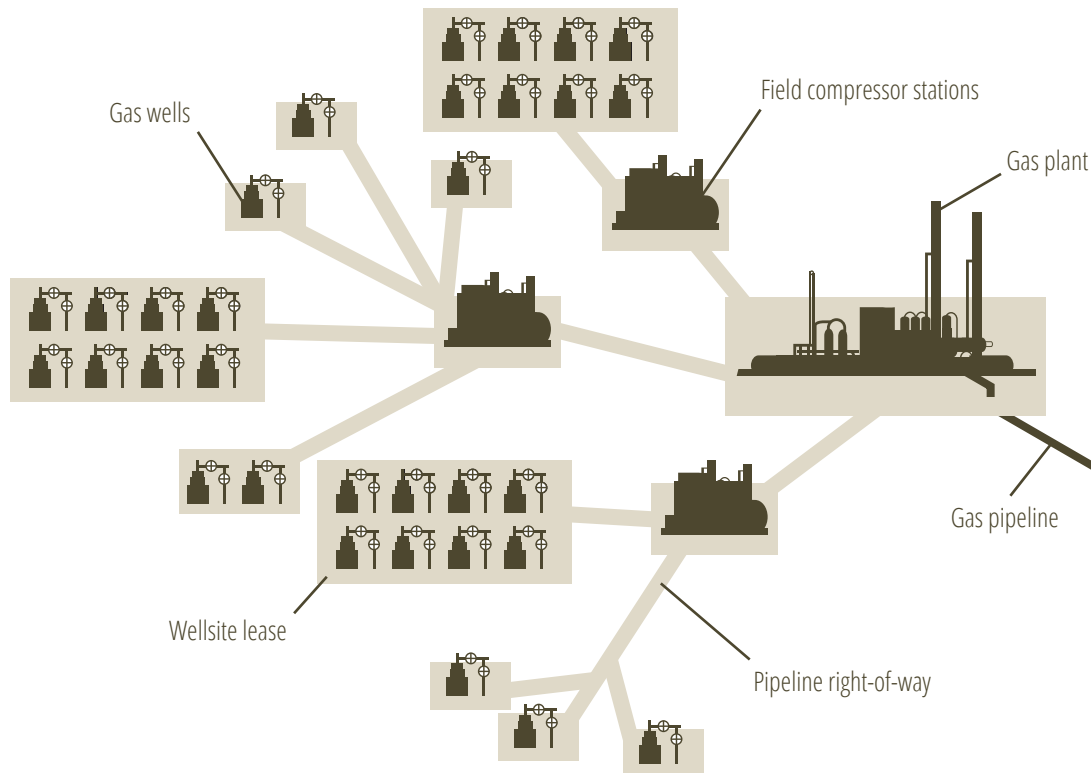


Figure 5. Schematic of well batteries, compressors and plants

³ Alberta, Responsible Energy Development Act, SA 2012 c R-17.3, s 42. Alberta government acts and regulations are available at Alberta Queen's Printer, "Laws Online/Catalogue." http://www.qp.alberta.ca/Laws_Online.cfm

⁴ Alberta, Code of Practice for Compressors and Pumping Stations and Sweet Gas Processing Plants; issued under the Substance Release Regulation (AR 124/93). <http://www.qp.alberta.ca/documents/codes/COMPRESS.PDF>

⁵ If a facility is not regulated under Alberta's Environmental Protection and Enhancement Act (RSA 2000, c E-12), it must meet the AER requirements for air emissions.

6.1 Oil and gas batteries

An oil battery is a facility that collects oil from one or more wells and passes it through equipment to separate out the entrained gas, water and other impurities before piping the oil. There may be *flaring* from an oil battery and fugitive emissions/odours from the process and tanks. To prevent any oil leaks from spreading, the site will be surrounded by a berm or other containment equipment and surface water will be collected and tested before it is discharged. In some circumstances *groundwater* may also be monitored.

Information about possible environmental issues with the operation of batteries is dealt with in Section 8. It will be helpful to review this information if a battery is to be built on or near your land.

The AER approval process is similar to that for oil and gas wells, which involves consultation with you as the *landowner* as well as local *residents* prior to submitting an application. The procedures a company must follow are set out in AER Directive 056.⁶ The AER can impose any conditions it considers appropriate on the licence.

As with wells and pipelines, a company is required to inform you of your rights by providing you with the AER information package (Section 2.1). The company must also inform adjacent residents of the proposed development and ensure that all parties understand the nature of the development and the equipment that they intend to use.

If people within the vicinity of the facility have any concerns or if they object to the facility, the company is expected to discuss and seek to resolve the issues, using *Alternative Dispute Resolution (ADR)* mechanisms when needed (Section 2.4). If the concerns cannot be resolved, the company must make a *non-routine application* and provide a written summary of the outstanding concerns/objections so the AER can decide whether to issue an approval or conduct a hearing.⁷ As the *landowner/occupant*, it is useful for you to also advise the AER in writing of your concerns. As explained in Section 2.3, even if a company has asked for a hearing, *negotiations* should continue, using appropriate dispute resolution. Since the hearing process can be slow, can delay a project, and is expensive for a company, the company will likely try to resolve your

⁶ AER, Directive 056, sections 2 and 5.

⁷ AER, Directive 056, section 3.8.2 and Appendix 11 explain the non-routine application process.

concerns/objections before the hearing date. Section 11 explains the AER hearing process.

There were over 24,800 oil and crude bitumen and satellite installations in Alberta in 2012 and over 15,700 gas batteries.⁸

6.2 Compressor stations

In compressor stations, compressors driven by gas or electric engines apply pressure to gas so that it will flow through process units and pipelines. Compressors come in many different sizes and may be located at a wellhead, battery, or gas plant. Long pipelines may also require a series of compressor stations along the line to boost pressure. A compressor may be heated to prevent freezing and condensation.

More compressors may be required for *coalbed methane* (CBM) or hydraulically fractured wells than for conventional oil and gas wells. In a CBM development, gas comes to the surface at lower pressure and may require compression close to the wellhead as well as prior to tying into a trunk pipeline. In *hydraulic fracturing* operations, additional compression is needed to pressurize the fracture fluid to break subsurface rock layers.

You should inquire whether a compressor will be needed on your property, since they can be noisy and are a source of some air pollutants.

The consultation and notification process for compressor stations is similar to that for batteries and the AER requires the company to consult with you as the landowner/occupant as well as nearby residents.⁹

The AER sets standards for acceptable noise levels (Section 8.5). A number of different compressors are available and some are considerably quieter than others. If a compressor is located close to a dwelling or workplace it is important to discuss noise mitigation measures with the company during your negotiation of a lease to ensure that the best technology is used and your considerations are addressed. If the noise is still disturbing, it may be necessary to use a baffle to further reduce the sound.

⁸ Energy Resources Conservation Board, *Field Operations Provincial Summary 2012*, ST57-2013, 7, 8. <http://www.aer.ca/documents/sts/ST57-2013.pdf>

⁹ AER, Directive 056, table 5.1.

There will be combustion emissions (carbon dioxide, nitrogen oxide, etc.) from compressors that are operated by natural gas, while there may be some fugitive emissions from leakages through valves, seals, and other pipe fittings from compressors driven by either gas or electricity. These fugitive emissions can cause or contribute to air quality and/or odour problems, and are further discussed in Section 8.2.

6.3 Gas processing plants

Gas processing plants remove unwanted substances from the gas before it is transported and sold as marketable natural gas. Some substances are separated out for sale, such as methane, ethane, propane, butane and pentanes. There are also contaminants in the raw gas that must be removed to meet quality specifications, such as water, *hydrogen sulphide* (H₂S), carbon dioxide, nitrogen and other trace gases. There are almost 800 gas processing plants in Alberta.¹⁰

The AER licensing procedure for gas processing plants is similar to that for other facilities such as batteries. If the company leases a site, they must provide you as the landowner or occupant with the AER information package on public consultation and try to reach agreement with you before applying for a licence. The company must consult with residents within a certain radius of the proposed plant.¹¹ In the case of *sour gas* plants, the company will also consult on the *emergency planning zone* (Section 4.6).

Members of the public can submit a statement of concern when a company's application is posted by the Alberta Energy Regulator for a sour gas processing plant (Section 2.5 and Section 11.1.3).

Sour gas plants

New sour gas processing plants are required to make a non-routine application to the AER. If members of the public affected by the application have concerns they can file a statement of concern with the AER, as well as contact the company directly.

The AER sets standards to limit the amount of sulphur that can be released from sour gas processing plants. This is expressed in terms of the sulphur recovery required for new plants; the recovery criteria depend on the size of the plant. At sulphur inlet levels

¹⁰ *Field Operations Provincial Summary 2012*, 8.

¹¹ AER, Directive 056, table 5.1.

below one tonne per day, sulphur recovery is not required. At sulphur inlet rates equal to or greater than one tonne per day, the percentage of sulphur that has to be recovered varies depending on the plant's inlet rate: those sized at 1 to 5 tonnes per day must recover 70%, while those with inlet rates greater than 2,000 tonnes per day must recover 99.8%.¹² Thus small plants release proportionately more than larger plants.

To prevent the proliferation of plants, a company must “vigorously explore” the possibility of using existing facilities.¹³ They must also consult and involve local residents in their evaluation of alternatives. If a company wants to construct a sour gas plant within a 15-km radius of an existing plant, they must show that it is justified in terms of social and environmental effects. The AER has established minimum *setback* distances for sour gas plants and facilities, are based on the potential release volume of hydrogen sulphide. The minimum setback distances are shown in Table 5. As a landowner, you may want to negotiate a larger setback in certain circumstances.

Table 5. Setback requirements for sour gas facilities

Level of facility	H ₂ S volume (m ³)	Minimum distance
1	<300	At least 100 m to a lease boundary
2	300–2,000	At least 100 m to individual permanent dwellings and <i>unrestricted country development</i> At least 500 m to <i>urban centres</i> or public facilities
3	2,000–6,000	At least 100 m to individual permanent dwellings up to 8 dwellings per quarter section At least 500 m to unrestricted country developments At least 1.5 km to urban centres or public facilities
4	>6,000	As specified by the AER, but not less than Level 3

Source: This table is based on information in AER Directive 056: Energy Development Applications and Schedules, Tables 5.5, 6.3 and 7.5.¹⁴ The reader should refer to these tables for full details.

¹² AER, Interim Directive ID 2001-03 Sulphur Recovery Guidelines for the Province of Alberta, 2001, 3.

¹³ *Ibid.*, 15.

¹⁴ The AER refers to Category D pipelines (where the pipeline associated with the facility contains gas with more than 10 mol/kmol H₂S) and Category C, D or E facilities, which are

6.3.1 Risks of gas plants

Air emissions

Occasionally there may be a problem at a gas plant, so that the company has to flare some or all of the gas being processed. This is called a “plant upset.” Gas plant upsets can result in flaring the full volume of gas entering the plant (referred to as the “inlet gas” or “raw gas”), the full volume of gas leaving the plant (referred to as the “sales gas”), or the highly concentrated *acid gas* stream created by the sweetening process in sour gas plants. Upset flaring can produce large volumes of air pollution. Therefore, gas plant operating approvals usually limit the length of time gas can be flared before companies must shut down both the plant and the pipeline that brings gas to the plant. Section 8.2.1 provides more information on flares.

The many valves and pipe connections in oil and gas processing facilities can develop tiny leaks. These leaks can release air pollutants, such as methane and volatile organic compounds (VOCs),¹⁵ into the air. These types of emissions are referred to as “fugitive emissions.” Another source of fugitive emissions at these facilities is vapours from liquid hydrocarbon storage tanks.

Tank *venting* and fugitive emissions were recently found to be a likely cause of extreme odour problems in the Peace River area in northeast Alberta that forced residents to leave their homes due to the resulting health impacts.¹⁶

Acid gas injection

Instead of separating the sulphur and flaring other waste gases, the waste acid gas, which contains predominantly H_2S and CO_2 , can be injected deep underground. Acid gas injection facilities normally have very low emissions of sulphur dioxide (SO_2). However,

classified according to the volume of sulphur inlet to the facility. This includes gas processing plants, some gas and oil batteries and straddle plants, etc. Facilities with less than 0.01 mol/kmol H_2S in the inlet stream are in Category B and thus exempt. See AER, Directive 056, table 5.1 for full description of categories. The AER provides a H_2S Conversion Calculator on their website: <http://www.aer.ca/rules-and-regulations/directives/directive-056>

¹⁵ Volatile organic compounds are comprised of hydrocarbon compounds larger than three carbon molecules in size and that turn to vapour under ambient conditions.

¹⁶ AER, *Report of Recommendations on Odours and Emissions in the Peace River Area* (2014). <http://www.aer.ca/documents/decisions/2014/2014-ABAER-005.pdf>

if there is a problem with the acid gas disposal well, pipeline or compressor, the highly concentrated acid gas is flared, resulting in very high levels of SO₂ and some fugitive H₂S emissions that can adversely affect local air quality for a period of time before the gas plant can be safely shut down. AER approvals typically contain requirements to minimize the duration of these flaring events. If an acid gas injection facility is planned near you, you should inquire about the flaring minimization requirements at the gas plant and whether it would be completely shut down in the event of a problem.

Glycol dehydration

Glycol *dehydrators* are used at gas processing plants, well sites and compressor stations to remove water from gas before introducing the gas into pipelines. Removing the water prevents freezing and corrosion in the pipeline. To remove the water, the gas is exposed to glycol, which also absorbs benzene, toluene, ethylbenzene, and xylene (collectively referred to as *BTEX* molecules) and H₂S (if present). The water is subsequently separated from the glycol by a process called heat regeneration, allowing the glycol to be reused. Emissions from glycol dehydrators include BTEX if the vapours from the regeneration process are vented to the atmosphere.

Benzene is classified as “toxic” as defined under the Canadian Environmental Protection Act, and Canada-wide standards for the chemical were adopted in 2001.¹⁷ The oil and gas industry subsequently committed to voluntarily limit the emissions of benzene from dehydrators.¹⁸ In 2006, these voluntary initiatives were adopted by the Energy Resources Conservation Board (the predecessor to the Alberta Energy Regulator). Since that time, the regulatory requirements have been revised to try to minimize the public’s exposure to benzene by placing stricter emissions limits based on the proximity to a permanent residence or public facility such as a rural hospital or school. The AER’s current requirements aim to transition all current and new glycol dehydrators to meet a maximum emissions limit of 1 tonne annually for uncontrolled sources and 3 tonnes annually for those with a flare or *incinerator* control by 2018.¹⁹

¹⁷ Canadian Council of Ministers of the Environment, *Canada-wide Standard for Benzene Phase 2* (2001). <http://www.ccme.ca/en/resources/air/benzene.html>

¹⁸ Canadian Association of Petroleum Producers. *Benzene: Emission Reductions by the Upstream Petroleum Industry* (2003). <http://www.capp.ca/publications-and-statistics/publications/60315>

¹⁹ AER, Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators (2013), 3.

If a glycol dehydrator is planned near you, you should inquire about the expected benzene emissions and how they are to be managed. If it is planned to be in close proximity to your residence or pasture, you may wish to ask for monitoring of benzene or other BTEX emissions around the site and request that results are reported back to you.

6.4 Large petroleum production facilities

A company is required to obtain approval if it is developing a large-scale oil production site for the recovery of heavy oil or *oilsands*. Environmental Impact Assessments are also mandatory for oilsands mines, and for oilsands in situ and processing plants that produce more than 2000 cubic metres of bitumen per day.²⁰

If a company wants to expand or significantly alter its operations, they may need to change their AER approvals to allow for the alterations. If so, there will be an opportunity for public input (and in some cases, such as what is outlined under the Environmental Protection and Enhancement Act, the opportunity to appeal a decision respecting the approval).

6.5 Questions to ask regarding batteries, compressors and facilities

The series of questions presented below may be helpful for identifying issues to discuss with respect to batteries, compressors and facilities. First it is important to find out what kind of facility a company is proposing, and what kind of air, water and land impacts are expected. Then you can select the questions that will be relevant to that particular development.

Air quality

Will there be any flares and, if so, how will the amount of flaring be minimized?

This question applies especially to oil battery sites.

²⁰ Alberta, Environmental Assessment (Mandatory and Exempted Activities) Regulation, 111/1993.

What type of fugitive emission detection/control system will the company have in place?

Tank vapours and small leaks at pipe connections and valves can be sources of fugitive emissions. These types of releases can start and worsen gradually — requiring companies to do regular preventative maintenance or periodic checks.

Water quality

How will groundwater and surface water be protected?

There may be dykes around storage tanks or berms around the entire site, to control surface water runoff.

How will surface water be managed on the site?

If there is a possibility that surface water could be contaminated by leaks, etc. from on-site equipment, it must be drained to a collection area.

Will water quality testing of surface runoff be required before it is discharged?

If government regulations require surface runoff to be collected, it usually must be tested and meet certain criteria before it can be released off-site. If it does not meet the criteria it must be treated or trucked off to an approved disposal facility.

Will monitoring of groundwater be required?

Groundwater monitoring is sometimes required. This may depend on whether there are storage tanks on the site, and how they are constructed and contained.

Noise

What noise mitigation measures will be used?

This applies in particular to compressor stations, but is relevant for other facilities. It is advisable to obtain a copy of the noise plan, as required by the AER.

Emergencies

Does the company have a site specific emergency response plan (ERP), and if so how large is the evacuation zone?

An ERP is required for sour gas facilities (Section 4.6.1).

Section 7

Emergencies



7. Emergencies

This chapter outlines what you should do and know in general emergency situations, what may occur and who may be involved in the event of an emergency. It is important to know what can specifically happen if there is a sour gas blowout, and how emergencies are classified according the extent of the situation. Lastly, the section includes shelter-in-place instructions that may be given to you at the onset of a sour gas blowout.

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If you see, hear, or smell something unusual and suspect it is related to an emergency related to oil and gas operations, contact the **Energy and Environmental Emergency 24-hour Response Line at 1-800-222-6514**, and provide the operator with as much detail as possible about the emergency.

7.1 General emergency situations

If there is an emergency — a well *blowout*, a pipeline leak or an explosion, for example — you should immediately call the company’s 24-hour emergency number (if known), local emergency services (such as the fire department) and the Alberta Energy Regulator (AER). While the AER’s 24-hour Energy and Environmental Emergency Response Line is now centralized, the AER does have 24-hour response capacity at each of its regional centres. If you place a call to the Environmental Emergency Response Line, your call will be triaged to the appropriate field centre so that they can respond promptly.

If you are certain that the trouble is coming from an interprovincial or international pipeline, you can make a call to the toll-free NEB emergency number (Section A.12). If you are uncertain who is responsible, it is best to contact the Energy and Environmental Emergency 24-hour Response Line as they also respond to emergencies on NEB-regulated lines (listed above).

It is an offence under the Environmental Protection and Enhancement Act to release any harmful substance (even a small amount), and any person who should have a degree of control or influence, and knows of a release is required to report it.¹ If you notice any other unusual activity, such as water flowing from a *seismic hole*, structural damage, surface damage, concerns around abandoned wells or issues related to water wells, you should notify the company and the AER. Even if you are unsure if the incident is an emergency, call the Environmental Emergency Response Line as it also acts as a complaints line. Where required, the AER will send a staff person to inspect and take control of the situation, as outlined below. An inspector or an agent from AER can take any emergency measures they consider necessary to protect human life, health or the

¹ Alberta, Environmental Protection & Enhancement Act, RSA 2000, c E-12, s 110. Alberta government acts and regulations are available at Alberta Queen’s Printer, “Laws Online/Catalogue.” http://www.qp.alberta.ca/Laws_Online.cfm

environment,² and may issue an order, such as emergency environmental protection order.³

The company is required to handle an emergency situation, by, for example, establishing an on-site command post that may involve the AER, local municipality, Alberta Health Services, Alberta Emergency Management Agency, and other government agencies if needed.⁴ If the company does not act immediately to stop the escape of oil or gas from a well or to control a flow of water, the AER can take whatever action is necessary to deal with the situation and protect the public.⁵ The AER has far-reaching powers in such circumstances, including shutting down a well.⁶ For example, where oil has escaped, the AER can direct the company to contain and clean up the oil, give orders to company employees, or engage outside help and recover the costs from the company later.⁷

Not all operations in the province have a site-specific emergency response plan (ERP), but every company is required to have a corporate-level ERP to handle emergency events. Operations that are recognized as posing more of a hazard, such as *critical sour wells*, will have a site-specific ERP in place to notify those living and working in the designated *emergency planning zone* (EPZ). The company is responsible for implementing this plan. See Section 7.2, below, for the actions you should take in such a situation.

At the onset of an incident, if you are within the EPZ the company should be in contact with you to provide specific instructions, which may include evacuation or shelter-in-place instructions. They should also provide you with information on the type and status of the incident; where the incident is occurring; any public protection measures to follow; a description of how the company is responding to the situation; and additional contact information. As the incident is ongoing, the licensee should continue to be in contact with you, and will give you more information about the products involved and any long term affects they may have; what you should do if you begin

² Environmental Protection and Enhancement Act, s 115(1).

³ Environmental Protection and Enhancement Act, s 114(1).

⁴ Environmental Protection and Enhancement Act, s 115(3).

⁵ Alberta, Oil and Gas Conservation Act, RSA 2000, c O-6, s 41.

⁶ Oil and Gas Conservation Act, s 105.

⁷ Oil and Gas Conservation Act, s 104 and 105.

experiencing *adverse effects*; and an ongoing update about the areas involved.⁸ If you are evacuated, the company will have a reception center, where they will register you as an evacuee, and offer assistance in arranging temporary accommodation.

The roles of the AER and other relevant bodies are described in Appendix A.

7.2 What to do in a sour gas emergency

Some substances found in *sour gas* are poisonous. *Hydrogen sulphide* (H₂S) for example, is highly toxic and can cause immediate death at concentrations as low as 750 parts per million (ppm).⁹ The “rotten egg” smell associated with H₂S can be detected when concentrations are as low as 0.001 to 0.13 ppm.¹⁰ Concentrations as low as 1–5 ppm may lead to nausea or headaches with prolonged exposure. Concentrations of 20–50 ppm may cause irritation of the nose, throat, and lung, digestive upset and a loss of appetite; as well, one’s sense of smell may become fatigued so odour can’t be relied on as a warning of exposure. Sense of smell temporarily disappears at concentrations of 100–200 ppm, and is accompanied by severe nose, throat and lung irritation. At 250–500 ppm, exposure can lead to pulmonary edema, a potentially fatal buildup of fluid in the lungs. Concentrations above 500 ppm could lead to respiratory paralysis, irregular heartbeat, collapse, and death.¹¹

If you live within an EPZ, the company is responsible with providing you with specific information during the consultation process. The public information package and its ERP will include information about the type of hazard, H₂S release rates (if applicable), relevant emergency contact information, and procedures in case of an emergency.¹² You should keep this information at hand for you, your family or staff in case of an

⁸ AER, Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry (2009), appendix 8. AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

⁹ Even at low levels, H₂S is acutely toxic to humans; see T. Guidotti, “Hydrogen Sulphide,” *Occupational Medicine* 46, no. 5, (1996). See also Appendix E Glossary.

¹⁰ Canadian Centre for Occupational Health and Safety, “Cheminfo: Hydrogen Sulphide.” <http://www.ccohs.ca/products/databases/samples/cheminfo.html#TOC3A>

¹¹ The Technical Advisory Committee on Public Health and the Oil and Gas Industry is currently revising the *Environmental Public Health Field Manual for Oil and Gas Activities in Alberta* (2007), expected to be released in 2016.

¹² See AER, Directive 071, appendix 8.

emergency. See Section 4.6.1 for more details on what the licensee is responsible to plan for in the event of an emergency.

If you smell sour gas, first follow shelter-in-place instructions (see below), and then notify the company and AER through the Energy and Environmental Emergency line. Before you decide to leave the area, refer to the company representative, the municipality, or the AER for evacuation instructions. As per AER regulations, an evacuation suggestion and/or seek shelter notice will be given for any H₂S levels above 10 ppm.¹³ Depending on the circumstances, sheltering in place may be recommended over evacuation.¹⁴ For more information about critical sour wells, see the AER's *EnerFAQ: All about Critical Sour Wells*.¹⁵

Susceptible individuals should evacuate if they are concerned about their health and will probably not want to wait until they experience symptoms or are advised to evacuate an area. This includes pregnant women and those with cardiopulmonary conditions, as well as those with limited mobility. The company will advise people whom they know to be susceptible as part of the ERP (Section 4.6). In some cases, individuals may want to ask the company to install an H₂S monitor in their home.

It is recommended to move animals with pre-existing disease conditions if they show signs of distress at levels below 10 ppm H₂S when levels are predicted to continue for six hours or more. It may help to move livestock to higher elevations if they cannot be evacuated, as H₂S is slightly heavier than air and settles in lower areas. Make sure to check with the company to ensure that is possible for you to do this safely.

Wells are sometimes ignited to prevent the escape of H₂S. However, combustion of H₂S results in the formation of sulphur dioxide (SO₂). Because high levels of this gas are also harmful, it may still be necessary to evacuate the area. Currently, the emergency evacuation levels for SO₂ is a 5 ppm (measured average over 15 minutes), 1 ppm (3-hour average) and 0.3 ppm (24-hour average).¹⁶ An acute exposure above 20 ppm requires respiratory protection, and an exposure above 100 ppm poses immediate danger to life.¹⁷

¹³ AER, Directive 071, appendix 6.

¹⁴ AER, Directive 071, section 5.2.2.

¹⁵ AER, *EnerFAQs: All About Critical Sour Wells* (2015). EnerFAQs and Fact Sheets are available at AER, “EnerFAQs (Q&As)” <http://www.aer.ca/about-aer/enerfaqs>

¹⁶ AER, Directive 071, appendix 6.

¹⁷ *Environmental Public Health Field Manual for Oil and Gas Activities in Alberta*.

Once you have left an area, you should not return until the company or the AER says that the source of the emission has been addressed.

For critical wells, there are four general incident classifications that may be issued in an emergency.¹⁸ Background information on ERPs and the recovery of costs incurred due to evacuation in emergency situations is given in Section 4.6.1.

Alert — An incident that may be handled by the duty holder (such as an *operator*) through normal response procedures and may present low risk to the public. A release of unrefined hydrocarbons, associated byproducts or wastes has or may have potential to extend beyond the duty holder's property but imminent control of the hazard is probable. It is unlikely that the incident will escalate further.

Level 1 Emergency — An emergency where an uncontained release extending beyond the duty holder's property has impacted or could impact the public or sensitive terrain. Containment operations are proceeding and the duty holder will bring the hazard under control using internal and/or external resources.

Level 2 Emergency — An emergency where an uncontrolled release extending outside an energy resources facility has impacted the public or sensitive terrain. Control operations have been started and imminent and/or intermittent containment of the hazard is possible. The hazard can be brought under control utilizing the duty holder's internal and/or external resources.

Level 3 Emergency — An emergency where the safety of the public is in jeopardy from a major unconfined hazard. There are likely significant and ongoing environmental impacts. Immediate multi-agency and provincial government involvement is required.

7.3 Shelter-in-place

Depending on the circumstances of the incident, you may be asked to shelter in place instead of evacuating from any area, to minimize your exposure to the hazards. The Technical Advisory Committee on Public Health and the Oil and Gas Industry has released a guide for health authorities and other government agencies that play a role in emergency responses to incidents in the energy industry. This guide has a template for

¹⁸ AER, *Energy Resources Industry Emergency Support Plan* (2015).

<http://www.aema.alberta.ca/documents/ERIESP.pdf>; also AER, Directive 071, appendix 4.

shelter-in-place instructions for all *stakeholders* in the industry, which the company may issue in response to a well blowout.¹⁹

Shelter-in-place instructions rely on buildings that are habitable in typical Canadian winters, so that they are not drafty and minimize the air exchange between the outdoors and indoors. It is meant to create an indoor buffer to protect you from the hazardous substances outdoors.

An example of shelter-in-place instructions that you may receive from the company:

- Immediately gather everyone indoors and stay there
- Close and lock all windows and outside doors
 - If convenient, tape the gaps around the exterior door frames
- Extinguish indoor wood burning fires
 - If possible, close flue dampers
- Turn off appliances or equipment that either:
 - Blows out or uses indoor air, such as:
 - Bathroom and kitchen exhaust fans
 - Built-in vacuum systems
 - Clothes dryers
 - Gas fireplaces
 - Gas stoves
 - Sucks in outside air, such as:
 - Heat recovery ventilators (HRV)
 - HVAC systems (for apartments, commercial or public facilities)
- Turn down furnace thermostats to the minimum setting and turn off air conditioners
- Leave open all inside doors
- If you have only one telephone line, avoid using it (except for emergencies), so that you can be contacted by company emergency response personnel
- Call the company emergency numbers you have been provided:
 - If you are experiencing symptoms or smelling odours
 - If you have contacted fire, police or ambulance
- Stay tuned to local radio and television for possible information updates
- Even if you see people outside do not leave until told to do so

¹⁹ The guide is currently being revised, so shelter-in-place instructions are subject to change. *Environmental Public Health Field Manual for Oil and Gas Activities in Alberta*, appendix 7-F.

- If you are unable to follow these instructions, please notify company emergency response personnel
- After the hazardous substance has passed through the area you will receive an “all-clear” message. You may also receive instructions to ventilate your building by opening all windows and doors; turning on fans and turning up thermostats (during this time the air outside may be fresher and you may choose to leave your building while ventilating).
- Once the building is completely ventilated return all equipment to normal.

Section 8

Potential Environmental Impacts During Oil and Gas Operations



8. Potential Environmental Impacts During Oil and Gas Operations

As a landowner or occupant you can play a valuable role by keeping a lookout and documenting any problems with operations. This chapter examines in depth some of the potential impacts that oil and gas operations may have on air, water and land. Additionally, it outlines the process for conservation and reclamation before and after development occurs (further expanded upon in Section 9).

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As the regulatory system is fundamentally based on industry self-reporting, the Alberta Energy Regulator (AER) inspects a small proportion of all wells, pipelines and other facilities each year, focusing on those operations where the company has a poor record, the site is sensitive, or there is a high inherent risk to the operation.¹ Given the AER's limited resources relative to the size of the industry, as a *landowner* or *occupant* you can play a valuable role by keeping a lookout and documenting any problems with operations.

8.1 Oil and gas facilities

If you have a well, pipeline or facility on your land, it is advisable to regularly inspect the land around the site, especially if livestock are in the area, to ensure there are no spills or leaks and that gates are closed and fences are intact.

Unless it is an emergency situation you should first discuss any concerns you have with the company, and then register your issue with AER. In an emergency situation you should contact the company operator through its 24-hour emergency number² and the AER energy and environmental emergency 24-hour response line (as soon as you can do so safely).

If the company fails to promptly resolve any issue to your satisfaction, then you should ask for help from the AER. The AER (Section A.2) deal with complaints related to the operation of a company on the lease site, problems that directly affect the environment and issues related to seismic activity or activity on *public lands*. The Farmers' Advocate will also provide advice (Section A.4).

8.1.1 Complaints and field inspections

The last field inspections report was issued by the Energy Resources Conservation Board (ERCB) in 2013 based on inspections undertaken in 2012. The Alberta Energy Regulator (AER) assumed the ERCB's responsibilities in 2013 along with all legislation and regulation of the oil and gas industry. In 2012, the ERCB received 754 public complaints,

¹ Energy Resources Conservation Board, *Field Operations Provincial Summary 2012*, ST57-2013, 2. <http://www.aer.ca/documents/sts/ST57-2013.pdf>

² Companies are required to provide their 24-hour licensee emergency number in their emergency response plan, as well as on an obvious sign at the entrance of the well or facility site.

relating to a total of 963 issues.³ There were over 27,800 oil and crude bitumen and satellite installations in Alberta and the ERCB inspected about 15% of them.⁴ They designated 1.7% of the oil *batteries* as high risk non-compliant, indicating these facilities had violated regulations to the extent that they could potentially cause an adverse or significant impact on the public and/or the environment.⁵ Problems were due to off-lease odour emissions of *hydrogen sulphide* (H₂S), inadequate reporting of *flared* and *vented* gas volumes, and inadequate immediate emergency response capacity.

There were over 9,800 gas batteries in the province in 2012. Inadequate reporting of flared and vented gas volumes, inadequate testing of underground tanks, and inadequate flaring programs were the main cause of unsatisfactory inspections for gas batteries.⁶

If a problem is reported to the AER, the Regulator may require the company to fix it within a specified timeframe. The AER should be informed if the company does not comply within the given time period. The AER may impose a penalty according to an escalating scale of consequences, with higher penalties for serious offences and repeat offenders. Penalties can include temporary or long-term suspension of operations, the refusal of applications, closure or *abandonment* of wells, and prosecution.

The AER maintains its Compliance Dashboard,⁷ which replaces its Monthly Enforcement Action Summary. On the AER website you can find summaries of incidents, investigations, and enforcement activities.

8.1.2 Pipelines

If a company does not clear away debris from a pipeline *right-of-way* or fails to restore the *topsoil*, cultivate and seed the land properly, or deal with drainage problems, the landowner or occupant should contact the company. The company should also be contacted if soil sinks in the pipeline trench or if the pipeline becomes exposed or if there are any other observable impacts.

³ *Field Operations Provincial Summary 2012*, 2–3.

⁴ *Field Operations Provincial Summary 2012*, 7.

⁵ *Field Operations Provincial Summary 2012*, 7.

⁶ *Field Operations Provincial Summary 2012*, 9.

⁷ Alberta Energy Regulator, “Compliance Dashboard.”
<http://www1.aer.ca/ComplianceDashboard/index.html>

You should also register your complaint with the AER. If the company fails to take suitable action, the landowner or occupant should contact the regional inspector at the Alberta Energy Regulator (Section A.2) . The Farmers' Advocate office (Section A.4) may also be able to help.

If there is a dispute about damages on the pipeline right-of-way, it is possible to go to *arbitration*. The arbitration process is governed by the Alberta Arbitration Act. If the damage occurs off the right-of-way line, the problem can be brought before the Surface Rights Board (Section A.3.1). It is advisable to have this process defined in the pipeline agreement, so that if issues occur you have a process that is agreed upon by both parties.

If you suspect a pipeline leak, call the company and the AER immediately. The first sign of a leak might be odour but a slow leak might be indicated by a change in the growth of plants close to the leak. A company must report a pipeline leak to the AER. Failure to report or unsatisfactory performance may result in the AER ordering the pipeline to be shut in or replaced.

In 2012 there were 567 pipeline incidents (leaks and ruptures, not including other damage dealt to pipelines that did not result in loss) in Alberta, with 40% being caused by internal corrosion and a further 13% by external corrosion. The number of corrosion failures has remained relatively consistent since 2009. The ratio of pipeline failures to line length has also remained consistent since 2009, at approximately 1.5 per year per 1,000 km. The majority of failures were in small-diameter gathering lines (mainly 2–6 inch diameter).⁸ Stress corrosion cracking is one kind of failure that can occur as a result of external corrosion in buried pipelines. While it is a factor in only a small percentage of pipeline failures, it is of particular concern because a leak in a high-pressure gas pipeline may lead to an explosion.

8.1.3 Oil and gas wells

The AER requires companies to test new oil and gas wells for surface *casing* vent flows/gas migration and to repair or monitor those with any leaks. A well must also be tested before it is abandoned.⁹ These requirements are important because if wells are

⁸ AER, *Pipeline Performance in Alberta 1990-2012*, Report 2013-B (2013).
<https://www.aer.ca/documents/reports/R2013-B.pdf>

⁹ AER, Interim Directive ID 2003-01: 1) Isolation Packer Testing, Reporting, and Repair Requirements; 2) Surface Casing Venting Flow/Gas Migration Testing, Reporting, and Repair

not properly cased or abandoned, gas, oil or *saline water* from deeper formations may escape from the well bore and contaminate shallow potable water aquifers. Gas migration — the leakage of gas outside an oil or gas well — can occur if well bore casings are not properly cemented or if earth tremors from activity in the area have damaged the casing.

8.2 Air emissions

Flaring and venting from wells, *gas plants* and other facilities and the associated smoke, odour, and potential exposure to hazardous air pollutants have long been a source of concern for those living and working near oil and gas operations.

8.2.1 Flaring and venting

There are several types of flaring:

- **Well test flaring** occurs during the initial tests to find out a well’s capability (see Section 8.2.3).
- **Coalbed methane flaring** takes place when coal seams that contain water are *dewatered* to reduce the pressure and release the methane gas. During this dewatering phase it may not be economic to pipe small volumes of gas, especially if an exploratory well is at some distance from an existing pipeline, so a company may want to flare it for several weeks or months.
- **Hydraulic fracture flaring** occurs during well testing of hydraulically fractured wells. Similar to conventional well test flaring, the rate of oil and gas production is measured to infer future oil and gas production. The gas that is produced during testing must be managed either through flaring or venting. As with conventional wells, it is possible to use an *incinerator* instead of a flare stack at a hydraulically fractured well. More discussion on hydraulic fracturing operations is provided in Section 4.7.

Requirements; 3) Casing Failure Reporting and Repair Requirements (2003). AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

- **Solution gas flaring** (and venting) occurs at batteries, where oil from one or more wells is processed and stored. The solution gas is a by-product in oil production, separating out from the oil at the lower pressures present at the Earth's surface. These flares burn constantly. In some cases where there is insufficient gas to sustain a flare, the AER may allow direct venting of the solution gas. However, if an operation is within 500 m of a residence and solution gas volume produced is more than 900 m³ a day, the *operator* must *conserve* solution gas.¹⁰
- **Gas processing plants** use flares to burn off by-products for which there is no market. They also burn off gas during emergency conditions.
- **Temporary flares** are sometimes used at facilities and wells during pipeline maintenance operations and servicing.
- **Continuous flares**, although not preferred, may be permitted by the AER if an operator demonstrates that is not economically feasible to capture solution gas. Continuous flaring may also be permitted if the operation will flare less than 900 m³ a day, but the AER still has the discretion to require a company to assess the economic viability of conserving the solution gas.
- **Emergency flares** are used when a well or facility faces operational challenges, and pressures reach potentially dangerous levels. In these cases, excess gas is flared to drop equipment pressures.

Background information on flaring is given in *Flaring: Questions + Answers*.¹¹

Research done by the former Alberta Research Council showed that a flare can release a large number of air pollutants, including unburned hydrocarbons and other harmful substances that result from incomplete combustion. The products of incomplete combustion depend on the constituents in the gas that is burned but can include *BTEX* aromatics,¹² polycyclic aromatic hydrocarbon compounds and, if the gas is *sour*,

¹⁰ AER, Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting (2015), section 2.6.

¹¹ Robert D. Bott, *Flaring: Questions + Answers* (Canadian Centre for Energy Information, 2007). <http://www.ccacoalition.org/en/resources/flaring-questions-answers-2nd-edition-canadian-centre-energy-information>

¹² Mel Strosher, *Investigations of Flare Gas Emissions in Alberta*, Special Report 005 (1996). http://ags.aer.ca/publications/SPE_005.html

hydrogen sulphide (H₂S). When H₂S is burned, it produces sulphur dioxide, which is also harmful (Section 4.6.2).

If problems are occurring with flares, you should first contact the company and make them aware of the situation. You can also call the AER's emergency and complaint line to register your complaint, asking them to investigate and take action.¹³ Signs of problems with flaring include visible black smoke or plumes, frequent or long-lasting flares, continuous flaring for projects that have not been approved for such, or abnormally intense flames. If you experience health issues that seem to be correlated with flaring activity, take detailed notes about flaring activity nearby.

You should document issues, especially if they are ongoing: take photographs of flares and smoke, and keep records of the date, nature of the occurrence and length of time that the problem persists. Be sure to include something in the photograph to provide scale and to identify the location where it was taken — such as the company sign adjacent to the site. Ideally, you should use a camera that includes a date and time stamp on the image. This is especially important in cases where the flaring event may conclude before a field inspector can come to the site to investigate.

Ensure you document any issue you have with an operation, including the time you spent investigating the problem, associated damages, and other relevant details. See the example in Appendix D at the end of the guide for ideas of what you should document.

Venting of gases can also pose problems. Venting occurs when solution gases from oil wells, batteries or tanks are released unburned to the air. Some venting may also occur from *compressor* vents, instrument gas stations, pneumatic devices, *dehydrators* and storage tanks. This release of unburned hydrocarbons to the atmosphere creates odours and exposure to potentially harmful substances. Vented gas also contributes to global climate change and wastes a non-renewable resource. Current AER regulations set standards for venting and allow venting of small volumes of gas where it is not considered practical to recover or flare it. For example, continuous venting of gas containing H₂S must not exceed *Alberta Ambient Air Quality Guidelines*¹⁴ for H₂S or result

¹³ The AER's Energy and Environmental Emergency 24-Hour Response Line is 1-800-222-6514. You can report an energy or environmental emergency or complaint, and the each call is triaged and forwarded to the appropriate field centre for a response.

¹⁴ Alberta Environment and Parks, *Alberta Ambient Air Quality Objectives and Guidelines Summary* (2016). <http://environment.gov.ab.ca/info/library/5726.pdf>

in odours outside the lease boundary. There are also limits on the total amount of benzene that may legally be released.¹⁵

Venting of natural gas or methane from oil and gas operations is a significant contributor to climate change. Methane is 86 times more potent as a greenhouse gas than carbon dioxide, over a 20-year period. The Government of Alberta has announced as part of its Climate Leadership plan that methane emissions will be reduced by 45% below 2014 levels by 2025.

Flaring and venting can be eliminated in various ways, such as by piping the gases for other processing, using the gas on-site to drive equipment or provide heat, or pooling gas from several small sources and sending via pipeline to processing plants. When deciding about flare reductions, a company must consider economic, social and environmental factors, including the proximity of nearby *residents*.

While emissions from solution gas flares and gas plant flaring have received most of the attention, there is also concern about flaring and venting from pipeline maintenance. Pipeline maintenance is often preceded by purging the line and flaring or venting the gas directly to the atmosphere. To inspect the condition of pipeline walls, a cylindrical device known as a “smart pig” is sent along the pipe; it detects and sends back data on cracking and corrosion.

Background: Flaring in Alberta

The Alberta Research Council study led to a review of flaring and subsequent efforts to reduce flare emissions. At the request of the oil and gas industry, a multi-stakeholder project team of Alberta’s Clean Air Strategic Alliance (CASA)¹⁶ was formed to develop recommendations to manage solution gas flaring in the province. The initial recommendations adopted were successful in substantially reducing emissions, but due to a lack of consensus over measures that would generate further reductions, the CASA team was disbanded in 2010.

¹⁵ AER, Directive 060, section 8.3.

¹⁶ The Clean Air Strategic Alliance (CASA) is a multi-stakeholder partnership of industry, government and non-government organizations. CASA’s mandate is to bring together diverse stakeholder groups to solve air quality problems on a consensus, rather than adversarial, basis. See Section B.3.5.

Flared volumes reached an all-time low in 2009 but have subsequently returned to early 2000s levels due to lower natural gas prices and increasing pipeline and compression costs.¹⁷

Despite the initial success, the regulations related to solution gas flaring were never intended to remain static over the long term. It was recognized that alterations may be necessary to account for new technologies, new production methods, and new economic conditions. The approach has not been comprehensively reviewed since 2010 when the CASA team provided their final report.

8.2.2 Incinerators

In some circumstances using an incinerator may be preferable to flaring. Some types of incinerator can burn with high efficiency and thus minimize odour and air pollution, including greenhouse gas emissions.¹⁸ Unlike flares, the efficiency of well-designed incinerators is not affected by cross-winds. Additionally, an incinerator reduces the noise and eliminates the light associated with flare.

A company will consider a variety of factors when determining whether to use a flare or incinerator, including cost, volume of gas flow, proximity of houses and land topography. Although the emissions from an incinerator may be less than a flare, they are released closer to the ground and may not disperse as effectively. Thus, if a well is close to a dwelling located in a hollow, a flare stack may be considered preferable to an incinerator.

8.2.3 Well testing

After a company has *drilled* a well, it must be tested to determine characteristics about the oil or gas being produced, rate of production, and other factors for production. During this testing, *reservoir fluids* and gas can be produced and must be managed accordingly. The reservoir fluids can be stored on site before being transported for waste management. The produced gas, after it is separated from the fluids (see Section 8.3),

¹⁷ AER, *Upstream Petroleum Industry Flaring and Venting Report*, ST60B-2015, 4, 6.
<http://www.aer.ca/data-and-publications/statistical-reports/st60b>

¹⁸ See, for example, Questor Technology Inc. at <http://www.questortech.com/> Some so-called incinerators are similar to low-level shielded flares and do not achieve the high combustion efficiency of refractory incinerators. An efficient, well-designed incinerator should not require the addition of propane to the gas to ensure continuous burning.

can be transported in a pipeline for processing or can be flared or vented at a well site. If flaring or venting is used, air quality might be affected.

The recommendation for producers is to first try to avoid any gas emissions at all. If they cannot be avoided, the emissions should be minimized, and any emissions that do occur should meet the performance requirements. Gas capture is preferred to flaring, and flaring is preferred to venting.

The AER allows 21 days to complete well testing. Although a company can apply to the AER for a longer test period under specific circumstances, any flaring and venting during well testing must not exceed 72 non-consecutive hours.¹⁹ Flaring approved by the AER must conform to Alberta Ambient Air Quality Objectives and Guidelines.²⁰ The challenge is that there are no requirements for ongoing air monitoring at wells that do not contain H₂S, and in some instances it will not be known if these guidelines are exceeded. If you believe these operations are exceeding these standards, it is important to inform the AER immediately so that they may be able to respond to the complaint in time to measure the air quality event. Even in an instance where the individual project may still be in compliance, it can be helpful to register your complaints with the AER so they can see over time that this may be an area of concern.

Flaring intensity during oil and gas well testing has increased consistently since 2005; in 2014 well test flaring per well drilled was over 90% greater than in 2005. This is related to the increasing number of *horizontal*, multistage-fractured wells being drilled.²¹

Well test flaring may emit pollutants that can damage vegetation and affect human and animal health. As explained in Section 4.4, *setbacks* are intended to protect people from exposure, but people may wish to be alerted during well tests. The AER requires a company to notify its local field centre, the local municipality, and rural residents before testing an oil well or sour gas well using a flare that will last more than four hours in a 24-hour period.²² The requirements are different for oil wells and gas wells, but the minimum notification radius ranges from 0.5 km to 3 km depending on the

¹⁹ AER, Directive 060, section 3.2.

²⁰ Alberta Environment and Parks, “Ambient Air Quality Objectives.”
<http://aep.alberta.ca/air/legislation/ambient-air-quality-objectives/default.aspx>

²¹ *Upstream Petroleum Industry Flaring and Venting Report*, 10.

²² AER, Directive 060, table 2.

composition of the gas being flared, duration of the flare and the gas volume discharged.²³

Companies are not automatically required to notify adjacent landowners or occupants when they test flare for a shorter duration. However, the AER suggests that companies conduct “good neighbour” operations, where residents have identified themselves as being sensitive to or interested in emissions from a facility.

You may want to arrange for livestock to be located upwind or away from the flare. If you or others suffer from respiratory illness, you can *negotiate* with the company to ensure that it notifies you when it plans to carry out its well-test flaring so you can leave the area at that time. You may want to make arrangements for the company to delay the start of a well test or to stop a test if meteorological conditions are unfavourable and would result in pollution concentrating at ground level. Although regulations require companies to ensure ground level concentrations do not exceed maximum allowable levels, general ambient monitoring is not always required.

In an established area where pipelines are already nearby, a company may be able to greatly reduce well test flaring by conducting an in-line test through a pipeline to a processing facility. However, a short period of flaring will probably be required to remove any remaining fluids from the well after it is drilled, since the fluids could cause corrosion if released into the pipeline.

If small quantities of solution gas are measured in an oil well, it may not be economic for the company to collect and pipe the gas. Instead, a company may want to install a permanent flare stack or incinerator for production from such a well. Operators with continuous solution gas flares, incinerators or vents are expected to provide public information packages with the following information:²⁴

- the definition of solution gas, and information on its conservation and use
- an explanation of solution gas flaring, incineration, and venting management options and the decision process
- a summary of analysis completed to determine that flaring, incineration, or venting is needed
- information on general flare/vent performance requirements and reduction targets

²³ AER, Directive 060, table 2.

²⁴ AER, Directive 060, section 2.10.1.

- descriptions of specific actions the licensee or operator will take to eliminate or reduce flaring, incineration, or venting or improve the efficiency of the flare, incinerator, or vent source based on the evaluation
- a list of industry, AER, and government contacts that are related to public consultation and relevant to the project.

Total solution gas flared and vented reached an all-time low in 2009, while the overall conservation rate has remained relatively stable at 95 percent through this period.²⁵

Air emission issues at compressor stations are described in Section 6.2. Dehydrators, which may be located at well sites, are described in Section 6.3.1.

8.2.4 Odour

In most years, odour is the most frequent cause of complaints to the AER.²⁶ Venting of gases (especially from crude oil and bitumen batteries), tank venting, leaking tank seals or ineffective vapour recovery units on storage tanks can cause odours. If there is an odour it is important to notify the company and AER at once and ask that action be taken to locate and stop the source. If the odour is caused by H₂S see Section 7.2 for information on evacuation in emergency situations. If you are concerned that you or individuals in your household might be affected by the emissions, you may wish to leave the area. If you leave because of odours when there is no general emergency, you should notify the AER as to the reason that you left.

If you are troubled by a recurring odour, notify the AER of each event or on a regular basis. Keep a record of when events occur, noting the wind direction, wind strength, ambient temperature, and any other weather conditions that may be present during the event. You should also document your description of the odour during each event, as that may reveal details to assist finding the cause of the odour.

As indicated in Section 4.6.2, Alberta Health has reviewed the health effects associated with short-term exposure to low levels of H₂S.²⁷ There are still many gaps in our knowledge about the long-term effects of exposure, but “there is evidence that

²⁵ *Upstream Petroleum Industry Flaring and Venting Report*, 3.

²⁶ *Field Operations Provincial Summary 2012*, 3.

²⁷ Alberta Health and Wellness, *Health Effects Associated with Short-term Exposure to Low Levels of Hydrogen Sulphide — A Technical Review* (2002). <http://www.health.alberta.ca/documents/Health-HS2-Exposure-2002.pdf>

cumulative health effects of repeated low-level H₂S exposure exist.”²⁸ The specific risk of low-level exposure to H₂S for the general population or sensitive people is not known.

The AER has two mobile monitoring units to measure H₂S and sulphur dioxide, as well as infrared cameras that detect leaks of hydrocarbons.²⁹ The AER uses these units to monitor locations where there have been odour complaints. If you have a problem, ask the AER to set up the monitoring unit in your area. Sometimes the AER will require a company to conduct its own air monitoring when they have received a complaint, or the AER may work with Alberta Environment and Parks and partner airshed organizations to conduct further monitoring, as they may have mobile monitoring equipment that can measure for more substances at lower concentrations.³⁰

It is important that any monitoring equipment is properly located in an area where the air pollution is high and where conditions lead to bad air. Thus, the equipment should be downwind, where the emissions seem to be the worst when the wind speed is low or during air inversion conditions. Landowners or occupants can suggest what they consider to be the best monitoring location based on their experiences.

8.3 Drilling wastes

Well drilling generates large volumes of waste in the form of *drilling mud*, drill cuttings and *flowback fluids*, which require storage and disposal. Spills and leaks of drilling fluid, hydrocarbons or water produced during drilling operations must be carefully cleaned up, as required by the regulations, to minimize any contamination of soil and water.

Drilling mud is circulated down the drill pipe to cool the drill bit and maintain the desired pressure in the well. The mud is prepared and stored in tanks on or near the well site and circulated into the well bore as needed. The mud is then returned to the surface, carrying the drill cuttings with it. The mud may be a water-based clay mixture,

²⁸ S. Roth and V. Goodwin, *Health Effects of Hydrogen Sulphide: Knowledge Gaps*, prepared for Alberta Environment (2003), vi. <http://aep.alberta.ca/air/state-of-the-environment/condition-indicators/documents/HealthEffectsHydrogenSulphide-2003.pdf>

²⁹ *Field Operations Provincial Summary 2012*, 2.

³⁰ The former Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) was disbanded in 2016, and Alberta Environment has reassumed the roles of environmental monitoring and reporting.

but if there is a risk of encountering a water-sensitive subsurface rock formation, hydrocarbon-based muds are used. These hydrocarbon-based drilling muds have historically had a diesel fuel base. Mineral oil and canola oil are less toxic alternatives to diesel fuel but are typically more expensive and may have other operational challenges. Rock cuttings from the active drilling zone are normally separated from the drilling mud and collected in a *pit* (commonly referred to as a “sump”) or in large tanks. They ultimately form part of the drilling mud waste when the drilling project is complete.

The chemical composition of drilling muds varies, depending on the products that must be added to address the challenges at each well. Potentially toxic products include bactericides, emulsifiers, lubricants, shale control inhibitors and surfactants.³¹ Drilling muds may also become contaminated with hydrocarbons or salts that are brought to the surface from deep underground formations.

Drilling muds, flowback and wastewater associated with hydraulic fracturing activities may also contain higher concentrations of naturally occurring radioactive materials (NORM). This may include uranium, thorium, radium (and their decay products); potassium-40; and lead-210/polonium-210.³² As the name suggests, deposits of NORM occur naturally in different concentrations at different depths, depending on the underlying geology. Specifically, NORMs may be concentrated in shale or clay-rich layers, and therefore are often associated with unconventional oil and gas activities.³³ These activities and the storage or transportation of these materials can increase concentrations of NORMs above their natural background levels, when they are called technologically enhanced natural occurring radioactive material (TENORM).³⁴

Reserve pits of hydraulic fracturing wastes present a potentially heightened risk of exposure, such as by animals drinking pit water, wind distributing dust particles onto nearby soil and crops, and waste water breaching the berms.

³¹ For a review of the composition and function of drilling fluid, see Don Williamson, “Drilling Fluid Basics,” *Oilfield Review* 25 (2013).

http://www.slb.com/resources/oilfield_review/or_en_intro_article.aspx

³² U.S. Environmental Protection Agency, “TENORM: Oil and Gas Production Wastes.”

<https://www.epa.gov/radiation/tenorm-oil-and-gas-production-wastes>

³³ Ibid.

³⁴ Alisa Rich, Ernest Crosby, “Analysis of Reserve Pit Sludge From Unconventional Natural Gas Hydraulic Fracturing and Drilling Operations for the Presence of Technologically Enhanced Naturally Occurring Radioactive Material,” *New Solutions*, 23 (2013).

8.3.1 Drilling waste disposal

Current regulations allow a company to dispose of non-hydrocarbon-based drilling wastes on the lease site or access road, or to seek written permission to use public or private land in the area. As described in more detail below, landowners have the right to withhold their consent for many types of waste disposal methods, and have the ability to influence the management of waste on-site through their surface agreements and the negotiating process.

The AER sets out its requirements for drilling waste disposal in Directive 050: Drilling Waste Management. It specifies that the company must provide landowners with a copy of Information for Landowners on Consent for the Disposal, Treatment, or Storage of Drilling Wastes.³⁵ The Directive identifies several management methods of drilling waste disposal:

- management on a well site or remote site — includes storage, mixed-bury-cover, landspread, disposal onto forested public lands, biodegradation, mobile thermal treatment, landspray, landspray-while-drilling, and pump-off
- management on pipeline right-of-way — includes storage, mixed-bury-cover, landspread, landspray, landspray-while-drilling, and pump-off
- management on fields and vegetated lands — includes landspray, landspray-while-drilling, and pump-off
- use of approved waste management facilities — includes landfill, waste processing biodegradation, waste cavern, and waste disposal well
- subsurface disposal of drilling waste while drilling
- alternative management methods (as approved by AER).

These practices are described in the AER's FAQs about Directive 050.³⁶

Drilling waste may contain heavy metals, sodium, chloride, hydrocarbons, nitrogen or TENORMs, which can degrade the quality of or be harmful to the soil. Contaminants may also be transported from the disposal location into *ground* and *surface waters*. Since these methods have the potential to pollute soils and surface waters, the AER Directive 050 specifies maximum loading or application rates (even nitrogen loadings should not be exceeded).

³⁵ AER, Directive 050: Drilling Waste Management (2016), section 1.5.

³⁶ AER, "Directive 050 FAQs." <https://www.aer.ca/rules-and-regulations/directives/directive-050-faqs>

Companies are required to sample and test the wastes prior to disposal for all options. Drilling wastes are not treated prior to land application unless these tests indicate the presence of toxicants in the waste. If this testing identifies that hydrocarbons are a likely source of toxicity however, disposal may still proceed provided that all criteria for the chosen disposal method are met.³⁷ Companies are also required to collect samples to assess the pre-soil conditions at the disposal site; in some cases, post-soil sampling is also required.³⁸ Landowners should ask to see the laboratory results and review the disposal method criteria that the company must adhere to. If, during drilling, a company later adds new substances to the mud that change its chemistry, they will have to revise their disposal plan. However, they do not have to take into account any changes they may cause in the level of salts from the rock formations or produced water when disposal is underway.

Landowners have the right to withhold their consent for any disposal that goes beyond the well site or pipeline right-of-way boundaries for any landspray, landspray-while-drilling, or pump-off methods, or a remote site for storage, mix-bury-cover, landspread or biodegrade wastes. The company does not have to secure consent if the drilling waste will be managed on the site where it was created.³⁹ Off-site waste disposal requires the approval of the landowner over and above the approval given for the well site itself, or of a nearby landowner who consents to the disposal process on their land. This approval should be in writing and attached to the surface lease or *right-of-entry* agreement, from which it should remain a separate agreement.

As a landowner, before giving permission for any drilling mud to be spread on your land, you should ask what type of drilling mud is being used and the level of compensation offered. If you agree to disposal on your land, ask to receive copies of the lab work on the mud sampling and the pre-disposal soil conditions, so you can ensure that the mud meets the criteria and the baseline condition of the disposal site is documented. If you are engaged in organic farming you will require the wastes to be taken off-site to maintain your organic status. Neighbours of organic farmers should also be aware that organic beekeepers can lose their organic status if sump fluids are spread within range of their hives.

³⁷ AER, Directive 050, section 4.3.19.

³⁸ AER, Directive 050, section 9.2.2.

³⁹ AER, Directive 050, section 1.5.

The AER conducted 155 drilling waste inspections in 2012, and determined that 10 were high-risk noncompliant. The primary reasons for noncompliance were inadequate disposal practices resulting in pooling, clumping, or erosion; inadequate sump location; and failure to get landowner approval for off-site disposal of drilling wastes.⁴⁰

8.3.2 Drilling waste treatment

There are environmentally preferable methods of treating and disposing of some wastes, particularly for invert and hydrocarbon-contaminated muds. These methods include oilfield waste treatment facilities, thermal destruction, or disposal in hazardous waste landfills. Companies should be encouraged to dispose of their waste in the way that minimizes environmental impacts.

8.3.3 Spills, leaks and contamination

You may have concerns that an oil or gas well or pipeline is contaminating soil or water. You may see a leak or spill, or it may be indicated by a change in vegetation growth in a certain place. Unless it is an emergency situation, you should first ask the company to deal with the problem, although you should report the issue to the AER as well. If you are not satisfied that the problem has been adequately resolved, you will need to contact the AER again. Occasionally a leak or spill will contaminate the property of a neighbour. The *owner* or leaseholder of the affected land should notify the AER as soon as possible, and ensure that they require the company to complete a thorough clean-up and *remediation* of any affected land. If staff from the AER find evidence of spills, leaks or improper conservation, they can take various enforcement actions (Section C.2.1).

If you find a spill or leak you should contact the AER on the Energy and Environmental 24-hour Response line: 1-800-222-6514.

8.3.4 Land sales and contamination

Despite the fact that a company is liable for any contamination that results from its activities, as the landowner you are required by law to disclose any known contamination or “latent defects” when you sell your property. A landowner can be sued

⁴⁰ *Field Operations Provincial Summary 2012*, 11.

for deceit or fraud if they have intentionally or recklessly misled a buyer, and the buyer has been harmed as a result.

Despite this: buyer beware. Recent court cases have suggested that “the burden of thoroughly investigating a site remains firmly on the purchaser’s shoulders”.⁴¹ Much of the time, land contracts may transfer land “as is” and exclude a warranty outside of the scope of the contract, such as the condition of the soil. Therefore if an engineering report recommends that further investigation is necessary, or there are other indications that investigation needs to be done, if you do not do your due diligence the liability may fall on you as a buyer.⁴² In some cases the purchaser’s bank has asked for an environmental assessment if a *reclamation certificate* has not been issued (Section 9) and it is possible they may want an environmental audit before they grant a mortgage. The current landowner would normally have to pay for this audit. Also, some lenders may ask for an environmental assessment of sumps or sites used for drilling waste disposal before allowing a person to use their property as security for borrowing, although this is not universally asked. These sites may or may not be identified specifically on resources like the Environmental Site Assessment Repository (ESAR), so you may have to dig into the approval of past projects to determine if these sites existed in the past. The Farmers’ Advocate’s Office may be able to give advice in these situations.

8.4 Water

Water is required for all oil and gas operations. Water is used in drilling muds, and is also commonly injected into oil or gas wells to enhance production through water-flood or hydraulic fracture operations. Any operation that plans on using water must receive approval from the AER for their proposed source.

⁴¹ See *Motkoski Holdings Ltd. v. Yellowhead (County)*, 2008 ABQB 454 (Q.B.). <http://www.albertacourts.ab.ca/jdb/2003-/qb/civil/2008/2008abqb0454.pdf>; and *Motkoski Holdings Ltd. v. Yellowhead (County)*, 2010 ABCA 72 (C.A.). <http://www.albertacourts.ab.ca/jdb/2003-/ca/civil/2010/2010abca0072.cor1.pdf>

⁴² Rob Omura, “Fraud and Concealment of Contaminated Land: Do Your Due Diligence, Purchaser,” *ABLawg*, June 2, 2010. <http://ablawg.ca/2010/06/02/fraud-and-concealment-of-contaminated-land-do-your-due-diligence-purchaser/>

8.4.1 Water wells

Two separate issues need to be considered with respect to water wells: the effect that water wells drilled by an oil and gas company can have on groundwater, and the impacts that may be caused by oil and gas wells.

Historically, companies have drilled water wells to get water for drilling muds, but in some areas water is also used for “waterflood” operations, where it is injected into an older reservoir to enhance oil recovery. Hydraulic fracturing water use for extracting oil and gas has also exponentially grown (see Section 4.7 for more on hydraulic fracturing). While a properly constructed oil and gas water well should not allow pollutants to reach groundwater, these wells may draw from aquifers needed to supply water for domestic and agricultural operations.

Water wells can only be drilled by someone who has a current approval from Alberta Environment and Parks to drill water wells; they must follow the construction standards set out in the Water Regulations under the Water Act. A company must apply for and receive a well licence from the AER only if a water well is drilled deeper than 150 metres.⁴⁵ Before a company withdraws water from a water well for drilling operations they must apply for a temporary diversion licence. Companies must obtain a term licence under the Water Act prior to any large-scale or long-term diversions of *non-saline groundwater* (Section C.3.4).

Baseline water well testing

Many landowners ask the company to pay for the testing of their water well when they negotiate a lease agreement. This is to ensure that there is a baseline study against which to compare any future changes in well water quality that might result from oil- and gas-related operations. You should ensure that the laboratory carrying out the tests is accredited by the Canadian Association of Environmental Analytical Laboratories (Section B.1.3). Be sure to ask for a copy of the test results and keep it for future reference.

The test should be thorough and cover both water volume and water quality. A basic flow test should involve pumping a well at a constant rate for at least 60 minutes, although in some cases, pumping for 120 minutes or for a day or more may be necessary. While the pumping rate is maintained, the water levels should be recorded in the well to measure the draw down. The well should then be allowed to recover for the

⁴⁵ AER, Directive 056: Energy Development Applications and Schedules (2014), section 7.

same length of time that it was pumped, and again the depth should be measured to calculate the recovery rate of the well. In situations where the top of the well is inaccessible, it may not be possible to calculate the draw down and recovery rate, but the well should still be pumped to determine the yield. Alberta Agriculture has a great resource regarding water wells and how to determine yield.⁴⁴

A routine water quality test measures about ten parameters, including total dissolved solids, total hardness, alkalinity, pH, chlorides, sulphates, nitrates and nitrites, and sodium. You should ask for the test to include total extractable hydrocarbons, to establish that there are no hydrocarbons in the water before drilling starts. A test for metals, including arsenic, cadmium, copper, lead, manganese, and zinc, may also be a good idea. A test for gas content may be advisable if there is a risk of gas migration from an oil and gas operation, such as shallow coalbed methane or hydraulic fracturing operations. You can ask the company to pay for these tests, and negotiate it as a condition in your surface access lease.

If a company is unwilling to pay for a routine water quality test by an independent company before it constructs an oil or gas well, you may want to ask the AER to facilitate your negotiations. While the water is being tested, you may also want to get a test done for total fecal coliforms, as these organisms can cause acute illness. However, a company may not want to pay for this part of a test, as it does not relate directly to oil and gas activities. You may want to contact the local health unit regarding bacterial tests as many health units in Alberta will cover all or part of testing costs for routine and bacterial analyses of domestic water wells.

A water test that includes the testing according to the Canadian Drinking Water Quality Guidelines as well as comprehensive parameters frequently required for drinking water approvals can cost up to \$2000.

Health Canada sets standards for the acceptable level of substances in drinking water.⁴⁵

Water well drillers submit their drilling reports to the Alberta government and this information is stored in the publicly available Alberta Water Well Information Database.

⁴⁴ Alberta Agriculture, Food and Rural Development; Alberta Environment; and Agriculture and Agri-Food Canada, *Water Wells that Last*, eighth edition (2013), 69.

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/wwg404/\\$file/waterwells.pdf](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wwg404/$file/waterwells.pdf)

⁴⁵ Health Canada, *Guidelines for Canadian Drinking Water Quality – Summary Table* (2014).

http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/sum_guide-res_recom/index-eng.php

Chemical analysis data after 1986 is not stored on the database; you must contact the landowner if the land is not your own.⁴⁶

Water well quality concerns

The Alberta Energy Regulator is responsible for concerns that relate to water well contamination if thought to be caused by oil and gas activity (see Figure 6). If it finds that oil or gas industry activity could have caused the contamination, they will investigate. If you have a complaint about a water well that may be affected by the oil and gas industry or groundwater contamination, you should call the AER's Energy and Environmental 24-hr Response line at 1-800-222-6514.

If you suspect your well has been contaminated by hydrocarbons from oil or that gas may have leaked into the groundwater, you should get your well tested by an independent laboratory (you can find a directory of private laboratories in Section B.1.3). All tests that were conducted before the oil or gas well was drilled should be repeated and, in addition to the test for total extractable hydrocarbons, you should also request a BTEX test (for benzene, toluene, ethylbenzene and xylenes). If you find gas in your well, a carbon isotope of each gas detected may help identify the source. You may want to negotiate with the company to arrange for them to pay for the costs of testing the well. If you need help, contact the Farmers' Advocate Office and inquire about their Water Well Restoration or Replacement Program (Section A.4).

⁴⁶ Alberta Environment and Parks, "Alberta Water Well Information Database."
<http://aep.alberta.ca/water/reports-data/alberta-water-well-information-database/default.aspx>

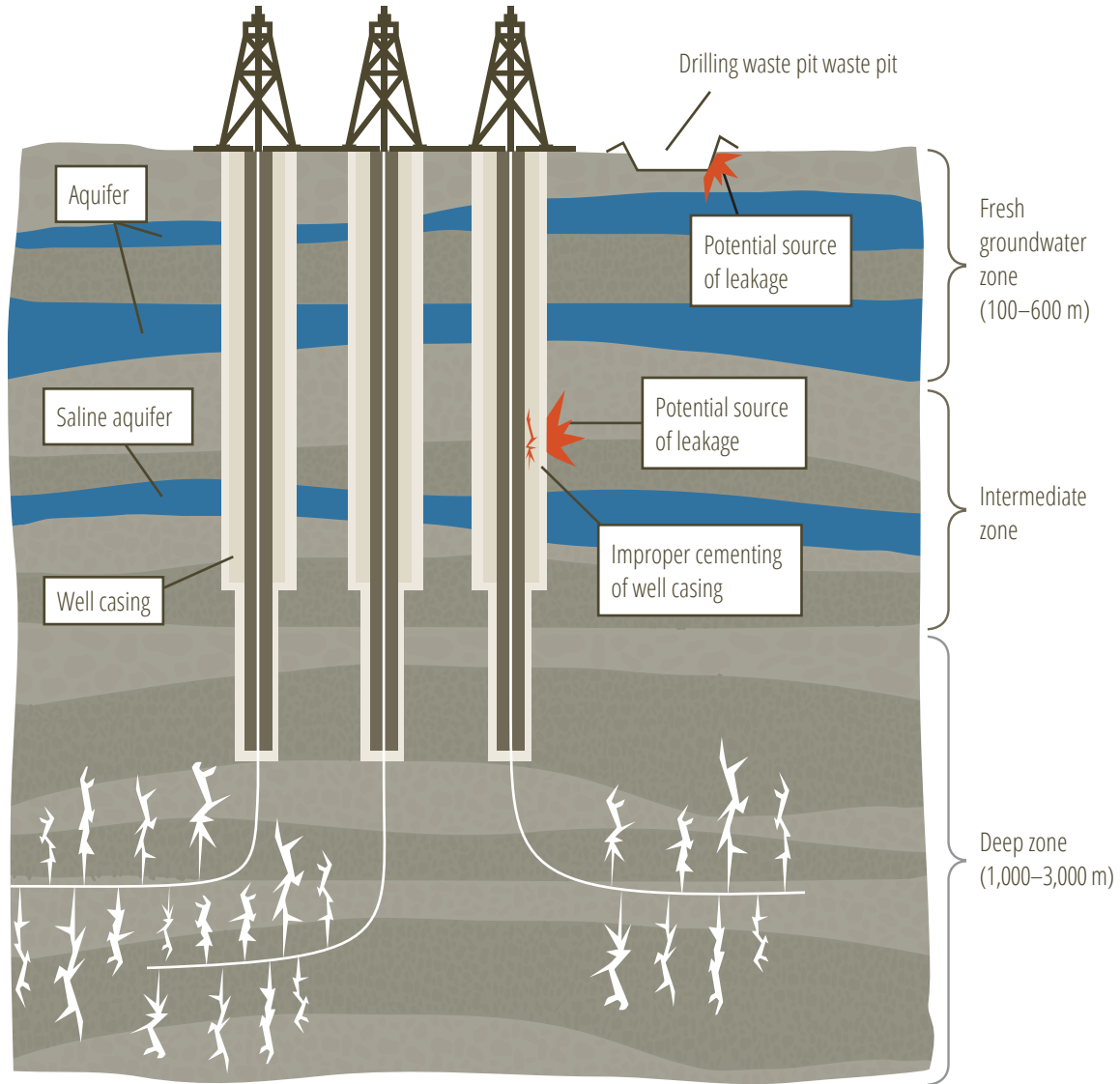


Figure 6. Schematic of well with groundwater layers and potential sources of leakage⁴⁷

⁴⁷ The illustration reflects an idealized geology. Geogical formations can have very different characteristics that can result in the layers not being straight, predictable and uniform (as illustrated).

8.4.2 Surface water

Surface water can also be used to supply the necessary water at an oil and gas operation. Surface water is collected by water trucks and transported to the development site. Due to the intermittent supply, surface water is not suited for continuous operations. Instead, surface water tends to be used for drilling muds, well testing, and hydraulic fracturing where water is only required for a temporary period.

If surface water is proposed to be used, the operational requirements to withdraw the water will be stipulated in an operator's water licence. It is standard for these licences to require use of a fish screen in water courses or bodies that are known to contain fish populations, and to limit withdrawals from watercourses to 10% of the instantaneous flow rate. These requirements ensure that fish populations and the aquatic ecosystem are not significantly affected by withdrawal of the water. If a company is observed withdrawing water from a waterbody or watercourse on your property, they are required to show you their licence upon request. If you believe water licence requirements are being contravened, you should notify the AER and provide any supporting evidence.

8.4.3 Coalbed methane water issues

Coalbed methane (CBM) is an unconventional natural gas formed in coal seams, also known as natural gas in coal or natural gas from coal. Coal seams can be found across the southern half of Alberta.

If a coal formation contains water, it will be necessary to remove some of the water to reduce the pressure and allow the gas to be released. In some coal seams in central Alberta (for example, those in the Horseshoe Canyon formation) the coal is “dry” and no dewatering is necessary; however, deep coal formations (such as those in the Mannville group) usually contain saline groundwater.⁴⁸ This water will usually be pumped out and piped to a central injection well, where it will be re-injected deep underground, in the same way that saline water from a conventional natural gas well is re-injected. If the saline zone is close below the non-saline zone, a company should not produce any gas from the non-saline zone, since this could result in the mixing of water of different qualities.

⁴⁸ Saline groundwater is defined as water with more than 4,000 milligrams per litre of total dissolved solids (Alberta, Water (Ministerial) Regulation, 205/98, s 1(1)(z)). The depth at which water becomes saline varies widely, but the transition may occur at between 400–600 metres in Alberta.

It is mandatory for an operator of a coalbed methane well to conduct baseline water testing for a new well or *complete* or recompleting wells if the wells are shallow and above the *base of groundwater protection* (BGWP).⁴⁹ Since these are being drilled into shallow non-saline aquifers and these aquifers require dewatering to release the gas, their operations have the potential to impact the flow to other water wells.

A conventional gas or oil well will sometimes produce saline water, and the quantity will probably increase as the well ages. This water is pumped out with the oil or gas, separated and injected back deep underground. If a CBM well contains water, it will need dewatering at the start of operations so that the gas can be released.

You should get your water wells tested prior to any CBM development in a shallow, non-saline aquifer in the vicinity of your water well. The AER requires that developers offer to test all active water wells within a minimum 600-metre radius of a proposed CBM well prior to drilling or recompleting the well.⁵⁰ Companies are required to provide detailed reports before the AER will consider an application for the diversion of groundwater. This is because dewatering of the coal seams could lower the water level in domestic wells, if the coal is near the surface or there is hydraulic connectivity with shallow aquifers. This data will provide a baseline against which to measure any future changes.

If, after drilling, a company finds they need to divert non-saline water from the coal seam, they must submit a technical report to the AER together with their application. The technical report must include detailed information about the hydrogeology, aquifers and water wells. The AER administers Alberta Environment and Parks water standards that require a company to test water wells for gas and, if gas is detected, to test for the carbon isotopes of each gas.⁵¹ This will help identify the source of any gas

⁴⁹ The base of groundwater protection is the term the AER uses to define the approximate depth where non-saline groundwater changes to saline. AER, Directive 035: Baseline Water Well Testing Requirement for Coalbed Methane Wells Completed Above the Base of Groundwater Protection (2013), 1. AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

⁵⁰ If there is no well within 600 m, the operator is required to offer to test all wells within 800 m. AER, Directive 035.

⁵¹ Alberta Environment, *Gas Sampling Requirements for Baseline Water-Well Testing for Coalbed Methane/Natural Gas in Coal Operations* (2006). <http://esrd.alberta.ca/water/inspections-and->

and serve as a baseline, in case the CBM development leads to any gas migration in the future. The Alberta Energy Regulator also publishes a public notice about the proposed water withdrawal and must respond to any statements of concern from the public. The Regulator is required to consider all statements from those who are directly and adversely affected, before they decide whether to authorize the diversion of water from the aquifer.

If a CBM well is drilled into a non-saline aquifer, you should ask about plans to dewater the coal seams, any potential impacts on groundwater, and how the water will be handled.

While saline water must be re-injected deep underground, there may be different ways of handling non-saline water. If the Alberta Energy Regulator issues a licence or approval for diversion of non-saline aquifers, it will indicate how the water must be handled. Even water that is defined as non-saline must be managed carefully, since the level of salts may be sufficient to damage soils and crops. Depending on the level of salts, non-saline water — that may still contain more than the standards of dissolved salts for potable water — may be used for watering livestock. Whether the water is suitable for irrigation will depend not only on the salt content and the crops grown, but also on the sodium adsorption ratio of the receiving soil. Alternatively, the water may be discharged or re-injected into a compatible aquifer underground. Since the quality of the water may change during the dewatering process, regular testing of the salinity level should be requested.

While guidelines are designed to prevent damage to a non-saline aquifer, it is still advisable to ensure that a company will provide an alternate water supply should your water well be adversely affected by CBM drilling. You should include a clause in your surface lease agreement to this effect.

Licences issued by the Alberta Energy Regulator for groundwater diversions typically include “investigation and mitigation” requirements that may include alternative water supply arrangements if needed. You typically would need to provide a written complaint to the Alberta Energy Regulator to initiate an investigation.

[compliance/baseline-water-well-testing-for-coalbed-methane-development/documents/GasSamplingRequirementsWaterWellTesting.pdf](#)

8.5 Noise

Compressor stations, processing plants, well batteries, well drilling and servicing operations can all cause noise, which is especially noticeable in quiet rural areas. If you have a complaint, you should first contact the company, but if you have a problem locating the company or if you are not satisfied with their response, contact the AER 24-hour Emergency and Operational Complaint number, 1-800-222-6514, and ask them to help (Section A.2).

Noise is measured in decibels, which is a logarithmic scale; an increase in ten decibels is perceived as a doubling in noise level. Examples of the sound levels of familiar noises⁵² are given in Table 6.

Table 6. Examples of noise levels

Source	Sound level (dBA ⁵³)
Soft whisper at 1.5 metres	30
Quiet office or living room AER target⁵⁴ nighttime sound level at low density housing with dwellings more than 500 m from heavily travelled roads⁵⁵	40
Inside average urban home, quiet street, refrigerator	50
Noisy office, conversation at 1 m	60
Highway traffic at 15 m	75
Jackhammer	88–98
Loud shout	90
Modified motor cycle	95
Amplified rock music	110

⁵² AER, Directive 038: Noise Control (2007), appendix 2.

⁵³ As explained in AER Directive 038, appendix 3, sound is measured in decibels, but, to approximate the human hearing response at low frequencies, the decibel sound is filtered through the A filtering network and the sound is measured as dBA. The AER uses dBA Leq, which represent energy equivalent sound levels.

⁵⁴ AER, Directive 038, 3. This is a target and does not establish compliance should infringement occur.

⁵⁵ AER, Directive 038, table 1.

The AER policy on noise is summarized in Directive 038: Noise Control. This directive also sets out noise requirements for all facilities approved by the AER, including drilling and service rigs. The directive aims to keep sound levels to an acceptable minimum so that the quality of life for neighbours of a facility is not impaired and their sleep is not affected. The directive regards noise from the “receptor viewpoint” rather than considering sound levels at the property line.

A person can make a complaint about noise in different ways — in person or by phone, fax, email or letter. Once the company has been informed, it must contact the complainant directly to try to understand the concerns and work out reasonable expectations and a time frame for action. Section 2 of Directive 038 sets out what the AER considers permissible sound levels. Section 4 provides more detail about dealing with complaints and Appendix 5 includes a noise complaint investigation form that the company and the complainant will need to complete. If a company conducts a sound survey, it must ensure it is carried out under representative conditions that would affect the person complaining.

A noise impact assessment is required for a new facility, or for modifications to an existing facility, to identify and deal with aspects that might later cause problems. For these facilities, a company commits to the AER in its application⁵⁶ that it will comply with noise requirements set out in Directive 038. If the company does not comply, it has two options: satisfy the complainant or do what it takes to meet the noise guideline. This includes shutdown of the facility if necessary.

Although Directive 038 does not cover construction operations, the AER expects construction companies to keep noise to acceptable levels and take reasonable mitigating measures, such as only undertaking noisy operations between 7 a.m. and 10 p.m. The AER also asks operators to advise nearby residents of noise-causing activities and to schedule them to cause the least disruption.⁵⁷

⁵⁶ AER, Directive 056.

⁵⁷ AER, Directive 038: Noise Control (2007), 13.

8.6 Conservation and reclamation

A company is required by law to pay attention to conservation and to minimize damage to the environment during the development and operation of an oil or gas well. Alberta Environment sets guidelines for soil conditions for *reclamation*⁵⁸ (Section 9.2) but you may want to discuss issues relating to your specific site.

8.6.1 Pre-development

Landowners should discuss and outline in an agreement with the company how they will preserve topsoil so that it can be used later to help restore the site. It is important that the topsoil be stripped and stored carefully; it must not be used for the construction of berms or dykes. It may also be advisable to have a layer of *subsoil* under roads and well sites stripped and stored separately, since years of compaction can cause permanent damage to the soil structure. In some situations it may be advisable to ask that an elevation survey of the site be completed along with the basic survey, to ensure that the surface of the land is later restored to the same elevation and that drainage is not affected.

Paying attention to the way in which a company deals with its drilling wastes may also prevent problems when the site is eventually closed down and the leased land reverts to the landowner. As remote sumps and disposal sites are often difficult to identify, a landowner should require the company to clearly identify their locations in their surface lease agreement. This ensures that when a site is abandoned the company can reclaim any site where disposal or remote sumps were located, prior to applying to AER for a reclamation certificate.

After the lease is signed, but before the company starts operations, a pre-construction site assessment report should be completed and provided to a landowner. This report provides a baseline against which to measure any future changes. Alberta Environment and Parks provide a recommendation on what should be included in this report.⁵⁹

⁵⁸ Alberta Environment and Parks, “Reclamation Criteria for Wellsites and Associated Facilities Application Process.” <http://aep.alberta.ca/lands-forests/land-industrial/programs-and-services/reclamation-and-remediation/upstream-oil-and-gas-reclamation-and-remediation-program/wellsite-reclamation-certificate-application-process.aspx>

⁵⁹ Alberta Environment and Parks, *Pre-construction Assessment Report for Wellsites*, C&R/IL/00-8 (2000). <https://extranet.gov.ab.ca/env/infocentre/info/library/6889.pdf>. As this information letter indicates, the assessment should include a description of the land use, the type of surface

In areas of native pasture and parkland, a company should avoid or minimize its impacts on native vegetation.⁶⁰

8.6.2 Post-development

Problems can arise during work to abandon and reclaim a well site. The AER is responsible for *down-hole* well closure, and in 2014 assumed responsibility for the regulation of reclamation and remediation activities resulting from oil, gas, and coal operations. Complaints about surface reclamation on both public and private lands should be made to the AER 24-hour Emergency and Operational Complaint number, 1-800-222-6514.

The process for reclamation is explained in Section 9. The fact that a reclamation certificate has been issued does not guarantee that work has been done well, as problems may not become evident until later. At the time of writing, a company is responsible for 25 years for surface reclamation issues such as vegetation, soil texture, drainage etc; and it has a lifetime liability for contamination.⁶¹ If landowners or occupants have problems with the reclaimed land they should contact the company first and then notify the AER. An AER inspector may inspect the site and may require the company to conduct further work in response to the notification.

8.7 Animal health

Problems can arise if animals eat contaminated vegetation or come into contact with contaminated soil, or spills such as oil, condensate, or hydraulic fracturing fluids. Animals may also be affected by air emissions. If you believe that activity may have an impact on your livestock, you can negotiate precautionary elements into your surface lease agreement such as fencing to ensure your animals don't come into close contact

soil salvage, the average depth of surface soil, the location of salvaged stockpiles, and drainage. It should detail any evidence of erosion or salinity, areas with poor vegetation, and weed patches, and ideally would include photographs. You may want to take your own photographs of the site before work starts, to augment the information provided in the pre-construction assessment report, in case there is any later damage that is not satisfactorily reclaimed. The information letter tells you who to contact if the company does not agree to provide this report.

⁶⁰ AER, Principles for Minimizing Surface Disturbance in Native Prairie and Parkland Areas (April 2014) <https://www.aer.ca/documents/manuals/Manual007.pdf>

⁶¹ AER, *Closure – Abandonment, Reclamation, and Remediation Fact sheet* (2014). <http://www.energy.alberta.ca/LandAccess/pdfs/ERSfsAERClosure.pdf>

with the well site. Landowners concerned about the impact that air pollution might have on their animals should request assessments of the project's emissions and the location of where they are released in relation to active pasture lands. You can also include clauses in your agreement that cover the costs of a necropsy in cases where you suspect nearby development may have played a role in an animal death. It would be helpful to have an ongoing relationship with a veterinarian to establish a herd health baseline, so that you can monitor changes in health and behavior to compare to the health of the herd prior to development.

If you believe that oil or gas activity is affecting the health of your livestock, contact your local veterinarian and the AER's 24-hour Emergency and Operational Complaint number at 1-800-222-6514. An independent animal health investigator may be called in. Be sure to keep a record of events and take photographs to aid any investigation.

The Clean Air Strategic Alliance Animal Health Project Team was set up in 1999 to prevent short- and long-term animal health impacts due to air contaminants. Their report includes a bibliography of research studies conducted to investigate these impacts.⁶² The team conducted a survey of air quality impacts on animal health and designed the Herd and Environmental Record System, to enable livestock owners to address livestock health issues potentially associated with air emissions.⁶³ In 2001, the Western Interprovincial Scientific Studies Association was founded to study the impacts of air emissions from the oil and gas sector on animal health in Alberta, British Columbia, Manitoba and Saskatchewan.⁶⁴ The study, only available for purchase from the Alberta Energy Regulator, broadly concluded that "there were no associations between the measured exposures and most of the health outcomes" they investigated.⁶⁵

⁶² Clear Air Strategic Alliance, *Animal Health Project Team Final Report and Recommendations* (2003), 24.

<http://casahome.org/PastProjectsAwards/PastProjects/AnimalHealth.aspx?EntryId=493>

⁶³ Clean Air Strategic Alliance, "Herd Environmental Record System."

<http://casahome.org/PastProjectsAwards/PastProjects/AnimalHealth/HerdEnvironmentalRecordSystem.aspx>

⁶⁴ Manitoba Innovation, Energy and Mines, "Western Canada Study on Animal and Human Health Effect Associated with Exposure to Emissions from Oil and Natural Gas Field Facilities", news release, November 19, 2001.

http://www.gov.mb.ca/iem/petroleum/air_quality/western_canada_study.html

⁶⁵ Western Interprovincial Scientific Studies Association, *Western Canada study of animal health effects associated with exposure to emissions from oil and natural gas field facilities: a study of 33,000 cattle in British Columbia, Alberta, and Saskatchewan* (2006), 13.

However, there were some statistically significant correlations between hydrogen sulphide, sulphur dioxide, and VOC exposures and the risk of calf mortality and calf medical treatment.⁶⁶ Additionally, there is little research that has measured herd health in respect to newer unconventional practices and their associated potential contaminants.

⁶⁶ Ibid., 14.

Section 9

Well and Pipeline Abandonment and Reclamation



9. Well and Pipeline Abandonment and Reclamation

After a project is completed and production has ceased, a company is required to abandon and reclaim the well, pipeline, and all associated lands and facilities. This section explains the requirements and obligations a company has to abandon and cap a well, and reclaim all specified land associated with the well or pipeline. It also lays out important questions for you to consider if the company is planning on reclaiming the well site on your land. Lastly, this section introduces the Orphan Fund, and the process for wells that are ‘orphaned’ when a project fails to be properly abandoned and reclaimed because a company has declared bankruptcy.

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9.1 Well abandonment

The process for shutting down dry wells and wells no longer in use is referred to as “well *abandonment*.” The well abandonment process includes *down-hole abandonment*, where cement plugs are set into the hole to prevent fluids from travelling through the geologic formations; remedial cementing to secure the sheath of the well, if needed, and finally *surface abandonment*, where the well is closed at the surface. The Alberta Energy Regulator (AER) does not give a well the status of “abandoned” until surface abandonment is complete.¹ AER Directive 020: Well Abandonment sets out the requirements.²

Abandonment is the permanent dismantling of a well or facility. Abandoned wells are different from *suspended*, *shut-in*, and *orphaned wells*. See Appendix E Glossary for definitions.

There are two main types of abandonment:

- **Open-hole abandonment** refers to the down-hole and surface abandonment of a dry hole (one that was not brought into production). It is carried out after *drilling* is complete but before the rig is released from the site.
- **Cased-hole abandonment** refers to the down-hole and surface abandonment of a completed or cased well, which occurs when all oil or gas extraction has ceased.

Surface abandonment includes removal of all the wellhead equipment, but not the *reclamation* of the lease site, which takes place sometime after abandonment is complete. Reclamation is regulated by the AER, which issues *reclamation certificates* once certain criteria are met.

A company is required to notify all affected *landowners/occupants* in the area of any planned surface abandonment; however, the AER does not specify how much notice the *operator* must give.³ Non-routine abandonment — which includes abandonment of wells associated with a salt cavern, re-abandonment of a well, and other criteria as listed in

¹ Effective April 1, 2014 the Upstream Oil and Gas Reclamation Certificate Program is under the jurisdiction of the AER.

² AER, Directive 020: Well Abandonment (2016). AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

³ AER, Directive 020, section 8.

Directive 020⁴ — requires the company to get approval from the AER before starting work.

In all cases, before abandoning a well, the company must ensure that no oil or gas is flowing through the well *casing* that could contaminate *groundwater* or rise to the surface. A company has to set cement plugs — of sufficient length and number — to cover all *non-saline groundwater* zones, to prevent substances from flowing into groundwater in porous zones. After plugging, the wellbore must be filled with non-saline water.

At the surface, the well casing must be cut off at least one metre below the final surface of the land (or at least two metres if the well is within 15 km of urban development or where there is a special farming practice, such as deep tillage, drainage works, or peat lands). It is then capped with a steel plate that is designed to prevent build-up of pressure, while still blocking access to the casing at the surface. This surface abandonment must be completed within a year of the down-hole abandonment operations.⁵ Directive 020 also sets out specific requirements for different types of well and different regions of the province.

Oilsands evaluation wells and test hole wells are drilled only for core samples and are not intended to be *completed*. For these wells, downhole abandonment must be completed within 30 days after drilling has finished or prior to rig release. Surface abandonment must be completed immediately after downhole operations.

The AER's Directive 079 requires a permanent 5 m *setback* on abandoned wells, to prevent anyone building on or near an abandoned well.⁶ This is aligned with the Municipal Government Act Subdivision and Development Regulation, which stipulates that developers and property *owners* who apply for a subdivision or development permit must identify the location of abandoned wells when applying for subdivision. Directive 079 exempts shallow wells of less than 150 m, and in some circumstances exempts or reduces the setback for other wells such as oilsands evaluation wells. If the AER and the licensee determine that a setback isn't required, the applicant for subdivision can obtain a letter from the AER to support the decision by the municipal approving authority to grant an exemption.⁷

⁴ AER, Directive 020, section 1.4.

⁵ AER, Directive 020, section 8.

⁶ AER, Directive 079: Surface Development in Proximity to Abandoned Wells (2014).

⁷ AER, Directive 079, 5.

9.2 Reclamation of well sites

Alberta and Parks has an online, searchable Environmental Site Assessment Repository (ESAR) where you can find documentation on site assessments and reclamation certificates.⁸ Additionally, the Environmental Law Centre provides a search service for enforcement records under the Environmental Enhancement and Protection Act and the Water Act.⁹

9.2.1 The reclamation process

The purpose of the reclamation process is to return the land to *equivalent land capability*, i.e. “the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical.”¹⁰ Once a well has been shut down and surface abandonment has been completed according to the AER requirements, the land can be reclaimed and a reclamation certificate issued.

It is estimated that there were over 50,000 abandoned but unreclaimed wells in Alberta at the end of 2011.¹¹ There is a growing backlog of sites awaiting a reclamation certificate. Previously, reclamation inquiries were conducted for a well, industrial pipeline or *battery*, but reclamation inquiries are no longer required.¹² AER staff conduct random field audits for reclamation and *remediation* on approximately 15% of all certified sites.¹³ A company has to demonstrate that it has met all reclamation criteria

⁸ Alberta Environment and Parks, “Environmental Site Assessment Repository.”

www.esar.alberta.ca

⁹ Environmental Law Centre, “Search Services.” <http://elc.ab.ca/what-we-do/search-services/>

¹⁰ Alberta, Conservation and Reclamation Regulation, 115/1993. Alberta government acts and regulations are available at Alberta Queen’s Printer, “Laws Online/Catalogue.” http://www.qp.alberta.ca/Laws_Online.cfm

¹¹ Jason Unger, *Reclaiming Tomorrow Today: Regulatory timing for abandonment and reclamation of well sites in Alberta* (Environmental Law Centre, 2013), 11. elc.ab.ca/media/8918/Reclaiming_Tomorrow_Today.pdf

¹² Conservation and Reclamation Regulation, s 6(2)(a).

¹³ Government of Alberta, *Update Report on Alberta Environment and Sustainable Resource Development’s Upstream Oil and Gas Reclamation Certificate Program* (2014). <http://aep.alberta.ca/lands-forests/land-industrial/programs-and-services/reclamation-and->

and show that the site was assessed to determine if contamination is present. If so, the company must also show the site was remediated to meet remediation requirements.

The Environmental Protection and Enhancement Act, Part 5, and the Conservation and Reclamation Regulation set the standards for conservation and reclamation. The regulations apply to *specified land*, which includes land that has been used for a well site, pipeline or battery. The AER's *Application Submission Requirements and Guidance for Reclamation Certificates for Well Sites and Associated Facilities*¹⁴ sets out the actual reclamation requirements that operators must meet to obtain a reclamation certificate on cultivated lands, forested lands, and native grasslands. The AER has released the Reclamation and Remediation (R&R) Fact Sheet¹⁵ to provide information and updates on the reclamation and remediation processes.

Before abandoning a well, the company is required to send a letter to you as the landowner/occupant, inviting your input and comments on the reclamation process.¹⁶ It is very important for you to be involved and inform the company of any issues relating to the reclamation, especially in light of any responsibilities you have as a landowner with regards to abandoned wells under the Municipal Government Act Subdivision and Development Regulation. You should point out any locations where you think the ground may be contaminated and ensure that any drilling waste disposal areas are properly reclaimed. The company is required to have documentation showing that it complied with the AER's Directive 050: Drilling Waste Management, which includes a written agreement with the owner (Section 1.5). The company can do this by submitting

remediation/upstream-oil-and-gas-reclamation-and-remediation-program/documents/UpstreamOilGasReclamationReport-Mar2014.pdf

¹⁴ AER, Specified Enactment Direction 002: Application Submission Requirements and Guidance for Reclamation Certificates for Well Sites and Associated Facilities (2016).

<https://www.aer.ca/rules-and-regulations/specified-enactment-direction>; Additionally, see Alberta Environment and Parks, "Wellsite Reclamation Certificate Application Process: 2010 Reclamation Criteria." <http://aep.alberta.ca/lands-forests/land-industrial/programs-and-services/reclamation-and-remediation/upstream-oil-and-gas-reclamation-and-remediation-program/wellsite-reclamation-certificate-application-process.aspx>

¹⁵ AER, *Reclamation and Remediation Fact sheet* (2014). EnerFAQs and Fact Sheets are available at AER, "EnerFAQs (Q&As)" <http://www.aer.ca/about-aer/enerfaqs>

¹⁶ Alberta Environment and Parks, *Sample Abandonment Letter for Wellsites*, C&R IL/00-1. Conservation and Reclamation Information Letters are available at Alberta Environment and Parks, "Information Centre." <https://extranet.gov.ab.ca/env/infocentre/info/listing.asp?page=4&subcategoryid=50>

the Drilling Waste Notification Form required under Directive 050 (Section 21.3) or by meeting other criteria set out by AER.¹⁷ If a company is unable to show that drilling waste was handled in the approved manner, it must carry out a Phase 2 Environmental Site Assessment (see below).

To find more information on an application in your area, you can search the Public Notice of Application database on the AER website.¹⁸ To access the documents related to an application you can search the Integrated Application Registry on the AER website.¹⁹ Information on abandonments and reclamations is only accessible to companies.

In addition, you should tell the company if you wish to keep the access road, so that it is not reclaimed, but this detail may have to be worked out as a condition of the surface agreement (Section 2.3). In order for a road to remain after reclamation it must be built to grade, which may not be the case if it was built as a temporary access road.²⁰ If a site had natural vegetation before the well was drilled, you can request that reseeding or replanting be done with native plants, rather than with cultivated varieties such as crested wheat grass and timothy. Section B.3.3 provides contacts for more information.

Before a company applies for a reclamation certificate, it must carry out a Phase 1 Environmental Site Assessment (ESA).²¹ The Phase 1 ESA is meant to gather enough information to determine the likelihood and probable locations for contamination and to decide whether further assessment is needed. This includes a review of the company's file, the AER spills database and historical aerial photographs. A company representative must visit the site, take photographs and write a report that describes the site, including any pits or facilities that remain, evidence of surface spills, vegetation

¹⁷ AER, *Assessing Drilling Waste Disposal Areas: Compliance Options for Reclamation Certification* (2014), Compliance Option 2.

<https://www.aer.ca/documents/liability/AssessingDrillingDisposalAreas.pdf>

¹⁸ AER, "Public Notice of Application." [http://search.aer.ca/pnoa-en/search/theme/pnoa?fq\[\]=feed_str:all&sort=recent](http://search.aer.ca/pnoa-en/search/theme/pnoa?fq[]=feed_str:all&sort=recent)

¹⁹ AER, "Integrated Application Registry." https://dds.aer.ca/iar_query/FindApplications.aspx

²⁰ Alberta Transportation is responsible for approving permanent access roads.

²¹ Alberta Environment and Sustainable Resource Development, *A Guide to Remediation Certificates for Upstream Oil & Gas Sites* (2012).

<https://extranet.gov.ab.ca/env/infocentre/info/library/8719.pdf>

and land use. They must also conduct and report on an interview with a past or present operator and/or you as the landowner.²²

If the Phase 1 assessment finds that there may be contamination on the site, or that there is insufficient information to determine the likelihood of contamination at a site, the operator must carry out a Phase 2 environmental site assessment.²³ Also, if they do not have information on the contents of the drilling waste or location of the drilling waste disposal area, they must conduct a Phase 2 environmental site assessment (unless the drilling waste qualifies for an exemption).²⁴ A Phase 2 ESA means taking samples of soil and groundwater and identifying any areas of the site that do not meet AER's remediation guidelines. Since January 2008, professional sign off is required for Phase 1 and Phase 2 ESAs and all land remediation and reclamation work. The company is required to carry out remediation and take more samples to show that the remediation objectives have been achieved.

The land has to be returned to equivalent land capability. Since relatively few sites will be audited by the AER, it is important for the landowner to check the site for

- the condition of the landscape (drainage problems, evidence of erosion or unstable slopes, gravel, rocks or debris that needs removing, problems with vegetation or bare areas)
- the condition of the soil (soil depth and quality, any soil compaction)
- the vegetation (species composition and growth performance)
- weeds, invasive species, or diseases (such as clubroot).

Reclamation requirements are based on when the site was constructed. Sites are required to have at least 80% replacement of *topsoil*, contouring, and seeding or replanting of the surface. Every attempt must be made to use available surface soil in reclaiming a site. When complete, the land's productive capacity should be equivalent to what it was before the well site disturbance. For sites built prior to April 30, 1994, applications can be submitted as a *non-routine application* without meeting the soil depth requirement, but a management plan must be in place.²⁵

²² Alberta Environment, *Phase 1 Environmental Site Assessment Guideline for Upstream Oil and Gas Sites* (2001).

²³ Alberta Environment and Sustainable Resource Development, *Phase 2 Environmental Site Assessment Checklist*, (2013). <http://aep.alberta.ca/lands-forests/land-industrial/programs-and-services/documents/Phase2EnvironmentalSiteAssessChecklist.pdf>

²⁴ *Assessing Drilling Waste Disposal Areas*.

²⁵ "Wellsite Reclamation Certificate Application Process: 2010 Reclamation Criteria."

When the remediation and reclamation work is complete, the company can apply to the Alberta Energy Regulator for a reclamation certificate. The company must supply the landowner with a copy of all the documents they submit as part of their application for a reclamation certificate. In addition to the application, the documentation will include the Phase 1 Environmental Site Assessment and also the Phase 2 Environmental Site Assessment, where this was necessary. You should check that the assessment shows:

- when the well was drilled
- what happened to any *hydraulic fracturing* fluids and drilling waste
- whether there was a water well and where it was located
- the location of any sumps
- whether there was ever a spill of any kind on the surface
- if the land was sprayed to control weeds, and if so, when and with what.

The company should have information dating back to the beginning, even if the well changed hands several times. If these records for a Phase 1 assessment are incomplete or do not correspond with your recollection of events, you should ask the company to conduct a Phase 2 assessment before they apply for a certificate. A Phase 2 assessment should also be requested if there were any problems or leaks and the full remediation has not already been confirmed.

It is very important to visit the site. As the landowner, your personal inspection is most important, since formal reclamation inquiries (a mandatory inspection of a site before granting a reclamation certificate) are no longer held. If you are not completely satisfied with the reclamation work conducted by the company, you should contact the company and have them revisit the site with you. The company is expected to make every effort to engage with the landowner, to work to resolve any outstanding issues that they may have. However, if you still believe the work is unsatisfactory after the company has submitted their application for reclamation approval, immediately submit your *statement of concern* (see Section 11.1.3) before the deadline set out in the notice.

If a reclamation certificate was issued by the AER and you are still not satisfied with the way in which AER or the company handled your complaint and feel that the reclamation certificate should be cancelled, you can submit a complaint via the complaint form that the company should have supplied to you.²⁶ You can also contact AER,²⁷ where your complaint will be forwarded to the appropriate field centre. All complaints are

²⁶ Also available at AER, *Upstream Oil and Gas Facility Complaint Form*.
https://www.aer.ca/documents/liability/Complaint_form.pdf

²⁷ You can contact the AER on their 24-hour response line at 1-800-222-6514

investigated, and substantiated complaints may lead to the cancellation of the reclamation certificate. It may be prudent to submit a regulatory appeal (Section 11.2) at the same time as your complaint if you are uncertain that the issues will be resolved. You can always withdraw the appeal if all your concerns about the reclamation are dealt with before the appeal date.

Until the reclamation certificate is issued, the company must continue paying any annual fees to the landowner or occupant. If the company fails to pay, the Surface Rights Board can be asked to pay the compensation. A company may apply to pay less rent once the above-ground structures have been removed (Section 10.1).

All materials from the reclamation process should be cleared away before a certificate is granted. If a company wants to leave any materials or debris for collection after the reclamation certificate is given, you should *negotiate* another temporary lease agreement.

The AER will conduct audits for only a small sample of the surface reclamation and/or remediation on sites issued a reclamation or *remediation certificate*. These are conducted randomly, or targeted based on risk. An audit of a reclaimed site will include a site visit to conduct a visual inspection to determine if reclamation criteria have been met. If the site is audited for remediation, the inspector may conduct intrusive soil sampling and lab analysis on top of the visual inspection. If the audit results indicate that the site does not meet AER's reclamation criteria or remediation requirements, the certificate may be cancelled. Additionally, you can contact the AER if you believe a company's reclamation activities aren't sufficient. You can find more information about a specific audit on the AER's Reclamation Certificate Application Tool.²⁸

Even when a reclamation certificate has been issued, the company remains responsible for some time. At the time of writing, a company is responsible for 25 years for surface reclamation issues such as vegetation, soil texture, drainage etc; and it has a lifetime liability for contamination.²⁹ If there is a problem with the regrowth of vegetation or the site of the sump sinks, you should notify the company and ask them to rectify it. The AER (Section A.2) should also be notified at this time. Section A.2.6 gives more information on AER publications relating to land reclamation.

²⁸ AER, "Reclamation Certificate Application Tool."

https://www2.aer.ca/t/Production/views/022PublicRecCertsApplicationStatistics/RecCertApplicationStatistics?%3Aembed=y&%3AshowShareOptions=true&%3Adisplay_count=no

²⁹ AER, *Closure – Abandonment, Reclamation, and Remediation Fact sheet* (2014).

Suspension of wells: When a company has suspended operations at a well site but has not yet abandoned it, its requirements are set by Directive 013: Suspension Requirements for Wells. The 2016 draft Directive 013 has some changes to the suspension deadlines as well as a few changes to the testing and plugging requirements.

9.2.2 Questions to ask regarding reclamation of wells and facilities

It is important to get answers to the following questions to ensure that there is no contamination left on your land. You could be held liable if you fail to tell a prospective purchaser of any known contamination.³⁰

Have you been notified by a company about its intent to abandon and reclaim a well?

They should contact you before they start any reclamation work.

Have you told the company of any areas that need special attention during the reclamation process?

You should check that they locate old sumps and other areas that might need special attention.

How much topsoil will be replaced?

The percentage required will depend on when the well was drilled.

How does the company propose to verify that the surface is fully restored to equivalent capability?

One growing season may not be enough to verify that the site is fully reclaimed.

Have you visually checked that the work has been conducted to your satisfaction?

You should ensure that reclamation is complete and there is no contamination on your land.

³⁰ Environmental Law Centre, *Get the Real Dirt: Contaminated Real Estate and Law in Alberta*, (2000). <http://elc.ab.ca/publications/>

After discussions, has the company failed to rectify any problems with the reclamation that you identify?

If so, notify the AER, using the Upstream Oil and Gas Facility Complaint Form that the company is required to give you.

Has the company conducted gas migration testing?

AER requires gas migration testing to be conducted on all wells that do not have a surface casing vent assembly. The AER recommends that all wells be tested for gas migration prior to abandonment.³¹

Has the company given you a copy of the documents that they submit to the government when applying for a reclamation certificate?

You should check that you agree with the information on the reclamation application and ask for a Phase 2 assessment if there are gaps in the company's documentation or if it does not agree with your recollection of events.

9.3 Reclamation of other sites

While the above section has focused on oil and gas well sites, similar provisions apply to all oil production sites, batteries and other facilities and pipelines. All these activities take place on specified land, which is covered by the Conservation and Reclamation Regulations. More information is provided in Reclamation Criteria for Wellsites and Associated Facilities.³²

Other specific requirements for the conservation and reclamation of oil production sites are set out in the Oil and Gas Conservation Rules.³³

9.3.1 Pipeline abandonment

When a pipeline is no longer used it must be abandoned according to the regulations and left in a safe condition³⁴ and it may be abandoned in place or completely removed. The Pipeline Act and Pipeline Regulation (Section C.2.3) outlines the requirement for

³¹ AER, Directive 020, Section 7.

³² "Wellsite Reclamation Certificate Application Process: 2010 Reclamation Criteria."

³³ Alberta, Oil and Gas Conservation Rules, 151/1971.

³⁴ Alberta, Pipeline Regulations, 91/2005. s 82 (1).

the abandonment of the physical pipelines used for gathering and transmission,³⁵ and the pipeline *right-of-way* must be reclaimed to AER's standards. Land use is the most important factor to consider in determining whether a pipeline section should be abandoned in place or removed. The possibility that the long-term structural deterioration of a pipeline abandoned in place may cause some ground subsidence should also be considered. These and many other factors are evaluated in the Pipeline Abandonment Scoping Study commissioned by the National Energy Board.³⁶

Section 60 of the Pipeline Regulation and Directive 056 requires a company to notify the AER when it has abandoned a pipeline. The company must first notify the landowners/occupants affected by the proposed removal or abandonment. If you object to removal or abandonment or are concerned about ownership or liability for the pipeline after it has been abandoned in place, you should tell the AER. The company may prefer to abandon the pipeline in place, which may reduce additional disturbance to the land and reduce more extensive reclamation work.

The Pipeline Act states that, even though a company is permitted to abandon a pipeline, it remains liable for other operations that may need to be carried out.³⁷ However, you should ensure that the right-of-way will be properly monitored and any problems associated with the abandonment remediated. When carrying out the abandonment activities, the company should give prior written notice to the landowner and must compensate the landowner for direct expenses and any resulting damage to land, crop or livestock.

Once the pipeline itself has been abandoned, the surface right-of-way may need reclamation. The AER is responsible for ensuring the proper reclamation of a right-of-way, including the specified land associated with the pipeline.

In the past there have been problems with the reclamation of pipelines operated by companies that are no longer in business, but pipelines are now covered by the Orphan Well Association (Section 9.4).

³⁵ AER, Directive 056: Energy Development Applications and Schedules (2014), sections 6.9.6 and 6.9.7.

³⁶ Det Norske Veritas, *Pipeline Abandonment Scoping Study*, prepared for the National Energy Board (2010). <https://www.neb-one.gc.ca/prtcptn/pplnbndnmnt/pplnbndnmntscpngstd.pdf>

³⁷ Alberta, Pipeline Act, RSA 2000, c P-15, s 25.

9.3.2 Questions to ask regarding pipeline reclamation

It is advisable to get answers to the following questions regarding any pipeline reclamation taking place on your land.

Have you been notified by a company about its intent to abandon or remove a pipeline?

They should contact you before they start any reclamation work.

Will the pipeline be left in the ground or removed?

Abandonment in place will result in less disturbance, but you should inform the company if you have good reasons to request the pipeline be removed. Operators are not typically required to remove the pipeline at reclamation.

Do you have any concerns about the pipeline abandonment?

If so, try to resolve them with the company and, if they cannot be resolved, inform the AER.

Have you any concerns about the reclamation of the pipeline right-of-way?

If so, inform AER.

9.4 Inactive wells, orphan wells and pipelines

Every year, some wells are cased-hole abandoned because a company may no longer find it economic to produce oil or gas, but may not wish to abandon and reclaim a well in case economic conditions change or technology improves to the point where productivity can increase.

As of July 2014, there were approximately 80,000 inactive wells in Alberta, of which 37,000 failed to meet the periodic inspection, pressure testing and maintenance standards outlined in the AER's Directive 013.³⁸

The AER introduced the inactive well compliance program (IWCP) in 2014 to address the growing number of inactive wells in Alberta. Starting April 1, 2015, companies are

³⁸ Barry Robinson, "The Inactive Well Compliance Program: Alberta's latest attempt to bring the inactive well program under control," *Ecojustice* (2014).

required to bring 20% of their inactive wells into compliance every year. This means the wells should either be reactivated or suspended as per Directive 013: Suspension Requirements for Wells or be abandoned as per Directive 020: Well Abandonment.

Between April 2014 and March 2015, the number of new orphan wells increased significantly — from 162 wells to 705. This was primarily due to an increase in corporate insolvencies combined with updates that the AER made to the liability management system in 2013 and 2014, and the procedural changes made by the AER in 2012 to speed up the designation of orphans.”³⁹

The Orphan Fund was created in the early 2000s to properly abandon and reclaim orphan wells, pipelines, and certain facilities (including flare pits and drilling sumps) and their associated sites, which do not have a legally liable party to deal with the abandonment and reclamation (such as when a company declares bankruptcy). The Orphan Fund is administered by the Orphan Well Association (Section B.2.9) and is a joint industry–government initiative financed by a levy on industry and other AER fees, so there is no cost to the landowner or occupant.

A company is required to pay you, as the landowner, annual compensation for the surface lease, even if a well is not operating. If you are no longer receiving annual compensation you should contact the Surface Rights Board (Section 10.3).

To avoid new orphan wells in the future, the AER has a Licensee Liability Rating Program,⁴⁰ which assesses a company’s assets and liabilities and requires a security deposit from those companies who might be at risk of having insufficient assets to pay for the correct abandonment and reclamation of their wells and facilities.

A company may try to sell off wells that are no longer very productive to smaller companies with lower operating costs, in a process known as “offloading”. In some cases the company goes out of business and its wells become “orphaned.” However, the AER will examine how the transfer of a well licence will affect both companies’ liability management rating. The AER can also designate companies to the Orphan Well program if in the AER’s opinion a company is insolvent or not financially viable but is still active on a corporate registry.

³⁹ Orphan Well Association, *2014/15 Annual Report* (2015), 25. <http://www.orphanwell.ca/OWA-2014-15-Ann-Rpt-Final.pdf>

⁴⁰ Alberta, Directive 006: Licensee Liability Rating (LLR) Program and Licence Transfer Process, (2016)

Section 10

Compensation and Surface Rights Access



10. Compensation and Surface Rights Access

In Alberta, mineral rights for oil, gas, and coal are not included in the surface rights of land. In most cases these subsurface rights are owned and controlled by the province. In these instances, energy companies are entitled to lease surface rights from landowners and lease land holders to extract oil and gas underneath private and public land. This section provides information to empower you, the landowner, in the event that a company or the government requests access to the surface of your land for the purpose of subsurface operations or pipeline siting. This chapter primarily focuses on compensation and the matters that determine compensation. Additionally, this section explains the role of the Surface Rights Board in granting right-of-entry orders and recovery of rental orders, as well as the process of registering your private surface agreement with the Alberta Energy Regulator. This section is complementary to much of the commentary about surface leases in Section 2, which deals with negotiation on matters other than compensation.

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According to a recent guide published by the Alberta Land Institute, there is often confusion amongst *landowners* surrounding property rights and the complex relationship between surface and mineral rights.¹ Canadian common law acknowledges that “all Albertans, as subjects of the crown, have broad rights to own, use, and enjoy property”; however, there are limits to these provisions.² The provincial government currently holds 81% of Alberta’s mineral rights, with private entities and the federal government splitting the remaining amount.³ As a result, energy companies are entitled to lease surface rights from landowners to extract ‘minerals’ — in this case, oil and gas. This chapter provides information to empower you, the landowner, in the event that a company or the government requests access to your land for the purpose of subsurface operations or pipeline siting.

10.1 Compensation for wells and facilities

As a landowner, you will *negotiate* with a company or representative *land agent* to determine the amount of compensation you will receive for leasing land to a company so they can site wells or facilities. With regard to grazing leases on *public land*, the government determines access for oil and gas activities,⁴ but a company pays compensation to the *occupant (lessee)*.

Compensation issues are clearly outlined in the Farmers’ Advocate publication, *Negotiating Surface Rights*.⁵ A publication from the Alberta Energy Regulator (AER), *Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner’s Guide*,⁶ also provides a summary of the compensation procedure and other topics outlined in this

¹ Alberta Land Institute, *A Guide to Property Rights in Alberta* (2014).
<http://www.albertalandinstitute.ca/public/download/documents/10432>

² *A Guide to Property Rights in Alberta*, 10.

³ *A Guide to Property Rights in Alberta*, 11.

⁴ The Public Lands Act allows the Minister to make more than one disposition in respect of the same land. Alberta, Public Lands Act, RSA 2000, c P-40, s25 (b) Alberta government acts and regulations are available at Alberta Queen’s Printer, “Laws Online/Catalogue.”
http://www.qp.alberta.ca/Laws_Online.cfm

⁵ Alberta Agriculture and Forestry, *Negotiating Surface Rights* (2009) Agdex 878-1.
[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1126?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1126?opendocument)

⁶ AER, *EnerFAQs: Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner’s Guide* (2015), 9. https://www.aer.ca/documents/enerfaqs/AER_EnerFAQs07_Landowner.pdf. EnerFAQs and Fact Sheets are available at AER, “EnerFAQs (Q&As)” <http://www.aer.ca/about-aer/enerfaqs>

chapter. For a look at the life cycle of the typical well and the impact of various stages of construction and operation, you can turn to the Canadian Association of Petroleum Producers's guide, *What to Expect When You're Expecting a Well*.⁷

In the first year of a new lease, a company has to pay the landowner for the right of entry onto the leased land (except when the land is owned by the Crown).⁸ This fee is set at \$500 per acre, up to a maximum of \$5,000 for the entire site. If the area required is less than an acre, the entry fee is proportionate to the area, but not less than \$250.⁹ This is a fixed payment, but other payments (such as compensation) can be negotiated. Some companies may consider this fee as payment for your time to negotiate the process, but you can cost this out separately in your negotiations.

In addition to the one-time right-of-entry fee, a company is also required to pay annual compensation. In the first year, this compensation must take into account

- the value of the land (this is the value if sold on the open market or the per-acre value of the land)¹⁰, based on the highest approved use of the land (such as agricultural, industrial, and residential). This is typically only considered in the initial payment, not in subsequent rent reviews.¹¹
- the loss of use by the *owner* or occupant (such as the gross value of the crop per acre at the time of the rental review)
- the *adverse effect* of operations
- the nuisance and inconvenience that might be caused by the operations.¹²
- other relevant factors that may be specific to your situation, such as material and assets left at the end of construction or other non-cash transactions

⁷ Canadian Association of Petroleum Producers, *What to Expect When You're Expecting a Well* (2014). <http://www.capp.ca/publications-and-statistics/publications/250098>.

⁸ Alberta, Surface Rights Act, RSA 2000, c S-24, s 19.

⁹ The initial entry fee is “per titled unit,” so a separate fee can be charged for each separately titled unit. A fee can also be charged for each occurrence, so if a company wants to put a second well on the same titled property a year later, they have to pay another fee.

¹⁰ You can find more information on land values in your area at Alberta Agriculture and Forestry, “Agricultural Real Estate Transfers by Municipality and C.L.I. Class: 1996-2015.” [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sdd1504](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sdd1504)

¹¹ This means that if the parcel is zoned agricultural, you have a significant barrier to argue urban/subdivision values of the land if you have intention to develop it. Land values will have within themselves a premium or discount depending on their location.

¹² Surface Rights Act, s 20 and 25.

After the first year, annual compensation will be based on the loss of use and adverse effects.

You can determine the value of the land through a local real estate agent. If the land is irrigated, compensation should reflect the value of crops that can be grown on that land.

The adverse effect refers to effects on the remaining land held. This might cover, but is certainly not limited to, the difficulties of farming in close proximity to a well site or access road, the cost of weed control, any additional checks required to ensure that livestock have not gone through open gates or fences onto the well site, and excessive noise, dust, or odour caused by the operations.¹³ Adverse effect can be generalized as the cost of managing the field differently, the time that it takes you away from your work, and future loss of use of your field.

Having an oil or gas well on the land will impose some limitations on future use of the surrounding land, as a company will put a caveat on the land they lease, including the access road, to protect their right of access to the well. The access route or pipeline rights-of-way may, for example, restrict the options for subdivision, especially due to *setback* requirements (see Section 5.2.2.). However, in many instances, one can still farm a portion of the lease and land adjacent to an access road.

If you are unable to agree on the amount of compensation to be paid, you can temporarily refuse entry to your land. The company will then apply to the Surface Rights Board for a *right-of-entry order* and the board will determine the amount of compensation you are to receive (Section 10.3). Even if you mostly agree on compensation, you may prefer to have the agreement formalized through the SRB by requesting that the company obtains a right-of-entry order, instead of signing a surface lease privately with the company. This is explained further in Section 10.3.2.

Since the annual compensation agreement is reviewed only every five years,¹⁴ you will want to consider possible long-term impacts when negotiating the annual fee. However, a company may be willing to renegotiate compensation within the five-year period if circumstances change. It is important to note that companies are required to give you notice of the fourth anniversary of your agreement no more than 30 days after the fact;

¹³ The decision in *Canadian Natural Resources Ltd. v. Bennett & Bennett Holdings Ltd.*, 2008 ABQB 19 goes to great lengths to define adverse effect and may be useful to understand what the SRB may consider to be adverse effect.

¹⁴ Surface Rights Act, s 27.

be aware of this date as you must be proactive in the event that a company fails to do so.¹⁵ You can take action by contacting the company directly or by requesting a review from the Surface Rights Board, who will then have the responsibility of making the company aware that the agreement is up for renegotiation. While the Surface Rights Act does not harshly punish company non-compliance with the renegotiation procedure, it does allow landowners to circumvent company inaction by directly requesting a compensation review from the SRB.¹⁶

It may be helpful to discuss compensation issues with someone who already has a well on their land or to contact a local surface rights or *synergy group* (Section B.4.1).

The company must make annual payments until a *reclamation certificate* has been issued and they can terminate their lease.¹⁷ Sometimes a lease agreement includes a clause that will allow the company to reduce the annual lease rent once surface structures have been removed from the site, but before *reclamation* has been carried out. While this could enable you as the landowner/occupant to use or cultivate the land (if included in your agreement), a company may have less incentive to complete reclamation as it costs less for the company to keep the lease for potential future production than to pay for reclamation in the meantime. The Surface Rights Act makes no provision for such a reduction in compensation and you are legally entitled to the full annual lease rent until the reclamation certificate has been issued.¹⁸ A company is required to pay compensation even if it takes over wells from another company and the well is no longer operating.

If a company fails to pay rentals, you can request the SRB to terminate the company's right of access, which allows the SRB to divert funds to cover rental costs until the well is reclaimed or the company resumes payments (see Section 10.3.3 below).

Compensation cannot be recovered, however, if there is evidence that the person receiving the money is refusing access for operations, *abandonment* or reclamation.¹⁹ If

¹⁵ Surface Rights Act, section 27(4)

¹⁶ Fenner Stewart, "Section 27 of the Surface Rights Act and the Potential Fallout of Non-Compliance," *ABlawg.ca*, May 22, 2015. <http://ablawg.ca/2015/05/22/section-27-of-the-surface-rights-act-and-the-potential-fallout-of-non-compliance/>

¹⁷ Alberta, Environmental Protection & Enhancement Act, RSA 2000, c E-12, s 144.

¹⁸ *Negotiating Surface Rights*.

¹⁹ Surface Rights Act, section 36(8).

a company is still operating but the SRB has terminated or suspended its right of access, the company is still obligated to abandon the well and reclaim the site (Section 9.2).

In the case of *orphan wells* where the owner has gone out of business, the industry-funded Orphan Well Association (OWA) steps in to deal with the abandonment and reclamation process (Section 9.4). This non-profit association receives its funds primarily through a levy that all oil companies must pay, and in part from provincial government contributions.²⁰

Despite obligations for a company to reclaim a site, an increasing number of wells are being orphaned by insolvent companies (591 alone in the 2014/15 fiscal year),²¹ forcing the OWA to increase its efforts and secure more funding.

10.2 Compensation for pipelines

Unlike compensation for wells (Section 10.1), there is no recurring payment of rentals for pipelines in most instances. Instead, compensation is generally a one-time entry fee before the company installs the pipeline. Only occasionally may an annual rent be offered,²² usually in the case of high-pressure, large-diameter transmission lines that require constant monitoring and where long-term damage is caused by their construction. Compensation is considered the value of land, plus a premium.

Adverse effect, nuisance and inconvenience are considered damages, and may be settled after the pipeline is constructed. Compensation for adverse effects includes loss of crops, and loss of use of land during operations and while vegetation is re-established. Compensation is not calculated until a crop has been grown on the land so that the full extent of any damage can be assessed. The compensation does not include use of additional land for temporary workspace (typically called a staging area); the company should pay extra for this.

²⁰ Orphan Well Association, *2014/15 Annual Report* (2015), 25. [http://www.orphanwell.ca/OWA 2014-15 Ann Rpt Final.pdf](http://www.orphanwell.ca/OWA%2014-15%20Ann%20Rpt%20Final.pdf)

²¹ Orphan Well Association, *2014/15 Annual Report*.

²² The Farmers' Advocate Office has a good resource describing the case where annual compensation was granted to landowners by the Surface Rights Board. Farmers' Advocate Office, *Annual Compensation for Pipelines in Alberta* (2008). [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/ofa12451/\\$FILE/Annual-Pipeline-Compensation.pdf](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ofa12451/$FILE/Annual-Pipeline-Compensation.pdf)

Where you and the company are unable to agree on the amount of compensation, the company may ask Surface Rights Board to resolve the issue (Section 10.3). Even if you and the company can generally agree on compensation, you may prefer to have a board order, and request that the company requests one from the SRB (Section 10.3.2). This has generally fallen out of practice, but it is still an option.

Any outstanding claims related to damages caused during pipeline construction should be dealt with through *arbitration*; there should be an arbitration clause in the *right-of-way* agreement. This will allow any disputes (over damage, clean-up, or other issues) to be settled without going to court. However, it is also possible to bring disputes relating to damage off the right-of-way to the Surface Rights Board, provided that damages are recognized within two years and amount to less than \$25,000 (Section 10.3.3).

10.3 The role of the Surface Rights Board

The Surface Rights Board can be involved in determining the compensation for a well, pipeline or facility through a right-of-entry order and the subsequent compensation *hearing* (Section 11.3.3). Cost awards for time and incurred expenses are also granted by the Surface Rights Board, with an example cost tracking sheet provided in Appendix D.

10.3.1 Right-of-entry orders when landowner and company cannot agree

If you, as the landowner, and the company cannot agree on compensation for right of entry, the company can take their case to the Surface Rights Board after the company has an approval for their project from the AER. Additionally, in some cases an *operator* and a landowner may agree, but an occupant does not give consent to the operator. In these instances, the board must grant the company a right-of-entry order if the AER has approved the project. If you do need to go before the Surface Right Board because you are unable to reach agreement, be sure to keep both a log of the time spent in negotiations and a journal of events. You may be compensated for reasonable expenses related to negotiations with the proponent company.

When the company receives a right-of-entry order from the Surface Rights Board, the operator must first pay the entry fee and 80% of the last written offer (which may not be the last best offer). The SRB will then facilitate a dispute resolution conference or determine the amount of compensation payable through a compensation hearing (Section 11.2).

The Surface Rights Board also deals with issues relating to right of entry onto agricultural leases on public land for seismic operations (Section 3.1)

10.3.2 Right-of-entry orders when landowner and company agree

Sometimes you will be close to reaching an agreement with a company over their access to your land and the appropriate compensation, but still want to involve the Surface Rights Board by requesting that a company obtains a right of-entry-order.

Some people choose this option as they consider that a right-of-entry order by the SRB protects their rights better than signing a *private surface lease agreement* or easement form prepared by the company.²³ This has mostly fallen out of practice, as there may be additional protection from registering your private surface agreement with the AER (Section 10.4 below).

There are many reasons for this preference, including the fact that a right-of-entry order can be reviewed at any time and updated if conditions change. If the board has placed conditions in the order to protect you as the landowner (e.g., with respect to soil conservation or other environmental protections) and the company fails to comply, you can take the issue to the board, instead of having to go to court. In the case of pipelines, a right-of-entry order enables a landowner to go to the board with a claim for compensation for any damage that occurs during construction. (Note: This is different from the compensation agreed to in advance for right of entry.)

If you request that a company takes out a right-of-entry order and are then able to subsequently agree with the company on compensation without the board having to set the rate, you can choose to have the agreement formalized through a Board Compensation Order (Section 11.3.3).²⁴ These compensation orders can only be applied for once a right-of-entry order is in place, and thus, are not applicable to private surface leases.

²³ Stringam LLP, “Surface Rights: Form of Agreement,” 2011.

<http://www.stringam.ca/practice/surface-rights/> Surface rights lawyer Darryl Carter states his reason why he advises clients to request a right-of-entry order.

²⁴ Surface Rights Board, “How to Apply for a Board Compensation Order.”

<http://surfacerights.alberta.ca/ResolvingDisputes/SettlementAgreement/HowtoApplyforaBoardCompensationOrder.aspx>

In the event that a right-of entry order has been issued, but you and the company wish to enter a private surface lease agreement instead, the company can rescind the right-of-entry order by making a request to the board.

10.3.3 Recovery of rentals when company fails to pay

If a company fails to pay the money required by a right-of-entry order or compensation order, you should contact the company to request payment. If the company has not paid within 30 days after the due date, you should apply to the Surface Rights Board. The board will ask you to provide the name of the company, proof of the lease, and the date that rent was last paid. The board will prepare and require you to complete a statutory declaration stating, among other things, the name of the company, the amount of rent due, and the due date. The board will verify the information and, if correct, notify the company that it must pay (where the company can be traced). If the company fails to pay, the board may suspend or terminate the company's right of access under the surface lease or right-of-entry order.²⁵ After the right of access is terminated, the board can then make arrangements for you to receive payment for the lease from the Ministry of Environment and Parks via the General Revenue Fund (as provided for in the Surface Rights Act, section 36(6)). The Surface Rights Board will also contact the AER and ask them to deal with the well under their enforcement program (if the company is active) or the Orphan Well Association (for wells where no owner can be traced). You should continue to receive payment for the lease from the Ministry until the well and its site have been reclaimed, but you must continue to apply each year that a company fails to pay.

Recent SRB decisions have brought to question whether the SRB can make an order terminating access rights of a bankrupt company, and grant landowner coverage for lease payments. The SRB's ability to terminate a bankrupt company's right to access the site, and subsequently to reimburse the landowner for unpaid rentals, is a matter of *when* the unpaid rentals accrued and when the company was assigned into bankruptcy. If the unpaid rentals accrued before the company was assigned into bankruptcy (as in the case of *Petroglobe Inc. v Lemke*), the SRB is not able to make an order to terminate the rights to a site. In later decisions, the SRB was able to proceed with terminating the rights to a site if rentals were due *after* the company was bankrupt (*Portas v PetroGlobe Inc*), which allowed the SRB to direct funds from the General Fund. This is due to the federal Bankruptcy Insolvency Act, which prevents the SRB from terminating the rights

²⁵ Surface Rights Act, s 36(5).

to a site in response to a company's declaration of bankruptcy. However, the SRB is still empowered to do so in response to unpaid rentals. In *Rodin v PetroGlobe*, rentals were accrued both before and after the company was received into bankruptcy, so the SRB was able to terminate its rights in response to unpaid rentals after bankruptcy, and subsequently the landowner was able to recover rentals from before and after the company filed for bankruptcy.²⁶ This issue will be of increasing importance if the number of companies declaring bankruptcy continues to grow.

10.3.4 Compensation hearing for damages

The Surface Rights Board can also hold a hearing in some cases where you and a company are unable to settle disputes about compensation for damage caused by the company's operations to land outside of the lease agreement (Section 11.3.3). Additionally, a claim may be made for damage to livestock or other personal property that occurs on your land, whether or not there is a right-of-entry order or surface lease agreement in place for the particular area. The claim can include the time spent in recovering livestock that have strayed, as a result of the company's activities.²⁷ Claims must be brought to the Surface Rights Board within two years and the total amount of the claim must be for less than \$25,000.

10.3.5 Rental review process

The Surface Rights Board has the power to increase, decrease or keep annual rent the same. Surface lease agreements can be negotiated every five years, and both the company and the landowner have the ability to file a compensation review (also known as a rental review) with the SRB. The operator is responsible for giving notice for the review to the landowner within 30 days after the anniversary of the fourth year of the right-of-entry order or the surface lease. If an agreement can't be reached, the party that wishes to have the rental amount changed must apply to the SRB for a compensation review. The request²⁸ should include

²⁶ The Farmers' Advocate Office provides a good summary of these decisions. Farmers' Advocate Office, "Clarity on Recent SRB Decisions Regarding Bankruptcy/Receivership." [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/ofa15889](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/ofa15889)

²⁷ Surface Rights Act, section 30(1).

²⁸ Surface Rights Board, *Information Sheet: Guide to Review of Annual or Other Periodic Compensation* (2012).

- name and address of the operator and *lessor*/respondent
- current rate and proposed new rate of compensation
- copy of the surface lease and any other relevant documents
- the effective date of the review of compensation

A compensation review will only consider a change in loss of use, or a change in adverse effect. As a landowner or lessor requesting a compensation review, you must show evidence that there is a change in the loss of use and adverse effect from the last agreement. The SRB will look at the pattern of surface lease dealings of all the wells in the general area that were *drilled* the same year as the well in question. If the SRB does not see a pattern, it will look at the farm evidence to examine a change.

If the operator did not give notice to the landowner for a right of review, the SRB may award interest. Additionally, it may award reasonable costs that a landowner incurs by participating in the SRB proceedings.²⁹

10.4 Private Surface Agreements Registry

If you are able to reach a private surface agreement with a company without obtaining any board orders from the SRB (right-of-entry order or board compensation order) you are eligible to use the Private Surface Agreements Registry (PSAR) (see Section 2.3 for registering your private surface agreement, and Section C.1 for enforcement).

The AER-monitored PSAR gives landowners another recourse if a company fails to comply with parts of an agreement. If the operator fails to meet certain terms and conditions of a registered agreement, you can submit a section 64 request under the Responsible Energy Development Act (REDA).³⁰ If the Regulator determines that the company has not complied with the conditions of the agreement, the Regulator can order the company to comply. If the allegations have merit, the AER can issue a compliance order to the company. While the AER itself does not have the jurisdiction to enforce this order, it does have the ability to follow up with a fine or have the order

http://surfacerights.alberta.ca/Portals/0/Documents/Guide_to_Review_of_Annual_Compensation_Aug_2012.pdf

²⁹ *Information Sheet: Guide to Review of Annual or Other Periodic Compensation.*

³⁰ Alberta Energy Regulator, “Private Surface Agreements Registry.”

<http://www.aer.ca/applications-and-notice/private-surface-agreements-registry>

enforced by a court judgement should non-compliance continue.³¹ The PSAR can lend further legitimacy to your agreement and give you stronger legal position if you must go to court to address contract breaches.

More information about the PSAR and how to register is available on the AER's website.³²

³¹ Giorilyn Bruno, "Phase 2 of the Implementation of the Alberta Energy Regulator: The Private Surface Agreement Registry," *ABlawg.ca*, January 20, 2014. <http://ablawg.ca/2014/01/20/phase-2-of-the-implementation-of-the-alberta-energy-regulator-the-private-surface-agreement-registry/>

³² AER, *EnerFAQs: How to Register a Private Surface Agreement* (2015). <http://www.aer.ca/about-aer/enerfaqs/enerfaqs-psa>

Section 11

Public Hearings and Regulatory Board Processes



11. Public Hearings and Regulatory Board Processes

If there are concerns about a project that cannot be addressed through negotiation or the alternative dispute resolution process, the Alberta Energy Regulator may hold a public hearing to explore the concerns and make a decision to approve, to approve with conditions or to deny a project. If the issue is around compensation, a hearing may be held by the Surface Rights Board. If the approval is related to pipelines that cross provincial or national borders, the National Energy Board may hold a hearing. As each regulatory body has different mandates and considerations for participation, this section outlines the general hearing process for each and who may participate in these hearings.

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It is important to distinguish between the roles of the Alberta Energy Regulator (AER), the Alberta Surface Rights Board, and the National Energy Board.

The AER provides all permits, approvals or licences for energy resource activities in Alberta such as a licence for an *operator* to *drill* a well, construct and operate a pipeline, or other energy projects. Any concerns or objections to a project may be brought to the attention of the AER (Section 11.1) through a *pre-application concern* (Section 2.1) or a *statement of concern* (Section 11.1.3).

Formerly, appeals on environmental, water and public land approvals related to the energy resources were heard by the Environmental Appeals Board. Since the creation of the AER, all decisions related to energy resource activities including appeals on *reclamation certificates*, environmental protection orders and enforcement orders are appealed to the AER. The AER has discretion to decide if it will reconsider any of its decisions, and if it will do so with or without a *hearing*.

The Surface Rights Board has the power to grant a *right-of-entry order* after a company has received a licence or permit from the AER, even if the *owner* or *occupant* refuses access to the property. The Surface Rights Board will then decide on the appropriate compensation, and to whom it should be paid. All concerns about compensation must be brought to the Surface Rights Board, as the AER does not have jurisdiction over compensation (Section 11.2).

The National Energy Board has jurisdiction over decisions about interprovincial or international pipelines (Section 5.5). The Alberta Utilities Commission regulates applications for electricity generation and transmission, which is a separate process and is not discussed in this guide.

11.1 Alberta Energy Regulator hearings

A hearing is a quasi-judicial and formal public process where the company, *landowner(s)* and others affected by a proposed development, and/or their legal representatives, can present their views. The panel consists of one or more AER hearing commissioners, and can be completed electronically or in person. The AER then makes a decision on the specific issue(s) at hand, based on the evidence it has received.

If there are outstanding concerns about a proposed development that cannot be addressed through *negotiations* or the AER's *Alternative Dispute Resolution (ADR)* process (Section 2.4), a person who feels they are *directly* and *adversely affected* can submit a statement of concern to the Regulator when a company has submitted their application.

If the statement of concern is received before the Regulator makes a decision and before the filing deadline, the AER may recommend the file to the chief hearing commissioner to hold a hearing. Additionally, the AER has the ability to hold a hearing, even if no one has been found to be directly and adversely affected.

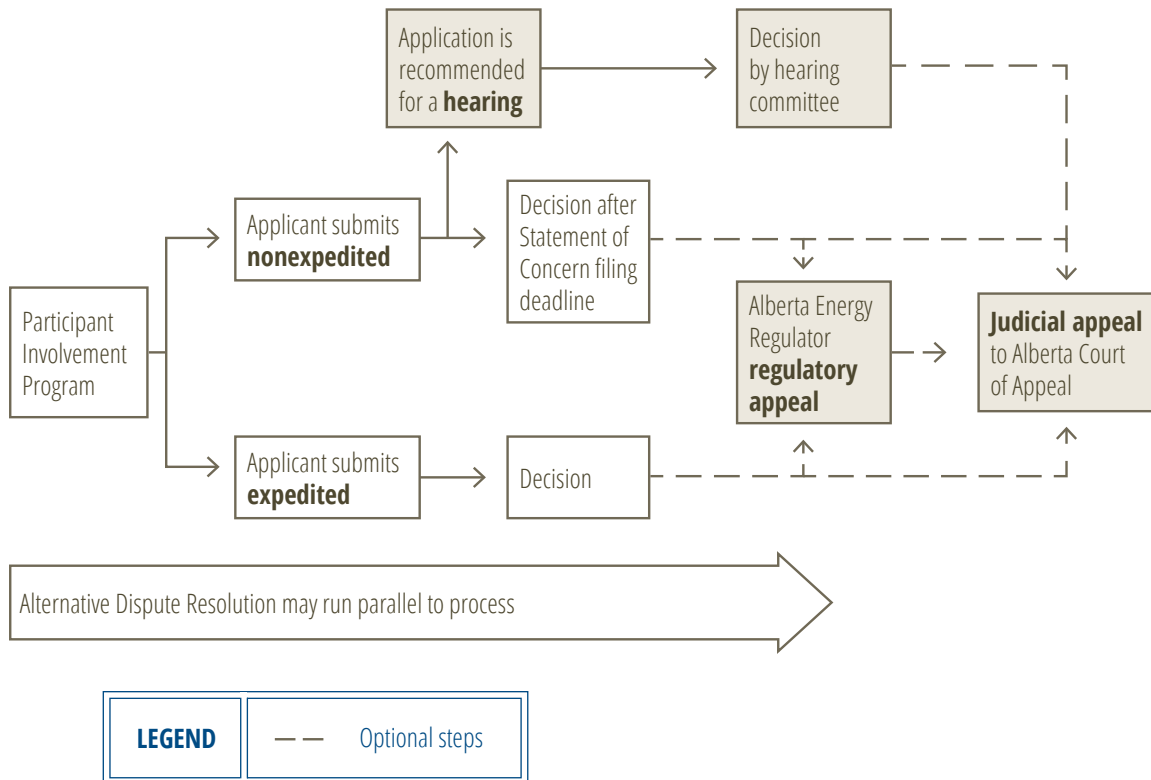


Figure 7. Regulatory process for energy development

If a hearing has been requested, the AER will encourage the parties to continue to reach a negotiated or mediated settlement, either privately or through the ADR process. Since hearings are very expensive and can delay projects, the company may be motivated to resolve concerns, or decrease the number of issues that will be discussed in a hearing.

The AER has several documents outlining its hearing process. The public hearing process is set out in the AER's Rules of Practice¹ but *Manual 003: The Hearing Process for*

¹ Alberta, Alberta Energy Regulator Rules of Practice, 99/2013. Alberta government acts and regulations are available at Alberta Queen's Printer, "Laws Online/Catalogue." http://www.qp.alberta.ca/Laws_Online.cfm

the *Alberta Energy Regulator* describes the process in plainer terms.² Additionally, you can contact the AER's Hearing Services office,³ who can provide you with more information about the hearing process, and may offer hearing information sessions near the area of the proposed project.

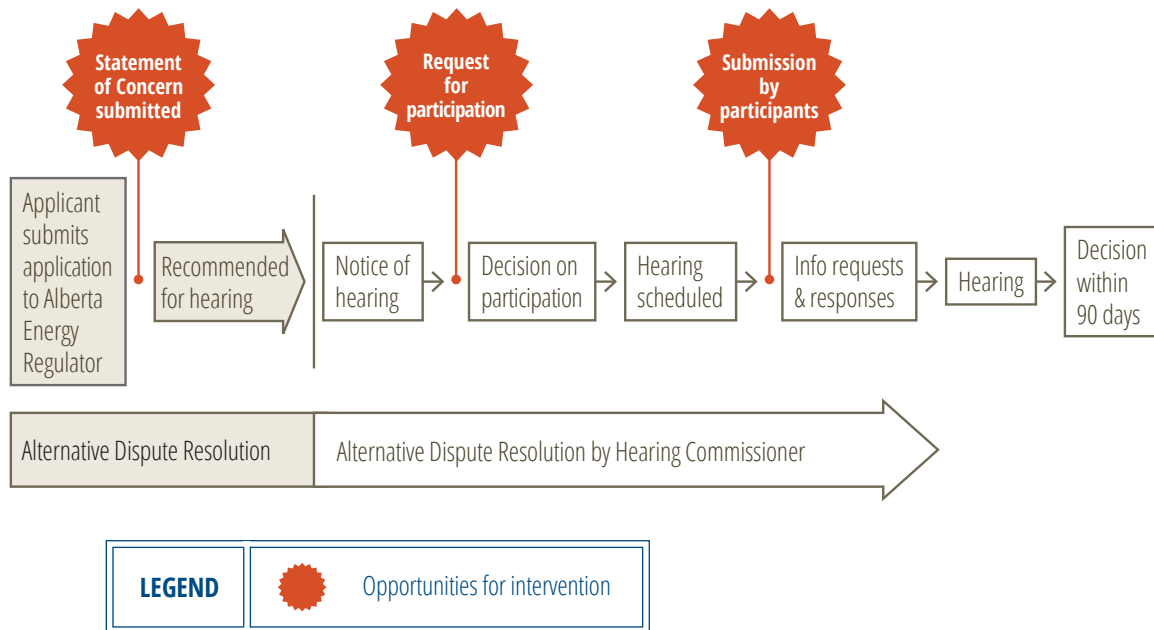


Figure 8. Typical AER public hearing process

11.1.1 When does the AER decide to hold a hearing?

The AER has considerable discretion to determine when to hold a hearing, and more discretion than its predecessor, the ERCB. In very few circumstances it is required by its own regulations to hold a hearing. Most hearings are held when the Regulator receives and accepts a statement of concern about an application, or a regulatory appeal on an AER decision is requested.

Any person who feels they are considered directly and adversely affected by a decision of the AER can attempt to request a hearing by filing a statement of concern (see Section 11.1.3 below). When a project is submitted to the Regulator with no outstanding concerns it may be *expedited*, which allows the Regulator to make a decision immediately. However, if a company is aware of outstanding concerns, they must

² Alberta Energy Regulator, *Manual 003: The Hearing Process for the Alberta Energy Regulator* (2013), s. 10. <https://www.aer.ca/documents/manuals/Manual003.pdf>

³ AER hearing office: hearing.services@aer.ca, or General Inquiries toll-free 1-855-297-8311.

inform the AER of those concerns and provide those who raised them with a copy of the notice of application. With outstanding concerns, the company is required to file its application as a *non-expedited* application, and the Regulator must wait until the filing deadline described in the notice of application has passed. It is important to submit your statement of concern within the timelines stated in the public notice of application, or the Regulator may dismiss your statement of concern. In extenuating circumstances, you may be able to request to file a late statement of concern.

As a landowner or occupant of the specific land in question, you can request a hearing by submitting a statement of concern if negotiations have failed and you are unable to reach agreement with a company about a proposed development. Anyone else who is directly and adversely affected, such as neighbours objecting to a well, pipeline or other energy project, can also request a hearing, although they may have a harder time being considered directly and adversely affected by the Regulator. When the AER is reviewing the application it will consider all of the registered statements of concern before making a decision whether to hold a hearing. However, even if a statement of concern has been submitted, the Regulator can decide not to hold a hearing. Typically, the Regulator will not hold a hearing if they don't find anyone to be directly and adversely affected, or if they consider that concerns have been adequately addressed.

As the AER will only make its decision on the evidence that it has before it, it is important to explain your concerns fully and to clearly outline how you are directly and adversely affected. The AER will ask the company to respond to your statement of concern, and the company will likely try to refute your statement of concern. You may wish to provide more information to the AER about your statement of concern or to refute information provided by company. The AER may accept additional information about registered statements of concern until it makes a decision. Every person who filed an statement of concern will be provided a copy of the AER's decision.

Once the AER decides to hold a hearing and a hearing panel is assigned, a notice of a hearing will be issued. The notice will provide details on how to *request to participate* in the hearing. The AER's Rules of Practice allow those who think they are directly and adversely affected to request to participate. Additionally, those who think they have a tangible interest in the matter and can materially assist the AER in their decision are allowed to request to participate in a hearing, even if they are not considered directly and adversely affected.⁴

⁴ Alberta Energy Regulator Rules of Practice, s 9(2)(c).

The hearing panel will decide who can participate, and determine the scope of participation for those it allows to participate. Certain parties may be automatically granted participation, such as the applicant or a regulatory appeal requestor. However, automatic participation is not given those who submitted a statement of concern. Therefore, if you want to participate in the hearing you must submit a request to participate within the timeline given in the notice, even if you already filed a statement of concern.

11.1.2 What to consider before a hearing

A hearing takes a lot of time and is costly to all parties involved. A hearing can last from one day to several weeks, depending on the complexity of the problems to be resolved and the number of participants. If negotiation or *mediation* has failed, asking for a hearing is another opportunity to have your views heard; however, you can continue negotiations right up until the start of a hearing. Before you decide to ask for a hearing, you may want to talk with other people in your area so you can all work together (Section 2.7).

An AER hearing is a quasi-judicial process so while it is not essential to have a lawyer represent you, it is strongly advisable. Certainly, the company seeking approval for a project will employ a lawyer who will build the company's case, and try to challenge the legitimacy of yours. The company lawyer may question your eligibility to participate, such as suggesting you may not be directly and adversely affected.⁵

If you wish to provide additional information about your request or to refute the company's information, generally an AER hearing panel will admit additional information, unless accepting that additional information is unfair to other parties or unnecessarily delays the process. In practice, hearing panels have discretion in how rules and procedures are applied. They may try to accommodate participants who are not represented by a lawyer, while ensuring that the process is fair to everyone.

Preparation for a hearing often involves a lot of technical work. Depending on the issues, you may want to draw on a range of experts. These experts might include a geologist to review drilling plans, someone to critique the gas emission modeling work conducted by the company, an engineer to examine the specifications for the design and

⁵ Although the example is from 1999, see EUB Decision 99-16 with respect to the Canadian 88 Lochend application, where the company challenged the rights of interveners living in the emergency response zone. <https://www.aer.ca/documents/decisions/1999/d99-16.pdf>

materials to be used in constructing a pipe or *casing*, and a medical person to review the potential impacts of a *sour gas* release.

Most experienced lawyers will know the best experts and some will provide up-front coverage of costs for you. However, you may also want to look at the written reports of AER decisions from previous cases to give you some idea of the type of evidence presented at a hearing.⁶

You should contact knowledgeable lawyers and experts in the field before you apply for a hearing, so you know the costs involved and whether the experts you wish to hire will be available if the AER decides to hold a hearing. When discussing your case with these individuals, be clear that you are only inquiring, and that you are not engaging their services until it is certain that the AER will hold a hearing. Also, reach an understanding up front about the rates and terms of payment.

Where possible, engage these professionals on a contingency basis, where you agree to apply for participant funding and will pay reasonable fees if costs are awarded to you by the AER. Many professionals will agree to this if it is clear that you are a “directly and adversely affected” party and have a valid case. Some people may also agree to work for lower rates that reflect a contribution to the “public interest,” or ask only that you reimburse out-of-pocket expenses if participant funding is not granted. You can also negotiate directly with the company to ask them to pay reasonable costs or ask the AER for an advance costs award. Without establishing this understanding from the start, you may be exposed to costly professional fees.⁷ See Section 11.1.8 for more details around hearing and participant costs.

11.1.3 Filing a statement of concern

If negotiations have failed and you want the AER to formally address your concerns after the company has submitted their application, the next step is to submit a statement of concern to the AER about an application or project.⁸ It is important for you

⁶ AER, “Decisions.” <http://www.aer.ca/applications-and-notice/decisions>

⁷ One hearing into a proposed well near Calgary resulted in more than \$54,000 in legal fees and \$61,500 in expert fees, although most hearings are not so costly. See ERCB, *Bernum Petroleum Ltd.: Applications for One Facility Licence and Two Well Licences*, Energy Cost Order 2013-002. <http://www.aer.ca/documents/orders/cost-orders/ECO2013-002.pdf>

⁸ Notice of applications are found on the AER website, and may also be issued in public newspapers in your area.

to submit a statement of concern at this stage of the process, or your concerns will not be considered when the AER makes a decision on the application.

When submitting a statement of concern, you need to concisely explain why you believe you are both directly and adversely affected by the Regulator's decision, the nature of your objection to the application, and the outcome you advocate for.⁹ You need to include other relevant details, such as your contact info, and your location relative to the location of the proposed energy resource activity.

It is important to submit your statement of concern within the filing period and carefully make your case as to why you are both directly and adversely affected. The AER must consider all statements of concern that it accepts when making a decision on an application, and determine if it is necessary to hold a hearing. You should review recent participatory and procedural decisions that are listed on the AER website, as they will give you a good sense of how the AER decides who is directly and adversely affected, what concerns they will address, and what information is useful to the AER when deciding to hold a hearing.¹⁰ Currently, the AER has a fairly narrow interpretation of who is directly and adversely affected, and typically does not include people who don't live or own the land where the project will be located, or who cannot establish that they are negatively impacted.

The types of concerns that might be raised include potential impacts on air quality, *groundwater* and *surface water* quality; noise; waste; risk from emergency *blowouts*; and concerns about conservation and *reclamation* issues. However, it's not enough to simply raise a concern; you must explain how you will be directly and adversely impacted based on your concern. For example, it may not be enough to say you are concerned about an emergency blowout. But, if you are required to evacuate through an unsafe zone in the event of an emergency, your statement of concern is more likely to be considered. You shouldn't assume that the AER will have this information unless you provide it in your statement of concern. The AER considers each case on its own merits when it decides whether a hearing is required and does not work on precedent. Be sure to provide all the legitimate arguments you can and give as much detail as possible. Make it as easy as possible for the AER to follow your arguments by putting each specific concern about an application in a separate, numbered paragraph.

⁹ Alberta Energy Regulator Rules of Practice, s. 6(1).

¹⁰ AER, "Participatory/Procedural Decisions". <http://www.aer.ca/applications-and-notices/decision-reports/participatory-procedural-decisions>

Calling the Regulator does not count as submitting a statement, as it must be in writing. You must submit your statement before the date specified in the notice (the time for comment can be as short as 10 days or as long as 30 days). In some cases there is no time set, such as when the project is filed as an expedited application (also known as a *routine application*). In these cases, the Regulator may make a decision on the application immediately. When the project is filed as a non-expedited (or *non-routine*) application, the Regulator must wait for the period for filing a statement of concern to pass before they will approve a project. Companies are allowed to fill an expedited application if they do not require regulatory leniency, and only if there are no outstanding concerns at the time of application.¹¹ If the Regulator does not receive any statements of concern, they are very unlikely to hold a hearing. If the Regulator has already made a decision on an application, then they can't consider a statement of concern, so it is important to submit your statement as soon as possible.¹²

The Regulator has considerable discretion to hold a hearing, and there are very few instances where the Regulator is required to hold a hearing. Additionally, under the legislation that enables the AER, there is no longer a formal right to a hearing for those who are directly and adversely affected. Therefore, you need to make your case for a hearing as strong as possible by being as specific as possible, and presenting all the main arguments in your statement of concern. However, if the Regulator decides to hold a hearing, according to the Responsible Energy Development Act (Section C.1), you may be entitled as a directly and adversely person to be heard in a hearing.¹³

Any statement of concern you submit will be publicly posted on the AER website, so you should not include personal, medical, financial, or otherwise confidential information in your statement. If it is important that the AER consider your personal private information, you can request that information be held confidential. However, it may be enough for you to describe the information and offer further details if necessary. You

¹¹ Exceptions, including routine applications, are described in Alberta Energy Regulator Rules of Practice, s 5.2(2).

¹² Alberta Energy Regulator Rules of Practice, s 6.2(1c)

¹³ The Regulator may refuse to allow you to participate if they find your request to participate frivolous, vexatious, abuse of process, or without merit; if they are of the opinion that you haven't demonstrated that you will materially assist the process, have a tangible interest in the manner, not unnecessarily delay the hearing, or not repeat and duplicate evidence. The Regulator has further discretion to refuse participation. Alberta Energy Regulator Rules of Practice, s. 9.1(3).

don't have to prove you are directly and adversely affected for the AER to consider your statement of concern, just that you may be directly and adversely affected.

11.1.3.1 Notice of a hearing and requesting to participate

If the AER decides to hold a hearing, the branch of the AER that would approve the application forwards the file to the chief hearing commissioner. The chief hearing commissioner will send a letter people who have filed statements of concern, advising them that the file has been sent to the hearing commissioner's office.¹⁴ A hearing panel will be assigned to the file, and if considered beneficial, a second panel will be assigned to conduct an ADR process.¹⁵ The hearing panel and the ADR panel work separately, to avoid unduly influencing the hearing process if it proceeds.

Once the hearing panel believes the matter is ready to proceed to a hearing, it will issue a notice of a hearing. The notice will be sent to all those who submitted a statement of concern and to all those listed in the application, and will be posted on the AER's Notices web page.¹⁶ Additional information and documentation will be posted on the AER's website.¹⁷ The AER may also publish notices in local or provincial newspapers. The notice will outline relevant details about the hearing, such as the subject of the hearing, where to see copies of the relevant documents to the application, and how to request to participate.

Even if you have submitted a statement of concern for the original application, you must submit a request to participate, also known as a written submission, within the time laid out in the hearing notice. You should submit:

- a copy of your statement of concern (or an explanation as to why you didn't file a statement of concern)
- an explanation of how you are directly and adversely affected by the decision of the AER

¹⁴ This is not a notice of a hearing, which will be announced at a later time.

¹⁵ This ADR differs from earlier stages of ADR, in that they are conducted by hearing commissioners. If ADR had been conducted before the file was sent to the Chief hearing commissioner, then some AER staff from the previous ADR process may be included.

¹⁶ Alberta Energy Regulator, "Notices." <http://www.aer.ca/applications-and-notices/notices>

¹⁷ Almost all hearing and the associated materials will be posted on this search tool. Sometimes you may see materials for a potential hearing that has not had a notice of hearing issued. Alberta Energy Regulator, "Proceeding Search"

https://www3.eub.gov.ab.ca/eub/dds/eps_Query/proceedingSearch.aspx

- the outcome of the application that you advocate for
- how you intend to participate in the hearing
- evidence of your efforts to resolve the issues that you are bringing up in the hearing.

If you are representing a group or association, you should explain the nature of your membership with that group. See the AER's Rules of Practice to look over everything you are expected to include, to ensure your concern is accepted by the Regulator.¹⁸

If you are not considered directly and adversely affected, you can still apply to participate in a hearing. For example, landowner groups, or *residents* who live outside of a notification zone, may be granted participation status. When applying, you need to be careful to explain the nature of your interest and why you should be allowed to participate. Additionally, you need to elaborate on how your participating will materially assist the hearing panel to make its decision; what tangible interest you have in the subject matter; and how your participation won't delay the hearing or duplicate evidence of the other parties.¹⁹ The panel has the ability to grant partial participation and may limit your participation to an electronic submission, or determine the issues you are allowed to speak to.

Even if you did not submit a statement of concern, you may still be allowed to participate. It is best to respond to the Notice of Hearing and make a written submission. If you did not submit a request to participate, you can still attend the hearing, however you will not be permitted to submit any evidence or make a submission.

Before preparing and submitting your request, it is useful to review the Alberta Energy Regulator Rules of Practice (Alberta Regulation 99/2013), and *Manual 003: The Hearing Process for the Alberta Energy Regulator*. The rules set out the key steps that you must follow in preparing and submitting a request, and what the Regulator will consider in deciding a hearing. The Manual was written to assist participants in AER hearings. Additionally, you can contact the hearing services office, or attend an information session if you are unclear about the process.

¹⁸ Alberta Energy Regulator Rules of Practice, s 9.

¹⁹ Alberta Energy Regulator Rules of Practice, s 9.

11.1.4 The pre-hearing

Once the AER decides to hold a hearing, it may schedule a pre-hearing. A pre-hearing sorts out details such as the date, time and place of the hearing, submission deadlines, and whether an information request is necessary, and will determine the time available for each party to present evidence and cross examine at the hearing. It will also determine the procedures to be used, and make arrangements for the exchange of exhibits or submissions before the hearing itself begins. The AER tries to avoid postponing hearings to avoid undue delays for all parties, but if you are concerned about the timing or any other process you can make a written request to the hearing panel outlining your concerns and your proposed alternatives. If, for example, you do not think there is enough time to get expert witnesses by the date scheduled for the hearing, you could ask for the hearing to be set for a later date. At a pre-hearing, the AER may encourage participants to join with other local interveners to prepare a joint submission. They will also discuss costs and how to submit a request for advance costs. The AER can choose to hold a hearing electronically (submitting files online), or orally (in person). If the hearing is done in person, the AER will usually plan to hold it as close to the project and participants as possible. Following the pre-hearing, the AER will send all those who attended a written memorandum of decision about the issues dealt with at the pre-hearing.

11.1.5 Submissions and preliminary steps in the AER hearing process

Usually the AER hosts a hearing information session, which explains the process and allows participants to ask questions. Additionally, the AER may schedule a pre-hearing to discuss details of the process, and address scheduling and logistical items (Section 11.1.4). The AER will send a letter to all hearing participants with a schedule for making submissions to the hearing panel.

Before you prepare your submission you should review the hearing materials, which are the documents the hearing panel uses to make its decisions. These include all the application materials, relevant hearing correspondence, and submissions. Once the notice of hearing is issued the applicant is required to provide a copy of the hearing materials to anyone who requests it. You can also contact Hearing Services who can assist you to get a copy of the hearing materials.²⁰

²⁰ AER hearing services, hearing.services@aer.ca

For an example of a submission, see Appendix 3 of Manual 003: The Hearing Process of the Alberta Energy Regulator.

As soon as you know there will be a hearing, you should start preparing your written submission. A written submission is the detailed description of the argument you will be presenting to the AER during the hearing, and is different than the request to participate and a statement of concern. This document should contain the following elements:²¹

- The outcome of the application that you advocate for. At this point, you should indicate whether you are averse to (you oppose any approval), non-averse to (you are not necessarily opposed to an approval but you have issues that you think the AER should consider in making its decision), or in support of the project.
- Reasons why the AER should choose the outcome you are advocating for.
- The facts you plan to prove or rely on in presenting your argument to the AER panel.
- Details about the extent of testimony and any expert reports or evidence you will be including.
- A list of witnesses that you intend to provide evidence at the hearing.

It is very important in your submission to carefully outline all the evidence or information you want to include in the hearing, as hearing commissioners will only consider information in the hearing itself. If you plan to engage a lawyer or other experts, you should contact them immediately to tell them when the hearing will be and make arrangements for hiring them. If you think the hearing date does not provide enough time for you and your experts to prepare your case, you can ask the hearing panel to postpone the hearing date. The AER decides each case on its merit, weighing the arguments for postponement against the parties who may wish to proceed as soon as possible.

You may also want to submit a request for advance payment of participant funding (Section 11.1.8).

11.1.6 Evidence to submit at a hearing

The evidence that you, your lawyer or your experts submit will depend on the nature of your objections. It is advisable to get as much relevant evidence as possible and to

²¹ Alberta Energy Regulator Rules of Practice, s 9.2.

provide detailed information to back up your argument. You may want to ask your experts to re-evaluate information submitted by the company.

Remember that the hearing panel can only make its decision based on the information on the record. This includes the hearing record (application materials and submissions of all parties) and the transcript of the oral hearing. The hearing panel must make its decision based on the current regulatory framework such as the legislation, regulatory requirements, and government policy. You or your lawyer should understand the framework so you can understand what the panel needs to consider and provide evidence and argument to persuade the panel that your desired outcome is consistent with the regulatory framework and the best outcome. Past AER decisions are available on the AER website and show what evidence previous hearing panels have found valuable or not valuable.

The types of issues that the AER deals with during a hearing and may be relevant for your case include:

- the need for a well, pipeline or other facility
- the specific location of a well
- *flaring* and air quality
- potential *hydrogen sulphide* release rate, in the case of a sour gas well or pipeline
- drilling, completion and production considerations for a well
- public safety risk assessment
- emergency response plans (ERPs)
- inadequate notification or public consultation
- access roads
- adverse land use impacts
- corrosion of pipelines
- the future integrity of a pipeline system that has already shown corrosion and leaks
- reclamation and *remediation certificates*
- water licences
- potential for cumulative health and environmental impacts of multiple sources on a region or localized area (however the scope of hearings is usually more narrow)

Be sure to outline your specific concerns (e.g., risks to your family, livestock, water or soil quality). Pictures showing the proximity of your home, livestock or outbuildings to the proposed facility will help the AER visualize your situation and understand why you are concerned. If appropriate, support your claims by providing health records of

individuals who are asthmatic or suffer any ailment that might be aggravated by the proposed operations. If you are submitting personal and private information that you do not wish to be made public, you can make a confidentiality request.

You may want to include evidence about a company's past record and can ask them for their compliance record.

Information about AER closure or *abandonment* orders, environmental protection orders, or other enforcement decisions are available on the AER website,²² and by contacting the AER inquiries line (Section A.2.4). If you are looking for information on reclamation certificates, environmental protection orders, or anything issued under *specified enactments* (Section C.3), you may also contact the Alberta Environment and Parks for any decisions prior to the creation of the AER, if you're having trouble finding it through the AER.²³ If a company had been issued an environmental protection order by Alberta Environment and Parks prior to the AER, the Environmental Law Centre (Section B.3.2) has copies of all orders that you can obtain for a small fee.

If you cannot obtain information about a company from the company itself or by asking the appropriate person at, for example, the AER or Alberta Environment and Parks, you may want to try getting it through a Freedom of Information request (Section A.8).

If you are concerned about air quality, you might want to hire an expert to critique the company's emissions modeling data for gases and other contaminants that can be emitted from flares. It is important to look at both the maximum and average values of gas emissions and to compare the predicted values with *Alberta Ambient Air Quality Guidelines*.²⁴

Dispersion modeling is especially important for sour gas wells and is one of the main assessment tools used to design an ERP for a well or other "sour" facility. Modeling requires information on the hydrogen sulphide (H₂S) content of the gas and the release rate expected from the well. The modeling should consider the frequency and strength

²² The Compliance Dashboard is updated daily, and can be searched by company name. Alberta Energy Regulator, "Compliance Dashboard."

<http://www1.aer.ca/ComplianceDashboard/index.html>

²³ You can contact the compliance support team at Alberta Environment and Parks, and they may have a more complete compliance history pre-dating 2013, before the AER took over environmental regulatory responsibilities for oil and gas activity.

²⁴ Alberta Environment and Parks, "Ambient Air Quality Objectives."

<http://aep.alberta.ca/air/legislation/ambient-air-quality-objectives/default.aspx>

of prevailing winds (based on information from the nearest meteorological station) and the local topography because pure H₂S is slightly heavier than air and the sour gas may concentrate in hollows. The output is a prediction of the concentration of H₂S at various distances from the source, normally under worst case conditions. If your independent expert finds that the modeling is unsatisfactory, you can request the company to modify its modeling or, if funds are available, get your expert(s) to create their own model.

If you are concerned about the possible impact on your water supply, you should get your well tested and submit that information at the hearing to provide baseline evidence (Section 8.4.1). If the safety hazard created by truck traffic is a concern, you may want to include details on the number and times that school buses, pedestrians or cyclists use the same road.

Remember that the AER cannot deal with issues of compensation; this issue must be brought before the Surface Rights Board (Section 10.3).

It helps to offer the AER ideas as to how a particular issue could be resolved or mitigated to an acceptable level. Remember that, while the AER has the responsibility to impartially weigh the various points of view in rendering its decision, the AER's mandate is to allow for hydrocarbon development and will seek to permit the development to proceed while lowering the risk to public health and the environment as much as “practically” possible, especially where these activities meet existing AER regulatory requirements and are consistent with government policy. If you believe that a project should not proceed under any circumstances then you should tell the AER this, and you will need to present your best arguments as to why the benefits do not outweigh the risks for this result. However, if you are seeking higher safeguards for health and environmental safety, then describing possible means to do this gives the AER ways to resolve the dispute that meet the needs of all parties.

11.1.7 The hearing

Once the formal hearing begins, a panel of one or more AER hearing commissioners listens to the views and arguments of all parties. The process begins with opening remarks and dealing with any preliminary matters. After opening remarks, they will hear first from the company (always referred to as “the applicant”). The applicant will usually have a witness panel that will speak to and be able to answer questions about their evidence. Then other participants can question the applicant or witness panel, as can AER staff and hearing panel members. Following this, the other participants will have the opportunity to present their own cases and witnesses in turn. After each

participant has presented their arguments, the applicant is given an opportunity to cross-examine. After each party has presented their position and been cross-examined by the other parties, the AER may ask additional questions of the other parties. Once all participants have presented their evidence and the cross-examination is completed, the parties present their final arguments. The AER will then adjourn the hearing to deliberate on its ruling. The AER requires that all evidence presented in the hearing process must have been provided according to the schedule of submissions to the hearing; new evidence introduced late in the hearing process may not be permitted. For more details about each step in the hearing, see *Manual 003: The Hearing Process for the Alberta Energy Regulator*.²⁵

The AER may take several weeks and up to 90 days to reach a decision. This will then be published as a decision report. Within 90 days of the hearing, a copy of the decision document will be sent to those who participated in the hearing, or to their lawyer, and be published on the AER website.²⁶ If a hearing has been completed, the AER's decision is final and the opportunity to appeal is very limited (Section 11.1.9).

AER hearings are transcribed by a court reported, and are made available at the AER library in Calgary. Reviewing transcripts of previous hearings may be helpful for a party or a lawyer preparing to cross-examine a company. If you have to purchase a transcript, you can include this in your cost claim (Section 11.1.8).

11.1.8 Funding and participant costs

Hearing participants can apply for costs to compensate them for the expenses they incur when preparing for, and participating in, a hearing before the AER. The AER may award costs to anyone who it allows to participate in a hearing.²⁷ The Rules of Practice outline a number of factors that it may consider when deciding whether to grant costs, and it would be beneficial for you to know what the AER may decide to cover.

Many of the considerations are different from the former ERCB cost considerations, which focused on the type of contributions participants made, the usefulness of their evidence and participation, and their willingness to cooperate with other participants. Now there are many new considerations that Regulator may consider, such as whether the participant was willing to attend an alternative dispute resolution, or the extent of

²⁵ *Manual 003: The Hearing Process for the Alberta Energy Regulator*, s. 10.

²⁶ *Manual 003: The Hearing Process for the Alberta Energy Regulator*, Appendix 4.

²⁷ Alberta Energy Regulator Rules of Practice, s 58.1.

their efforts to resolve issues with the applicant beforehand. Notably, there is an emphasis that the Regulator may consider if there is a compelling reason for the participant to bear their own costs, and whether the participant has made an adequate attempt to use other funding sources.²⁸

Full details about applying for costs are set out in AER Directive 031: REDA Energy Cost Claims, including outlining the different cost claim forms that are necessary to complete.²⁹ As Directive 031 explains, the costs have to be

- reasonable and directly related to the hearing
- actual expenditures incurred and paid out of pocket by the participants or, in some cases, other costs for which there was no actual out of pocket expense (such as an honorarium for participation in a hearing)
- properly documented, with receipts for all costs incurred.

The AER may award costs incurred when the hearing participants engage a lawyer or a consultant who helps provide evidence for the hearing. Additionally, it may consider other associated costs of a hearing such as accommodations, transportation, and meals, meeting room rentals, and long-distance phone calls.³⁰ The AER may award basic participant costs based on an honorarium of \$100 per half day of a hearing. Merely attending the hearing does not qualify for costs, but a participant who takes an active part in a hearing, e.g., by giving evidence and being cross-examined, may claim for time spent at the hearing, as outlined in Manual 003 and Directive 031. This may also include public interest groups or associations, if the hearing panel has granted them participation in the hearing.

The AER will usually only cover costs incurred after a notice of hearing is given, but there may be a situation where the AER considers it reasonable for some costs to accrue before a hearing notice is given.³¹ Additionally, the AER may also grant advance funding to enable you to engage the experts you need for a hearing. If you submit such a request you will need to provide a detailed estimate of the costs you expect to incur and, if appropriate, why this information is needed for the hearing. You will still have to prove afterwards, with receipts, that those costs were actually incurred. Section 4 of Directive 031 outlines interim costs in more detail.

²⁸ Alberta Energy Regulator Rules of Practice, s 58.1.

²⁹ AER, Directive 031: REDA Energy Cost Claims (2016). AER Directives are available at AER, “Directives.” <http://www.aer.ca/rules-and-regulations/directives/>

³⁰ *Manual 003: The Hearing Process for the Alberta Energy Regulator*.

³¹ *Manual 003: The Hearing Process for the Alberta Energy Regulator*, 13.

The applicant is responsible for covering the costs of the participants. The AER does not review every cost claim submitted to them after a hearing. When a cost is in dispute between the participant and the applicant, then the AER will review that aspect in dispute. Otherwise, the AER will expect the parties to act in good faith, but can audit a cost claim at any time at its discretion.³² After the AER has awarded costs, the applicant must pay the participant within 30 days, or they will be subject to enforcement measures by the AER.³³

For more details on claimant costs, please refer to Directive 031 to help you interpret the section of the AER Rules of Practice that deals with costs. It is also useful to review previous cost order decisions made by the AER to better understand criteria used to determine what is determined to be acceptable in other hearings.³⁴

11.1.9 Post-decision follow-up

Following a hearing or other decision, the AER expects the company to comply with the decision. Conditions set in the hearing decision may also be incorporated into the company's licence or permit. In some cases, a company may make commitments to interveners that are not specifically spelled out in the licence or permit.

If you have any evidence that a company is not complying with these commitments you should bring this to the attention of the AER (Section A.2.1). The AER will then decide on the appropriate action, which will be determined by the severity of the infringement.

It is also a good idea to keep an ongoing record of any problems you experience as a result of a company's activities, even if the company is acting in accordance with its licence or permit. You then have evidence that you can submit to the AER at a later date, should the company want to extend, amend or renew its activities on your land or in the area.

³² AER, *AER Bulletin 2014-07* (March 6, 2014). <http://www.aer.ca/documents/bulletins/AER-Bulletin-2014-07.pdf>

³³ AER, Directive 031, section 9.

³⁴ AER, "Cost Orders." <http://www.aer.ca/data-and-publications/orders/cost-orders>

11.1.10 Reconsiderations and legal challenges to hearing decisions

When the AER has made a decision after a hearing, it is final.³⁵ You cannot appeal the actual decision to the AER if you do not like it. An appeal on the AER decision made by a hearing panel can only be made to the Alberta Court of Appeal on matters of law and jurisdiction.^{36,37} Any appeal must be made within one month of the date on which the decision was issued by the AER.³⁸ Sometimes several days elapse between the AER signing the decision and the actual announcement, so check the deadline carefully. Section 45 of REDA sets out exactly what is required in the appeal process. When preparing for an appeal, it may also be helpful to review the transcripts of other cases that have gone to appeal.

The AER has the power to confirm, vary, suspend, or revoke any decision that it has made, which is considered a reconsideration. Should you discover new evidence not available at the time of the initial hearing, you could ask the AER to reconsider its decision, citing section 42 of REDA.³⁹ This situation, in which a hearing is held after the AER has approved a project, might arise where a company did not fully inform the public about a proposed development before applying to the AER for approval. The AER might then issue a licence or permit without realizing that there were serious public concerns. Other grounds for reconsideration include if substantial new information has come to light that is pertinent to health and safety or to environmental aspects of the approved project.

You can request a reconsideration on any AER decision, made with or without a hearing. The AER rarely reconsiders its decisions, so it is important to carefully construct your case to make the best argument as to why new facts or information could have had an impact on the hearing panel's decision. If the Regulator has decided to reconsider its decision, it can do so with or without holding a hearing.

³⁵ *Manual 003: The Hearing Process for the Alberta Energy Regulator*, s. 12.1.

³⁶ Alberta, Responsible Energy Development Act, SA 2012 c R-17.3, s 45.

³⁷ Decisions made without a hearing may be appealable by an eligible person, under section 36 of the Responsible Energy Development Act.

³⁸ *Manual 003: The Hearing Process for the Alberta Energy Regulator*, s. 12.2

³⁹ Responsible Energy Development Act, s 42

11.2 Regulatory appeals for AER decisions made without a hearing

Depending on the type of approval, AER decisions that were made without a hearing can be challenged by requesting the AER to conduct a regulatory appeal of the decision.⁴⁰ Any decision made by a hearing panel cannot be appealed to the AER, but you may submit a request for reconsideration to the AER, which could lead to a hearing (see Section 11.1.10).

In addition to requesting a reconsideration, you may be able to request an appeal on a decision defined as a ‘appealable decision’ under REDA section 36. Your eligibility to appeal depends on the type of decision.⁴¹ Examples of decisions that may be appealed if they were made without a hearing include:

- An approval or an amendment, addition or deletion of an application under the Environmental Protection and Enhancement Act
- The issuance of an environmental protection order
- The issuance of a reclamation or remediation certificate
- An amendment or issuance of an approval or a renewal of a licence that formerly was a public review under the Water Act
- Any decision of the Regulator under an *energy resource enactment* (see Section C.3)

The length of time that you have to appeal varies with each type of decision.⁴² In the case of a decision by the Regulator to issue an approval under the Environmental Protection and Enhancement Act (EPEA), you must appeal within 30 days of an approval being given (EPEA, section 91(4)(c)), though there are different time limits for other appeals. In the case of a reclamation certificate, the company, or any person who has received a copy of the reclamation certificate, has up to a year to file a notice of appeal (EPEA, section 91). In a case where the Regulator refused to issue a reclamation certificate, the company also has 30 days to appeal. The AER also deals with appeals

⁴⁰ Responsible Energy Development Act, s 36.

⁴¹ An “eligible person” is a someone who is directly and adversely affected by an appealable decision, or eligible to appeal under specific clauses of EPEA, the Water Act, or the Public Lands Act if made without a hearing (see Appendix C for a description of these Acts). For a description of an ‘eligible person’ see Responsible Energy Development Act, s. 36.

⁴² Appealable decisions and time limits are summarized at AER, “Appeals.” <http://www.aer.ca/applications-and-notice/appeals>

against other AER decisions, including enforcement orders, environmental protection orders, and the designation of a contaminated site. A company is usually more likely to bring an appeal against such decisions, but a landowner may want to take part in the appeal process, to tell the AER why it should not revoke a decision or order, for example.

An appeal to the AER does not usually prevent a company from proceeding with any action allowed by the approval that is being appealed. The person(s) appealing the decision must request a “stay” if they want a project put on hold. While the AER will consider an application for a stay, it is not automatically granted. The AER can only consider granting a stay where it is requested.⁴³

If the Regulator decides to proceed with an appeal, it will proceed to the chief hearing commissioner, who will establish a panel. Alternatively, the Regulator may encourage the issue to be dealt with through its Alternative Dispute Resolution process (Section 2.4.1).

11.3 Surface Rights Board procedures and hearings

The powers of the Surface Rights Board are set out in the Surface Rights Act and the Exploration Dispute Resolution Regulation (Section C.4.1). The process often starts when a company applies to the board for a right-of-entry order because they have failed to reach agreement with a landowner before receiving an approval from the AER (Section 10.3.1).

Or, once a right-of-entry order has been issued, the board may hold a compensation hearing for both right-of-entry compensation and damages, or an objection hearing. Both types of hearings are described in Section 11.3.3. Additionally, a landowner or occupant can reopen negotiations with the company and negotiate a *private surface agreement*. Additionally, they can request a dispute resolution conference (DRC) to resolve additional considerations, facilitated by a Surface Rights Board member. A dispute resolution conference is similar to the AER’s ADR process, and may be initiated before a hearing is scheduled.

⁴³ Responsible Energy Development Act, s. 39 (2).

11.3.1 Right-of-entry orders by the Surface Rights Board

If negotiations between a landowner/occupant and a company fail, yet the AER has decided to issue the company a licence (with or without a hearing), the company can apply to the Surface Rights Board for a right-of-entry order after they have received an approval from the AER. As long as the AER has provided a licence, an application for a right-of-entry order is a formality, as the Surface Rights Board will not refuse entry.

After the board receives a right-of-entry application, the company must serve a copy of the application to the landowner. However, if the landowner or occupant believes they have valid objections, they can refuse to sign and appeal to the Surface Rights Board for a hearing (Section 11.2), although according to the Surface Rights Board such hearings are rarely held for objections to right-of-entry orders.⁴⁴ Any initial objection must be related to something other than compensation, as monetary concerns are dealt with in the next stage of the process. If no issues are raised, the Surface Rights Board will issue a right-of-entry order no earlier than 14 days after the application has been provided to the landowner or occupant. After the Surface Rights Board has issued the order, and if the issues haven't been settled through private negotiations, the Board will set a date for the compensation hearing.

When you receive a company's application for right of entry and you still have outstanding objections, you should immediately (within the 14 day window) file an objection with the Surface Rights Board to the right-of-entry order, and ask the Surface Rights Board to hold an objection hearing. Previous decisions from the Surface Rights Board have held that you cannot challenge the AER's decision on its technical legitimacy, but objecting to a right-of-entry order may allow you an opportunity to capture in writing additional requirements that the Board can include in its decisions; however, this is certainly not guaranteed.

As explained in Section 10.3, even if a landowner and company are close to reaching an agreement on entry and the amount of compensation, a landowner may request that a company obtain a right-of-entry order from the SRB. The board will issue a right-of-entry order as requested, then issue a board compensation order to formalize the amount of compensation the company and landowner have agreed to. This has mainly fallen out of practice, but remains a way for landowners to have the agreement additionally legitimized through the Surface Rights Board.

⁴⁴ Surface Rights Board, "Objections to Right of Entry."

<http://surfacerights.alberta.ca/ApplicationTypes/RightofEntry/ObjectionstoRightofEntry.aspx>

11.3.2 Types of Surface Rights Board hearings

The main type of hearing held by the Surface Rights Board is a compensation hearing. Compensation hearings are scheduled automatically by the board after a right-of-entry order has been issued. In the meantime, the company can start building the access road, well or pipeline.⁴⁵ However, the company is required to pay the landowner the full entry fee and 80% of the compensation offered in the *last written* offer — not necessarily the *last best* offer — before they start operations (Surface Rights Act, section 20). The compensation hearing process is described in Section 11.3.3.

Objection hearings are rare, but if the Surface Rights Board holds an objection hearing for a right-of-entry order,⁴⁶ the company cannot enter the land prior to the hearing. As noted previously, the reasons for objection must not be related to compensation, and should instead focus on any technical failings in a company's proposed development. Although the Board will not dismiss an approval, an objection hearing is an opportunity for you to seek additional conditions on the agreement. Unlike compensation hearings, objection hearings are typically conducted through writing rather than an oral process.⁴⁷

The Surface Rights Board may also hold proceedings to resolve a dispute between a company and a landowner/occupant about any damages done by a company, where damage has been done outside the area covered by the lease or *right-of-way* agreement (Surface Rights Act, section 30(2)(c)). As indicated in Section 10.3.3, claims must be brought to the Surface Rights Board within two years and the total amount of the claim must be for less than \$25,000.⁴⁸

Prior to any hearing by the Surface Rights Board, there may be a dispute resolution conference (DRC) facilitated by a Surface Rights Board member, which may allow you to come to agreement on terms that are outside the jurisdiction of the Surface Rights Board. If the parties come to an agreement through the DRC process, this agreement may be formalized by the Surface Rights Board in a written decision.

⁴⁵ The only exception is when the Surface Rights Board holds an objection hearing.

⁴⁶ Alberta, Surface Rights Act, RSA 2000, c S-24, s 15.5.

⁴⁷ "Objections to Right of Entry."

⁴⁸ If an unresolved claim for damages exceeds \$25,000, you may need to sue the company to obtain compensation. Companies may try to settle out of court. Out-of-court settlements often have a condition that the parties cannot publicly reveal the terms of the settlement.

11.3.3 The compensation hearing process

This section focuses on the compensation hearings that are held when a landowner and a company are unable to agree on compensation and the Surface Rights Board has issued a right-of-entry order.

While a hearing before the AER is a rather formal process, the Surface Rights Board tries to make it as easy as possible for individuals to present their own case. The board meets in different locations across the province, as close as possible to the site, so it will usually not be necessary to travel to the main office in Edmonton for a hearing. It is also possible to have your lawyer or a personal associate represent you at the hearing; if the representative is personal, you must fill out an Appointment of Personal Representative form and submit it to the board.⁴⁹

Before the compensation hearing begins, the board will hold a Dispute Resolution Conference by telephone to see if the parties can agree on compensation before proceeding to the main hearing. If agreement occurs, the hearing process ends immediately and a board compensation order can be obtained. If not, a mutually convenient date will be determined for the hearing.

At the hearing, you must tell the board members why you object to the last offer from the company, and why you think the compensation being offered by the company is insufficient. It is helpful to have your ideas on paper and the board does prefer a written statement. Provide the board with any evidence you have, such as the value of recent land sales and copies of access agreements for similar projects with other landowners that provide greater compensation. When calculating the value for loss of use, it helps to have receipts for the costs of inputs and to document revenue from sales and your estimated net return. If the board has held previous hearings in your area, it could be useful to read the board decisions and perhaps use them as evidence.⁵⁰ Provide all the evidence you have, as the board has to base its decision on evidence. The board will request five copies of all documents — one for each of the three board members, one for the file, and one for the company.

⁴⁹ Available at Surface Rights Board, “Forms.”

<http://surfacerights.alberta.ca/ApplicationTypes/BoardReview%7CRequestforReconsideration/Forms.aspx>

⁵⁰ Surface Rights Board, “Decisions.” <http://surfacerights.alberta.ca/Decisions.aspx>

If you are unable to attend the hearing and you have no one else to represent you, you must send the board your written statement 14 days in advance of the hearing, or request an adjournment.⁵¹

If construction of the well, access road or pipeline is completed before the hearing,⁵² you may wish to take photographs showing the extent of any damage, although members of the Surface Rights Board may inspect the site. The company will also provide exhibits at the hearing.

When the hearing is over, the board will make a decision and issue the compensation order. The amount of compensation ordered by the board may be more or less than the amount offered by the company. If it is less than the preliminary amount already paid by the company, the landowner will have to give back the difference.

A separate hearing is usually held for each person who refuses right of entry to a company. In the case of pipelines, however, when several people raise objections, the board may request the landowners to join in one hearing as this will lead to a more efficient discussion. As an individual landowner, you may still ask for your own case to be heard separately.

For more information about the hearing process, visit the Alberta Surface Rights Board website, or contact them via email or telephone (Section A.3.1). You may also wish to consult the Surface Rights Act or the Surface Rights Board Rules.⁵³

11.3.4 Cost of a Surface Rights Board hearing

The board may award costs for a compensation hearing to a specific party, not necessarily just the landowner. This depends on a number of factors including complexity of the hearing, whether a party delayed the process, the use of lawyers, and source of costs.⁵⁴ The Surface Rights Board may deal with the cost award at the hearing. It is thus advisable to bring any receipts and other evidence of costs and the time involved in preparing for the case to the actual hearing. Unlike the AER, the Surface

⁵¹ Surface Rights Board, *Surface Rights Board Rules* (2010).

<http://surfacerights.alberta.ca/Portals/0/Documents/Right%20of%20Entry/SURFACERIGHTSBOARDRules.pdf>

⁵² Construction could have been started as a result of the right-of-entry order issued by the Surface Rights Board, while waiting for the compensation issue to be addressed.

⁵³ *Surface Rights Board Rules*.

⁵⁴ *Surface Rights Board Rules*, s. 31.

Rights Board has not published special instructions about how to apply for compensation of costs incurred.

Additionally, the Surface Rights Board may issue a cost award for preliminary costs that occur before and outside of the hearing, even if compensation is settled between parties privately. This occurred in the case where both the company and the *lessor* settled on the amount of compensation for the project, but did not agree on the cost award for a landowner hiring a representative.⁵⁵ Although the Surface Rights Board was not involved in determining the rate of compensation, it found that awarding reasonable costs associated with negotiating a private surface access agreement was consistent with the principles of the Surface Rights Board. Particularly, awarding reasonable private costs encouraged parties to privately resolve their disputes, allowed landowners the benefit of representation, and made landowners “whole” when negotiating an agreement primarily for the benefit of companies seeking surface access.⁵⁶

11.3.5 Rehearing

A landowner may ask the Surface Rights Board for a rehearing if the damage done by the company is greater than originally expected, or if they believe they have a legitimate complaint with the hearing process. For example, a rehearing might be possible in the case of a pipeline where construction was still underway at the time of the hearing and unexpected damage occurred after the board decision.

11.3.6 Appealing a Surface Rights Board decision

Either the company or landowner/occupant may appeal a decision made by the Surface Rights Board to the Court of Queen’s Bench. The appeal can relate to the amount of the compensation order or to the person to whom the compensation is payable, or both (Surface Rights Act, s.26). The appeal must be made within 30 days of the date on which the compensation order was received. Section 26 of the Surface Rights Act sets out exactly what is required with respect to an appeal. It is also possible to appeal a decision made by the Court of Queen’s Bench up to the Court of Appeal.

⁵⁵ Surface Rights Board, *Apache Canada Ltd. v Collier Enterprises Ltd.*, 2016 ABSRB 573. <https://www.canlii.org/en/ab/absrb/doc/2016/2016absrb573/2016absrb573.html>

⁵⁶ Ibid, para. 32.

11.4 National Energy Board hearings

The National Energy Board (NEB) regulates pipelines that cross provincial or international borders. The NEB is required to hold a hearing for applications for the construction of a major interprovincial or international pipelines (known as a facilities hearing), the abandoning of a pipeline, and when there is opposition from landowners on the detailed route of an approved pipeline.

The NEB may hold two hearings on a project. The first hearing is to determine whether the construction of a pipeline over forty kilometres in length is in the public interest and to review the general route or corridor for the pipeline. The NEB decides whether to provide the company with a Certificate of Public Convenience and Necessity, so this hearing is called a certificate hearing.

Once a company holds a certificate, it will plan the detailed route of the pipeline. As with provincial energy development, the company and landowner should first try to resolve all issues through direct discussions or use of appropriate dispute resolution (see Section 2.4.1 for the similar provincial process). If problems remain with respect to the location of the pipeline or other issues (with the exception of compensation), the NEB may hold a detailed route hearing.⁵⁷

NEB hearings can be written or oral proceedings and are usually held at locations in or near communities most impacted, sometimes in multiple locations.⁵⁸ The NEB is a quasi-judicial body and operates somewhat like a court. Its powers include the swearing in and examination of witnesses and the taking of evidence. The NEB accepts written evidence prior to a hearing and allows oral cross-examination at the hearing.⁵⁹

Anyone who has a legitimate interest and wants to participate in a NEB hearing can apply by filing out an Application to Participate with the NEB. The NEB allows two categories of people to participate: those who can show that their interest is related to the outcome of the application (considered ‘directly affected’), and those who have relevant information or expertise. The public notice for the hearing will explain how to register.

⁵⁷ NEB, “National Energy Board Hearing Process Handbook.” <https://www.neb-one.gc.ca/prtcptn/hrng/hndbk/index-eng.html>

⁵⁸ “National Energy Board Hearing Process Handbook.”

⁵⁹ Canada, National Energy Board Rules of Practice and Procedure, SOR/95-208, s 36. <http://laws-lois.justice.gc.ca/eng/regulations/SOR-95-208/>

There are two ways to participate in a certificate hearing. You may be asked to submit a Letter of Comment, which is written testimony that contains comments on how you will be impacted, suggestions or comments on conditions of approval, and any other information that supports your comments. Otherwise, you can participate as an intervener, which allows you to attend the oral hearing to present evidence, cross examine other witnesses, and give a final argument. Interveners must show that they have an interest in the results of a certificate hearing.”⁶⁰

In a detailed route hearing, the National Energy Board Act clearly distinguishes between people who own land that the company requires for pipeline development,⁶¹ and people who believe that pipeline development may negatively affect their land.⁶² Both groups have the right to submit a written statement of objection that describes their interest in the land and their objections to the pipeline. The purpose of the hearing is not to oppose the principle of the project, but to discuss the details and logistics of the route. The company is obligated to notify anyone who was found to have legitimate concerns of the Hearing Order for the detailed route hearing.⁶³ The NEB must receive all written statements within 30 days of the public notice announcing the hearing. The NEB may also allow other people who are not interveners to present their comments.

Interveners at an NEB certificate hearing can apply for the Participant Funding Program to help cover expenses. Participants in detailed route hearings are not eligible for cost coverage under the NEB’s Participant Funding Program; however, the NEB may direct the company to reimburse hearing costs to landowners who are directly or indirectly affected by the project.

Where a right-of-way agreement has not been signed between the company and landowner, the NEB can grant a right-of-entry order allowing the company immediate access to the land, although the landowner or occupant does have the opportunity to submit a written objection.⁶⁴

⁶⁰ National Energy Board Rules of Practice and Procedure, s 28.

⁶¹ Canada, National Energy Board Act, RSC 1985, c N-7, s 34(3).

⁶² National Energy Board Act, s 34(4).

⁶³ NEB, *Pipeline Regulation in Canada: A Guide for Landowners and the Public* (2010).
<https://www.neb-one.gc.ca/prtcptn/Indwnrgd/Indwnrgd-eng.pdf>

⁶⁴ For information about expropriation law in Canada, see Expropriation Law Centre,
<http://www.expropriationlaw.ca>

If the project application is approved, the NEB sets and enforces conditions to ensure that the company protects the environment and ensures public health and safety. The NEB audits and inspects the company's construction activities, the operation of its system, and the company's routine maintenance and monitoring procedures.. You can find a description of the NEB's processes in *Pipeline Regulation in Canada: A Guide for Landowners and the Public*. More information is provided in Section A.12.

An NEB decision can be appealed to the Federal Court of Canada, but the appeal is limited to a point of law or jurisdiction. An appeal must be made to the court within 30 days of the NEB's decision.

Proposed pipeline projects submitted to the NEB are also subject to review under the Canadian Environmental Assessment Act, 2012 (Section A.12).

A 2015 review of the NEB by the Canadian Auditor General found that the NEB did not adequately track company implementation of pipeline approval conditions, or consistently follow up on deficiencies in company compliance with regulatory requirements, so improvements in these processes are expected in the next few months.⁶⁵

⁶⁵ Auditor General of Canada, *Report 2: Oversight of Federally Regulated Pipelines*, 2015 Fall Reports of the Commissioner of the Environment and Sustainable Development.
http://www.oag-bvg.gc.ca/internet/English/att__e_41033.html

Appendix

A: Government Boards and Departments

B: Contacts

C: Legislation

D: Documenting Costs

E: Glossary

F: Index

Appendix A. Government Boards and Departments

Although oil and gas is primarily regulated by the Alberta Energy Regulator, many government organizations may play a role. This section provides an overview of the regulatory and government structures relevant to regulation of the oil and gas industry, which have changed significantly since the previous edition of this guide. It also explains the role of other Alberta government departments that have some responsibility regulating the oil and gas industry, as well as the relevant federal bodies. Some legislation that relates to the boards and departments is briefly described in Appendix C.

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A.1 Regulatory board and government changes

A.1.1 Regulatory board changes

The regulation of the oil and gas industry has changed significantly in the last decade. Previously, several ministries and bodies were involved in approving energy resource projects. The Responsible Energy Development Act (REDA) governs the new Alberta Energy Regulator (AER). The new Regulator was set up to create a more streamlined process for upstream oil, gas and coal development and to remove overlapping jurisdictions. The AER is now the single regulator for energy development in the province, often referred to as a ‘one-stop shop’ approval body. Its responsibilities include applications for exploration and development; inspections, compliance, and environmental protection; and reclamation, remediation and abandonment.

The Alberta Utilities Commission and the Environmental Appeals Board continue to exist, but their scope is limited to activities outside of oil and gas, and therefore have little relevance to the issues explored in this guide. The Surface Rights Board and the National Energy Board continue to operate with similar mandates as previously, and have been described below.

Figure 9 depicts the changes in regulatory responsibility in the province.

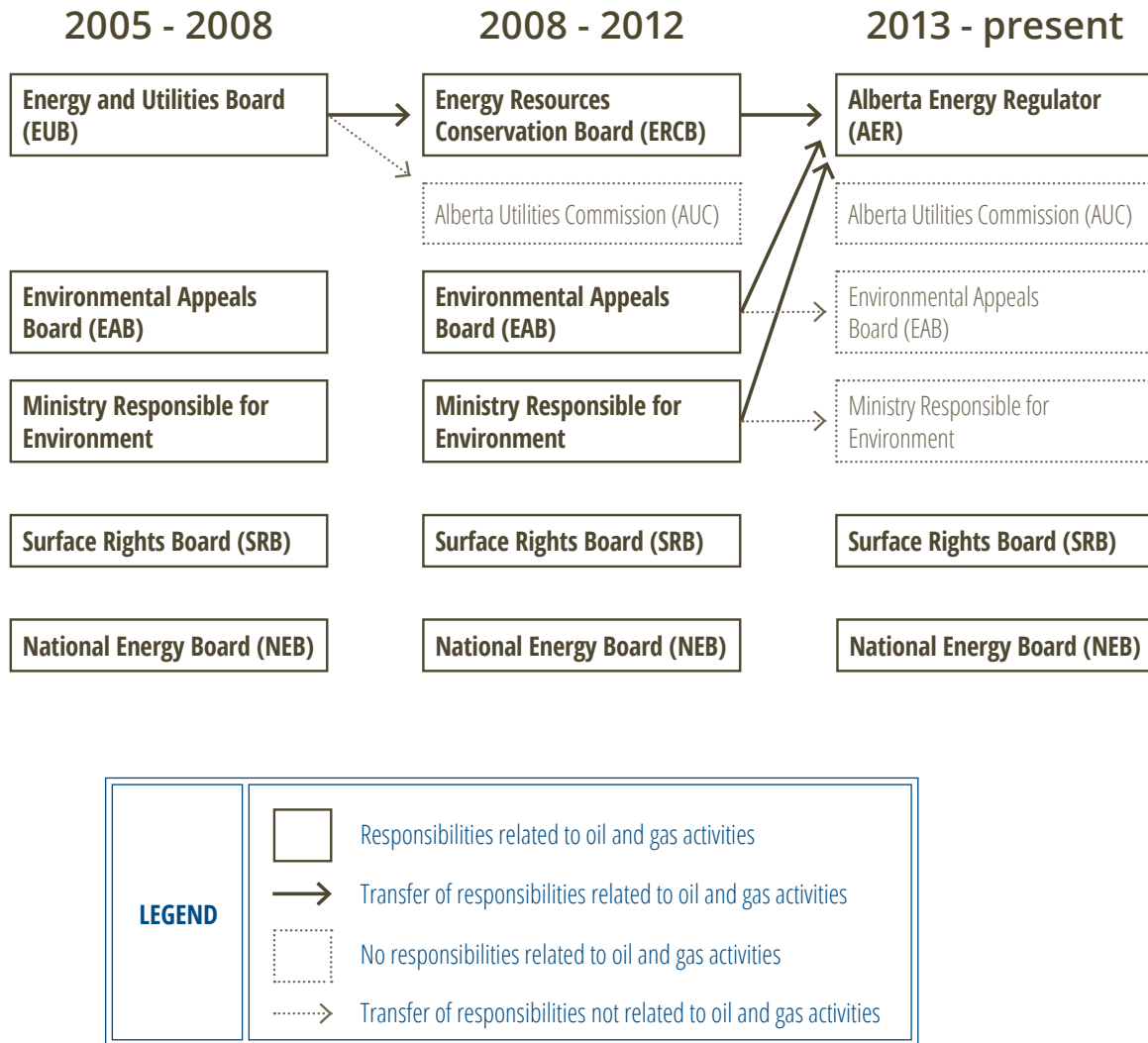


Figure 9. Regulatory responsibility in Alberta

A.1.2 Government department changes

In addition to the changes to regulatory bodies, there were many changes across government departments and ministries that impact energy development. In 2012 the ministries of Alberta Environment and Water (AEW) and Alberta Sustainable Resource Development (ASRD) were amalgamated into the Ministry of Alberta Environment and Sustainable Resource Development (AESRD). In May 2015, the ministry was changed to Alberta Environment and Parks (AEP), representing the recent merging of AESRD and Ministry of Parks. However, all environmental approvals (such as an environmental impact assessment) on projects related to non-renewable energy are now under the jurisdiction of the AER, and the Ministry of Environment and Parks now has a limited role in the process. The Government of Alberta is still responsible for setting the policy

direction of energy resource development through the creation of the legislation, regulations and rules that the AER must regulate by.

The Ministry of Energy remains unchanged.

A.2 Alberta Energy Regulator

A.2.1 What the Alberta Energy Regulator does

The Alberta Energy Regulator is the official regulatory body for upstream oil, gas, and coal development in Alberta. Although the AER reports to the Minister of Energy, in its day-to-day operations it works at “arm’s length” from government, as did its predecessor, the ERCB. In addition to the government-appointed chair, board directors and hearing commissioners, and the CEO, there are 1200 staff involved in day-to-day operations. These are located at the Calgary head office, two Edmonton offices, two regional offices and eight field centres across Alberta.¹

The AER is a quasi-judicial, independent body responsible for the day-to-day management of the energy industry in Alberta, and ensures development occurs in accordance with government legislation, regulations and rules. With the exception of energy tenure, which is managed by Alberta Energy (see Section A.5) the AER acts as a ‘one-stop shop’ approval body for the full life cycle of oil, gas, and coal development, including decisions on applications for energy development, monitoring for compliance, decommissioning of developments, and all other aspects of energy resource activities. The Regulator’s extensive powers are defined in several pieces of legislation (Appendix C). The AER must approve each oil or gas project before the project can proceed, and has authority to approve projects on both private and public lands.

Objections to proposed developments are submitted to the AER. Concerned residents or affected parties can inform the AER of their concerns before a project application is submitted; the AER will usually encourage the company to address your concerns at this stage. See Sections 2.1 and 2.2 for more information about submitting your concerns to the Regulator, and engaging with a company before a project begins.

¹ Government of Alberta, “Energy Development in or Near Urban Areas”, presented at Roundtable with Stakeholders, June 2014, 21.
<http://www.energy.alberta.ca/LandAccess/pdfs/ERSpresentation2014.pdf>

After an operator submits a project application to the AER, concerned parties can raise their objections in the form of a statement of concern² within the time outlined in the application notice.³ However, the AER will evaluate these objections to determine whether the claimant is both directly and adversely affected.⁴ If the AER determines that the claimant is directly and adversely affected then the AER may evaluate those objections to determine whether a project is in the ‘public interest’. If the AER does not determine a claimant is directly and adversely affected, then they may allow the application to continue without triggering a hearing.

The AER does not hear objections and disputes related to the surface rights, compensation, or expropriation, as these are under the purview of the Surface Rights Board or the Land Compensation Board (Section A.3.1). Much of the AER’s work concentrates on addressing issues associated with public safety and risks to the environment. Although the AER can refuse permission for a company to extract oil or gas, it rarely does so. This is not surprising, given the fact that the AER’s mandate attempts to capture two somewhat competing goals; its first mandate is to promote energy development in the province, while the other to act as a responsible steward and watchdog of the industry. The AER has a regulatory enhancement program, which is an attempt to make progress on implementing the right mechanisms and processes to successfully balance these two goals.

The AER’s requirements to which a company must construct and operate a well, pipeline or other energy project are set out in Manual 013: *Compliance and Enforcement Program*.⁵ The program relies on education, prevention and enforcement as pillars to ensure compliance. It also reports results to the public on the AER website. The AER

² Statements of concern (previously known as objections) have changed under the new Regulator. Previously, all approvals managed by the AESRD (such as approvals under the Environmental and Protection Enhancement Act and the Water Act) required a person to be “directly affected” in order to submit a statement of concern. Under the current regulator, that threshold was narrowed so that a person who believes they are “directly and adversely affected” by an energy resource application can submit a statement of concern to the Regulator.

³ For more information about what to include in a statement of concern, see AER, “Statement of Concern.” <https://www.aer.ca/applications-and-notice/statement-of-concern>

⁴ For more information on how “directly and adversely affected” is interpreted, see AER, “Participatory/Procedural Decisions.” <https://www.aer.ca/applications-and-notice/decision-reports/participatory-procedural-decisions>

⁵ AER, Directive 019: Compliance Assurance (2010). AER Directives are available at AER, “Directives.” <https://www.aer.ca/rules-and-regulations/directives>

encourages industry self-reporting to determine if companies are complying with the standards, and supplements with risk-based surveillance, audit, and inspection activities. Proactive inspections are prioritized based on the company's compliance history, the sensitivity or particular circumstances of the site, and the inherent risk of the operation itself. The AER may also conduct unscheduled and unannounced inspections when the public has identified issues and deficiencies with a company's practices.⁶

The AER's enforcement toolbox includes remedial, deterrent or punitive measures, which can be applied individually or in any combination as a response to non-compliance. Incidents are categorized as either high or low risk and the associated actions are applied. If companies fail to comply with a notice, have a history of being issued with non-compliance notices, or have demonstrated disregard to a non-compliance notice, the AER will escalate its enforcement tactics. Actions that the AER can take can include issuing a notice of noncompliance and a noncompliance fee, suspending a licence or a permit, or issuing a compliance order.⁷ Additionally, they can issue a declaration naming a company or an individual, which then allows the Regulator to suspend any operations from that company, refuse applications, or require additional *abandonment* and reclamation deposits.⁸

A list of incidents, investigations, and compliance and enforcement actions is available on the AER website.⁹ More information about AER inspections and enforcement can be found in the *Assurance, Compliance and Enforcement Fact Sheet* or found on the AER website.

⁶ AER, *Assurance, Compliance and Enforcement Fact Sheet* (2014). EnerFAQs and Fact Sheets are available at AER, "EnerFAQs (Q&As)." <http://www.aer.ca/about-aer/enerfaqs>

⁷ *Assurance, Compliance and Enforcement Fact Sheet*.

⁸ Alberta, Oil and Gas Conservation Act, RSA 2000, c O-6. s 106.

⁹ For compliance reporting since July 2014: AER, "Compliance Dashboard." <http://www1.aer.ca/ComplianceDashboard/index.html>. For compliance reporting prior to July 2014: AER, "ST108: AER Monthly Enforcement Action Summary." <http://aer.ca/data-and-publications/statistical-reports/st108>

A.2.2 Reclamation and remediation certificates, and environmental assessments

Since 2014, the AER has authority and responsibility (previously held by AESRD) for reclamation and remediation certificates, and conducting associated environmental assessments for oil, gas, and coal related projects.

The AER is responsible for the Alberta Environmental Protection and Enhancement Act (EPEA) requirement that all operators of projects on specified land¹⁰ must obtain a certificate of reclamation. Additionally, the AER has launched the Upstream Oil and Gas Reclamation and Remediation Program, which requires that land must be reclaimed when project sites are no longer needed for energy resource development. Upstream oil and gas reclamation certificates must be signed off by a government-approved reclamation professional, and all landowners and occupants should be given copies of all reclamation and remediation information. Industry is liable for all surface reclamation issues for the first 25 years. After the 25-year period, the Alberta government is liable for any surface reclamation issues.¹¹

The AER also issues environmental impact assessments (EIAs) for energy resource projects. Environmental assessments are required for some energy resource projects by the Environmental Protection and Enhancement Act and the Water Act to determine the potential environmental, social, economic or health impacts, and what ways these impacts can be reduced. Projects designated as mandatory under the Environmental Assessment (Mandatory and Exempted Activities) Regulation must be assessed, while the AER has discretion to require an assessment for any project not classified as mandatory or exempted. All information on environmental impact assessments is pooled with environmental assessments conducted by Alberta Environment and Parks (AEP). These can all be found on the AEP website.¹²

¹⁰ Specified land is land that is subject to an approval under a specified enactment, such as the Environmental Protection and Enhancement Act (EPEA), the Water Act, the Public Lands Act, and part 8 of the Mines and Minerals Act.

¹¹ AER, “Upstream Oil and Gas Reclamation and Remediation Program.”
<http://www.aer.ca/abandonment-and-reclamation/upstream-oil-gas-recrem-program>

¹² Alberta Environment and Parks, “Environmental Assessments/EIAs.”
<http://aep.alberta.ca/Lands-Forests/land-industrial/programs-and-services/environmental-assessment/default.aspx>

A.2.3 Acts and regulations that govern the AER's work

Some of the acts, rules and regulations enacted by the Alberta government that relate to the AER's regulation of oil, gas and coal industry are listed here.¹³ See Appendix C for more details.

Establishing act

- Responsible Energy and Development Act (REDA), and related regulations

Energy laws (known as energy resource enactments)

- Coal Conservation Act
- Oil Sands Conservation Act
- Oil and Gas Conservation Act
- Pipeline Act

Environmental laws (known as specified enactments)

- Environmental and Protection Enhancement Act (EPEA)
- Mines and Minerals Act (Part 8)
- Public Lands Act
- Water Act

Regulations governing the AER

- AER Rules of Practice
- Specified Enactment (Jurisdiction) Regulation
- AER Administration Fees Rules
- Enforcement of Private Surface Agreement Rules

A.2.4 Alberta Energy Regulator offices

The AER head office is in Calgary, with four regional offices and eight field offices. Each field office is on 24-hour call in case of emergency, but emergency related incidents and complaints about the operations of an existing project (such as odour or noise complaints) should be directed to the Energy and Environmental Emergency 24-Hour Response Line.

¹³ AER, "Acts, Regulation and Rules." <http://www.aer.ca/rules-and-regulations/acts-and-rules>. There are many regulations that we have omitted, but may still be relevant to you as they are complementary to the Acts that enable them. See the AER website for more details.

Alberta Energy Regulator (Head Office)

Suite 1000, 250 5 Street SW

Calgary, Alberta T2P 0R4

General Inquiries: 403-297-8311 (RITE: 310-0000) or toll-free 1-855-297-8311

Communications: 403-297-4601

AER's Customer Contact Centre: 1-855-297-8311

Operational Complaint and Emergency Number: 1-800-222-6514

www.aer.ca

Many of the phone numbers listed in this guide are part of the provincial government's toll-free, long-distance RITE telephone service. In Alberta, dial 310-0000 and then enter the area code and seven-digit local number to connect or press "0" and hold for a RITE operator.

A.2.5 Geophysical Inspector Program

The Geophysical Inspector Program is administered by the AER. If a landowner or occupant has concerns about any damage, water wells, flowing shot holes, livestock damages, permit disputes, trespass and related damage, or other issues relating to seismic exploration, they can contact the program to investigate. The complaint is triaged to the appropriate field centre and a geophysical inspector will contact the complainant to meet or to investigate by phone.

Geophysical Inspector Program

(AER Inquiries): 403-297-8311 (RITE: 310-0000) or toll-free 1-855-297-8311

inquiries@er.caexploration@er.ca

Operational Complaint and Emergency Number: 1-800-222-6514

A.2.6 Information published by the Alberta Energy Regulator

The AER's website, www.aer.ca, contains information about the stages of development, rules and directives, publications, notices of application and notices of decisions, and also links to many data systems or statistical reports. If you are having trouble navigating the website or accessing the information, you can contact inquiries@er.ca or 1-855-297-8311. If you would like to be provided with specific information from the Products and Services Catalogue which is available on the AER website, you can request it from InformationRequest@er.ca.

On its website, the AER has published a number of directives that set out the process and requirements that companies must meet with respect to wells, pipelines and facilities. The directive numbers correspond to the guides that were previously in place. All new directives replaced informational letters (ILs) and interim directives, although these are still available for reference. Directives, along with bulletins that announce regulatory changes by the AER, can all be found online.¹⁴

The AER also issues annual reports and the AER Focus Newsletter, a quarterly newsletter updating the public and industry on AER initiatives. More technical documents, such as manuals, reports, and investigation reports, are also published online.¹⁵

An overview of how the AER deals with concerns about an oil and gas project is provided in the AER brochure (carried over from the ERCB), *Understanding Oil and Gas Development in Alberta*, which can be found as Appendix 10 in AER Directive 056: *Energy Development Applications and Schedules*.¹⁶ This brochure gives a brief overview of the role of the AER in the application process, such as the difference between surface and subsurface mineral rights; how a company will space projects; how the company must consult with those outlined in their participant involvement program; and the process you may use to voice your concerns. If you are considered a directly and adversely affected party to development and are included in the participant involvement program of the proposed project, companies submitting an application to develop must give you a copy of this brochure, along with a letter from the CEO of the AER, a company information package outlining the project details, and relevant EnerFAQs. You will have 14 days after receiving the documents to consider and respond to the application before it is submitted (Section 2.1).

In some cases, applications that have outstanding concerns will trigger a public hearing. Hearings are described in Section 11.1. You can find more information on the hearing process on the AER's website,¹⁷ or refer to *Manual 003: The Hearing Process for the Alberta Energy Regulator*.¹⁸

¹⁴ AER, "Rules & Directives." <http://www.aer.ca/rules-and-directives>

¹⁵ AER, "Data & Publications." <http://www.aer.ca/data-and-publications>

¹⁶ AER, *Directive 056: Energy Development Applications and Schedules* (2014).

¹⁷ AER, "Hearings & Proceedings." <http://www.aer.ca/applications-and-notice/hearings-and-proceedings>

¹⁸ AER, *The Hearing Process for the AER* (2013).
<http://www.aer.ca/documents/manuals/Manual003.pdf>

You may also find it instructive to read Directive 056, Appendix 11: Understanding the Participant Involvement Process, even though this is not written specifically for the public.

Decisions and public notices of application

The AER publishes various notices and decisions on its website, and there are several places where you may find information about an application.

For all applications submitted to the Regulator, you can search the Public Notice of Application database. You can find details and supporting documentation about the project such as the nature of the activity applied for, the legal land location, contact details for the company, and the deadline for filing a statement of concern. Applications will be available for 30 days after the application was filed, even if a decision was made on the application before 30 days.¹⁹ A company is also expected to send the public notice of application to anyone who has raised concerns about the project. You may also find additional information about a project before or after it is approved on the Integrated Application Registry.²⁰

Hearings and participation

The AER publishes notices for hearings, notice of participation in a hearing, or other hearing related notices on its “Notices” web page. You may also find amendments to notice of applications, and this acts as a secondary location to find notice of applications for some project applications.²¹ You can find decisions on hearings, regulatory appeals, or reconsiderations on the AER’s “Decisions” web page.²² Decisions on applications are posted on the AER’s “Publication of Decision Tool”.²³ You can find decisions on participation for statements of concern, request for regulatory appeal, or request for consideration on the “Participatory and Procedural Decisions” web page.²⁴

¹⁹ Expedited, also known as routine applications, do not have a deadline for a statement of concern, but the Regulator may make a decision as soon as they have been processed by the AER.

²⁰ AER, “Integrated Application Registry.” https://dds.aer.ca/iar_query/FindApplications.aspx

²¹ AER, “Notices.” <http://www.aer.ca/applications-and-notices/notices>

²² AER, “Decisions.” <http://www.aer.ca/applications-and-notices/decisions>

²³ AER, “Publication of Decision.” [http://search.aer.ca/pnod-en/search/theme/pnod?fq\[\]=feed_str:all&sort=recent](http://search.aer.ca/pnod-en/search/theme/pnod?fq[]=feed_str:all&sort=recent)

²⁴ AER, “Participatory and Procedural Decisions.” <http://www.aer.ca/applications-and-notices/decision-reports/participatory-procedural-decisions>

Compliance and enforcement

The AER also publishes a compliance dashboard, where you may find information about incidents (such as an oil spill), investigations, and compliance and enforcement orders. This contains information only as far back as June 2014.

General publications

These and other AER publications are available on the AER website.

EnerFAQs (Frequently Asked Questions) cover a variety of subjects:²⁵

What is the Alberta Energy Regulator?

Having Your Say at an AER Hearing

Inspections and Enforcement of Energy Developments in Alberta

All About Critical Sour Wells

Explaining AER Setbacks

Flaring and Incineration

Proposed Oil and Gas Wells, Pipelines, and Facilities: A Landowner's Guide

The AER and You: Agreements, Commitments, and Conditions

All About Alternative Dispute Resolution (ADR)

Oil Sands

Expressing Your Concerns – How to File a Statement of Concern About an Energy

Resource Project

How to Register a Private Surface Agreement

The AER publishes several fact sheets:

Preapplication Concern Fact Sheet

Reclamation and Remediation

Assurance, Compliance, and Enforcement

Emergency Planning, Preparedness, and Response

Responding to an Energy Incident

Bulletins²⁶

Bulletins are updated fairly regularly, and are available on the AER website. They serve to inform industry and the public on consultations, new regulatory requirements,

²⁵ AER, “EnerFAQs.” <https://aer.ca/about-aer/enerfaqs>

²⁶ AER, “Bulletins.” <http://www.aer.ca/rules-and-regulations/bulletins>

programs, or other activity by the AER. Older material not included in the bulletin portal are archived and can be found in the AER library.

Directives²⁷

The AER's directives are largely based on the previous guides used under the EUB and ERCB, with many guides carrying over the same titles and numbers. These directives set out requirements for any approval holder that falls under the jurisdiction of the AER, so many of them are technical in nature. All of the AER's Directives are available on the AER website, but some guides that may be relevant to you are:

Directive 020: Well Abandonment (June 2010)

Directive 031: REDA Energy Cost Claims (November 2013)

Directive 036: Drilling Blowout Prevention Requirements and Procedures (February 2006)

Directive 038: Noise Control (February 2007)

Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators (January 2013)

Directive 050: Drilling Waste Management (May 2015)

Directive 055: Storage Requirements for the Upstream Petroleum Industry (December 2001)

Directive 056: Energy Development Applications and Schedules (May 2014)

Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry (February 2006)

Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting (October 2015)

Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry (November 2009)

Directive 079: Surface Development in Proximity to Abandoned Wells (November 2014)

Directive 083: Hydraulic Fracturing – Subsurface Integrity (May 2013)

Interim Directives²⁸

Interim directives act as the designated directives until they have been updated or replaced by AER directives. Some relevant directives are below:

²⁷ AER, "Directives." <https://www.aer.ca/rules-and-regulations/directives>

²⁸ AER, "Directives."

Interim Directive ID 81-3: Minimum Distance Requirements Separating New Sour Gas Facilities from Residential and Other Developments (amended by ID-96-02 and ID 97-06)

Interim Directive ID 2001-03: Sulphur Recovery Guidelines for the Province of Alberta.

Interim Directive ID 2003-01: 1) Isolation Packer Testing, Reporting and Repair Requirements; 2) Surface Casing Vent Flow/Gas Migration Testing, Reporting, and Repair Requirements; 3) Casing Failure Reporting and Repair Requirements.

Manuals²⁹

Manuals are primarily reference guides for stakeholders and AER staff, and do not act as regulatory documents. While the Manuals are listed on the website, a few relevant manuals are listed below.

Manual 002: Drilling Waste Disposal Inspections (previously Directive 070)

Manual 003: The Hearing Process for the Alberta Energy Regulator (previously Directive 029)

Manual 004: Alternative Dispute Resolution Program and Guidelines for Energy Industry Disputes.

Manual 007: Principles for Minimizing Surface Disturbance in Native Prairie and Parkland Areas (previously Informational Letter 2002-01)

Manual 013: Compliance and Enforcement Program

Informational Letters³⁰

Informational Letter IL 91-11: Coalbed Methane Regulation.

Statistical Reports (ST)³¹

ST1: Well Licences Issued

Lists licences with well ID, surface location, and Licensee. Updated daily.

ST49: Drilling Activity

Lists well ID, licensee, contractor, and activity date. Updated daily.

ST60B: Upstream Petroleum Industry Flaring and Venting Report

²⁹ AER, “Manuals.” <https://www.aer.ca/rules-and-regulations/manuals>

³⁰ AER, “Informational Letters.” <http://www.aer.ca/rules-and-regulations/informational-letters>

³¹ AER, “Statistical Reports.” <http://www.aer.ca/data-and-publications/statistical-reports>

Provides a summary of the flared and vented volumes for the various oil and gas industry sectors. It also breaks down flaring and venting by region and company. Updated annually.

ST96: Pipeline Approval and Disposition Daily List

Lists pipeline permits, licences and amendments.

ST97: Facilities Approvals Daily List

Lists approvals for oil and gas facilities (such as oil batteries), with land location, application purpose, and licensee name. Updated daily.

ST108: AER Monthly Enforcement Action Summary

Lists the summary of non-compliance, as well as licensee, type of non-compliance, enforcement date, land location, and AER actions.

Products and Services Catalogue³²

The AER also publishes its Products and Services Catalogue, where you can find much of the annual or monthly reporting the AER publishes. Some of it is available for free, however you can place an order for additional information from the Regulator.

Map viewers³³

The AER has a series of map viewers that may be useful to you, including an Abandoned Well Map viewer and a well spacing viewer. Some of these have been carried over from the former EUB. With slow internet connections, these may be hard to load. If you have issues loading this material, contact the AER's Customer Care Contact Centre.

The Abandoned Well Map viewer may be useful for those who plan to develop their lands in the future, as landowners are required to know the location of any abandoned well when applying for development or subdivision.³⁴

A.3 Alberta Environment and Parks

The Ministry of Environment and Parks (AEP) was formerly known as Alberta Environment and Sustainable Resource Development (AESRD) until Spring 2015. It has

³² AER, "Product and Services Catalogue." <http://www1.aer.ca/ProductCatalogue/index.html>

³³ AER, "Map viewers." <http://www.aer.ca/data-and-publications/maps-and-mapviewers>

³⁴ AER, "Abandoned Well Map Viewer." <http://mapviewer.aer.ca/Html5/Index.html?viewer=aerabnwells>

jurisdiction of environmental protection and monitoring, alongside other programs and initiatives under its umbrella. Alberta Environment and Parks will continue to play a role in environmental monitoring, and oversees monitoring programs that were administered by the recently disbanded Alberta Monitoring, Evaluation, and Reporting Agency (AEMERA).

However, since the creation of the AER, Alberta Environment and Parks is no longer involved in the oversight or management of nonrenewable energy development in Alberta. Similarly, the role of the Environmental Appeals Board (EAB) in appeals on decisions made by the AER has been rescinded, although the EAB still operates and hears appeals on issues not related to energy development that remain under the jurisdiction of Alberta Environment and Parks.

In other ways, AEP still plays an indirect role in the non-renewable energy industry. AEP is responsible for policy implementation, as well as the creation and management of regional plans. Alberta has implemented two of seven regional plans (for the Lower Athabasca and the South Saskatchewan regions), which are meant to establish land use planning and manage cumulative effects across entire regions, and to identify the economic, environmental and social objectives of each region. Each application for an approval within the boundary of a regional plan must assess whether the activity is consistent with the land use and objectives of the plan. It must also assess whether the activity complies with any regional trigger or limit established by the plan.

Additionally, the Chair of the Surface Rights Board, established to settle disputes on right-of-entry orders and compensation issues (see Section A.3.1 below) and the Chair of the Land Compensation Board, established to deal on matters of expropriation of land, report to the Minister of AEP.

General inquiries about the Ministry should be directed to

Alberta Environment and Parks

Information Centre

Main Floor, Great West Life Building

9920 108 Street

Edmonton AB T5K 2M4

Phone: 310-3773 or toll-free 1-877-944-0313

Fax: 780-427-4407

ESRD.Info-Centre@gov.ab.ca

aep.alberta.ca

A.3.1 Surface Rights Board and Land Compensation Board

The Surface Rights Board (SRB) is a quasi-judicial board that deals with compensation and access issues arising as a result of right-of-entry orders for mineral exploitation, pipelines, telephone lines and power lines. Its authority is created under the Surface Rights Act, and is meant to be impartial and arm's-length from government, although the Chair reports directly to the Minister of Environment and Parks.

In addition to dealing with compensation hearings, as required by the legislation, SRB staff provide information and try to resolve problems so that a hearing is not required. The Surface Rights Board shares staff with the Land Compensation Board, which deals with compensation claims when land is expropriated.

In 2015 the Surface Rights Board received a total of 1472 applications, 283 of which were right-of-entry applications that were resolved in some form by the board. The SRB resolved 175 by issuing a right-of-entry order, and 37 issues were resolved by the board without granting a right-of-entry order. Other issues that the board handled were compensation reviews, damage disputes, and recovery of rental claims. Recovery of rental claims are made when operators have not paid rental payments owed to landowners for right of entry; in many cases these operators may have gone bankrupt or have orphaned the site without receiving a reclamation certificate. In 2015, 765 applications, or more than half of all applications to the SRB, were related to recovery of rentals. Of the 475 recovery of rental applications that were resolved, 423 were paid by the AEP from Alberta's general revenue fund.³⁵

The powers of the Surface Rights Board are set out in the Surface Rights Act and in these regulations:³⁶

AR 195/2007: Surface Rights Act General Regulation

AR 227/2003: Exploration Dispute Resolution Regulation, Part 2 (Public Lands Act)

These are described in Section C.4.1.

Surface Rights Board

1229 91 St. SW

Edmonton AB T6X 1E9

Phone: 780-427-2444 or RITE: 310-0000

³⁵ Surface Rights Board and the Land Compensation Board, *2015 Annual Report* (2016).

<http://surfacerights.alberta.ca/AboutUs/AnnualReports.aspx>

³⁶ Surface Rights Board, "Mandate and Roles Documents".

<http://surfacerights.alberta.ca/AboutUs/MandateRolesDocument.aspx>

Fax: 780-427-5798
 srb.lcb@gov.ab.ca
 surfacerights.alberta.ca

The Canadian Legal Information Institute database includes all Surface Rights Board decisions since 2001.³⁷

A.4 Farmers' Advocate Office

Reporting to the Minister of Agriculture and Forestry, the Farmers' Advocate is appointed by the Alberta Government to deal with a range of problems and concerns of farmers. The Office of the Farmers' Advocate focuses on the interests and rights of the landowner, and can provide advice on all issues relating to lease agreements and negotiations. They are able to help a landowner understand the terms of an agreement and what their rights are. If desired, they can also find out whether there is a local synergy group/surface rights group to provide support. If you think the Farmers' Advocate can help you, contact them and describe the problem in as much detail as possible, enclosing copies of any relevant documents.

Office of the Farmers' Advocate

305, 7000–113 Street
 Edmonton, AB T6H 5T6
 Phone: 310-3276 (toll free) or RITE: 310-0000
 Fax: 780-427-3913
 www.farmersadvocate.gov.ab.ca

The Farmers' Advocate office has published a number of pamphlets related to the energy industry, which are also posted on the Alberta Agriculture website.³⁸

Negotiating Surface Rights, Agdex 878-1 (revised 2009)
Seismic Operations and Farmers' Rights, Agdex 878-2 (revised 2012)
Pipelines in Alberta — What Farmers Need to Know, Agdex 878-4 (revised 2009)
What is Adverse Effect Within a Surface Lease? (revised 2015)

³⁷ CanLII, "Alberta Surface Rights Board." <http://www.canlii.org/en/ab/absrb/>

³⁸ Alberta Agriculture and Forestry, "Farmers' Advocate Office: Surface Rights, Utilities, and Energy." [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/ofa11058](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ofa11058)

The Farmers' Advocate Office administers the Water Well Restoration or Replacement Program, which can help when a landowner believes that a water well has been damaged by seismic or oil and gas activity. This is a reimbursement program, so well owners will need to correct the loss of water first and then apply for costs. Application forms for that program are available at the Farmers' Advocate Office website,³⁹ and must be submitted within two years of the alleged damage occurring. Useful information on water wells can be found in *Water Wells That Last*, at the same website.

A.5 Alberta Energy

The Ministry of Energy houses the Department of Energy, and is also the Ministry to which the head of the AER reports. The Department of Energy is responsible for managing Alberta's non-renewable resources prior to development, and granting tenure rights to companies, while the AER is responsible for overseeing the development itself. The legislation that authorizes their activity includes the Mines and Minerals Act, described in Section C.3.2.

Alberta Energy (Edmonton)

North Petroleum Plaza

9945–108 Street

Edmonton, AB T5K 2G6

Phone: 780-427-8050 or RITE: 310-0000

Alberta Energy (Calgary)

300, 801–6 Avenue SW

Calgary, AB T2P 3W2

Phone: 403-297-8955 or RITE: 310-0000

www.energy.alberta.ca/index.asp

A.6 Alberta Health and Alberta Health Services

The Ministry of Health (also known as Alberta Health) does not usually get directly involved in the regulatory side of energy issues. However, the ministry is responsible for issues that relate to the health of Albertans, and collaborates with other regulatory bodies to develop health policies on environmental contaminants and health.⁴⁰ You can find relevant publications on environmental health on the Alberta Health website,⁴¹

³⁹ Alberta Agriculture and Forestry, "Well Water Replacement or Restoration Program."

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/ofa11059](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/ofa11059)

⁴⁰ "Energy Development in or Near Urban Areas."

⁴¹ Alberta Health, "Environmental Health Publications."

<http://www.health.alberta.ca/newsroom/pub-environmental-health.html>

such as *Health Effects Associated with Short-term Exposure to Low Levels of Hydrogen Sulphide (H₂S)*.⁴²

Ministry of Health (Alberta Health)

10800–97 Ave

Edmonton, AB T5K 2B6

Phone: 780-427-7164 or RITE: 310-0000

www.health.alberta.ca

Alberta Health Services (AHS) is separate from the Ministry of Health, and is not involved in setting policy regarding health and the environment. If you have concerns about the direct effects of an oil or gas well on your health, it may be best to contact AHS, which may get other health authorities involved if there are larger health issues at play.

Alberta Health Services

14th Floor, North Tower

10030–107 Street NW

Edmonton, AB T5J 3E4

Phone: 780-342-2000 or toll-free 1-888-342-2471

Health Link (for questions or advice from a registered nurse): 811

Sometimes AHS may become involved in a hearing to speak to questions of environmental health. This happened in the case of the Canadian 88 application for a well in the Lochend Field, where the Calgary Regional Health Authority (the authority at the time) was concerned that an emergency situation could put citizens of Calgary at risk.

A.7 Alberta Labour

Alberta Labour is responsible for the licensing of land agents. Only a licensed agent is allowed to negotiate surface rights or right-of-way agreements. Anyone who charges a landowner for advice on negotiating surface rights must also be a licensed land agent. This is set out in the Land Agents Licensing Act and the associated regulation, briefly described in Section C.4.3. Information about land agents can be obtained from the department.

⁴² Alberta Health and Wellness, *Health Effects Associated with Short-term Exposure to Low Levels of Hydrogen Sulphide — A Technical Review* (2002). <http://www.health.alberta.ca/documents/Health-HS2-Exposure-2002.pdf>

The Registrar of Land Agents investigates concerns regarding a land agent or any complaints dealing with matters pertaining to the Land Agents Licensing Act or the Land Agents Licensing Regulations.

The Registrar of Land Agents

9th Floor, 108 Street Building

9942–108 Street

Edmonton AB T5K 2J5

Phone: 780-415-4600

Fax: 780-422-7173

Land.Agents@gov.ab.ca

The publication *Surface Rights and the Land Agent: A Guide for Landowners and Occupants Concerning Land Agents and Surface Rights Agencies* is available online.⁴³

A.8 Freedom of Information

Sometimes you may want information about what a provincial government body is doing, or to obtain records a government has about a company, such as a company's monitoring results or its compliance with government regulations. If you are unable to get the information by asking the company or the appropriate government office (such as the AER or Alberta Environment and Parks), you can make a Freedom of Information request.

The legislation that requires the government to make information available to the public is called the Freedom of Information and Protection of Privacy Act, so such a request is often called a "FOIP" request. While the law requires some information to be released, it does not allow the disclosure of information that could cause financial harm to another person or organization or interfere with public health, safety or law enforcement. A FOIP request does not apply to private businesses, so you cannot file a FOIP request about an energy company directly.

Information on making a FOIP request is available on the FOIP website.⁴⁴ The request must be made in writing. You can download a Request to Access Information form at

⁴³ Alberta Labour, "Land Agents Licensing Publications."

<http://work.alberta.ca/labour/publications.html>

⁴⁴ Government of Alberta, Freedom of Information and Protection of Privacy, "Access to Records." <http://www.servicealberta.ca/foip/access-to-records.cfm>

the website, or you can put your request in a letter. When writing a letter, remember to provide your name, address and a telephone number where you can be reached if there are any questions about the request.

It may be best to request the information directly from the company, government office, or other publicly available means before making a request under FOIP, as the FOIP process may actually slow down the delivery of information. If you are unsure which public body has the information you seek, contact the FOIP Coordinator of the agency that seems most probable.⁴⁵ If that public body is not the right one, the coordinator should be able to refer you to the correct location.

You should be as specific as possible when describing the records to which you want access, as this could save you money. It may be helpful to discuss how to make your request with a FOIP coordinator before submitting your form or letter. The FOIP Coordinator will give advice on completing the form, ensuring that your request provides the detail the office needs to find the right information. The coordinator may even be able to suggest how you can get the information without applying to FOIP. It costs \$25 to make a request for general information and the fee must be sent with the application.⁴⁶ There is no additional upfront charge unless the total cost of processing your request exceeds \$150. The coordinator will give you the estimated total cost before the information is processed and will discuss ways to narrow your request, if required. Fees may be waived if you cannot afford to pay or if you can show that the record deals with an important matter of public interest (such as the environment, public health or safety).⁴⁷

If your request for information is refused, or if you have any issue with the way your access request was processed you can ask for a review by contacting the Information and Privacy Commissioner.

⁴⁵ Government of Alberta, Freedom of Information and Protection of Privacy, “Find a FOIP Office.” <http://www.servicealberta.ca/foip/find-a-foip-office.cfm>

⁴⁶ The only request for which there is no application fee is for records about yourself.

⁴⁷ Service Alberta, *Fee Waivers*, FOIP Bulletin (March 2009).
<http://www.servicealberta.ca/foip/documents/bulletin2.pdf>

**Office of the Information and Privacy
Commissioner (Edmonton)**

410, 9925–109 St. NW
 Edmonton, AB T5K 2J8
 Phone: 780-422-6860
 Fax: 780-422-5682

Toll-free 1-888-878-4044
generalinfo@oipc.ab.ca
www.oipc.ab.ca

**Office of the Information and
Privacy Commissioner (Calgary)**

Suite 2460, 801 6 Avenue SW
 Calgary, AB T2P 3W2
 Phone: 403-297-2728
 Fax: 403-297-2711

A.9 The Office of the Ombudsman

If you think that the AER, the Surface Rights Board or a government department has not treated you fairly, you can ask the Office of the Ombudsman to investigate. The Ombudsman is an officer of the legislature who undertakes impartial investigations. The Ombudsman does not report to any minister, but rather to the Legislative Assembly. Before approaching the Ombudsman, you must first try to resolve the problems yourself with the appropriate board or department, or the office may refuse to investigate your case. You must also make use of all the normal processes provided by the board, including a request for a hearing. Even after a hearing, you can still bring an issue to the Office of the Ombudsman.

If you want the Ombudsman's help, you should contact the office explaining why you feel you have been treated unfairly and asking for an investigation. If the Ombudsman decides to investigate your complaint, the office will assign an investigator to look into the complaint and prepare a report. If the Ombudsman thinks the report contains enough evidence to support your complaint, the office will suggest a solution they think is fair. This could include asking the government body in question to review its decision and provide adequate reasons, or change its processes. In 2014–2015, the Ombudsman offered recommendations on two different AER cases.⁴⁸

⁴⁸ Office of the Ombudsman, *2014–2015 Annual Report*.
<https://www.ombudsman.ab.ca/resources/reports/>

Office of the Ombudsman (Edmonton)

Suite 2800
 10303 Jasper Avenue NW
 Edmonton, AB T5J 5C3
 Phone: 780-427-2756
 Fax: 780-427-2759

Office of the Ombudsman (Calgary)

Suite 2560
 801 6 Avenue SW
 Calgary, AB T2P 3W2
 Phone: 403-297-6185
 Fax: 403-297-5121

info@ombudsman.ab.ca

www.ombudsman.ab.ca

Complaints: www.ombudsman.ab.ca/complaints/make-an-online-complaint/

A.10 Local municipalities

Although municipalities don't have jurisdiction over many element of oil and gas development in Alberta, they do have jurisdiction over roads, safety, and future development. They issue development permits for municipal development or subdivisions, which may be impacted by oil gas and coal development. They may be involved in approving access roads for oil and gas operators, or ensuring municipal development does not occur within the setback to an energy resource project. Municipalities may be involved in approving setback reductions, and ensuring that these reduced setback reductions are reflected on the title and registration to the land. They will also require crossing agreements to be negotiated between landowners and companies for pipeline right-of-ways. Because of these various responsibilities, municipalities may get involved in hearings.

If a company approaches you with a project proposal, it would be useful for you to discuss any future development or subdivision plans you have with the municipality. They may advise you how a proposed project may affect certain development due to setback and safety requirements. They also will be able to advise you about the construction of lease roads that a company may build on your land, and the potential for you to use these lease roads after a project is reclaimed. In many instances, lease roads are considered temporary and are not owned or maintained by municipalities, so they will need to be removed when the company ceases its operations. If you expect to use the lease road past the life of the project, you should discuss this with your municipality.

A.11 Property Rights Advocate Office

The Property Rights Advocate Office was established in 2012 as a conduit to government for concerns raised by Albertans about private property rights. It is a non-partisan, impartial office, although it is housed within the Ministry of Justice and Solicitor General. It listens to concerns about property rights and documents those concerns and/or refers people to existing resources. In its annual report it also makes recommendations for changes around commonly heard property rights concerns. The office does not get involved in solving specific property rights cases.

The Property Rights Advocate Office has several resources that you may find useful:

*A Guide to Property Rights in Alberta*⁴⁹

*Observation and Notes: Update on REDA*⁵⁰

*Report of the Property Rights Task Force: Engagement with Albertans*⁵¹

A.12 Alberta Geological Survey

Alberta Geological Survey (AGS) is the official provincial geological survey of Alberta. AGS is responsible for describing the geology and resources in the province and providing information that may be relevant to land use, environmental, public health, and safety issues related to geosciences.

AGS works in several key areas, including bedrock mapping, geological modelling, resource evaluation (such as for oil and gas), and groundwater. Much of this analysis is provided to the AER, and informs the Regulator's resource management. In the 2014 Peace River inquiry around widespread issues of odour and emissions, AGS investigated and provided geological and geochemical contributions to the panel.

Their website also includes resources such as reports and maps.

Alberta Geological Survey

www.ag.s.aer.ca

⁴⁹ Alberta Land Institute, *A Guide to Property Rights in Alberta* (2014).

<http://propertyrightsguide.ca/assets/a-guide-to-property-rights-in-alberta.pdf>

⁵⁰ Office of the Property Rights Advocate, *Observation and Notes, December 20, 2013*.

https://justice.alberta.ca/programs_services/about_us/prao/assets/PRAO-Notes-Dec-20-2013.pdf

⁵¹ Property Rights Task Force, *Report of the Property Rights Task Force* (2012).

https://justice.alberta.ca/programs_services/about_us/prao/assets/PropertyRightsTaskForce-Report.pdf

A.13 National Energy Board

If pipelines cross provincial or international boundaries, their approval and management is handled at the federal level by the National Energy Board (NEB) (See Section 5.5). The National Energy Board Act sets out the procedures for approvals, appeals and compensation⁵² (see Section C.4.4)

The NEB has produced a guide for landowners on its website, describing the hearing process, land agreements and compensation, and right of entry. To be heard at a hearing, you must be considered directly affected by the project application in question. They will also consider whether the decision to approve or to not approve has a direct impact on your interest.⁵³ The NEB doesn't have the jurisdiction to decide compensation, but has set up an Appropriate Dispute Resolution (ADR) process, which is described in on their website and in the Appropriate Dispute Resolution guide.⁵⁴ Even though the ADR process has no specific mandate to deal with compensation uses, compensation can be discussed if both parties agree to do so.

Anyone involved in a process before the NEB should consult the board's publications. These clearly explain how landowners, occupants and the public can get involved. These publications are:

*Pipeline Regulation in Canada: A Guide for Landowners and the Public (2010)*⁵⁵

*Living and Working near Pipelines: Landowner Guide*⁵⁶

*Responding to Emergencies*⁵⁷

⁵² Other legislation that involves the NEB includes the Canada Oil and Gas Operations Act and certain provisions of the Canada Petroleum Resources Act that relate to the Yukon, Northwest Territories, Nunavut and submarine areas, but are not within provincial jurisdiction.

⁵³ NEB, "Participating in NEB Hearings". <https://www.neb-one.gc.ca/prtcptn/hrng/pplngprtcpt-eng.html#q1>

⁵⁴ NEB, "Chapter 10: Appropriate Dispute resolution (ADR)." <https://www.neb-one.gc.ca/prtcptn/ldwnrgd/ldwnrgdch10-eng.html>

⁵⁵ NEB, "Pipeline Regulation in Canada: A Guide for Landowners and the Public." <https://www.neb-one.gc.ca/prtcptn/ldwnrgd/index-eng.html>

⁵⁶ NEB, "Living and Working near Pipelines." <https://www.neb-one.gc.ca/sftnvrnmnt/dmgrpvrntn/lvngwrkngnrpplns/index-eng.html>

⁵⁷ NEB, "Responding to Emergencies." <http://www.neb-one.gc.ca/sftnvrnmnt/mrgnc/rspndmrgnc/rspndmrgnc-eng.html>

*Excavation and Construction Near Pipelines (2014)*⁵⁸

*Pipeline Performance Measures 2013 Data Report (2014)*⁵⁹

*Regulating Pipeline Abandonment*⁶⁰

*Pipeline Abandonment Scoping Study*⁶¹

If you have questions or concerns about a pipeline authorized by the NEB, you should contact one of the board inspectors in the main Calgary office, by calling one of the phone numbers below.

National Energy Board

517 10 Avenue SW

Calgary, AB T2R 0A8

Phone: 403-292-4800 or toll-free 1-800-899-1265

Fax: 403-292-5503

www.neb-one.gc.ca

For a pipeline emergency, place a collect call to the Transportation Safety Board's 24-hour hot-line at 819-997-7887.

For other emergencies on NEB related issues, call the NEB at 403-807-9473.

If you are unsure if it is a NEB regulated pipeline, call the Energy and Environmental Emergency 24-hour response line at 1-800-222-6514. They will respond to NEB related emergencies.

A.14 Canadian Environmental Assessment Agency

The Canadian Environmental Assessment Agency is an independent agency that reports directly to the federal Minister of the Environment. The Canadian Environmental

⁵⁸ NEB, "Excavation and Construction Near Pipelines." <https://www.neb-one.gc.ca/sftnvrnmnt/sft/rfrncmtrl/xcvtncnstrctnppln/xcvtncnstrctnppln-eng.html>

⁵⁹ NEB, "Pipeline Performance Measures 2013 Data Report." <https://www.neb-one.gc.ca/sftnvrnmnt/sft/pplnprfrnmncmsr/2013/index-eng.html>

⁶⁰ NEB, "Regulating Pipeline Abandonment." <https://www.neb-one.gc.ca/prtcptn/pplnbndnmnt/rgltngpplnbndnmnt-eng.html>

⁶¹ Det Norske Veritas, *Pipeline Abandonment Scoping Study*, prepared for the National Energy Board (2010). <https://www.neb-one.gc.ca/prtcptn/pplnbndnmnt/pplnbndnmntscpngstd.pdf>

Assessment Act, 2012 (CEAA 2012) was a significant change from its predecessor, the Canadian Environmental Assessment Act of 1992. CEAA 2012 limits the scope of the projects it designates for environmental assessment, and provides exceptions for other departments (such as the National Energy Board) to proceed with approvals without the completion of an environmental assessment. It also limits the scope of public participation to those who are directly affected by the project, or have relevant information and expertise.

To find out if a proposed construction, decommissioning or abandonment of a project requires an environmental assessment by the agency, refer to the Comprehensive Study List.⁶² For example, the construction of an oil or gas pipeline longer than 75 km, and on a new right-of-way, is subject to an assessment.⁶³

Canadian Environmental Assessment Agency

22nd Floor, Place Bell

160 Elgin Street

Ottawa ON K1A 0H3

Phone: 613-957-0700 or toll-free 1-866-582-1884

Fax: 613-957-0862

info@ceaa-acee.gc.ca

www.ceaa.gc.ca

⁶² Canada, Comprehensive Study List Regulation,s SOR/94-638. <http://laws-lois.justice.gc.ca/PDF/SOR-94-638.pdf>

⁶³ Comprehensive Study List Regulations, Part IV, section 14.

Appendix B. Contacts

This chapter provides contact information for lawyers, laboratories, industrial associations and community groups. Within each main section, the individual organizations are listed in alphabetical order. While engaging effectively with industry and the regulators can appear to be a daunting challenge, accessing the experience and expertise of others who have professional training or who have dealt with similar issues can be an invaluable source of advice and support.

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B.1 Lawyers, expert witnesses and technical assistance

B.1.1 Lawyers or landowner representatives

In many cases a landowner negotiates directly with a company, but sometimes it can be helpful to engage a lawyer or landowner representative who is familiar with surface rights issues. Landowner representatives may be certified land agents, or other professionals with experience negotiating on these issues. Several years ago the provincial government changed land agent legislation to allow farmers and ranchers to hire professionals who were not land agents.

If a situation is complex or if negotiations break down and you plan to present at a hearing, you may wish to engage a lawyer and/or expert witnesses. This is especially common for cases brought before the AER, and some interveners also like to have a lawyer represent them at a Surface Rights Board hearing.

It is best to find a lawyer and/or expert witnesses who are experienced in energy issues and in the hearing process. Unfortunately, there is no central resource to find experts and lawyers, so you may have to ask around your networks, contact a local surface rights group or synergy group and search online. There are several law firms in Alberta that practice environmental or surface rights law.

You could also read some of the AER hearing decision documents and see which lawyers and expert witnesses were involved. These are listed at the beginning of each decision. The local residents are identified as “principals” and listed in the left-hand column. Where they are represented by someone, that name is given underneath. All recent decisions are published on the AER’s website.¹

While the highest priority in selecting professional assistance is to choose someone with experience in energy hearings, hiring professionals who are located near you can help to reduce costs and facilitate communication.

B.1.2 Mediation and arbitration

In many energy-related cases, the AER will provide assistance if companies or individuals would like a third party mediator instead of the AER staff mediator (Section

¹ AER, “Decisions.” <http://www.aer.ca/applications-and-notice/decisions>

2.4.1). The AER keeps a list of companies that provide appropriate dispute resolution services and also lists on their website individuals who undertake mediation.² These individuals are most likely to have an understanding of energy issues.

Alternatively, you may wish to contact the ADR Institute of Alberta (formerly associated with the Alberta Arbitration and Mediation Society), which maintains a searchable directory of ADR specialists in Alberta. Their website also provides more information on the basics of mediation.

ADR Institute of Alberta

Toll Free: 1-800-232-7214

Edmonton: 780-433-4881

Fax: 780-433-9024

info@adrAlberta.com

www.adrAlberta.com

B.1.3 Laboratories

If you want to have your air or water tested, be sure to engage an accredited laboratory. The Canadian Association for Laboratory Accreditation (CALA) delivers laboratory accreditation for environmental, and petroleum testing, along with other testing services. Each laboratory is separately evaluated and accredited for specific tests. Thus, the tests that a laboratory is accredited to perform will vary from one lab to another, even within the same company. The website includes a list of accredited laboratories.

The Canadian Association for Laboratory Accreditation

Phone: 613-233-5300

Fax: 613-233-5501

www.cala.ca

Accredited laboratories are also listed at:

The Standards Council of Canada

www.scc.ca/en/search/palcan

² AER, “ADR Third-Party Mediators.” <http://www.aer.ca/applications-and-notice/adr-third-party-roster>

B.1.4 Technical consultants

You may also need other environmental consulting services or technical expertise. The Environmental Services Association of Alberta is an industrial association of the major companies that provide environmental services in Alberta. The list and profiles of association members on the website may help identify companies that can provide consultants or expert advice.

Environmental Services Association of Alberta

#102, 2528 Ellwood Drive SW

Edmonton, AB - T6X 0A9

Phone: 780-429-6363

info@esaa.org

www.esaa.org

B.2 Professional organizations representing the energy sector

B.2.1 Alberta Association of Surface Land Agents

Land agents in Alberta are licensed under the Land Agents Licensing Act (Section C.4.3). It is important to distinguish between licensed land agents and other professionals, such as permit agents, emergency response planning personnel and pipeline inspectors, who are trained to perform other tasks, but are not in fact licensed land agents.

The Alberta Association of Surface Land Agents is a professional association of people involved in all aspects of surface land acquisition in various industries, including the oil and gas sector.

Alberta Association of Surface Land Agents

aasla@aasla.com

www.aasla.com

B.2.2 Alberta Land Surveyors' Association

This professional association regulates the practice of land surveying. A section on their website explains their work to the public. They also publish free helpful brochures, such as *Understanding Easements and Rights-of-Way*.³

Alberta Land Surveyors' Association

Phone: 780-429-8805, 800-665-2572

info@alsa.ab.ca

www.alsa.ab.ca

B.2.3 Canadian Association of Geophysical Contractors

One of the functions of the CAGC is to act as the communication link to promote understanding between government, industry, other groups and the geophysical industry.

Canadian Association of Geophysical Contractors

Phone: 403-265-0045

info@cagc.ca

www.cagc.ca

B.2.4 Canadian Association of Oilwell Drilling Contractors

This is a trade association that develops standard procedures for its member companies and represents this branch of the industry in dealing with different levels of government and others.

Canadian Association of Oilwell Drilling Contractors

Phone: 403-264-4311

info@caodc.ca

www.caodc.ca

B.2.5 Canadian Association of Petroleum Landmen

Oil and gas companies hire professional land agents, or landmen, to deal with surface landowners and land administration. Landmen are involved in negotiations with landowners from the initial request to explore land to the time when a well or pipeline is abandoned and reclaimed. The Canadian Association of Petroleum Landman (CAPL)

³ <http://www.alsa.ab.ca/PublicInformation/EasementsandRightsofWay.aspx>

is a non-profit voluntary professional association for landmen in Canada, providing education and training in petroleum land management and engagement and input from public and government relations. They also encourage professional and ethical standards among their members.

Canadian Association of Petroleum Landmen

403-237-6635

reception@landman.ca

www.landman.ca

B.2.6 Canadian Association of Petroleum Producers

The Canadian Association of Petroleum Producers (CAPP) is an industry group representing companies involved in the exploration, development and production of crude oil and natural gas in Canada. CAPP member companies account for 85% of the nation's total production of petroleum.

CAPP often represents the industry in discussions with government, the AER and environmental groups. Over the years, CAPP has worked with members and stakeholders to develop industry best practices and comprehensive operating guidelines, on topics such as emergency response planning and flaring. The AER has used these evolving guidelines as minimum standards.

CAPP's website contains many resources primarily written for their members but covering a variety of topics such as health and safety, emergency response, sour gas, flaring and venting. Additionally, CAPP produces their *Crude Oil Forecast, Markets and Transportation* report annually.

Canadian Association of Petroleum Producers

Phone: 403-267-1100

Fax: 403-261-4622

communication@capp.ca

www.capp.ca

B.2.7 Canadian Energy Pipeline Association

The Canadian Energy Pipeline Association represents Canada's transmission pipeline companies. Pipelines transport oil and gas from producing regions to markets throughout Canada and the United States. According to the association, every CEPA

member will have signed on to CEPA's *Integrity First Policy Statement and Principles*,⁴ which includes a commitment to collaborate and challenge industry best practices to reach the goal of zero pipeline incidents.

Canadian Energy Pipeline Association

Phone: 403-221-8777

aboutpipelines@cepa.com

www.cepa.com

B.2.8 Canadian Society for Unconventional Resources

Companies that belong to the Canadian Society for Unconventional Resources are involved in the exploration and development of all types of unconventional gas, including shale gas, light tight oil, gas hydrates, coalbed methane, tight gas sands and carbonates. The society has produced a comprehensive summary entitled *Canadian Water Regulations Applicable to Hydraulic Fracturing Operations*, summarizing regulations in Alberta as well as other oil and gas jurisdictions.⁵

Canadian Society for Unconventional Resources

Phone: 403-233-9298

info@csur.com

www.csug.ca

B.2.9 Orphan Well Association

The Orphan Well Association is a not-for-profit organization tasked with managing the abandonment of upstream oil and gas orphan wells, pipelines and facilities, and the remediation and reclamation of their associated sites. The organization works under the delegated authority of the AER. Funds for the program are collected by the AER through the Orphan Fund levy on the upstream oil and gas industry (Section 9.4). This levy is based on the abandonment and reclamation liabilities held by each company and it is collected annually by the AER and remitted to the OWA. The association's activities are described in their annual report, available on their website.

⁴ <http://www.cepa.com/about-us/cepa-integrity-first>

⁵ <http://www.csur.com/canadian-water-regulations-applicable-hydraulic-fracturing-operations>

The organization also publishes a list of wells, sites, and pipelines that are to be abandoned or undergo reclamation.

Orphan Well Association

Phone: 403-297-6416, or toll-free 310-0000, ask for AER switchboard 403-297-8311, then ask for OWA
www.orphanwell.ca

B.2.10 Explorers and Producers Association of Canada

The Explorers and Producers Association of Canada (EPAC) represents independent oil and gas companies including start-ups, junior, and mid-sized producers operating in Canada and abroad. EPAC has close to 200 member companies, and represents their interests to government and regulatory bodies and to other sectors of the oil and gas industry.

Explorers and Producers Association of Canada

Phone: 403-269-3454
 Fax: 403-269-3636
info@explorersandproducers.ca
explorersandproducers.ca

B.2.11 Strathcona Industrial Association

Several oil and gas companies operating in the eastern part of Edmonton and the adjacent portion of the County of Strathcona are members of the Strathcona Industrial Association (SIA). Other companies involved are mostly in the petrochemical industry. SIA has seven continuous air quality monitoring stations and 21 static monitoring stations in the region.

The association also supports health promotion and safety initiatives in the community. It operates the Strathcona District Mutual Assistance Program program, to plan and test emergency response readiness.

Strathcona Industrial Association

Phone: 780-990-4742
info@sia.ab.ca
www.sia.ab.ca

B.2.12 Petroleum Services Association of Canada

The Petroleum Services Association of Canada is the national trade association representing the service, supply and manufacturing sectors within the upstream petroleum industry. As the voice of Canada's petroleum service, supply and manufacturing sector, PSAC advocates for its members to enable the continued innovation, technological advancement and in-the-field experience they supply to Canada's energy explorers and producers, helping to increase efficiency, improve safety and protect the environment. PSAC member companies represent a significant portion of the business volume generated in the petroleum services industry.

B.3 Province-wide non-profit organizations

B.3.1 Alberta Environmental Network

The Alberta Environmental Network (AEN) is an affiliation of environmental non-profit, non-governmental organizations and individuals working toward a healthier environment in Alberta. The AEN aims to build the capacity of its members by providing resources, information and networking opportunities, and maintains a directory of members on its website.

One of the main activities of the AEN is to facilitate the participation of environmental non-governmental organizations in environmental engagements, such as on committees or in discussions with the AER or the Clean Air Strategic Alliance (Section B.3.5).

Alberta Environmental Network

Phone: 780-439-1916

admin@aenweb.ca

www.aenweb.ca

B.3.2 Environmental Law Centre

The Environmental Law Centre (ELC) is a leading environmental public policy and law reform charity that provides objective information and advice on environmental legislation and regulations. The centre carries out its work through public programs, contract services, and search services. The search services, described below, are useful if you are working on a project that involves a purchase, sale, financing or development of land or a sale or financing of a business with potential environmental concerns; or if

you are seeking information on reclamation certificates or environmental site assessments on private lands.

The Environmental Law Centre

Phone: 780-424-5099, 800-661-4238

Fax: 780-424-5133

www.elc.ab.ca

Search services

The Centre's Environmental Enforcement Historical Search Service will provide a search of Alberta Environment and Parks database for the history of enforcement actions, including fines, warnings, orders or prosecutions under the Environmental Protection and Enhancement Act and other legislation. There is a fee of \$75 for a search and the request can be done securely with a credit card payment online or by mail with a cheque. Full details are provided on the ELC website.

The Environmental Site Assessment Repository Search does searches for information relating to reclamation certificates applied for or issued on private land. This information will show whether reclamation certificates have been applied for, issued or cancelled for well sites, oil production sites, pipelines or compressor sites, but does not include exploration sites or oilsands mines. The search will also show if any environmental protection orders, enforcement orders or reclamation orders have been issued. The information is available for private land, but not for public lands, except for Special Areas Board land and Métis Settlements. A search can be done on a company name or on the legal land description (quarter section). The fee is \$100 plus GST per search and requests must be made in writing.

Publications

The ELC has published many useful books and reports relating to environmental issues in Alberta which are available on the website under Reports and Publications. Some examples are:

Buyer Beware: Where and how to find environmental information about a property in Alberta (2015). This short helpful resource outlines where you can look for environmental information when you are buying property in Alberta.

What Lies Beneath? Access to Environmental Information in Alberta (2014). This comprehensive guidebook is intended to help anyone obtain environmental information about a specific property or location. This location-based approach is focused on the

real estate buyer but can also be helpful for community groups, environmental organizations and the general public.

Get the Real Dirt: Contaminated Real Estate and the Law in Alberta (2000). Anyone buying, selling or leasing property in Alberta, along with their advisors, may face the possibility of liability for contaminated property. This book assists these parties in becoming more familiar with environmental concerns related to real estate transactions. It also suggests steps that can be taken to reduce the risk of environmental liability.

B.3.3 Alberta Native Plant Council

The Alberta Native Plant Council promotes knowledge and conservation of the native plants and vegetation in Alberta. The council can provide information to those wanting land to be reclaimed using native plants.

Alberta Native Plant Council

info@anpc.ab.ca

www.anpc.ab.ca/

B.3.4 Action Surface Rights Association

Action Surface Rights is an Alberta-based group that is dedicated to helping fellow landowners understand and navigate the maze of government and industry processes when dealing with the energy sectors, whether it be oil/ gas, transmission lines, or wind power. They provide resources, support and information for landowners to help them make an informed decision when dealing with the energy development.

Action Surface Rights

contact@actionsurfacerights.ca

actionsurfacerights.ca/

B.3.5 Clean Air Strategic Alliance

The Clean Air Strategic Alliance (CASA) is a multi-stakeholder partnership of industry, government and non-government organizations that assists the Government of Alberta in developing strategic policy on many air quality issues. CASA deals with environmental, economic and health issues. While there are representatives from various government departments on the CASA board and in various CASA teams (including individuals from the departments of energy, environment, health and

wellness and sustainable resource development), CASA reaches decisions through a consensus process.

One of its key roles is to prioritize air quality problems and, through its project teamwork, develop effective action plans to resolve these concerns.

Recognizing that air quality issues are often best dealt with on a regional basis, several regional airshed monitoring bodies have been endorsed under the CASA umbrella, using approved airshed zone guidelines. As with CASA, these multi-stakeholder bodies make decisions by consensus and consist of representatives from government, industry and non-governmental organizations. The CASA website has a map showing the location of the airsheds and has links to each one, although they operate as independent bodies (see below). These airshed groups do not provide comprehensive coverage of the province, but are active in many areas with more intensive oil and gas activity.

Clean Air Strategic Alliance

Phone: 780-427-9793

casa@casahome.org

www.casahome.org

B.3.6 Alberta Airsheds Council and airshed groups

In 2006, the Alberta Airsheds Council (AAC) was formed to coordinate the efforts and operations of Alberta's airsheds. It is a council of the nine airsheds currently in Alberta, and is a place where airshed zones could discuss common issues.

Alberta Airsheds Council

info@albertaairshedsCouncil.ca

You can visit the Alberta Environment and Parks website for more information about Alberta's airsheds,⁶ or you can find the contact information for them individually below.

Fort Air Partnership

Fort Saskatchewan and region

Phone: 1-800-718-0471

info@fortairmail.org

www.fortair.org

Parkland Airshed Management Zone

Red Deer, Rocky Mountain House, Sundre,

Banff and surrounding region

Phone: 403-862-7046

info@pamz.org

⁶ Alberta Environment and Parks, "Alberta's Airshed Zones."

<http://aep.alberta.ca/air/monitoring-and-reporting/ambient-air-monitoring/albertas-airshed-zones.aspx>

Palliser Airshed Society

Medicine Hat and Redcliffe

Phone: 403-892-7745

ken@palliserairshed.com

www.palliserairshed.ca

Peace Airshed Zone Association

Grande Prairie and region

Phone: 1-866-764-2681

elizabeth@paza.ca

www.pasza.ca/

West Central Airshed Society

Jasper, Hinton, Edson, Lake Wabamun,

*Drayton Valley, Pigeon Lake and
surrounding regions*

Phone: 780-514-3533

monitoring@wcas.ca

www.wcas.ca

**Wood Buffalo Environmental
Association**

*Fort McMurray and the Wood Buffalo
region*

Phone: 780-799-4420

info@wbea.org

www.wbea.org/

Alberta Capital Airshed (ACA)

Edmonton region

Phone: 587-520-7935

info@capitalairshed.ca

capitalairshed.ca

Calgary Region Airshed Zone (CRAZ)

Calgary region

Phone: 403-268-5737

info@craz.ca

craz.ca/

B.3.7 Freehold Owners Association

The Freehold Owners Association is an organization for those who own subsurface rights. It was set up in an attempt to level the playing field between freeholders and the oil and gas companies that lease their oil and gas interests.

Freehold Owners Association

Phone: 403-245-4438

fhoa@shaw.ca

www.fhoa.ca

B.3.8 Prairie Acid Rain Coalition

The coalition reviews regulatory processes relating to air emissions and makes recommendations for improvement. It also promotes alternative energy sources and the use of the best available technology.

Prairie Acid Rain Coalition

Phone: 780-458-3362

dspink@shaw.ca

B.3.9 Alberta Trappers' Compensation Program

The Alberta Trappers' Compensation Program is administered by the Alberta Trappers' Association to help trappers when they are negatively affected by the activities of other resource users on Crown lands. The Trapper Compensation Board has been appointed to review claims that cannot be resolved through direct negotiations. This may be useful for those who have trapping leases near oil and gas development in the area.

Alberta Trappers' Association

Phone: 780-349-6626

info@albertatrappers.com

www.albertatrappers.com

B.3.10 Alberta Land Institute

Alberta Land Institute (ALI) is an independent, non-partisan research institute based at the University of Alberta that connects research and policy for better land management. ALI conducts and funds interdisciplinary academic research on land use challenges in Alberta and Canada to develop and evaluate alternative policy options that consider social, economic and environmental perspectives.

ALI has also published a guide and accompanying website to property rights in Alberta, outlining the basics of property and subsurface rights, which may be useful to read.⁷

Alberta Land Institute

albertalandinstitute@ualberta.ca

www.albertalandinstitute.ca

B.3.11 Grassroots Alberta Landowners Association

Grassroots Alberta Landowners Association was established to advance the interests of landowners by working to ensure that legislators, members of the media, and the general public come to a better understanding of the impact that industrial development has upon the lives and operations of farmers and ranchers. Grassroots Alberta is available to work with groups of landowners when their property is affected by pipeline and powerline projects.

⁷ Alberta Land Institute, *A Guide to Property Rights in Alberta* (2014).

<http://propertyrightsguide.ca/>

Grassroots Alberta Landowners Association

admin@grassrootsalberta.ca

www.grassrootsalberta.ca

B.4 Synergy, mutual aid and surface rights groups

There are a number of groups dealing with oil and gas issues at the local level. Some are multi-stakeholder groups; others may be formed by one particular group, such as members of the public, who work together to bring their common interests to the attention of industry. Sometimes they are “one-issue” groups set up to deal with a particular application or problem. Such groups may later become inactive once the issue has been addressed. Other groups act on a more regional basis to deal with a variety of issues.

Some multi-stakeholder groups include industry, community and government representatives working together to try to resolve issues. Such groups may be referred to as “synergy” groups, since the groups aim to achieve greater effectiveness through cooperation or combined action. They may focus on a variety of issues including health, safety and emergency response; environmental issues; and community relations and communications. Such synergy groups are encouraged by the AER, and the AER is often an active participant in these groups.

B.4.1 Synergy Alberta

After many local and individually organized synergy meetings, Synergy Alberta was formed to actively promote collaboration between industry and other stakeholders. As long as public participation in a synergy group is meaningful and active — that is, not just for public relations purposes — and adequately resourced, these groups can play a valuable role in proactively addressing landowner and industry issues in a collaborative rather than a confrontational manner.

Synergy groups range from small, grassroots organizations to larger organization with several staff members. Some synergy groups fulfill other roles, such as that of an airshed group or mutual aid group. You can contact Synergy Alberta to inquire if there is a synergy group in your area. Additionally, Synergy Alberta hosts an annual conference for rural landowners, oil and gas companies, regulators, municipalities, stewardship groups and a host of others to come together to share information and find ways to collaborate.

Synergy Alberta

Phone: 780-461-1323 / 877-461-1323

info@synergyalberta.ca

www.synergyalberta.ca

Synergy Alberta maintains a directory of synergy groups on their website with up-to-date contact information. Some examples of synergy groups listed in 2016:

- Battle Lake Synergy Group
- Butte Action Committee
- Calumet Synergy Association
- Central Mountainview Advisory Group
- Clearwater Trail Initiative
- Cochrane Pipeline Operators Committee
- Panther Advisory Group
- Pembina Area Synergy
- Rimbey Regional Synergy Group
- Vulcan Area Public & Petroleum Association
- Wapiti Area Synergy Partnership
- Waterton Advisory Group
- West Central Stakeholders Group
- Wetaskiwin Synergy Initiative
- Yellowhead Synergy Group

B.4.2 Mutual Aid Alberta

Mutual aid groups build a network of support and coordination for emergency management in Alberta. These groups actively work towards building relationships among industry partners and response partners, and provide assistance across jurisdictional boundaries in the case of an emergency. Mutual Aid Alberta is a provincial network that aims to provide a forum for mutual aid groups

Mutual Aid Alberta

info@mutualaidalberta.ca

mutualaidalberta.ca

Some examples of the many local mutual aid groups that you can find through the Mutual Aid website:

- C-REPP
- Chinchaga Mutual Aid

Clearwater Mutual Aid Coop
 County of Mountainview Mutual Aid Group
 Edmonton Area Pipeline & Utility Operator's Committee
 Edson Mutual Aid Coop
 Foothills Mutual Aid Coop
 Hardisty Mutual Aid Plan
 Lacombe County Mutual Aid Organization
 Northeast Region Community Awareness Emergency Response
 Pembina Area Operator's Group Mutual Aid Team
 RM of Wood Buffalo Mutual Aid
 Strathcona District Mutual Assistance Program
 Western Canadian Spill Services

B.4.3 Alberta Surface Rights Federation

The Alberta Surface Rights Federation works to improve the operation of all aspects of the energy industry as it affects landowners. The federation can provide names of local surface rights organizations and of experienced individuals who may be able to provide advice, with a list of surface rights groups on their website. They lobby government and the AER, and engage in multi-stakeholder processes.

The organization has a list of example addendums that you can consider adding when negotiating your surface lease agreement, for topics such as club root, trespass, garbage or waste, access to lease road, and other items of relevance.

Alberta Surface Rights Federation

webmaster@albertasurfacerights.ca

www.albertasurfacerights.ca

The federation maintains a list of contact information for local surface rights groups. Some examples of the many local surface rights groups that you can find through the Alberta Surface Rights Federation Aid website:

Battleford Trail Surface Rights
 Big Valley Landowner's Association
 Border Surface Rights Association
 Crestomere Surface Rights Association
 E.I.D. Landholders Association
 Eckville Surface Rights Association
 Elk Point Surface Rights

Fairview Surface Rights Group
 Hussar Agricultural Surface Rights Association
 Lavista Area Group
 Livingstone Landowners Group
 North Central Surface Rights Association
 Paintearth Protection Association
 Pekisko Group
 Pembina & Area Natural Resources Advisory Group
 Pine Lake Surface Rights Group
 Red Water Surface Rights Group
 Round Hill-Dodds Agricultural Protection Association
 South Porcupine Hills Steward Association
 Starland #47 Surface Rights Group
 Surface Rights Society #52
 Three Hills Surface Rights Group
 Warburg-Pembina Surface Rights Group
 Wheatland Surface Rights Action Group

B.4.4 Alberta Water Council

Established in 2004, the Alberta Water Council is a multi-stakeholder partnership from governments, industry, and non-government organizations. Its primary task is to monitor and steward implementation of the Alberta's Water for Life strategy and to champion achievement of the strategy's three goals.⁸

Alberta Water Council

info@awchome.ca

www.albertawatercouncil.ca

B.4.5 Watershed planning and advisory councils

Under Alberta's Water for Life Strategy, watershed planning and advisory councils (WPACs) are multi-stakeholder, non-profit organizations that assess the conditions of specific watersheds and develop plans and activities to address watershed issues.

Alberta WPACs

albertawpacs.ca

⁸ Alberta Environment and Parks, "Water for Life." <http://www.waterforlife.alberta.ca/>

Individual councils that are members as of 2016:

Athabasca Watershed Council

Phone: 780-865-8223

www.awc-wpac.ca

Battle River Watershed Alliance

Phone: 780-672-0276

www.battleriverwatershed.ca

Beaver River Watershed Alliance

Phone: 780-812-2182 / 1-877-737-2182

www.beaverriverwatershed.ca

Bow River Basin Council

Phone: 403-268-4596

www.brbc.ab.ca

Lesser Slave Watershed Council

Phone: 780-523-9800

www.lswc.ca

Mighty Peace Watershed Alliance

www.mightypeacewatershedalliance.org

Milk River Watershed Council Canada

Phone: 403-647-3808

www.milkriverwatershedcouncil.ca

North Saskatchewan Watershed Alliance

Phone: 780-442-6363

www.nswa.ab.ca

Oldman Watershed Council

Phone: 403-382-4239

www.oldmanbasin.org

Red Deer River Watershed Alliance

Phone: 403-340-RDRW (340-7379)

www.rdrwa.ca

South East Alberta Watershed Alliance

Phone: 403-488-8110

www.seawa.ca

B.5 Other relevant local groups and committees

The following is a non-exhaustive list of other multi-stakeholder groups in Alberta. Some of these groups also are connected or collaborate with Synergy Alberta and Mutual Aid Alberta.

B.5.1 Strathcona County Energy Exploration Committee

This committee was set up by the Strathcona County Council in 2003 to identify issues and develop recommendations for policies and guidelines related to oil and gas activity within the municipality. The committee has a non-voting member of the county council in addition to voting members of the public.

Strathcona County Energy Exploration Committee

Contact: Lori Mills, Planning and Development Services

Phone: 780-416-6739

www.strathcona.ca (search for “Energy Exploration Committee”)

B.5.2 Lochend Industry Producers Group

The LIPG is a group of Calgary-based oil and gas companies that formed an alliance in 2011 after residents in the region raised concerns about the impacts of new hydraulic fracturing activity in the Lochend area north to Cochrane, Alberta. The group was formed to collaborate on oil and gas infrastructure for the purpose of reducing the cumulative impact.

Lochend Industry Producers Group

info@lipg.ca

lipg.ca

B.5.3 Turner Valley Oil and Gas Group

The Turner Valley Oil and Gas Group (TVOGG) is a committee of representatives from the oil and gas industries, municipal and provincial governments, regulatory agencies, and emergency/disaster services that have interests within the towns of Turner Valley, Black Diamond and Longview and the MD of Foothills.

TVOGG aims to promote cooperation and communication between industry, government, regulatory agencies and developers with respect to development near oil and gas facilities; coordinated responses to public concerns about energy and oil and gas activities; and education and awareness of oil and gas industry safety concerns such as underground facilities.

B.5.4 Lakeland Industry Community Association

Lakeland Industry Community Association (LICA) was formed in 2000 to focus on issues in the Bonnyville, Cold Lake and St. Paul region. The association focuses on air, soil, and water monitoring, and operates the LICA airshed zone and the Beaver River Watershed Alliance as independent standing committees.

It has members from industry and the community, including the Aboriginal community. Representatives from the AER also attend meetings. Although it functions as a synergy group, it also serves other functions.

Lakeland Industry Community Association

Phone: 780-812-2182

lica2@lica.ca

lica.ca

B.5.5 Sundre Petroleum Operators Group

Sundre Petroleum Operators Group (SPOG) was set up in 1992 to facilitate understanding between the community and the oil and gas companies in the Sundre/Caroline area. Its mission is to facilitate communication and co-operation amongst primarily petroleum industry partners, regulatory agencies and the community. While it is an industry-funded group, it includes representatives from 25 community groups in the Sundre/Caroline area and from the AER in addition to 20 oil and gas and service companies. SPOG has working groups and committees that deal with a variety of issues, outlined on their website. Although it functions as a synergy group, it also serves other roles in the community.

SPOG publishes a summary of all new developments with SPOG boundaries in its new development log, on the website.

Sundre Petroleum Operators Group

Phone: 888-878-2306

admin@spog.ab.ca

www.spog.ab.ca

B.5.6 Southwest Alberta Sustainable Community Initiative

SASCI aims to provide information and education and to facilitate public cooperation through a multi-stakeholder group for a sustainable economic, environmental and social future of southwestern Alberta. The group's goal is to facilitate mutual understanding rather than to advocate for or against development.

Southwest Alberta Sustainable Community Initiative

sasci@telus.net

www.sasci.ca

B.5.7 Life in the Heartland

Life in the Heartland is a collaborative initiative that began in 2009 by five different groups operating in Alberta's industrial heartland, including Lamont County, Sturgeon County, Strathcona County, City of Fort Saskatchewan and City of Edmonton

(specifically Horsehill Industrial area). It primarily provides information, contacts and resources to residents in and around the heartland. Based on resident feedback, it focuses on cumulative effects, risk management, air quality, traffic, noise, water quality and education.

The website lists the contact information for each of the partners of the organization, and phone numbers for specific inquiries.

Life in the Heartland

info@lifeintheheartland.com

lifeintheheartland.com

Appendix C. Legislation

It may be useful for you to understand the legal requirements of oil and gas development in Alberta that this guide has referenced throughout previous sections. This appendix provides a summary of some of the main pieces of legislation that relate to the management of the oil and gas industry in Alberta. This section only provides an introduction and explanation of how these may relate to oil and gas development, and should not be used as a replacement for the acts and regulations themselves. Additionally, this section does not summarize the directives that the Alberta Energy Regulator administers and maintains.

What's in this chapter

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C.4.3	Land Agents Licensing Act	C-28
C.4.4	National Energy Board Act.....	C-29
C.4.5	Alberta Land Stewardship Act.....	C-30

This appendix provides a summary of some of the main pieces of legislation that relate to the management of the oil and gas industry in Alberta. The legislation is listed under the name of the main board or department responsible for implementing that piece of legislation. The summaries are intended to help you identify which legislation deals with a specific subject. However, before citing any act or regulation, please refer to the full text.

Alberta acts and regulations are available at the Queen's Printer Laws Online/Catalogue: http://www.qp.alberta.ca/Laws_Online.cfm

If you are researching a government act or regulation and are uncertain about who the legislation applies to, refer to the definitions, which usually appear at the beginning of the document.

It is worth noting the significant changes to the framework in place to regulate Alberta's oil and gas industry. Specifically, the introduction of the Responsible Energy Development Act (REDA) in 2013 set in motion the creation of a "single regulator" of all energy resource development in Alberta, known as the Alberta Energy Regulator (AER). The AER has assumed responsibilities from the Government of Alberta's Ministry of Environment and Parks (AEP) and the former Energy Resource Conservation Board (ERCB), and is now solely responsible for regulating the full life cycle of energy sector activities. However, it is not responsible for policy development, which still remains within the purview of the Government of Alberta.

These energy resource activities include the development of oil, bitumen, natural gas, coal, and provincial pipelines. For these activities, the Regulator oversees each stage: project application, exploration, construction, development, abandonment, reclamation and remediation. The Regulator does not have jurisdiction over renewable energy development; auctioning tenure for petroleum and natural gas rights; electricity generation, distribution or pricing; or gasoline or refined petroleum products.¹ Pipelines that cross provincial or national borders are under the jurisdiction of the National Energy Board (see Section A.12).

¹ Alberta Energy is responsible for renewable energy resources and tenure for mineral rights; the Alberta Utilities Commission is responsible for electricity generation and distribution, other distribution infrastructure such as natural gas utility pipelines, and natural gas pricing.

This represents a significant shift from the regulatory environment prior to the creation of the AER. In the previous regime, the former ERCB was solely responsible for administering the acts, regulations and rules that governed all energy resource development in Alberta. Simultaneously, Alberta Environment and Sustainable Resource Development was the sole body responsible for administering the acts, regulations and rules that governed environmental and development concerns, including non-energy resource development.² For a single energy resource project, Alberta Environment and Sustainable Resource Development would administer relevant legislation such as the Water Act and the Environmental Protection and Enhancement Act, while the ERCB would administer legislation such as the Oil and Gas Conservation Act.

This new structure has created a need for caution while reading relevant specified enactment legislation. When referring to the Environmental Protection and Enhancement Act for example, this act is to be read in conjunction with the Responsible Energy Development Act and the rules and regulations associated with it, as all decision-making processes described in the specified enactments are modified by the rules set out in REDA, but only in respect to energy resource development.³

In simpler terms, the responsibility for the Environmental Protection and Enhancement Act, the Water Act, the Public Lands Act, and Part 8 of the Mines and Minerals Act, along with all associated regulations, is split between the AER when it is a decision regarding an energy resource activity, and Alberta Environment and Parks when the decision is not related to energy resource activity. When it is under the AER's jurisdiction, the AER will substitute its own process of application and decision-making, which in certain circumstances will be different than the application and decision-making process laid out in each specified enactment. The AER's Rules of Practice, and Specified Enactment (Jurisdiction) Regulation lay out much of how REDA affects these decision-making processes (see Section C.1).

Therefore, the following summaries include all specified enactments that fall under the jurisdiction of the AER when in consideration of an energy resource activity. For other

² Alberta Environment and Sustainable Resource Development became known as Alberta Environment and Parks (AEP) in 2015.

³ Alberta Energy Regulator, *Interim Regulatory Guide* (2013).
http://www.aer.ca/documents/actregs/AER_InterimRegulatoryGuide.pdf

non-energy resource cases, these specified enactments are under the jurisdiction of other regulatory bodies and are not covered in this guide.

Energy resource enactments and specified enactments relevant to the AER under REDA are listed below with the responsible regulatory body. Other relevant legislation not under the AER's mandate is also included.

Table 7. Energy resource legislation and responsible bodies

Act	Responsible Body
Responsible Energy Development Act	Alberta Energy Regulator (this legislation establishes the Regulator)
Oil and Gas Conservation Act Oil Sands Conservation Act Pipeline Act	Alberta Energy Regulator (formerly Alberta Environment and Sustainable Resource Development (ESRD))
Environmental Protection and Enhancement Act Mines and Minerals Act Part 8 Public Lands Act Water Act	Alberta Energy Regulator (energy resource activities only) Alberta Environment and Parks (for regulating non-energy resource activities) ⁴
Surface Rights Act	Surface Rights Board
Mines and Minerals Act Part 4	Alberta Energy
Alberta Land Stewardship Act	Alberta Environment and Parks

C.1 Responsible Energy Development Act

The Responsible Energy and Development Act (SA 2012, c R-17.3) (REDA) establishes the AER, and sets out its mandate to regulate the energy sector. The AER's mandate is to “provide for the efficient, safe, orderly and environmentally responsible development of energy resources in Alberta”, and to regulate “the disposition and management of public lands, the protection of the environment, and the conservation and management of water, including the wise allocation and use of water” (section 2 (1)).

⁴ Alberta Environment and Parks has a significantly reduced role in regulating the oil and gas industry in Alberta, and is responsible for administering these Acts for activities that aren't regulated by the Alberta Energy Regulator. For more information, see Section A.3.

Under REDA, the AER is tasked with regulating:

- Pipelines, wells, processing plants, mines and other facilities and operations for the recovery and processing of energy resources (section 2 (2)).
- Project approval decisions, environmental assessments and monitoring, abandonment and closure, and reclamation and remediation of energy resource activities (section 2 (2)).

To this end, REDA enables the Regulator to interpret “energy resource enactments” such as the Pipelines Act and the Oil Sands Conservation Act, which deal solely with regulating the energy industry. Additionally, the AER is responsible for relevant non-energy resource legislation known as “specified enactments”, such as the Public Lands Act and the Water Act (section 2 (2)). These specified enactments as they pertain to non-energy industries are under the mandate of other regulatory bodies such as Alberta Energy and Alberta Environment and Parks.

Relevant sections of the Responsible Energy Development Act

Part 1 The Alberta Energy Regulator (sections 3–29)

This section establishes the Alberta Energy Regulator, and the governance structure of its board and CEO (Division 1), and hearing commissioners (Division 2). Part 1 clarifies the position that the Regulator is not a crown agent, but instead an arm’s-length corporation empowered by the Alberta Government (section 3(1), and 4).

Division 3 outlines the general powers, duties and functions of the Regulator, including the ability to [conduct] inquiries (section 17) and hearings (section 12); [prepare] studies and reports (section 17); “ [apply] to the Court of Queen’s Bench for an order prohibiting an activity until the required approval, order or direction has been obtained” (section 19(2)); and “[enforce] compliance with a term or condition of an AER decision” (section 19 (3)). This part also specifies that REDA must act in accordance of applicable Alberta Land Stewardship Act regional plans (section 20 (1)(refer to Section C.1), and that the Regulator “has no jurisdiction with respect to assessing the adequacy of Crown consultation associated with the rights of aboriginal peoples as recognized and affirmed under Part II of the Constitution Act, 1982” (section 21).

Division 4 gives power to the Regulator to assume “all powers, duties and functions of officials set out in a specified enactment” in the case of all energy resource activities (section 24 (a) and (b)), and clarifies that any references to Ministers or Directors in all specified enactments are to be read as references to the Regulator (section 24 (e)).

Part 2 Applications, Hearings, Regulatory Appeals and Other Proceedings (sections 30–61)

Part 2 outlines the process where all energy resource development project applications must be made to the Regulator, including any statement of concern by a directly and adversely affected person (section 32) (see Section 2.5 of this guide for more information on filing a statement of concern). Division 2 outlines when the Regulator must conduct a hearing, and who is entitled to be heard at this hearing (section 35). The Regulator must make a written decision after the completion of a hearing, and give notice of its decision to the person who made the application, and anyone who participated in the hearing (section 35 (1) and (2)).

Division 3 outlines that the only appealable decisions are those to which a person would otherwise be entitled to submit a notice of appeal under EPEA, the Water Act, or the Public Lands Act if the decisions was made without a hearing; a decision made without a hearing under an energy resource enactment; or other decisions described in the regulations (section 36 (a)). Section 39 and 40 outline how a regulatory appeal must be conducted, and who can be heard at a regulatory appeal hearing. Division 4 outlines when decisions will be reconsidered by the Regulator. Division 5 describes the process to appeal to the Court of Appeal.

REDA does not require the Regulator to explain in writing on a decision what parts of the Act give it jurisdiction to make that decision, if or when proceedings took place, or what notice was given in the process of deciding (section 54).

See Section 11.1 of this guide for more information on and explanation of regulatory hearings and the Alberta Court of Appeal, and Section 2.4 for Alternative Dispute Resolutions.

Part 3 Enforcement of Private Surface Agreements (Sections 62–66)

REDA Section 63 permits owners or occupants of land to register with the Regulator a private surface agreement between landowners and operators made after November 30, 2013 (section 62(2)). The Regulator can enforce terms or conditions of a registered private surface agreement upon request of the owner or occupant of the land in question (section 64(1)), but ultimately the Regulator determines what activities are in compliance with a private surface agreement. Making this request does not limit your ability to pursue other remedies in respect of the agreement. Terms and conditions in a private surface agreement that conflict with Part 3, such as a requirement to keep the agreement confidential, are not enforceable (section 64(2)).

Part 5 Enforcement (Sections 69–77)

Part 5 outlines the Regulator’s power of inspections and investigations, power to impose an administrative penalty, and the power to impose daily penalties.

Alberta Energy Regulator Rules of Practice

The Alberta Energy Regulator Rules of Practice outline the specific rules regarding the AER’s decision-making process, filling in many of the details not laid out by REDA. These are explained in more detail in Sections 2 and 11, while detailing a statement of concern, the Alternative Dispute Resolution process, and the hearing process.

Part 1 Applications

Part 1 of the Rules outlines how an application to the Regulator will be submitted, including the information that must be included by an operator in an application for a proposed project (section 3). The Regulator must ensure that at minimum, a public notice of application contains contact information for the applicant; a description of the project and approval sought; the legal GPS coordinates of the proposed project location; the time period for filing a statement of concern (if different than in the rules); and where interested parties can find more information about the project (section 5(1)). The Regulator cannot make a decision on an application until the time period for filing a statement of concern has elapsed (section 5.2 (1)); however, there are exceptions laid out in section 5.2 (2), and smaller or less controversial projects may be processed as a routine application before the standard 30 days.⁵

The process for submitting a statement of concern is laid out in sections 5.3 through 6.2, including when the Regulator can disregard a statement of concern (it would be helpful to review these if you plan to submit a statement of concern). Section 7 outlines the considerations the Regulator may consider in order to hold a hearing on an application, including whether or not the application “will have minimal or adverse effect on the environment” and whether the applicant and the persons who have filed a statement of concern has “made efforts to resolve the issues in dispute directly with

⁵ If the project is processed as a routine application, such as a project that does not require regulatory leniency and did not receive any complaints in the pre-application stage, it will likely be assessed as a routine application under Directive 056, and the Regulator could make a decision on an application before the filing period deadline for a statement of concern. Note that if the Regulator has already made a decision on a project, it can choose to disregard a statement of concern (section 6.2 (c)).

each other through a dispute resolution meeting or otherwise.” Sections 7.2 through 7.5 outline the minimum of who the Regulator must notify on a decision, and how the Regulator must do it.

For information on submitting a statement of concern, refer to Section 11.1.3.

Part 1.1 Alternative Dispute Resolution Meeting

The AER may encourage parties to go through an Alternative Dispute Resolution (ADR) process before a project application is submitted, following the submission of an application, at the instigation of a hearing, or before the AER will consider an appeal process.⁶ The ADR process is typically voluntary but the Regulator may direct a person to attend a dispute resolution meeting. Section 7.6 outlines how the Regulator will decide who will participate, the scope of the meeting, and how and by whom the meeting will be conducted. The Regulator has the discretion to choose what form the ADR process can take: it may be a facilitated process by the Regulator, a mediation by the Regulator or a hearing commissioner, or a binding alternative dispute resolution by a hearing commissioner (section 7.6(5)). The ADR process is confidential, and all related discussions are not admissible in a hearing or other proceedings without consent from all parties (section 7.7(3)). If the process takes form of a binding alternative dispute resolution, a party of the ADR cannot request a regulatory appeal on the final decision (section 7.9 (1)).

Part 2 Hearings on Applications

Part 2 includes rules outlining the hearing process of the Regulator, once there is a decision to hold a hearing. Section 9 outlines who might participate, or “intervene,” in a hearing, and the criteria that they need to meet in order to do so (section 9(2)). This section also specifies when the Regulator can refuse to allow a person to participate in a hearing (section 9(3)). First, the person must include their statement of concern, or an explanation of why they did not file a statement of concern (section 9(2)(a)). They must also include how they are directly and adversely affected by the decision (the standard that typically must be met to trigger a hearing), or if they may not be directly and adversely affected, the nature of their interest in the matter, and a reason why they should be permitted to participate. The request to participate should explain how their “participation will materially assist the Regulator in deciding the matter”; how the person has “a tangible interest in the subject-matter”; how the “person’s participation

⁶ AER, *Interim Regulatory Guide*.

will not unnecessarily delay the hearing”; and an explanation of how the “person will not repeat or duplicate evidence presented by other parties” (section 9 (2c)). The Regulator requires all of these pieces to be explained in the request to participate. Section 18 gives the Regulator has the broad discretion to hold a hearing in writing, electronically, or orally, or any combination thereof, and Section 9.1 gives the AER discretion to determine how a person will participate in the hearing. The Regulator must make a written decision, which must be published within 90 days of the conclusion of the hearing (section 28). For more information on participating in a hearing, refer to Section 11.1 of this guide.

Part 3 Regulatory Appeal

If you are not satisfied with a decision by the AER, you may be able to file a regulatory appeal. To be eligible, you must prove that you are directly and adversely affected. Generally, regulatory appeals will only be heard on decisions that were made without a hearing (in the case of a decision under an energy enactment), or when the AER makes a decision on an appealable decision under a specified enactment (defined in REDA, section 36). Regulatory appeals cannot be made over decisions made through an alternative dispute resolution. Section 30 outlines what must be included in the form of the request for a regulatory appeal and the timeframe for submitting a request (it differs between each energy or specified enactment, refer to section 30 (3)). In order to be considered for a regulatory appeal, you must include proof that you have filed a statement of concern or an explanation why you did not file one (Section 30 (2)). For more information, see Section 11.2.

Part 4 Reconsideration

The AER may review a previous decision or order, either on its own initiative or as a result of an application for a review (section 42 of REDA). Likewise, the AER may grant a rehearing, if they consider one is required. The AER is required to publish a notice of their decision within 90 days (section 35).

The Crown can request reconsideration of an AER decision to address “potential impacts, and the means to mitigate the impacts, to Aboriginal peoples” (section 34.1). However, the Regulator has discretion whether or not it will reconsider its decision under section 42.

Part 5 General Matters and Costs

Part 5 outlines general matters of the AER, such as criteria for hearing commissioners, notice of hearings, and filing a motion in a hearing (Division 1). Division 2 sets out the

AER's powers to award costs, the criterion that must be met to grant an advance of funds for the hearing (section 58.1), and how a participant can claim costs (section 62(1)).

AR 90/2013 Responsible Energy Development Act General Regulation

This regulation outlines general and administrative matters about the AER's decisions under energy resource enactments (not specified enactments). It specifies that when making a decision under an energy resource enactment (such as an application, regulatory appeal, reconsideration or inquiry), the Regulator must consider the "social and economic effects of the energy resource activity"; "the effects of the energy resource activity on the environment"; and "the impact on a landowner as a result of the use of the land on which the energy resource activity is or will be located" (section 3).

AR 201/2013 Specified Enactments (Jurisdiction) Regulation

This regulation outlines the AER's authority to govern and apply all specified enactments. It begins to clearly define when the AER's rules and decision-making authority are to be used, and when the AER either has no responsibility (such as instances where there is federal jurisdiction) or when the AER has shared responsibility (such as in instances of emergency response). Section 19 outlines instances where the specified enactments are modified by REDA.

C.2 Legislation administered by the Alberta Energy Regulator

C.2.1 Oil and Gas Conservation Act

The Oil and Gas Conservation Act (RSA 2000, c O-6) sets out the required operating practices for locating, drilling, testing, operating, and abandoning oil and gas wells, and for the storage and disposal of substances. It deals with pollution prevention at and below the surface, the general conservation of the resource and prevention of waste. Parts 3–5 define the AER's powers. Parts 6–9 deal with practical matters such as issuing well licences and pipeline permits, and the production of oil and gas. Section 41, for example, gives the Regulator any powers it needs to prevent an escape of oil, gas, water or substance. The Regulator also has power to clean up any escaped oil and to recover costs later (section 104), or to issue an enforcement order requiring others to take

action (section 105). Part 11 describes the Orphan Fund, set up to pay for the abandonment and reclamation costs of orphan wells, facilities and pipelines. It makes provision for a delegated authority to operate this fund, which currently is the Orphan Well Association.⁷ For other pollution related legislation, refer to the Environmental Protection and Enhancement Act in Section C.3.1.

Relevant regulations under the Oil and Gas Conservation Act

AR 151/71 Oil and Gas Conservation Rules

This lengthy regulation specifies how the industry should operate oil and gas wells and undertake oilsands operations. While most of the technical information in the regulation will not be needed by a landowner, a summary of the main sections is given here for reference.

Part 1 defines the terms used throughout the regulation.

Part 2: Licensing of Wells specifies what information a company must submit when applying for a licence. It includes a plan of the site, information on the topography and the location of water wells within 200 metres of an oil or gas well. Section 2.120: Water Pollution Control prohibits the drilling of a well or a pit for disposal of oilfield fluids closer than 100 metres to a permanent stream without special permission.

Part 3: Approval of Drilling and Completion Operations includes the approval required for drilling operations and information on how a company must deal with suspended wells and abandoned wells. Section 3.012 outlines the requirements that a company must follow to carry out well abandonment.

Part 4 covers drilling spacing units and target areas and Part 5 covers blocks, projects and holdings.

Part 6: Drilling, Completing and Servicing deals with the removal of the rig and with casing the well, and gives requirements for posting of the well licence and signs.

Part 7: Production Operations sets out requirements for testing wells, air emissions management and the flaring of gas that contains above a certain level of H₂S.

In addition to setting out requirements for emergency response plans, Part 8: Emergency Preparedness and Response, also deals with storage tanks, water disposal,

⁷ The Orphan Well Association, “About Us”. http://www.orphanwell.ca/pg_about_us.html

control of oil and water spills, burning vented gases, blowout prevention requirements, drilling and servicing inspections, care of well and battery sites (including waste disposal) and fencing requirements.

Part 9: Processing Plants includes requirements with respect to emissions of sulphur to the air and the disposal of wastewater.

Parts 10 to 16 deal with production rates and accounting, well data, records and reports, well and battery names, measurement, and certain applications (including enhanced recovery of oil, gas processing and underground storage and water disposal).

AR 45/2001 Orphan Fund Delegated Administration Regulation

This regulation sets up the Alberta Oil and Gas Orphan Abandonment and Reclamation Association (known as the Orphan Well Association), which manages the orphan well fund. See Section 9.4 for more information.

C.2.2 Oil Sands Conservation Act

The Oil Sands Conservation Act (RSA 2000, c O-7) is the equivalent of the Oil and Gas Conservation Act, but it applies to oilsands instead of conventional oil and gas. The Oil Sands Conservation Act sets out the approval process for the extraction and processing of oilsands in the province. It specifies the requirements for in-situ operations (production from wells), for the mining of surface or underground oilsands, and for processing plants.

Relevant regulations under the Oil Sands Conservation Act

AR 76/88 Oil Sands Conservation Regulation

After definitions (Part 1), Part 2 of the regulation provides general requirements for pollution control, precautions with respect to hydrogen sulphide (H₂S), emergency response plans, prevention of loss and injury, burning gas or waste, waste, and the flaring, incinerating, and venting of gas. Subsequent sections deal with mining operations (Part 3), in situ operations (Part 4) and processing plants (Part 5).

C.2.3 Pipeline Act

The Pipeline Act (RSA 2000, c P-15) deals with all aspects of pipeline construction and operation, from the initial licences (Part 4), and the use and acquisition of the land (Part 7), to the suspension and shutting down of a pipeline (Part 5). As with wells, it is the

Regulator's responsibility to ensure the safe and efficient construction and operation of pipelines in the province and to control pollution.

Relevant regulations under the Pipeline Act

AR 91/2005 Pipeline Rules

The details about how the Pipeline Act is to be implemented are set out in this regulation. Issues covered include routine matters such as standards for the materials and construction of a pipeline (section 9), ground disturbance (sections 58–67), warning signs (section 68–71), inspections for corrosion (section 53, 54), emergency procedures (section 8), and leaks and breaks (sections 27, 76–78). Noise levels at compressors and pump stations are not to exceed specified limits (section 17). The regulation also deals with discontinued pipelines and their abandonment (sections 82–84).

C.3 Energy resource laws administered by the AER

The Responsible Energy Development Act (see Section C.1 above) tasks the Alberta Energy Regulator with the duties set out in all environmental laws (known as specified enactments) and all associated regulations, when the statute is relevant to the energy activities. These laws and regulations aren't limited to just the oil and gas industry; they apply to many other industries and individuals and their activities. Other government bodies such as Alberta Environment and Parks have jurisdiction under these acts for activities that fall outside the scope of energy resource development. As such, REDA defines specified enactments as:

- the Environmental Protection and Enhancement Act (EPEA)
- the Water Act
- the Public Lands Act (PLA)
- Part 8 of the Mines and Minerals Act

These environmental laws should be read in conjunction with REDA, as REDA specifies the AER's decision-making process and application process that will be used in place of the decision-making processes described in each specified enactment (the AER's Rules of Practice describes the specifics of the decision-making process). Additionally, the Specified Enactment (Jurisdiction) Regulation (above) outlines how the AER should interpret these environmental laws when they are relevant to the energy resource activities under the Regulator's authority. Therefore, we will refer to these two regulations often in the outline of the specified amendments below.

In all cases where an environmental law refers to a “inspector”, “investigator”, “officer”, or “director”, if it is under the AER’s authority set out in the Specified Enactment (Jurisdiction) Regulation, it is to be read to be referring to an individual authorized by the Regulator (section 11). For simplicity sake, we substitute the language in each case to simply read as ‘the Regulator’ or the AER.

C.3.1 Environmental Protection and Enhancement Act (EPEA)

Relevant sections of the Environmental Protection and Enhancement Act

Several sections of the Environmental Protection and Enhancement Act (RSA 2000, c E-12) are relevant to the regulation of the energy industry. Part 2 of EPEA outlines the environmental assessment and approval process. In addition to licensing by the AER, some large oil and gas facilities, pipelines and oilsands operations also require environmental approvals (see AR 276-2003 Activities Designation Regulation, below). Some projects only need an approval but others require an environmental impact assessment before they can obtain an approval. As this section will only briefly review the Act, for a more thorough overview of issuing a statement of concern, the hearing process, or applying for an appeal, see Section 2.5 and Section 11.1 of this guide.

Part 2 Division 1: The Environmental Assessment Process

The Environmental Assessment Process is set out in EPEA sections 40–59. An environmental assessment is mandatory for some activities (see AR 111/93 Environmental Assessment (Mandatory and Exempted Activities) Regulation, in conjunction with section 11 of Schedule 2 of the AR 201/2013 Specified Enactments (Jurisdiction) Regulation, above).

Even where an environmental impact assessment is not mandatory, the Regulator may decide that such an assessment is required (EPEA sections 41–43). Section 44(3) of EPEA sets out the factors that the Regulator must consider when deciding whether an environmental assessment is needed.

The Regulator must provide public notice of its decision on whether an environmental assessment is needed to all those who submitted a statement of concern (EPEA section 45(5) and AR 112/93 Environmental Assessment Regulation, section 5).

If an environmental assessment is mandatory, or if the Regulator has decided to require an environmental assessment on a non-mandatory project, the company has to draw up the terms of reference for the preparation of the assessment report. These terms of

reference are submitted to the Regulator for review (EPEA section 48(1)) and are also available for public review and comment (EPEA section 48(2) and AR 112/93, section 6). The company is also required to make a copy of the proposed terms of reference available to anyone who requests them.

When an environmental assessment is being done — whether it’s mandatory or at the discretion of the Regulator — there is an opportunity for public input. The company is required to issue a public notice that an environmental assessment is to be conducted (EPEA section 44(5); AR 112/93 Environmental Assessment Regulation, section 3, see below; and the AER’s Rules of Practice, section 8). Any member of the public who is “directly and adversely affected by the proposed activity” can submit a statement of concern (see EPEA section 44(6), subject to the AER’s standard of “directly and adversely affected”, in the AER Rules of Practice), which the Regulator is required to consider before issuing a decision (EPEA section 46; AER’s Rules of Practice, section 5.2). Although you are required to show that you are “directly and adversely affected” you can still submit a statement of concern even if you are not and hope that, taken with submissions of others who are eligible persons, it may help persuade the Regulator of the need to exercise its discretion to conduct an environmental assessment. Following any public input, the Regulator issues the final terms of reference and publishes a notice in at least one newspaper in the project area indicating where they can be viewed (AR 112/93 Environmental Assessment Regulation, section 6). Section 49 of EPEA states that an environmental impact assessment must be prepared in accordance with the terms of reference and also lists information that the report must include.

When an environmental impact assessment report is complete, the company sends it to the Regulator, who can request supplementary information if there are gaps in the report (EPEA, sections 50–51). The company is also required within ten days to publish a notice stating that the report, or a summary of it, can be obtained free of charge from the company and can be viewed at an address given in the notice (EPEA, section 52 and AR 112/93, section 8).

More information about the Environmental Impact Assessment Process is available on AER’s website at <http://www.aer.ca/applications-and-noticees/environmental-assessment>

Part 2 Division 2: The Approval and Registration Processes

The approval and registration processes are set out in EPEA sections 60–86 and in regulation AR 113/93 Approvals and Registrations Procedure Regulation. Even if no

environmental assessment has been required, there is an opportunity for public input in the approval process (AER Rules of Practice, section 6 (1)).

The approval process applies to all projects that require an approval under AR 276/2003 Activities Designation Regulation (see below). This includes sweet and sour gas processing plants, pipelines over a certain size, syngas plants and oil production sites. While some projects require approvals, other, mostly smaller, projects only require registration (registrations are defined in EPEA Activities Designation Regulation, Schedule 2). No opportunity for public input is provided in the registration process (AER Rules of Practice, section 5.2 (2)(j)).

EPEA states that an application for an approval or registration must be made according to the regulations (section 66), described below. The Regulator can issue an approval or reject an application (section 68) and, in making a decision, they may consider any evidence that was submitted to the AER. The Regulator can also amend or cancel an approval (section 70).

When a company applies for an approval (or an amendment to an existing approval), the Regulator or the company has to provide public notice of the application (EPEA section 72). Any person who is “directly and adversely” by an energy resource project can submit a statement of concern to the AER (REDA section 32, and described in more detail in Section 11.1.3).⁸ If you send a written statement of concern objecting to an approval, you should explain in detail all the concerns you have with the application. Provide as much relevant information as possible to support your arguments and indicate in what way you consider yourself to be directly affected, and specifically how it adversely affects you. The Regulator must receive this statement of concern within the time specified in the notice, usually 30 days from the last date that the notice is published. The Regulator then decides whether to grant an approval or amend an existing one, and what conditions the approval should include to protect the environment. The Regulator then sends a copy of the decision to anyone who submitted a statement of concern (EPEA section 74(4)).

⁸ This is another instance where the AER’s enacting legislation is to be considered. For all non-energy resource projects, EPEA section 73 has provisions for who can submit a statement of concern, but this is not directly related to energy resource applications and approvals and is outside the scope of this guide.

See Section 11.1.9 of this guide for more information on Regulatory Appeals, and the criteria for an eligible person. For more information on the Regulator's approvals process, see the AER website at <https://www.aer.ca/applications-and-notice/appeals>.

Part 4 The Environmental Appeals Board

Part 4 of EPEA describes how the Environmental Appeals Board is to handle appeals relating to decisions made under EPEA by a delegated authority. The Environmental Appeals Board still operates and performs its existing role, except on decisions related to energy resource development.

All appeals to AER decisions are heard by the AER and subject to its rules and regulations. Persons who are otherwise permitted to submit a notice of appeal under EPEA (Section 91) are eligible to submit an appeal to the AER if the decision is made without a hearing.⁹ There are several instances where appeals are subject to the rules under REDA, so Part 4 should be read in conjunction with section 19 (4) of the Specified Enactment (Jurisdiction) Regulation.

Part 5 Division 1: Release of Substances Generally

Division 1 is of general application. Sections 108 and 109 make it illegal to release substances in concentrations or amounts that could significantly damage the environment. Anyone who discovers that a release of this type is occurring or has occurred is required to report it immediately to the Regulator and, where known, to the owner, the person responsible for the substance, and anyone else who may be directly affected (section 110).

The person responsible for the substance must take any action necessary to stop the release and repair any damage (section 112) but the AER can also issue an Environmental Protection Order (or an Emergency Environmental Protection Order in the case of an immediate and significant adverse effect, regardless if an approval or

⁹ If the decision has been made without a hearing, an 'eligible person' (REDA sections 36 (b)) may appeal an 'appealable decision' (REDA section 36 (a)) to the AER. If the decision has been made with a hearing, then the only route of action is for a request for a statutory appeal to the Alberta Court of Appeal. However, the court of appeal will only rule on "matters of law and jurisdiction". For example, the appeal won't address the substance of the decision itself, but whether the AER has the legal jurisdiction to make a decision, outlined in the relevant environment laws.

registration was ever granted) to require that the necessary work be done (sections 113–115) should the responsible party fail to address the release in a timely way.

Section 116 allows the Regulator to issue an Environmental Protection Order to deal with offensive odours.

Part 5 Division 2: Contaminated Sites

This section is directly relevant to the Regulator’s powers with respect to the cleanup of designated contaminated sites. Where “a substance may cause, is causing or has caused a significant adverse effect” on the environment, the AER can designate the area as a contaminated site (section 125(1)). A site can be designated even when a reclamation certificate has been issued (section 125(2)(a)), the substance was released even in accordance with the EPEA or any other law (section 125(2)(c)), or if the substance came from another source or site (section 125(2)(e)). Any person who is directly and adversely affected by the designation can submit a statement of concern to the Regulator within 30 days of receipt of the notice of designation (section 127; AER Rules of Practice, section 6.21 (1)(b)). This enables landowners and occupants to present their views on what remedial measures should be taken to deal with the situation. The person responsible for the site may prepare a remedial action plan that the AER must approve (section 128). If necessary, the Regulator can issue an Environmental Protection Order to require the person to whom it is addressed to clean up or secure the contaminated site (section 129). The Regulator must consider a number of things when issuing an Order, including whether the former owner of the site was responsible in any way. In the Order, the Regulator may apportion costs for the work to be done and may regulate or prohibit the use of the site or of any product from the site.

The Regulator has power to pay compensation to any person who suffers loss or damage as a direct result of any actions taken under Division 2 (section 131).

Part 6 Conservation and Reclamation

EPEA Part 6 deals with the conservation and reclamation of specified land. This includes land that is being or has been used for the construction, operation or reclamation of a well, oil production site, battery or pipeline. A company may be required to provide financial security for its operations (section 135). A company is required to conserve and reclaim the land (section 137). Once land is satisfactorily reclaimed, an inspector authorized by the Regulator can issue a reclamation certificate (section 138). Once a reclamation certificate is issued, the Regulator will provide notice to anyone who filed a statement of concern, the registered owner of the land, and anyone who is considered

directly and adversely affected by the activity related to the reclamation certificate (AER Rules of Practice, section 2 (i)). If the Regulator makes an amendment, deletion or an addition to the condition of the reclamation certificate on its own initiative, it is an appealable decision (EPEA, section 91(1)(i)(j)(k)). The Regulator will provide notice in this case to anyone who is considered directly and adversely affected, who submitted a statement of concern, or who is the registered owner of the land (AER Rules of Practice, section 7.2(6)(a)(iii)). Where operations are damaging the environment, the company may be issued an environmental protection order (sections 140 and 141); this can happen up to 25 years after a reclamation certificate has been issued if it becomes evident that further work is needed on the site (section 142 and AR 115/93 Conservation and Reclamation Regulation, section 15).

Part 10 Enforcement

Penalties can be imposed for the more serious contravention of an Enforcement Order or an Environmental Protection Order (sections 227 and 228).

Relevant regulations under the Environmental Protection and Enhancement Act

AR 276/2003 Activities Designation Regulation

Section 5 of this regulation indicates which activities require an approval (in addition to a licence or permit from the Regulator) to ensure that their emissions do not pollute the environment. These include:

- Construction, operation or reclamation of sour or sweet gas processing plants (Schedule 1, Division 2, Part 8)
- Construction, operation or reclamation of oilsands processing plants (Schedule 1, Division 2, Part 8)
- Enhanced recovery in situ oilsands or heavy oil processing plants (Schedule 1, Division 2, Part 8)
- Construction, operation or reclamation of syngas plants (Schedule 1, Division 2, Part 8)
- Construction or reclamation of pipelines over a certain size (Schedule 1, Division 3)
- Construction, operation or reclamation of oil production sites (Schedule 1, Division 3).

AR 111/93 Environmental Assessment (Mandatory and Exempted Activities) Regulation

This regulation lists all activities for which an environmental assessment is mandatory. Oil and gas projects that require an assessment include commercial oilsands, heavy oil extraction, upgrading and processing plants that produce more than 2,000 cubic metres of crude bitumen or its derivatives per day, and sour gas processing plants that emit more than 2.8 tonnes of sulphur per day.

AR 112/93 Environmental Assessment Regulation

AR 112/93 sets out the process for environmental assessments. It relates to mandatory activities as set out in AR 111/93, and to all other projects for which the Regulator decides that an environmental assessment is necessary, as set out in the Environmental Protection and Enhancement Act, sections 41–43. This regulation is referred to in detail in the above section on the Environmental Protection and Enhancement Act, so it is not described further here.

AR 113/93 Approvals and Registrations Procedure Regulation

This regulation amplifies the requirements for approvals and registrations set out in the Environmental Protection and Enhancement Act, sections 60–86. It specifies the information a company must submit when applying for an approval or registration. It must include, for example, a description of the public consultation that a company has undertaken or intends to carry out (section 3(1)(q)). The regulation also states that the Regulator may request oral or written information from a person directly and adversely affected by the application. It includes a list of issues that should be considered in the review of an application (section 6), which can provide a useful checklist when submitting an objection. Section 10 requires the Regulator to publish a notice when an approval or registration is cancelled or suspended.

AR 115/93 Conservation and Reclamation Regulation

This regulation describes the procedure for the reclamation of oil and gas well sites, batteries, pipelines, oil production sites and many other types of specified land. It lists the responsibilities of inspectors who may be employed by the local authority (section 4), including when and how a reclamation inquiry must be conducted (sections 6, 8). The requirements for a reclamation certificate are listed (section 12) but the operator remains liable for any negative impacts for up to 25 years after a reclamation certificate is issued (section 15). A reclamation certificate is not required for pipelines of less than 15 cm diameter that are ploughed in (section 15.1). Division 2 deals with financial

security to ensure the costs of reclamation and conservation are completed. Security must be paid where an approval is required pursuant to Schedule 1, Division 3 of the Activities Designation Regulation, and for other activities designated by the Minister of Environment. Section 17.1 lays out the exemptions for security payments, such as the approval for the construction of a pipeline, or an approval regarding the construction, operation or reclamation of an oil production site.

AR 23/2003 Administrative Penalty Regulation

An administrative penalty can be imposed if a company fails to reclaim land.¹⁰ This regulation describes the penalty assessment process, such as determining the base amount of the administrative penalty according to the contravention's potential for adverse effect, and whether the contravention was major or minor. It also describes the Acts and regulations that have provisions for an administrative penalty.

AR 154/2009 Remediation Certificate Regulation

This regulation establishes the guidelines that must be followed for soil and groundwater remediation, such as in the event of soil contamination from an oil spill. It outlines all the information that an operator will include to the Regulator before it receives a remediation certificate, including a plan to “effectively monitor, mitigate or prevent any adverse effect of substance” (section 3(2r)). The registered owner of the land will receive a notice if the Regulator issues or refuses to issue a remediation certificate (section 6).

C.3.2 Mines and Minerals Act Part 8 (Exploration)

The Mines and Minerals Act (RSA 2000, c M-17) outlines the major rules for exploring and developing mineral resources in Alberta, including oil, gas, coal, precious metals and oilsands. Part 4—Petroleum and Natural Gas Leases and Part 8—Exploration are most likely of interest to landowners and occupants. Part 4 is further discussed under Section C.4.2 as it is under Alberta Energy's jurisdiction. Part 8 requires a company or person to have an exploration permit before conducting exploration (section 107). The Act lists the powers of the Minister to grant and cancel licences (section 109–110) and the things to be covered in the regulations, such as fees, deposits and mineral sampling.

¹⁰ See also *EPEA*, section 237.

The Exploration Regulation, which is in part related to the Mines and Minerals Act, is described in Section C.3.3. It is enabled by Public Lands Act, Mines and Minerals Act, the Forests Act, and the Public Highways Development Act.

C.3.3 Public Lands Act

The Public Lands Act (RSA 2000, c P-40) governs all land that is not privately owned, held by the federal government or First Nations, or used for public parks or infrastructure. Over 60% of Alberta's land mass is subject to the Public Lands Act,¹¹ and this is where much of the province's resource extraction occurs.

Agricultural leaseholders do not have the right to deny seismic exploration on land that they hold under an agricultural disposition. Sections 8 and 9 of the Public Lands Act permit regulations to be made with respect to public land (see Appendix E Glossary for definition of public land and Crown land). The Public Lands Administration Regulation deals with mineral leases and pipelines on public land. The Exploration Dispute Resolution Regulation deals with disputes about land use issues and compensation with respect to seismic exploration on agricultural leases on public land.

Persons who are otherwise permitted to submit a notice of appeal under the Public Lands Act (Section 121) are eligible to submit an appeal to the AER if the decision is made without a hearing.¹²

Relevant regulations under the Public Lands Act

AR 187/2011 Public Lands Administration Regulation

The Public Lands Administration Regulation (PLAR) was created to address new concerns around public land. It effectively replaces the previous Disposition and Fees Regulation, and consolidates other relevant public land regulations.¹³ Part 3 of the PLAR summarizes the different dispositions available on public land, including Mineral Surface Leases (Division 5) and Pipeline Dispositions (Division 7). Under the PLAR,

¹¹ Alberta Environment and Sustainable Resource Development, *Frequently Asked Questions about Public Lands Administration Regulation* (2014). <http://aep.alberta.ca/lands-forests/public-lands-administration-regulation/documents/PLAR-FAQsGeneral-May30-2014A.pdf>

¹² This is another instance where the legislation governing the AER under the Responsible Energy Development Act is used for the appeal process, as per REDA section 36.

¹³ *Frequently Asked Questions about Public Lands Administration Regulation*.

Alberta Environment and Parks issues grazing licences (which do not give exclusive occupation rights to the holder), grazing permits (which are short term, and do not grant exclusive occupation rights to the holder) and grazing leases (which give exclusive occupation rights to the holder).¹⁴ The holder of the grazing licence is not entitled to compensation for loss of grazing capacity or for the entry of a separate leaseholder, such as a company extracting subsurface minerals (Division 1, Section 67). However, if there is damage to improvements or personal property on the licensed area, the holder of a grazing licence is entitled to compensation (Division 1, Section 67 (2)).

AR 227/2003 Exploration Dispute Resolution Regulation

Part 1 of the regulation deals with disputes regarding operational and land use concerns. On public land that is held under a grazing lease or a farm development lease, a company is required to notify the leaseholder, giving them a copy of the government's exploration approval at least five days before exploration is planned (section 4). The company is not allowed on the land until the leaseholder gives consent in writing, or the company has obtained a right-of-entry order from the Surface Rights Board (see Part 2 of this regulation, below).

If the leaseholder has any concerns that relate to the planned seismic operations or land use, they can request a review by the local settlement officer. They must send a written request, explaining why they want a review and the desired outcome, within seven days of receiving a copy of the company's exploration approval (section 5). The local settlement officer can make decisions with respect to any issues except compensation. If either the leaseholder or company do not agree with the local settlement officer's decision, they can request a review by the Provincial Exploration Review Committee (section 8) within seven days of receiving the local settlement officer's decision. However, the decision of the local settlement officer remains in effect until the Review Committee has made their decision (section 10). A decision by the Review Committee is binding. The Review Committee may determine who pays the costs of proceedings.

Part 2 of the regulation sets out the powers of the Surface Rights Board with respect to right-of-entry orders and compensation. If the leaseholder refuses to allow a company on their land to conduct seismic operations, the company can apply to the Surface Rights Board for a right-of-entry order (section 19). Either the leaseholder or the

¹⁴ Alberta Environment and Sustainable Development, *PLAR Formal Disposition Directive* (2014). <http://aep.alberta.ca/forms-maps-services/directives/documents/PLM-2014-01-FormalDisposition-Apr07-2014.pdf>

company can apply to the Board to resolve compensation issues with respect to access to a lease on public land (section 20–26) (see Section A.3.1 of this guide for more information on the Surface Rights Board).

Part 3 of this regulation includes amendments to the Exploration Regulation, section 4, and indicates exactly which public lands are affected by the new regulations on access.

AR 284/2006 Exploration Regulation

This regulation deals with everything relating to geophysical exploration — implementing not only requirements under the Public Lands Act but also provisions under the Forests Act, the Mines and Minerals Act, the Public Highways Development Act and the Public Lands Act. The Alberta Energy Regulator is responsible for the implementation of this regulation, under Part 8 of the Mines and Minerals Act. It sets out who has the right to conduct exploration and what permission is required. Exploration is not permitted on private land unless the owner/occupant gives consent (section 8(1)). In the case of public land that is subject to a grazing lease or a farm development lease, the person leasing the land is required to give consent, or access can be granted under a right-of-entry order, issued under the Exploration Dispute Resolution Regulation (section 8(1)(e) of the Exploration Regulation, and section 4 of the Exploration Dispute Resolution Regulation). Exploration may also be conducted on a leased or closed roadway (section 10).

Part 5, dealing with exploration field operations, will be of interest to landowners and occupants. It sets out the distance requirements for seismic activity (section 44 and Schedule 2) and what the company must do if water or gas is released during drilling (section 46 and 47), or if subsidence occurs (section 48). The rules for the temporary and permanent abandonment of shot holes and test holes are dealt with in sections 50, 51, and 52. Other issues covered include contamination of water (section 45), clearing land and salvage of timber (sections 56), damage to roads (section 60). The company is required to clearly display its permit number on all exploration equipment (section 41) and on all shot holes drilled (section 55).

C.3.4 Water Act

The Water Act (RSA 2000, c W -3) allows the province to manage and protect its water and to administer water-related processes.

Relevant sections of the Water Act

Part 4 Approvals, Licences, Preliminary Certificates, Registrations

Division 1 covers approvals, which are required to commence or continue any activity unless it is authorized elsewhere in the Water Act (section 36), such as licences or registrations. “Activity” is defined in section 1(b) and includes anything that alters the flow or level of water. Division 2 covers licences, which are required in order to divert water for any reason, except where there is an exemption in the Act or regulations (section 49). Requirements for a temporary diversion licence are set out in sections 62–65. Further requirements are given in the Water (Ministerial) Regulation, Part 1 and Part 2.

Part 9 Appeals

All persons who are otherwise permitted to submit a notice of appeal under the Water Act (Section 115) are eligible to submit an appeal to the AER if the decision is made without a hearing.¹⁵

Relevant regulations under the Water Act

AR 205/98 Water (Ministerial) Regulation

Part 1 Activities

The word “activity” is for the purposes of this regulation defined to include anything that is “conducted in or on the works that is subject of a licence and that is owned or operated by the licensee” and that “impairs or may impair the exercise of rights of any household user, traditional agriculture user or other licensee, or causes or may cause a significant adverse effect on the aquatic environment, human health, property or public safety” (section 1 (4)(b)). Activities under the Water Act (not the Water (Ministerial) Regulation) are defined more broadly for the purposes of that act.

Under section 2 an approval is required for activities, except for those listed in Schedules 1 and 2 at the end of the regulation. Activities such as the construction of river crossings can be completed without an approval if they are conducted according to a Code of Practice, and provided the activity does not harm the aquatic environment.

¹⁵ This is another instance where the legislation governing the AER under the Responsible Energy Development Act is used for the appeal process, as per REDA section 36.

Part 2 Diversions and Transfers

Under section 5 a licence is required for the diversion of water, except for the exemptions listed in Schedules 3 and 4. The exemptions are for small-scale diversions of water, such as for filling a dugout or watering stock. A licence is not usually required in the forested area of the province for temporary diversions for oil rig and camp water or if the volume diverted is less than 5,000 cubic metres and water diversion is made in accordance with the conditions and time specified in the applicable surface disposition issued by the Alberta government. Another exemption often applicable to oil and gas operations is an exemption for diversion of saline groundwater (defined in the regulation as water that contains more than 4,000 mg/L TDS).

Part 7 Water Wells

This part (sections 35–71) sets out the requirements for the construction and abandonment of water wells. It includes requirements for the reporting of saline groundwater or gas in the drilling of a water well (section 43). A water well must be constructed in such a way that it does not lead to multiple aquifer completions (section 47(g)(i)).

C.4 Other relevant legislation and regulation

C.4.1 Surface Rights Act

The Surface Rights Act (RSA 2000, c S-24) outlines the powers of the Surface Rights Board, which deals with right-of-entry orders and compensation. If a company is unable to negotiate an agreement with the landowner or occupant, company representatives are not allowed to enter the land until a right-of-entry order has been obtained (section 12). This applies whether the company wants to remove minerals, drill a well or construct, operate or remove a pipeline, power transmission line or telephone line. Additionally, if a reclamation certificate has been revoked, the Surface Rights Board will grant a right-of-entry order (section 13.1(1)). The only exception is for surveying, where a landowner cannot refuse access (section 14(1)). The Surface Rights Board cannot refuse entry once the AER or the AUC has issued a licence, permit or other approval (section 15(6)). However, it can set conditions for compensation for the right of entry. It can also attach conditions to the right of entry for such things as insurance, fencing or treatment of topsoil. Before the company can actually set foot on the land, it must pay

the landowner or occupant a right-of-entry fee (section 19) and some compensation (section 20).

After issuing a right-of-entry order, the Surface Rights Board holds proceedings to determine the exact amount of compensation that a company must pay (section 23). The Board may conduct its hearings by written submission, or by oral hearings (section 8 (3.1)). Additionally, The Board may inspect the property before making a decision (section 24). The Act sets out all the factors that the Board must consider when deciding the amount of compensation (section 25). Section 10 in this guide outlines these key factors. If a company or landowner/occupant does not agree with the Board's decision on compensation, the decision can be appealed to the Court of Queen's Bench (section 26). An operator's rights-of-access under a right-of-entry order or lease may be suspended or terminated by the Board for non-payment of the annual rental fee (section 36). The Board can review the rates of compensation every five years (section 27) and can rehear applications and review, rescind, amend or replace any decision or order that it makes (section 29).

The Board can also hold a hearing to settle other disputes between a company and landowner/occupant concerning such matters as damages to land outside the leased area, damage to livestock or property, or time that the owner or occupant spends in recovering stray livestock (section 30). The maximum amount that can be awarded under this section is \$25,000, so larger claims must be taken to the courts.

Relevant regulations under the Surface Rights Act

AR 195/2007 Surface Rights Act General Regulation

This regulation sets out the information that must be provided in an application for a right-of-entry order and is intended for the company making the application.

AR 196/2007 Surface Rights Act Rules of Procedure and Practice

The Rules of Procedure and Practice outline how the Board is to issue and terminate right-of-entry orders and hold hearings. It allows the Board to review, rescind or amend any decision it has made and also to hold an inquiry.

C.4.2 Mines and Minerals Act Part 4 (Petroleum and Natural Gas)

Alberta Energy is responsible for parts of the Mines and Minerals Act (RSA 2000, c M-17), which outlines the major rules for exploring and developing mineral resources in

Alberta, including oil, gas, coal, precious metals and oilsands. Part 4—Petroleum and Natural Gas Leases and Part 8—Exploration are most likely of interest to landowners and occupants. Part 8 is further discussed under Section C.3.2 of this guide as it is under the AER’s jurisdiction. Part 4 specifies that a petroleum or natural gas lease usually lasts for five years (section 81). It also sets out what can be dealt with in regulations (sections 83 and 85).

Relevant regulations under the Mines and Minerals Act Part 4

The Exploration Regulation, which is in part related to the Mines and Minerals Act, is described in Section C.3.3, since Alberta Energy Regulator is responsible for those parts of the regulation that relate to landowners.

AR 317/2003 Mineral Rights Compensation Regulation

This regulation under the Mines and Minerals Act deals with the compensation that the government must pay if it cancels a company’s mineral lease, because it is not in the public interest, or for some other reason. It does not pertain to the issue of compensation for landowners or occupants.

C.4.3 Land Agents Licensing Act

Alberta Human Resources and Employment is responsible for the Land Agents Licensing Act (RSA 2000, c L-2), which governs the licensing of land agents. The Registrar of Land Agents handles licensing (section 4) and is empowered to investigate complaints (section 13). A land agent is required to leave a copy of any proposed agreement with respect to an interest in land with the landowner for at least 48 hours, excluding any holiday, before continuing negotiations or obtaining a signature (section 17). The Land Agent Advisory Committee can make recommendations to the Minister on such things as the qualifications required for land agents and standards of conduct (sections 23–24).

Relevant regulations under the Land Agents Licensing Act

AR 227/2001 Land Agents Licensing Regulation

This regulation sets out conditions relating to the Act. For example, it specifies the information that a land agent must provide to the landowner when negotiating an agreement and that a land agent must offer to explain to the owner or the owner's agent the proposed terms of the agreement (section 7).

C.4.4 National Energy Board Act

The National Energy Board manages various federal responsibilities relating to energy development, as set out in the National Energy Board Act (RSC 1985, c N-7). Part III of the Act deals with the construction and operation of pipelines under federal jurisdiction (such as interprovincial and international pipelines).

There are two stages to the pipeline approval process. A company must first obtain a certificate from the NEB that shows the Board approves the general project (section 32). The second step requires the company to submit to the NEB its detailed plans for the precise location of the route, including the names of affected owners and occupiers, as far as they can be determined (section 33). The company must contact landowners along the proposed route and publish a notice in at least one issue of a publication that circulates in the affected area (section 34). Any person who has received a notice from the company and any other person who expects to be adversely affected by the pipeline, other than the landowner, can make an objection to the Board. The Act distinguishes between landowners (the owner, in section 34(3)) and “[A] person who anticipates that his lands may be adversely affected by the proposed detailed route of a pipeline, other than the owner of lands referred to in subsection (3)” (section 34(4)). The latter could be an occupier or someone living nearby. Occupiers should clearly state their “interest” in the land.

Anyone objecting to a pipeline must write to the NEB, outlining their interest in the land — for example, as owner, occupier or adjacent resident — and why they are objecting to the detailed route of the pipeline. The NEB must receive this written statement within 30 days of the person receiving the notice from the company or the last date of publication of the notice. If the NEB receives valid written objections it will hold a public hearing in the area of the affected land (section 35). The Board may disregard a written statement if it appears to be “frivolous or vexatious or is not made in good faith” (section 35(5)). Notice of the hearing will be sent to all those who submitted a written objection and will also be announced in a local paper. Any person who submitted a written statement will be allowed to make a submission at the hearing and the NEB may allow other people who are interested to take part (Section 11.4 of this guide).

The NEB can issue an approval for a company to proceed with any part of the pipeline if it has not received valid written objections until after the hearing. The Board may make that approval subject to any conditions it thinks appropriate (sections 36 and 37).

Interveners may be awarded costs by the NEB for participating in a detailed route hearing. The company will be required to pay these costs (section 39).

NEB inspectors ensure compliance with the conditions, regulations and commitments; these inspectors are entitled to access the pipeline and any excavation activity within 30 metres of the pipeline and any facility being constructed across the line or nearby (section 49). The Act sets out an inspector's powers and the penalties for failure to comply (sections 50 through 51.4).

The powers of pipeline companies are set out in Part V of the National Energy Board Act, which deals with compensation for lands acquired for a pipeline. Compensation is paid to all those with an interest in land. Thus, in sections 86–107 of the Act, the word “owner” has a wider meaning than the actual landowner and applies to those who have an interest in the matter and have suffered damage (sections 75 and 85). If the owner and company cannot agree on compensation using the NEB process, either of them can ask the Minister of Natural Resources to appoint a negotiator (sections 88 and 89) or an arbitration committee (section 90). Arbitration may also be requested if there is a disagreement about a claim for damages, even though there was an agreement in place.

An Arbitration Committee can hold hearings and inspect the land before making a decision (section 94). They can decide if compensation is paid as a lump sum, or as annual or periodic payments (section 98). The Committee's decision is final and can only be appealed to the Federal Court on a matter of law or jurisdiction. An Arbitration Committee also has power to award costs.

The Governor in Council can refer a decision of the NEB back for reconsideration (section 53(1)).¹⁶ The Governor in Council may also order the Board to issue a certificate, or dismiss the application (54(1)). You can apply for a judicial review by the Federal Court of Appeal on any order by the Governor in Council to approve or reject a certificate, within 15 days of the order being published (section 55(1)).

C.4.5 Alberta Land Stewardship Act

The Alberta Land Stewardship Act (SA 2009, c A-26) (ALSA) was established to create long-term regional plans that balance the economic, environmental and social objectives of the Province of Alberta. It is meant to provide direction through legislation

¹⁶ The Prime Minister and Cabinet represent the “Governor in Council”.

and policy for coordination of decision-making across regulatory bodies such as the AER, Alberta Environment and Parks, and other government authorities.

ALSA sets out the purpose and process of making regional plans, which regulatory bodies such as the AER are responsible for adhering to (either through binding regulatory measures or through statements of government policy). Section 5 describes the consultation process for designing a regional plan. Each plan may identify regional thresholds for environmental impacts and actions to mitigate adverse impacts on the region (section 8(2b)). These thresholds may in part be used to manage cumulative effects of energy development, such as creating an absolute air quality limit.

Section 19 and 19.1 outline the criteria for compensation, if a regional plan results in a “compensable taking” of private land or freehold mineral rights. A registered owner has to apply for compensation within 12 months from the date the regional plan, or an amendment to a regional plan, comes into force. If the dispute continues for longer than 60 days, the matter may be heard by the Land Compensation Board (section 19.1(3)).

Additionally, within 12 months of the plan coming into force, a person who feels they are directly and adversely affected by the implementation or amendment of a regional plan may apply to the Stewardship Minister to establish a panel to conduct a review of the regional plan or amendments and make a series of recommendations to the Stewardship Minister (section 19.2). For example, you may do this if you feel that the regional thresholds that are set by a regional plan directly and adversely affect you because you feel they do not adequately protect you.

As of 2016, both the Lower Athabasca Regional Plan (LARP),¹⁷ which primarily integrates the oilsands regions, and the South Saskatchewan Regional Plan (SSRP)¹⁸ are in place and legally binding.

¹⁷ Alberta Environment and Parks, “Lower Athabasca Region”.

<https://landuse.alberta.ca/REGIONALPLANS/LOWERATHABASCAREGION/Pages/default.aspx>

¹⁸ Alberta Environment and Parks, “South Saskatchewan Region”.

<https://landuse.alberta.ca/REGIONALPLANS/SOUTHSASKATCHEWANREGION/Pages/default.aspx>

Appendix D. Documenting Costs

D.1 Determining compensation

As a landowner who may sign or has signed a surface lease agreement, you should track any time or expense that occurs as a result of having a well, pipeline or facility on your land. You should start logging this as soon as the seismic equipment shows up, and finish when you have a reclamation certificate in hand that you are happy with.

A landowner's compensation offer for a surface lease considers five main criteria:

- the entry fee (fixed to \$500 per acre)
- land value
- general disturbance such as initial nuisance, inconvenience, and noise (for the first year of the lease)
- loss of use of the land
- adverse effect

Although there may be other considerations specific to your situation, these are the criteria outlined in the Surface Rights Act.¹ For more information about compensation, refer to Section 10.

D.1.1 Negotiation expenses

Compensation should be negotiated early in your discussions in order to ensure that you and the company can agree on the reasonable reimbursement for your time. Keep track of all your time and expenses while negotiating with the company including activities like phone calls, researching, dealing with the company's representatives and surveyors, negotiations, preparing documentation, and reaching out to third parties, lawyers, and government representatives.

If you begin as early as the project conception, you can include your records as evidence toward the reimbursement of your costs. If you provide a reasonable and detailed outline of time and expenses, the company may be persuaded to reimburse you; if they do not, the Surface Rights Board might award your costs. The Surface Rights Board has determined in the past that even if compensation was negotiated outside the Surface

¹ Alberta, Surface Rights Act, RSA 2000, c S-24, s 25.

Rights Board process, lessors should be granted reasonable costs incurred while negotiating.²

Table 8 provides an example of cost tracking for activities during negotiations that you can adapt for your own use. You should number for each item for ease of reference.

Table 8. Example cost tracker for negotiations

Ref #	Date	Description	Expense	Time
1	05-02-2015	<i>Meeting with land agent to seismic testing,</i>		1 hr
2	06-27-2015	<i>Land agent kitchen table talks, discuss surface lease access</i>		1.5 hr
3	06-28-2015	<i>Research on company, phone call with AER</i>		1 hr
4	06-29-2015	<i>Research on company history, reclamation, enforcement orders</i> <i>Environmental Enforcement Search history through Environmental Law Centre</i>	\$75	4 hr
5	06-30-2015	<i>Cost of landowner consultant (preliminary investigation) (\$250/hr)</i>	\$250 (1 hr)	
6	07-05-2015	<i>Land agent kitchen table talks, cont. discuss concerns on well placement</i>		1 hr
7	07-05-2015	<i>Cost of landowner consultant (additional investigation) (\$250/hr)</i>	\$500 (2 hr)	
8	07-02-2015	<i>Printing costs of application and relevant documentation</i>	\$25	
9	07-15-2015	<i>Land agent kitchen table talks, cont. discuss concerns on flaring</i>		1 hr
10	07-15-2015	<i>Cost of landowner consultant (kitchen table talks, preparation) (\$250/hr)</i>	\$500 (2 hr)	
11	07-17-2015	<i>Cost of landowner consultant (follow up to discussions) (\$250/hr)</i>	\$375 (1.5 hr)	
12	08-07-2015	<i>Travel to and from SRB ADR process (\$0.505/km)</i>	\$25.25 (50 km)	1 hr
13	08-08-2015	<i>SRB ADR process negotiations</i>		2.5 hr
14	08-09-2015	<i>Surface Lease Agreement signed</i>		1 hr

² See *Apache Canada Ltd. v Collier Enterprises Ltd.*, 2016 ABSRB

D.1.2 Adverse effect costs

Adverse effect is calculated at the time of signing for a surface agreement, and should consider probable effects in a future five-year period.

The Farmers' Advocate Office has a good resource explaining the items that you may typically include in your adverse effect calculation. It captures tangible and intangible impacts as a result of the well, pipeline, or facility.³ Additionally, you should consider past Surface Rights Board decisions, such as the decision to grant annual compensation for a pipeline agreement for several residents.⁴

Adverse effect could include:

- Extra time to farm around the operation
- Production losses (outside the lease) due to compaction, or extra turning of the combine to navigate around the lease site
- Impact and change for on-farm management decisions
 - Impact to GPS operations
- Adding strain on machinery
- Effort and cost for effective weed control
- Inconvenience to normal field operations
 - Extra care when in the vicinity of the obstruction, extra time
 - Time to supervise and inspect lands
 - Added stress on operator to not hit any structures
- Impact of exposure to non-lethal H₂S for landowner, livestock
- General payment for a forced business relationship
- Other items unique to this lease

As these are probable future effects, anticipated costs and expenses may be hard to justify if they are speculative. However, every surface lease can be renegotiated every five years. In order to prove additional adverse effects that were not captured in your first lease agreement, being diligent about documentation can help make you whole in the next surface lease agreement for all costs and time caused by dealing with the lease

³ The Farmers' Advocate Office summarizes the criteria for adverse effect on their website. Farmers' Advocate Office, "Updated Definition of Adverse Effect Within a Surface Lease." (August 27, 2015). [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/ofa11972](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/ofa11972)

⁴ Farmers' Advocate Office, *Annual Compensation for Pipelines in Alberta* (2008). [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/ofa12451/\\$FILE/Annual-Pipeline-Compensation.pdf](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ofa12451/$FILE/Annual-Pipeline-Compensation.pdf)

on your land. The Surface Rights Board may consider a reasonable hourly rate for your time.

Table 9 provides an example of cost tracking for adverse effects that you can adapt for your own use. You should number for each item for ease of reference.

Table 9. Example cost tracker for adverse effects

Ref #	Date	Description	Expense	Time
36	09-04-2015	<i>Fence damaged by truck crews; repaired fence (include photos)</i>	\$50 (barbed wire)	0.5 hr
37	09-10-2015	<i>Cattle gate left open; rounded up escaped cattle (include photos)</i>		1 hr
38	09 -17-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
39	09 -24-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
40	09 -30-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
41	10-07-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
42	10-14-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
43	10-20-2015	<i>Pump-valve failure – uncontrolled release; moved cattle upwind, closed gates, contacted company and AER</i>		2.5 hrs
44	10-21-2015	<i>Company trucks responding to release caused ruts in field; repaired ruts</i>		4 hrs
45	10-28-2015	<i>Weekly rounds to check fencing, gate closing</i>		.25 hr
65	06 -01-2016	<i>Controlled weeds on lands adjacent to lease road – scentless chamomile removal and disposal (include photos)</i>		1.5
66	06-10-2016	<i>Cattle gate left open; rounded up escaped cattle (include photos)</i>		1 hr
67	06-11-2016	<i>Phone call with AER and Company staff re: fencing</i>		.5 hr

Appendix E. Glossary

abandonment (abandoned well or facility)

The permanent deactivation of a well, pipeline or *seismic hole*. In an abandoned well (*cased* or *uncased*), porous and permeable hydrocarbon and/or water bearing formations are effectively isolated through the placement of cement caps. Well abandonment also includes removing the wellhead, cutting the *casing* off at a depth of one metre below ground surface and welding a steel plate across the opening. Abandonment should ensure there is no potential for damage to the oil and gas remaining in the ground or for the oil or gas to contaminate *groundwater*. See also *orphan well* and *suspended well*.

In the case of a pipeline, abandonment means the permanent deactivation of a pipeline or part of a pipeline, whether or not it has been removed. For seismic holes, abandonment involves ensuring the hole is capped in such a way that there is no chance of damage to groundwater.

acid gas

A gas that results from treating or "sweetening" sour gas; it contains predominantly *hydrogen sulphide* (H_2S) and carbon dioxide.

adverse effect

One condition considered by the Surface Rights Board to determine compensation for a surface lease. The definition typically includes probable future impacts within the next five years and includes extra inconvenience, nuisance and extra costs on the rest of the quarter section where the well site is located. In addition to the fixed entry fee, compensation is also determined by land value, general disturbance in the first year of the lease, loss of use of that land, and other relevant factors.

adversely affected

One of the conditions (besides being *directly affected*) that you must prove is probable in a statement of concern in order to have your concerns about an energy resource activity application considered by the AER when it reviews the application. (In a regulatory appeal, you must prove this as a fact, not a probability.) Adverse effects are generally understood to be more than moderate adverse consequences. Not to be confused with *adverse effect*, which is one condition used by the Surface Rights Board to determine compensation for a surface lease.

Alberta Ambient Air Quality Objectives and Guidelines

A set of objectives and guidelines for air quality in Alberta; they are intended to provide protection of the environment and human health to an extent scientifically, technically, economically, and socially feasible. Air quality objectives are generally averaged over one-hour, 24-hour, and annual periods. They are used to assess compliance of major industrial emission sources, determine the adequacy of facility designs, and track and present information on air quality throughout the province. Guidelines and objectives are reviewed as needed; currently the province has air quality objectives for over 50 substances that could be released to the atmosphere.

Alternative Dispute Resolution (ADR)

The AER offers an Alternative Dispute Resolution process for disputes related to energy development in Alberta, as an alternative to the *hearing* process. The ADR process may involve *facilitation*, *mediation*, *negotiation*, *arbitration* or a combination of these strategies. The ADR process isn't limited to issues within the jurisdiction of the AER, so in some cases this process may enable a broader range of issues and resolution than what the AER can typically regulate, such as compensation. The process can be used at any point in the project life cycle, from the project planning phase until after the project is complete. Typically, the ADR program is voluntary, unless required by hearing commissioners after an application has been recommended for a hearing. Projects under the jurisdiction of the National Energy Board use a similar process known as Appropriate Dispute Resolution.

arbitration

In arbitration, a neutral third party assesses evidence in a dispute around an agreement; the decision they make is legally binding on both sides. The process is governed by the Alberta Arbitration Act.

backfill

To refill a hole, often with material that was originally excavated.

base of groundwater protection

As used by the AER, the approximate depth where *non-saline groundwater* changes to *saline groundwater*.

battery

A system or arrangement of tanks or other surface equipment receiving the production from one or more wells prior to delivery to market or other disposition,

and may include equipment or devices for separating the product into oil, gas or water.

blowout

The uncontrolled release of crude oil or natural gas from a well during *drilling* or operations.

BTEX

A group of volatile aromatic hydrocarbons — benzene, toluene, ethylbenzene, and xylenes — often found together.

carbon capture and storage

The process of collecting CO₂ from an industrial application and storing it underground, in order to reduce releases of this greenhouse gas to the atmosphere.

cased-hole abandonment

The *abandonment* of a *completed* well when it is no longer required for production. A bridge plug is put into the well, inside the *casing*, to prevent upward movement of hydrocarbons.

casing

The lining put into a well. Usually several casings are installed as a well is drilled and put into production. The production casing is a tubular steel pipe threaded on each end and connected with couplings. It extends the total length of the wellbore to ensure safe control of production, prevent water from entering the wellbore and keep rock formations from slumping into the well bore.

Class I pipeline

A pipeline's class, for regulatory purposes, is defined by an index that is based on a product of its size and length. A Class I pipeline has an index of 2690 or greater, and must be approved by the AER.

Class II pipeline

A pipeline's class, for regulatory purposes, is defined by an index that is based on a product of its size and length. Class II pipelines have an index less than 2690, and are generally small and/or short pipelines; they are not approved by the AER but they follow the same environmental protection guidelines as *Class I* pipelines. Class II pipelines also include any pipeline regulated by the National Energy Board.

coalbed methane (CBM)

Methane that is trapped in a coalbed. The methane gas comes to the surface at lower pressure and may need to be *compressed* before it is transported. If coalbed methane contains water, the gas must be *dewatered* and the waste water disposed of.

completion

A well is completed when *drilling* is finished and the resources can begin to be extracted: the *casing* is complete, the well site is finished and the production infrastructure has been installed.

compressor

A device, driven by large gas or electric engines, used to create and maintain pressure in a gas pipeline so that the gas will flow through process units and pipelines. Compressors may be located at a wellhead, *battery*, *gas plant* or along a pipeline. Long pipelines may require a series of compressor stations along the pipeline to boost pressure.

conservation

In the context of energy resources, the planning, management and implementation of a activity to prevent the waste of energy resources. An example includes the conservation of natural gas as a byproduct of oil production.

critical sour well

A well that could release sour gas, which could affect nearby *residents*. The designation reflects the well's proximity to an *urban centre* and its maximum potential *hydrogen sulphide (H₂S)* release rate during the *drilling* stage. The *operator* must prepare a detailed drilling plan that addresses all aspects of a proposed operation. A critical well is classified according to the Alberta Energy Regulator's *Directive 056: Energy Development Applications and Schedules*.

Crown land

Lands owned by either provincial or federal governments. The provincial government uses the term *public land* to refer to land administered under the Public Lands Act, to avoid confusion with other provincial and federal land.

dewatering

The separation of water from hydrocarbons, especially in coalbed methane operations.

directly affected

One of the conditions (besides being *adversely affected*) that you must prove is probable in a statement of concern in order to have your concerns about an energy resource activity application considered by the AER when it reviews the application. (In a regulatory appeal, you must prove this as a fact, not a probability.) In general, to be directly affected a person must prove that the effects upon them are greater than the average Albertan. Whether or not a person is directly affected will vary from case to case.

down-hole abandonment

A stage in well *abandonment* that includes the installation of cement caps in the bore and cutting off the *casing*. It does not include the *surface abandonment* or the *reclamation* of the lease site.

drilling

The first stage in well construction, when the initial well is bored into the surface of the earth. *Seismic holes* may also be drilled for seismic testing in the exploratory stages of development.

drilling mud

Fluid circulated down the drill pipe during *drilling* to remove cuttings, cool and lubricate the drill bit and maintain the desired pressure in the well.

dehydrator

A facility that removes the water that occurs in some natural gas, to prevent the corrosion and freezing of gas pipelines.

easement

The right to use a specific portion of another's land for a specific purpose. Easements are very similar to rights-of-way and are usually registered on the title of the property. An example of an easement is a *right-of-way* for a pipeline.

effluent

Liquid waste from an oil operation, usually containing oil products, chemicals used in production, and waste water.

emergency planning zone (EPZ)

An area surrounding a well where *residents* or other members of the public may be at risk in the event of an uncontrolled release of *hydrogen sulphide* (H_2S). The company

must be prepared to respond immediately to any event in the EPZ, and to inform the public and assist them to evacuate in case of emergency in the zone.

energy resource enactments

Laws governing the extraction and management of energy resources including oil, natural gas and coal. This includes the Coal Conservation Act, Gas Resources Preservation Act, Oil and Gas Conservation Act, Oil Sands Conservation Act, Pipeline Act, the Turner Valley Unit Operations Act, and all associated rules and regulations.

enhanced oil recovery (EOR)

Using water or carbon dioxide to maintain the pressure in an almost-depleted oil reservoir, the enable the extraction of more oil.

equivalent land capability

The ability of land that has been conserved or *reclaimed* to support various land uses similar to those that existed prior to an activity being conducted on the land, but not necessarily identical.

expedited application

A project application may be expedited (a *routine application*) when an application is submitted to the AER with no outstanding concerns or objections, a *landowner* agrees to a surface lease or to proceed to the Surface Rights Board, the company is compliant with all technical and participant involvement requirements, and the company is not requesting exceptions. An expedited application allows the Regulator to make a decision immediately without waiting for a statement of concern filing deadline to pass.

facilitation

An informal process for resolving problems that involves a third party who helps to guide discussions between other parties in dispute about an issue. Such a facilitator encourages all those involved to participate actively in the discussion and work together to find an effective solution to problems. The primary responsibility for resolving the problems rests with the two parties in dispute.

flaring

The burning of unwanted gases from a well or processing facility. It may be routine or occur due to an upset. The two common types of flaring are well test flaring and *solution gas* flaring. Well test flaring is carried out when a new well is drilled, to burn off gases while the chemical content of the gases is being tested. Solution gas flaring

occurs at *batteries* or wells where oil from one or more wells is processed and stored. Flaring is sometimes necessary at temporary stacks, as part of pipeline maintenance operations. *Gas processing plants* also use flares, to burn off by-products for which there is no market and to burn off gas during emergency conditions.

flowback fluids

A mixture of injection fluids, *reservoir fluids* and gases that flows back up the wellbore and to the surface after each pressurization cycle in *hydraulic fracturing*. Flowback fluids must be captured, contained, and disposed of to avoid surface contamination. *Pits* can be used to store the flowback fluid; however, above-ground storage tanks should be used to minimize risk of contamination from leaks and spills.

fracturing, fracking

See *hydraulic fracturing*.

freehold mineral rights

The ownership of, and legal right to recover, specific minerals from a specified piece of land is known as mineral rights ownership. The Alberta government holds mineral rights for the majority (81%) of land in Alberta, the federal government approximately 9%, while companies and a few individuals have freehold mineral rights over the remaining 10% of the land. A *owner* of surface land does not typically own the mineral rights beneath the land.

gas processing plant

Gas processing plants remove unwanted substances from the gas before it is transported and sold as marketable natural gas. Some substances are separated out for sale, such as methane, ethane, propane, butane and pentanes. There are also contaminants in the raw gas that must be removed to meet quality specifications, such as water, *hydrogen sulphide* (H_2S), carbon dioxide, nitrogen and other trace gases. There are almost 800 gas processing plants in Alberta.

Sulphur may be recovered for sale, but any excess H_2S is *flared* or *incinerated*, with combustion converting most of the H_2S to sulphur dioxide (SO_2). The sulphur dioxide is released to the atmosphere.

groundwater

Water that collects or flows under the surface of the ground. Groundwater can either be *saline* (total dissolved solids in excess of 4,000 mg/L) or *non-saline*. Non-saline

groundwater is not necessarily potable, but may be used for other uses. See also *surface water*.

hearing

A process used by the Alberta Energy Regulator, the Surface Rights Board and other similar regulatory bodies to listen to arguments and evidence before deciding an issue. The AER can decide to hold a hearing on an energy resource application if concerns about the application have not been dealt with and *landowners* and companies have not come to an agreement. The AER will consider all accepted statements of concern before making a decision whether to hold a hearing, and it may decide not to do so.

horizontal drilling (directional drilling)

Traditionally, most wells were *drilled* vertically, but with new technology wells are more commonly drilled horizontally along underground formations to access resources that would otherwise be unreachable or unprofitable to develop. Typically horizontal drilling can reduce costs by using one well pad for multiple horizontal wells, which may result in less surface disturbance. Horizontal drilling is often also combined with *hydraulic fracturing*.

hydraulic fracturing (fracturing, fracking, multi-stage hydraulic fracturing)

Hydraulic fracturing or fracking involves pumping special fluids (fracturing fluids) into a well at high pressure to crack or fracture the formation, accessing oil or gas contained in small pores in the rock, and enabling the oil or gas to more easily flow into the well bore. Hydraulic fracturing is typically combined with *horizontal drilling*.

hydrogen sulphide (H₂S)

A poisonous gas that occurs naturally and comes to the surface in "sour" gas wells. It also occurs in sewer gas. The "rotten egg" smell associated with H₂S can be detected when concentrations are as low as 0.001 to 0.13 *ppm*. Concentrations as low as 1–5 *ppm* may lead to nausea or headaches with prolonged exposure. Concentrations of 20–50 *ppm* may cause irritation of the nose, throat, and lung, digestive upset and a loss of appetite; as well, one's sense of smell may become fatigued so odour can't be relied on as a warning of exposure. Sense of smell temporarily disappears at concentrations of 100–200 *ppm*, and is accompanied by severe nose, throat and lung irritation. At 250–500 *ppm*, exposure can lead to pulmonary edema, a potentially fatal buildup of fluid in the lungs. Concentrations above 500 *ppm* could lead to respiratory paralysis, irregular heartbeat, collapse, and death. While these acute effects of H₂S are of greatest concern, there are indications that cumulative low-level

exposure can also affect health, even though it is not known what levels constitute a health risk to the general public or sensitive individuals. Pure H₂S is slightly heavier than air, so it does not disperse rapidly in enclosed spaces and may collect in low-lying areas such as valleys. The average H₂S content of sour gas produced in Alberta is 10%, although the concentration can range from trace amounts to more than 80%.

incineration

Combustion of waste gases at a well site. Unlike *flaring*, where gas is simply ignited at the stack, in incineration gases are combusted under controlled conditions in a closed chamber. When properly done, incineration provides a more complete combustion of the produced gases and generally minimizes the air pollutants released.

land agent (landman)

A person whom the energy company employs to *negotiate* with *landowners* and *occupants*, and secure and administer oil and gas leases and other agreements. Land agents are also referred to as landmen. In Alberta, landmen are licensed and regulated under the Land Agents Licensing Act.

landowner

The person whose name is on the Certificate of Title to the land issued under the Land Titles Act. This term is used generally to describe the person who owns the land.

lessee

The person or company that leases land from the *lessor*. (A person who has agricultural rights on *public lands* is referred to as an agricultural disposition holder or an agricultural leaseholder.)

lessor

The person who leases lands to the *lessee*.

mediation

A situation that is too difficult or controversial to be resolved by *facilitation* may move to mediation. A neutral and impartial third party, the mediator, works with those involved in a dispute to minimize conflict and help the parties make their own, mutually acceptable decisions. A mediator may clarify the issues, identify the specific concerns and needs of each party and suggest different ways the issues could be

resolved. For mediation to be successful, the parties must agree to seek a common solution.

negotiation

Negotiation is the process of reaching an agreement in a dispute as each party works for their preferred outcome. It can occur directly by principals or indirectly through agents such as lawyers.

non-expedited application

See *non-routine application*.

non-objection

If *landowners, occupants* or *residents* have no outstanding concerns about an application for a project, they may confirm this in a statement of non-objection to the company. Depending on the type of application, this is necessary for a company to confirm from landowner, occupants, and/or residents in order to submit an *expedited* or *routine application*.

non-routine application

If there are any outstanding objections to an application or the company was not able to secure a confirmation of *non-objection* (or due to other technical or administrative circumstances) , a company must file a non-routine application and include a summary of outstanding concerns or issues. Concerned parties have until the statement of concern filing deadline (listed in a notice of application) to submit a statement of concern about the application with the Regulator. The AER will only make a decision on this application after the filing deadline has passed; these applications are thus also called *non-expedited*.

non-saline groundwater, non-saline aquifer

Groundwater with low levels of salts, usually defined as less than 4,000 mg per litre total dissolved solids. Extractive wells may be drilled into shallow, non-saline aquifers, can potentially contaminate nearby shallow potable water aquifers. Non-saline water may be extracted along with natural gas or *coalbed methane*. It is removed from these resources and managed differently than *saline groundwater*.

occupant

The person, other than the *owner*, who has certain rights to the land and is in actual possession of the land. The occupant may also be referred to as the tenant. In the case of government-owned land, such as a grazing lease on *public land*, the occupant

is the person shown in the records to have an interest in the land. In the Surface Rights Act, section 1(g), an occupant may also be a company that has been granted a right-of-entry to land under a *right-of-entry order*.

Note that the definition of an occupant used in this guide is more general than the definition used by the AER. In Directive 056, Appendix 3, the AER distinguishes between *landowners*, *occupants*, *residents* and *Crown land* disposition holders.

oilsands

A deposit of sand saturated with bitumen. The bitumen may be extracted by surface mining or by injecting steam through a well.

operator

Usually the company that is carrying out some activity. It includes the holder of a licence, approval or permit issued by the AER. In the Environmental Protection and Enhancement Act it means an approval or registration holder who carries on or has carried on an activity on or in respect to specified land pursuant to an approval or registration. In the Surface Rights Act it means the company that has the right to conduct surveys or extract the oil, gas or other mineral.

orphan well

If the company holding the licence to operate a well becomes defunct or insolvent before it can abandon or reclaim the operation, the well is an orphan and no owner or party can be held responsible for the cleanup. The proper *abandonment* and *reclamation* of orphan wells (and pipelines) is paid for through the Orphan Fund, which is financed by a levy on *suspended wells* and managed by the Orphan Well Association.

owner

The person in whose name a Certificate of Title has been issued under to the Land Titles Act.

permit agent

A person whom the energy company employs to *negotiate* with *landowners* and *occupants*, and secure permission and access to undertake geophysical exploration. The permit agent may be certified. This is different than a *land agent*, who negotiates for leases.

ppm (parts per million)

The ratio by mass of a pollutant and its solution. A typical measurement is milligrams of pollutant per kilogram of water.

pit

A temporary storage area for liquid or semi-liquid waste produced during *drilling* or operations; also known as a sump.

pre-application concern

A notification filed with the AER before an application is submitted to the Regulator. This notifies the AER and the company that you have concerns, and can be submitted by anyone. A pre-application concern does not act as a *statement of concern* and you cannot request a *hearing* through a pre-application concern, so unless your concerns have been satisfactorily dealt with, it should be followed by an official *statement of concern* once the application has been submitted.

private surface agreement

A written agreement between a *landowner* and an energy company that contains terms and conditions of operations, and can be registered with the AER on the Private Surface Agreements Registry. The landowner can use the registry to ask the AER to intervene if the company is not complying with the terms of the agreement.

public land

Lands administered under the Public Lands Act, such as grazing lease dispositions, are referred to as public lands, to avoid confusion with other *Crown lands*.

reclamation

As defined in the Environmental Protection and Enhancement Act, reclamation means any or all of the following:

- the removal of equipment or buildings or other structures
- the decontamination of buildings or other structures or land or water
- the stabilization, contouring, maintenance, conditioning or reconstruction of the surface of the land to a state of *equivalent land capability*.
- any other procedure, operation or requirement specified in the regulations under the Environmental Protection and Enhancement Act.

reclamation certificate

The certificate issued by the AER to indicate that any land disturbed by an energy activity has been *reclaimed* and all AER requirements have been met. When applying

to the AER, the *operator* must include an analysis of contamination and a report detailing how contaminants were cleaned and how surface issues such as soil replacement and revegetation were addressed. The AER conducts both random and targeted audits on certified sites. Certificates can be cancelled if the company fails an audit, or a *landowner* complains and the site is found to be noncompliant with reclamation criteria. A company remains liable if conservation and reclamation problems arise within 25 years after issuance of the certificate.

remediation

The removal or neutralization of chemical substances from a site to mitigate or prevent any adverse effects. Also known as decommissioning or decontamination.

remediation certificate

The certificate issued by the AER to indicate that *remediation* has been conducted according to the AER's requirements.

request to participate

Once the AER decides to hold a *hearing* it will issue a notice that includes details on how to request to participate in the hearing. Those who think they are *directly* and *adversely affected* can request to participate, as can anyone who thinks they have a tangible interest in the matter and can materially assist the AER in their decision, even if they are not considered directly and adversely affected.

resident

A resident is defined by the AER as a person occupying a residence on a temporary or permanent basis. See also *occupant*.

reservoir fluids

A mixture of fluids found in a petroleum reservoir, which usually includes oil and water. These can flow to the surface during *drilling* and well testing, and during *hydraulic fracturing*.

right-of-entry order

An order of the Surface Rights Board granting an *operator* access to and use of a certain area of the land surface for operations such as *drilling* and roadway construction.

right-of-way

A legal right to pass through land owned by another. Also, a term used for land set aside for a road, pipeline, or other infrastructure; see also *easement*.

routine application

A company may submit a routine application for a project if there are no outstanding concerns, objections, or other technical reasons designated by the AER. The AER may proceed to make a decision on the application immediately, without waiting for a filing deadline to pass (an *expedited application*).

saline groundwater, saline water

Groundwater with high levels of salts, usually defined as more than 4,000 mg per litre total dissolved solids. It is usually found at a lower depth than *non-saline groundwater* (see also *base of groundwater protection*) and often is extracted along with natural gas or *coalbed methane*. It is removed from these resources and usually reinjected deep underground. Saline water must be carefully managed during production to avoid contaminating non-saline aquifers.

shot hole

In a *seismic survey*, dynamite charges are detonated in shallow shot holes. Shot holes should be plugged and sealed when testing is complete.

seismic hole

See *shot hole*.

seismic survey

A survey of the geological layers under the ground, conducted by sending out vibrations and measuring the way in which these are reflected back from the different layers. The vibrations may be created by dynamite charges in holes (usually 12 to 18 metres deep) or by mechanical vibrations at the surface (vibroseis). Data is recorded on receiving devices — either in two dimensions using one line of receiver “geo-phones” along a shot line, or more often now with a three-dimensional technique using simultaneous recording along multiple receiver lines. This enables geophysicists and geologists to identify the geological structure and formations where oil or gas may be found.

setback

The distance required to separate a project, such as a well or pipeline, from another activity, such as human settlement, water well or water course.

shale gas

Methane gas found in shale formations; it is extracted using *hydraulic fracturing* rather than standard gas extraction wells.

shut-in well

See *suspended well*.

solution gas

Natural gas that comes to the surface with crude oil. The gas may be *sweet* or *sour* (containing *hydrogen sulphide* (H_2S)). The gas is dissolved in oil at high pressures under the ground, but released at surface pressure. If the quantities are too small to pipe or *conserve* economically, the gas may be flared; see also *flaring*.

sour gas

Natural gas, including *solution gas*, containing *hydrogen sulphide* (H_2S).

specified land

Land that is being or has been used for, or is being held for or in connection with, the construction, operation, or *reclamation* of a well, oil production site, *battery* or pipeline. This term is used in the Conservation and Reclamation Regulation, authorized by the Environmental Protection and Enhancement Act.

specified enactments

Regulatory documents and laws that govern the protection of the environment around energy activities. These include the Environmental Protection and Enhancement Act, Part 8 of the Mines and Minerals Act, Public Lands Act, and the Water Act.

stakeholder

A person with an interest in an issue. In the case of oil and gas resource development, this may include nearby *residents*, recreational users of land, local business, environmental groups and various government agencies as well as the company, its staff and contractors.

statement of concern

A written submission to the AER that outlines specific concerns about an energy resource activity application. A statement of concern may be filed by anyone who believes they may be *directly* and *adversely affected* by an application.

straddle plant

A *gas processing plant* that is close to a gas transmission pipeline, which extracts natural gas liquids from the gas and then returns the gas to the pipeline.

subsoil

The layer of soil directly below the *topsoil* that generally has much less organic matter than topsoil. It can also be defined as the zone below the ploughed soil in which roots normally grow.

surface abandonment

A stage in well *abandonment* that includes removal of all the wellhead equipment, but not the *down-hole abandonment* or the *reclamation* of the lease site.

surface water

Water in a watercourse such as a lake, river, stream or wetland. In some cases surface water is considered to include *groundwater* at a depth of not more than 15 metres beneath the surface of the ground.

suspended well

A well site where operations have been temporarily halted for economic, environmental or other reasons. The well may or may not have produced in the past. Wellhead equipment will still be present, but the *operator* must ensure that the well or facility is left in a safe and secure condition. A well must be suspended within 12 months after the last production or injection, unless it is an observation well or intended to produce for seasonal markets.

sweet gas

Gas that does not contain *hydrogen sulphide* (H₂S). If even a trace of H₂S is present a well is classed as a *sour gas* well.

synergy group

A group comprising local *landowners* and *residents*, representatives of the government and companies working together to exchange information and resolve issues related to oil and gas development. Other members may include municipal governments, Chambers of Commerce, and industry people from other sectors.

tight reserves

Oil and gas found in shale rock and other types of non-porous geological formations. This includes *shale gas*. Tight reserves are produced using *hydraulic fracturing*.

topsoil

The surface layer of mineral soil, often containing organic matter. It provides structure and nutrients needed for germination and growth of plants and usually an adequate medium for the germination and growth of plants. It normally contains the majority of the plant roots.

unrestricted country development

Any collection of permanent dwellings situated outside an *urban centre* having a density of more than eight dwellings per quarter section.

urban centre

A city, town village or hamlet with not fewer than 50 separate occupied dwellings.

venting

Venting occurs when *solution gases* from oil wells, *batteries* or tanks are released unburned to the air. Some venting may also occur from *compressor* vents, instrument gas stations, pneumatic devices, *dehydrators* and storage tanks. This release of unburned hydrocarbons to the atmosphere creates odours and exposure to potentially harmful substances. Vented gas also contributes to global climate change and wastes a non-renewable resource. Current AER regulations set standards for venting and allow venting of small volumes of gas where it is not considered practical to *conserve* or *flare* it.

Appendix F. Index

Note: **Bolded** numbers indicate main entries. *Italicized* numbers refer to diagrams.

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