



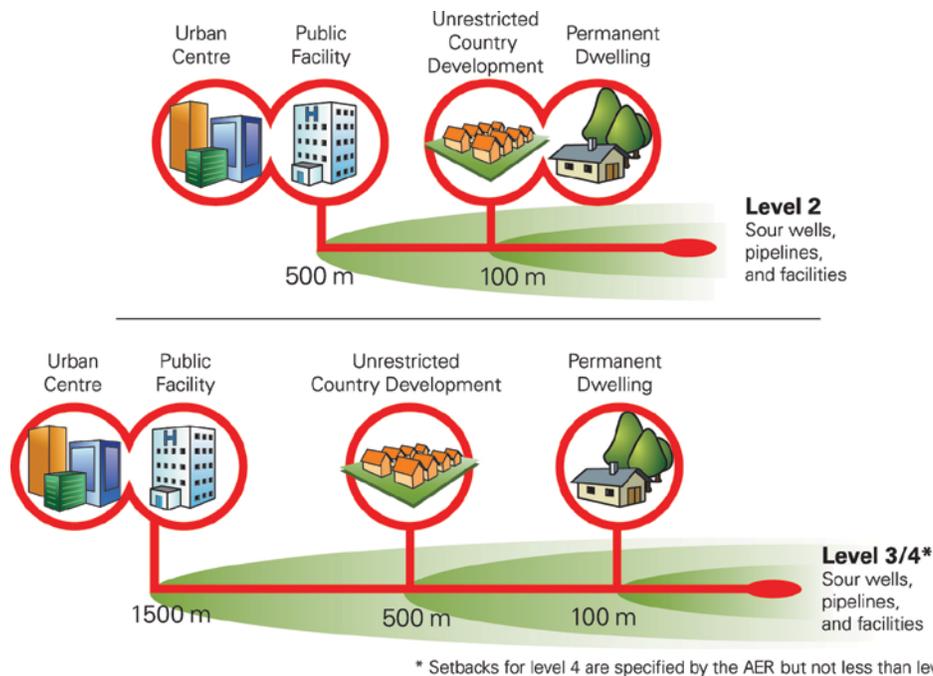
Explaining AER Setbacks

This EnerFAQs explains setbacks in the energy industry, how they are determined, and how they may affect Albertans and their communities.

» What is a setback?

A setback is the absolute minimum distance that must be maintained between any energy facility (for example, a drilling or producing well, a pipeline, or a gas plant) and a dwelling, rural housing development, urban centre, or public facility. Setbacks vary according to the type of development and whether the well, facility, or pipeline contains sour gas.





» **What is the AER’s definition of a “public facility”?**

The Alberta Energy Regulator (AER) examines each specific situation to decide if something is a public facility. When establishing setback distances, the AER does not consider simply any facility used by the public to be a public facility; it must also be a facility that is often used by a large number of people. It also considers the evacuation options that apply to that particular facility. For example, a large year-round campground containing many individual campsites may be designated a public facility under the AER’s definition, whereas a small, seldom-used campground may not.

» **What is the AER’s definition of “unrestricted country development”?**

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

» **Why are setbacks necessary?**

Setbacks prevent populated areas from developing too close to energy facilities and energy facilities from getting too close to people. In other words, setbacks provide a buffer zone between the public and the facility if there is a problem. To better understand the principle behind a setback, let’s compare it to a 30 kilometre per hour speed limit near a school playground. While this speed limit is not a “guarantee” of safety, statistics show that it is much safer to have one than to have no speed limit at all; the average

driver can stop quickly at this speed if faced with an emergency, such as a child suddenly running into the street.

The child's safety isn't guaranteed, but the odds are strongly in the child's favour with the low speed limit in place. In a sense, the AER's setback distances function as the energy industry's "speed limits."

» **How long have setback distances been in effect?**

Setback distances have existed, in various forms, for oil and gas operations since early production days (pipeline rights-of-way are a good example).

Established in 1976, new sour gas setback distances were immediately used by the energy industry. In 1979, provincial planning authorities formally adopted the same setback distances, so both the energy industry and all Alberta municipalities use these same guidelines when proposing and approving developments of any kind.

» **How are setback distances determined?**

Sour gas facilities are categorized by the AER into four hazard levels based on release rates for wells, release volumes for pipelines, and hydrogen sulphide (H₂S) content. There are predetermined setback distances for each level of sour gas facility. Once the appropriate level has been established for a particular facility, AER staff then examine the types of developments in the vicinity and how people typically use the general area. For example, AER staff would check to see if there are houses, schools, or hospitals close by. If necessary, a setback distance may be increased due to these types of developments.

» **What are release rates?**

The concentration of H₂S and how fast it is coming out of the ground determine the release rate.

» **What are release volumes?**

Release volumes are specific to pipelines. There is a fixed amount, or volume, of gas that can be released from any pipeline once the valves are closed—this is called the release volume. Pipelines are built with emergency shutdown valves installed at preset points along the pipeline. When the valves detect pressure drops in the pipeline, they close automatically, stopping the flow of gas through the pipeline and trapping the gas between the two valves closest to the rupture. That's all the gas that can escape, and the amount of escaping gas can be quickly calculated.

» **Why is H₂S content important?**

The higher the concentration of H₂S and the rate that it is released, the greater the potential for risk. That is why H₂S content and release rates are important factors in setback distances.

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- » **Why are setback distances different for a farm home than for a large campground?**
- Extra space is built into setback distances in the case of towns and major campgrounds to ensure that a proper evacuation can be carried out if necessary. It is much easier to evacuate one family than a great number of people or an entire community.
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- » **What if I live near a sour facility?**
- AER setback distances are deliberately designed so that the actual risk to people from sour gas facilities will be reduced to the lowest levels possible.
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- » **What safety precautions does the AER require of industry?**
- The energy industry is required to maintain safe operations at all of its facilities. With pipelines, for example, the industry has developed a number of important safety practices, such as specially designed block valves and different kinds of pipeline monitoring systems. In the case of drilling wells, industry must comply with strict blowout prevention measures.
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- » **What if I am already living within a sour gas setback distance?**
- Such situations are rare, as both the industry and the municipal planning authorities have followed the same setback guidelines for some time. If you have reason to believe that such a problem does exist for you, contact the operator of the facility or the nearest AER field centre.
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- » **May I develop my land if it falls within an AER setback?**
- Municipal authorities oversee land development and do not permit development where people will be living within the setback. However, lands affected by the setback for a pipeline, for instance, could be landscaped and used as green space. Note that municipal authorities do have setback restrictions for developments other than sour gas, such as road allowance restrictions. This question and others like it should be directed to your local municipal authority. AER advice is available to these authorities with reference to specific projects, as required.
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- » **Is there any way I can change a setback distance that affects my land?**
- Setback distances may be changed when either the rate or volume of the energy facility changes or when the type of development in the setback area is altered. Release rates and release volumes may change over time due to dropping production from a well or the H₂S content changing.
- An example of altering the purpose for which land is being used is if a landowner wishes to convert a large year-round campground that had been designated a public facility back to farmland and then build a home on it for the family. While the campground may have required a large setback by the planning authority because there could be many people in the camp, the single farm residence would

usually require a smaller setback, because it would be easier to notify and evacuate one family.

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- » **How do setback distances affect the future development of my hometown?** Setbacks may restrict a community development to a greater extent than an individual dwelling. For example, if your town wanted to expand through annexation, a 500 metre setback distance from any level-2 sour gas facility would be recommended, rather than the 100 metre setback distance facing an individual residence.
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- » **What is the difference between a setback distance and an emergency planning zone?** A setback is the amount of land serving as a buffer zone between people and energy facilities. An emergency planning zone, or EPZ, is the distance outward from a facility where people and the environment could be affected by a potential worst-case incident.
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- » **What happens if an energy company wants to drill a well or build a facility close to my home?** The AER requires that companies follow section 5.4, “Category Type and Minimum Consultation and Notification Requirements,” of *Directive 056: Energy Development Applications and Schedules* when dealing with landowners and occupants. The company must provide affected landowners and occupants with factual information regarding the facility and explain the potential land-use restrictions that may occur as a result of the development.
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- » **What if I object to this development?** For some applications, The AER requires that a company indicate in its application whether any of the landowners contacted have concerns about the application. The AER may direct the company to contact you again to explore ways to resolve any concerns you might have. Also, anyone who believes they may be directly and adversely affected by an energy resource application can file a statement of concern. See *EnerFAQs Expressing Your Concerns – How to File a Statement of Concern About an Energy Resource Project*.
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- » **Will I be compensated for the use of my land?** Decisions regarding compensation for placing energy facilities on your land do not fall under the AER’s jurisdiction, but are the responsibility of the Alberta Surface Rights Board. The Alberta Surface Rights Board may be reached at 780-427-2444.

» Additional Information

For more information on the AER and its processes or if you wish to speak with your local field centre or have general questions about oil and gas in the province of Alberta, contact the AER's Customer Contact Centre: Monday to Friday (8:00 a.m. to 4:30 p.m.) at 1-855-297-8311 (toll free).

This document is part of the EnerFAQs series, which explains the AER's regulations and processes as they relate to specific energy issues. Please visit www.aer.ca to read more of the EnerFAQs series.

Every year the AER collects, compiles, and publishes a large amount of technical data and information about Alberta's energy development and resources for use by both industry and the general public. This includes raw data, statistics, information on regulations, policies, and decisions, and hearing materials.

Publications may be either viewed at the AER library or obtained from the Information Product Services Section (IPSS). Both are housed on the tenth floor of the AER head office in Calgary. Publications may also be downloaded free of charge from the AER website www.aer.ca.

To obtain a print or CD copy of a specific publication, contact IPSS by phone (403-297-8190), fax (403-297-7040), or e-mail (infoservices@er.ca).

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