



Energy Operations
PNG Tenure Operations Branch
Petroleum Plaza - North Tower
9945 - 108 Street
Edmonton, Alberta
Canada T5K 2G6
www.alberta.ca

December 4, 2023

MINERAL RIGHTS INFORMATION BULLETIN 2023-02

SUBJECT: Administration of Geothermal Resource Tenure

This Information Bulletin (IB) rescinds and replaces IB 2022-02.

The revised IB outlines the business requirements and best practices for acquiring and maintaining a geothermal resource lease (geothermal lease).

Unless otherwise noted, references to legislation apply to the Geothermal Resource Tenure Regulation.

Application for Obtaining a Geothermal Resource Lease

The department accepts applications for geothermal leases from companies interested in exploring for and developing geothermal resources. These applications are necessary for any stand-alone geothermal operations that would occur below the base of groundwater protection. All geothermal lease applications must be submitted through the Electronic Transfer System (ETS).

The maximum size of a geothermal lease is nine sections, all of which must be laterally or diagonally adjoining and not separated by more than one section. Rights in the intervening section(s) must either be disposed or freehold.

Any set of Crown geothermal resource rights may be requested. This may include:

- surface to basement,
- surface to a specified zone,
- from a specified zone to basement, or
- for a specific zone(s).

While Crown rights are issued from the surface, only the geothermal resources below the base of ground water protection would be included in the geothermal lease.

Applications for a geothermal lease will be handled on a first-in, first-out basis and incomplete applications will be rejected. If multiple applications are received for the same rights and locations, or applications have overlapping rights requests, the department will work with the proponents of subsequent applications to amend (where possible) the original application.

Geothermal lease application requirements include:

- an overview of the proposed project;
- the type of technology the proposed project will use;
- the legal land description of the Crown rights being requested;
- the target formation;
- identification of other agreements (e.g., mineral, geothermal or carbon capture and storage), subsurface activities, or Crown Mineral Activity Authorizations located near the location of the geothermal rights being applied for, and if conflicts exist, identification of mitigation strategies to reduce conflict;
- who will be the registered lessee(s) and their percentage of ownership;
- if there will be more than one lessee associated to the lease, then who will be assigned the role of designated representative*;
- the official address of service for receiving notices;
- the \$625, non-refundable, application fee; and
- the first year's annual rental of \$3.50/hectare.

* The designated representative is delegated the responsibility for all communication with the department and is the person with whom the department will correspond. It is important that lessees understand that they will be bound by the decisions and actions of the designated representative they appoint.

There may be specific challenges associated with overlapping rights between stand-alone geothermal operations and mineral agreement holders. In these situations, requests for geothermal leases will be considered on a case-by-case basis.

Geothermal leases can only be issued to those who meet the eligibility requirements outlined in the *Mines and Minerals Act* (the Act). Please refer to the Crown Mineral Agreement/Geothermal Lease Holder Eligibility Guide available on the department's Alberta Electronic Transfer Systems support and online learning website.

Terms and Obligations of a Geothermal Lease

There are distinct terms within the lifecycle of a geothermal lease and each carries specific terms and obligations.



Requirements during the Initial Term

A geothermal lease is issued for an initial term of five years. Within the last year before expiry of the initial term, the designated representative (or someone authorized by the designated representative) may submit an application to request an intermediate term. The intermediate term application must include a Geothermal Assessment Report.

Geothermal Assessment Report

The Geothermal Assessment Report must detail efforts undertaken during the initial term of the lease to establish that the geothermal project is under active development. This assessment report will be used by the department to determine whether the lease would be eligible for another term.

The requirement that must be met to receive an intermediate term is evidence of the onsite physical work undertaken that demonstrates the geothermal resource and technical viability of producing geothermal energy. Consequently, activities not considered for intermediate terms are, but not limited to; desktop studies; re-interpretation of public geoscience or technical studies; or meetings that have occurred.

Examples of activities occurring during the initial term of the geothermal lease that would be considered, include:

- drilling a well(s);
- re-completing or deepening of existing well(s);
- testing wells;
- logging wells;
- surface infrastructure (e.g., pipelines, tanks, equipment supporting the extraction of heat or generation of power); or
- fluid sampling and bottom hole temperatures.

Requirements for a Geothermal Assessment Report are not prescriptive; therefore, it is best practice to include any relevant data that supports the project's viability as insufficient information could affect whether an application is approved. The department may request additional information, at any time, to assist its review.

If the continuation application is successful, the geothermal lease would advance into its intermediate five-year term after expiry of the initial term. If an application is not successful, the applicant would have the option to request the department to review its decision. The decision arising from the review will be final, and if not in favour of the lessee, the geothermal lease will terminate.

Note: Not all information submitted to the Alberta Energy Regulator (AER) is available to the department. The department can access wells, production data, and test data that are non-confidential and that have been entered into the AER system. Data that has been released from confidential status for less than three months, and data that has only recently been submitted (e.g., recent test or production data), may not be available to the department.

The department will treat all information submitted with the Geothermal Assessment Report as confidential.

Requirements during the Intermediate Term

Prior to the end of the five-year intermediate term, the lessee(s) must demonstrate to the department's satisfaction that the geothermal lease is productive (i.e., generating energy derived from the leased geothermal resources).

An application for an indefinite continuation term can be made:

- within the last year of the intermediate term; or
- with the department's consent, any time before the last year of the intermediate term.

The continuation application must include a discussion of the geothermal project and technical data evidence, including:

- geothermal recovery technology;
- the unique well identifier(s) of well(s) drilled or re-entered for geothermal purposes and the status/operation role;
- fluid and associated temperatures;
- fluid disposal;
- technical test and/or surveys undertaken; and
- record of heat and/or energy generation in the service of district heating and electricity generation and transmission (local or grid).

If the department considers the geothermal lease to be productive, then the geothermal lease would move to an indefinite continued term after expiry of the intermediate term.

There may be instances where the department considers a geothermal lease, or a portion thereof, not to be productive. If the geothermal lease (or portion) is considered not productive, a notice would be made to the applicant outlining the department's decision. The applicant may accept the notice or may request a review of the department's decision.

If a continuation application is not submitted prior to expiry of the intermediate term, the geothermal lease would terminate without exception and the rights would revert to the Crown.

Continued Term

A geothermal lease that is productive would be continued indefinitely; however, the department may, at any time, request information such as the results of any study, investigation, reconnaissance, or survey undertaken; and/or work, sampling, or assessments undertaken as part of the exploration, development, or recovery of geothermal resources.

Application Process

Applications for additional terms must be completed through ETS. A designated representative, or someone authorized by the designated representative, are the only ones who may submit an application for a further term. Please refer to the geothermal continuation and technical guidelines available on the department's Alberta Electronic Transfer Systems support and online learning website.

The Geothermal Resource Tenure Regulation does not allow for geothermal lease applications to be submitted after a term's expiry. Therefore, if an application for a further term is not received before the lease expiry, the geothermal lease will be terminated. As such, it is essential that an application is received before the lease expiry.

Best practice is to apply for further terms early and cease further activity, as well as suspend current operations, while waiting for a decision from the department. If operations continue after lease expiry and the applicant does not receive a favourable decision, then any activity conducted may be in trespass. Applying at least three months before the lease expiry should provide the department with sufficient time to review and provide a decision.

Request for Review

If an applicant wants to challenge the department's decision, the applicant may request a review of the decision. *Please ensure a request for review is complete as only one request for review is permitted.* The timeline to request a review would be outlined in the department's decision letter.

If new information is submitted to support a request for review, then it must relate to operations conducted before the expiry of the lease. Information submitted that relates to operations conducted after lease expiry would be ineligible.

Notice of Non-Productivity

A notice of non-productivity may be served when the department considers an indefinitely continued geothermal lease, in its entirety or a portion, to no longer be productive. The non-productivity notice provides one year from the date of the notice to re-establish indefinite continuation. An application for continuation must be made prior to the expiry of the notice period. If no application is received, or the geothermal lease is determined to be non-productive, the lease will be terminated.

Transfers

The Mines and Minerals Administration Regulation allows an agreement to be transferred (e.g., total transfer of ownership, partial location transfers, division, and consolidations). Please refer to the department's Alberta Electronic Transfer Systems support and online training website.

Surrenders

The Mines and Minerals Administration Regulation allows an agreement, either in its entirety or a portion, to be surrendered at any time if the agreement is in good standing. If the surrender is received in ETS after the annual rental due date of the agreement, that full rental must be paid otherwise the surrender request will be rejected. Please refer to the online surrender guide available on the department's Alberta Electronic Transfer Systems support and online training website.

Extension under the *Mines and Minerals Act*

The initial and intermediate terms of a geothermal lease are designed so that all necessary work can be completed during the terms of the lease to bring the lease to production. A best practice is to work diligently towards meeting obligations under the lease as it advances through successive terms.

Section 8(1)(h) of the Act provides discretion for the department to extend the term of an agreement. Extensions will be considered only when the obligation associated with the term of the agreement cannot be met due to extenuating circumstances beyond a company's control. Extension requests based on business decisions (e.g., late farm-in) or regular occurring circumstances, such as spring break-ups, would not be considered extenuating circumstances.

Extension requests may be applied for during the initial and intermediate term of a geothermal lease, when extenuating circumstances have prevented the lessee from demonstrating the project's viability or from establishing production. An extension request may also be made if there are extenuating circumstances that prevent the lessee from re-establishing productivity during the one-year period stipulated in the non-productivity notice.

An application for an 8(1)(h) extension must be made prior to the lease expiry. Extensions may be applied for through ETS detailing the situation and must include information such as:

- the reason for the request;
- the length of time needed for the extension;
- the operations performed during the previous time period;
- the timeline of contributing events;
- an explanation of why the applicant could not prove productivity during the original time allotted;
- an explanation outlining why the delays were beyond the applicant's control; and
- any other pertinent information or supporting documentation that would be beneficial (e.g., if the reason for the delay was an unforeseen or non-routine government requirement, please attach written evidence from the other government department or agency).

Extensions are discretionary and are not intended to be considered normal business practice. Each extension is evaluated on its own merits, and it may or may not be granted. The department may also provide a shorter extension than requested. All decisions regarding extensions are final.

Reinstatement of an Agreement

A reinstatement may be granted under section 8(1)(e) of the Act, which provides the department discretion to reinstate the whole or a portion of an agreement.

Agreements that have been surrendered or terminated (e.g., rental default) may be reinstated if the reinstatement is received within 60 days from the date on the cancellation letter. The designated representative or authorized applicant may request a reinstatement by submitting a letter outlining the reasons why a reinstatement is required, together with the reinstatement penalty of \$5,000, plus any applicable annual rental and interest.

Companies requiring additional information must contact the department to discuss their specific situation prior to submitting a reinstatement request, as the information required and decisions issued, are unique to each situation. Decisions regarding reinstatements are final. Please refer to Reinstatement Guide available on the Government of Alberta online training website.

Questions can be directed to: Energy.GeothermalTenure@gov.ab.ca

Contact: Dennis Stenerson
Acting Director, Crown Agreement Management.
PNG Tenure Operations

Authorized By: Steve Tkalcic
Executive Director,
PNG Tenure Operations