

**Ministry of Energy, Mines and Low Carbon Innovation**

**Guide to Acquire Storage Reservoir Exploration Licences and  
Storage Reservoir Licences**

May 2024



Ministry of  
Energy, Mines and  
Low Carbon Innovation

## Summary of revisions

| <b>Date</b> | <b>Section</b> | <b>Description</b>       |
|-------------|----------------|--------------------------|
| May 2024    | New Guide      | Storage Reservoir Tenure |

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The information in this guide is for your convenience and guidance and is not a replacement for the legislation or regulations. You can access the legislation and regulations online through [BC Laws](#).

## **Introduction**

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The Ministry of Energy, Mines and Low Carbon Innovation (ministry) administers petroleum and natural gas (PNG) rights in the form of tenure in accordance with the [Petroleum and Natural Gas Act](#) (PNGA).

There are two forms of tenure that can be utilized for storage or disposal: (1) petroleum and natural gas leases, known as PNG leases, issued in accordance with Part 6 or section 71 of the PNGA; and (2) storage reservoir licences issued in accordance with section 130 of the PNGA. Substances that can be stored or disposed of in a storage reservoir include natural gas, produced water, non-hazardous waste and carbon dioxide.

Storage or disposal under a PNG lease is limited to specific substances associated with oil and gas activities. A storage reservoir licence is required for storage or disposal where a proponent does not hold PNG rights, or for storage or disposal of substances not allowable under the authority of a lease, e.g., carbon dioxide from non-oil and gas sources.

If additional information on the geology and engineering properties of a potential underground storage reservoir is required to support an application for a storage reservoir licence, a proponent may apply to the ministry for a storage reservoir exploration licence (exploration licence), issued in accordance with section 126 of the PNGA. An exploration licence allows for application to the BC Energy Regulator (regulator) for activity permits, e.g., a well permit, to facilitate the drilling and gathering of data to support a storage reservoir licence application.

Application requirements for an exploration licence or storage reservoir licence are detailed in the [Petroleum and Natural Gas Storage Reservoir Regulation](#) (PNGSRR). This document is intended to provide additional guidance for the development of these applications. Should this guidance differ from the PNGSRR, the regulations prevail.

## **Non-exclusivity of licences**

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An exploration licence provides the non-exclusive right to perform activities, such as drilling a well to gather geologic and engineering information to support an application for a storage reservoir licence.

The use of a storage reservoir is a non-exclusive right and there may be situations where a storage reservoir could accommodate more than one user. For example, in a large storage reservoir where storage rights under an existing storage reservoir licence or PNG lease account for only a portion of the storage capacity, issuing an additional storage reservoir licence for the additional capacity in an overlapping location may be contemplated. Careful consideration of any potential impacts to existing storage reservoir licence or PNG lease holders would be taken into account.

## **Licence locations**

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### **Exceptions to locations**

Exploration licences and storage reservoir licences may be issued throughout BC, including on Crown and freehold lands, although some areas are excluded such as First Nation reserve lands, federal lands, ecological reserves and certain parks, most of the Lower Mainland (section 2 of the PNGSRR) and specific First Nation lands exempted through legislation (section 125.3 of the PNGA). The requested licence location must not include these areas, however, in some situations it may be useful to include geologic information for these areas, if available, that provide support for the requested licence location.

### **Considerations for scope of location**

The following should be taken into consideration when determining the scope of location for an application:

- For exploration licence locations, it is expected that applicants limit the geographic scope of the location to those areas where activities are planned or likely to occur. If the proposed location is not supported by a suitable rationale and workplan, the application may not move forward.
- The size of an exploration licence does not limit the size of a subsequent storage reservoir licence. Based on the results of the exploration activity or other supporting information, a storage reservoir licence may eventually be requested, and may be larger or smaller than an exploration licence.
- Proposed locations in an application for an exploration licence may be non-contiguous.
- Additional considerations are taken if exploration activities are proposed to be carried out within three kilometers of a mine or storage reservoir (section 126(4) of the PNGA).
- Storage reservoir licences will cover the anticipated extent of the reservoir plume.
- The minimum size of a storage reservoir licence is a normal spacing area for a natural gas well (see Appendix A for information on spacing areas).
- Storage or disposal can only occur within the location of a storage reservoir licence or PNG lease and requires the development or use of the storage reservoir to be designated as a special project under section 75 of the [Energy Resource Activities Act](#) (ERAA) issued through the regulator. Should an application for a storage reservoir licence or a special project designation overlap an area of a PNG lease location held by a different company, the applicant should seek to obtain control of storage in the licence location through agreement or obtain the rights of the lease location.

## **Storage reservoir exploration licence**

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### **Application requirements**

Content requirements for an application for an exploration licence are specified in section 3 of the PNGSRR. The following information must be included:

- a) A description and map identifying the proposed location, including the proposed geographic area and geologic formation(s). The geographic area request should be submitted as a shapefile, map, and a written description of the proposed area, based on the PNG grid units and/or Peace River Block sections. See Appendices A and B for information sources to identify geographic areas. The geological formation(s) requested should address all formations in which work is proposed to occur; ministry staff will determine the appropriate zone designation intervals to encompass the necessary formation(s).
- b) The potential type, source and volume of substances to be stored or disposed.
- c) A summary of geological and engineering knowledge relating to the nature of the requested formation(s), including respecting the cap rock zones, the intended confinement mechanism, and the suitability of the geologic formation(s) for storage or disposal of the substances referred to above. It is recommended that supporting information include discussions, maps (e.g. porosity, isopach, structure), interpreted geological cross-sections, and interpreted seismic maps/sections (if available) for the requested areas and formation(s).
- d) The rationale for the proposed location, including justification for the proposed geographic extent, and geological formation(s).
- e) A description and timeline of the proposed exploration work (e.g., seismic analysis, well drilling or testing) and comments on the additional information expected to be obtained through the proposed exploration work. Information should be provided for each formation and for any subsurface activities that are planned to or likely to occur.
- f) Information identifying each well or pool (see Appendix B for discussion on types of pools) that could be impacted by the proposed exploration work. It is recommended that these be illustrated on a map and listed in a table or excel file. Impacted wells or pools may include those in the requested location (same geographic area and same formation(s)), and those in the vicinity of the requested location (same geographic area but different formation, or in a geographic area near the requested location).
- g) Information identifying each holder of a lease, licence, permit or other interest under the PNGA or a lease or permit under the Geothermal Resources Act that could be impacted by the proposed exploration work. It is recommended that these interests be illustrated on a map and listed in a table or excel file. Impacted rights holders may include those holding interest in the requested location (same geographic area and same formation(s)) and those holding interest in the vicinity of the requested location (same geographic area but different formation, or in a geographic area near the requested location). See Appendix B for information sources regarding existing rights holders.
- h) Comments respecting the potential impacts of the proposed exploration work on each well or pool or the holders of leases, licences and other interest holders noted in (f) and (g).
- i) The requested term of a licence.

- j) The name and contact information of a registered professional responsible for preparing or reviewing the information for each of (c) to (h) (section 3(1)(j) of the PNGSRR).

A summary of engagement is optional. It is in the best interest of the applicant to engage with First Nations and potentially impacted communities, residents, and rights holders prior to submitting an application. Concerns that arise during consultation undertaken by the ministry may significantly delay the evaluation process or result in a licence not being issued.

Other information necessary to support the evaluation of the application may be requested by the ministry during the review process. Applications that do not clearly include all the required information, or adequate explanation as to why it is not included, will be considered incomplete.

### **Amendments**

An exploration licence may not be amended.

### **Request for renewal**

The holder of an exploration licence may submit a request for renewal. This request should include:

- a summary of the completed work to date;
- the rationale for renewal, including description of proposed exploration work and associated timelines;
- a requested term length; and
- a summary of engagement, if any.

Requests should be made at least 6 months prior to the expiry of the licence.

### **Transfer**

An exploration licence may be transferred subject to terms and conditions contained in the licence.

### **Licence fee**

The fee for an exploration licence or a renewal is \$500. Payment should be submitted at the time of application.

If the licence is not issued, the fee will be refunded.

There is no annual rent payable for an exploration licence.

## **Storage reservoir licence**

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### **Application requirements**

Content requirements for an application for a storage reservoir licence are specified in section 5 of the PNGSRR. The following information must be included:

- a) A description and map identifying the proposed location, including the proposed geographic area and geologic formation(s). The geographic area request should be submitted as a shapefile, map, and a written description of the proposed area, based on the PNG grid units and/or Peace River Block sections. See Appendices A and B for information sources to identify geographic areas. The geological formation(s) requested should address all formations in which storage is proposed to occur and may also need to include other formations in which supporting work (e.g. evaluation or monitoring) is proposed to occur. Ministry staff will determine the appropriate zone designation intervals to encompass the necessary formation(s).
- b) The type, source and volume of substances proposed to be stored or disposed of.
- c) A description, with supporting information, of
  - the nature and size of the proposed storage reservoir;
  - the nature of the proposed confinement mechanism; and
  - the suitability of the geologic formation(s) for storage or disposal of the substances referred to in item (b).

Supporting information may include maps (e.g., net porosity, isopach, structure mapping, anticipated plume size), interpreted geological cross-sections, interpreted seismic maps/sections for the requested areas and formation(s), as well as associated calculations or discussions to support the size and suitability of the requested location. More detailed information such as reservoir modelling and monitoring/closure plans is required when a storage reservoir licence holder applies to the BC Energy Regulator for the designation of the storage reservoir as a special project (see application guidelines for [carbon dioxide](#), [hydrocarbons](#), [acid gas](#) and [produced water](#)).

- d) A description of the proposed work relating to accessing, developing and using the storage reservoir and associated timelines.
- e) Information identifying each well or pool (see Appendix B for discussion on types of pools) that could be impacted by the proposed work. It is recommended that these be illustrated on a map and listed in a table or excel file. Impacted wells or pools may include those in the requested location (same geographic area and same formation(s)), and those in the vicinity of the requested location (same geographic area but different formation, or in a geographic area near the requested location).
- f) Information identifying each holder of a lease, licence, permit or other interest under the PNGA or a lease or permit under the Geothermal Resources Act that could be impacted by the proposed work. It is recommended that these be illustrated on a map and listed in a table or excel file. These impacted rights holders may include those in the requested location (same geographic area and same formation(s)) and those in the vicinity of the requested location (e.g., same geographic area but different formation, or in a geographic area near the requested location). See Appendix B for information sources to identify existing rights holders.
- g) Comments respecting the potential impacts of the proposed work on each well or pool or the holders of leases, licences and other interest holders noted in items (e) and (f).



- h) Name and contact information of the registered professional who is responsible for preparing or reviewing the information for each of items (c) to (g) (section 5(1)(h) of the PNGSRR).
- i) If storage or disposal is requested for depths shallower than the minimum specified in section 9 of the PNGSRR, include comments on any potential impacts to groundwater.

The application may include a summary of any engagement carried out in relation to the application. It is in the best interest of the applicant to engage with First Nations and potentially impacted communities, residents, and existing rights holders prior to submitting an application. Should concerns arise during the evaluation of the application, the evaluation process may be significantly delayed or result in a licence not being issued.

Where development and use of a storage reservoir under the rights of a PNG lease is underway, a streamlined application process can be used to obtain a storage reservoir licence in the same location for storage or disposal of substances not allowable under a lease, e.g., for rights to store carbon dioxide from non-oil and gas sources. If the applicant holds storage rights under a PNG lease for the same location as the storage reservoir licence application and the development and use of the storage reservoir has been designated a special project under section 75 of ERAA, only the following information is required in an application:

- a description of the storage reservoir, including its geographic area, geologic formation(s) and the confinement mechanism used; and
- the type, source and volume of substances proposed to be stored or disposed of in the storage reservoir.

Other information necessary to support the evaluation of an application may be requested by the ministry during the review process. Applications that do not clearly include all the information specified in the regulation, or adequate explanation as to why it is not included, will be considered incomplete.

### **Term**

The term of a storage reservoir licence is 15 years.

### **Request for amendment**

The holder of a storage reservoir licence may request an amendment. The request should include:

- the proposed amendment; and
- the rationale for the amendment.

### **Request for extension**

Extensions to a storage reservoir licence may be granted if:

- additional time is necessary to conclude consultation on renewals or complete a renewal request; or
- no more than two years are necessary to close down operations of the storage reservoir.

Requests for extension should include:

- the requested length of extension; and
- rationale for the extension.

Requests should be made at least two months prior to the expiry of the storage reservoir licence.

### **Request for renewal**

A request for renewal of a storage reservoir licence should include:

- a description of activities undertaken during the existing licence term;
- proposed activities under the new licence;
- any changes requested to the licence;
- rationale for renewal and any changes; and
- a summary of engagement, if any.

Requests should be made at least six months prior to the expiry of the storage reservoir licence.

### **Request for transfer**

A transfer of a storage reservoir licence must be approved by the Minister. A request for a transfer should include:

- licence number and name of current holder;
- name and contact information for the proposed holder;
- reason for transfer;
- description of activities undertaken during the existing licence term; and
- discussion or plan for continuing development or operations of the storage reservoir.

### **Licence fee and rentals**

The fee for a storage reservoir licence or renewal is \$200. The annual rent for a storage reservoir licence is \$7.50 per hectare. The licence fee and the first annual rent payment are due at the time of application. Subsequent rent payments are due on or before the anniversary date of the licence.

The initial rent payment should be based on the proposed licence size (see Appendix B for further detail), and if this estimate differs from the issued size the ministry will collect or refund any difference owing.

If the licence is not issued, the fee and rental will be refunded.

If a licensee fails to pay annual rent on time, late payment fees or cancellation of the licence will apply. See section 15 of the PNGSRR for details.

## **General requirements for submission of applications and requests**

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Submissions must include:

- name, phone number and e-mail address of key contact;
- the date; and
- company logo/letterhead;

Submissions are to be sent via e-mail to [PNGTitles@gov.bc.ca](mailto:PNGTitles@gov.bc.ca).

## **Ministry review**

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Applications and requests are reviewed for completeness and technical merit. Ministry staff will contact you if there are any questions or issues regarding your application or request. Complete applications are generally evaluated in the order they are received.

## **Contact information**

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Ministry of Energy, Mines and Low Carbon Innovation  
Energy Resources Division  
Tenure and Resource Stewardship Branch

Telephone: 250-952-0333

Email: [PNGTitles@gov.bc.ca](mailto:PNGTitles@gov.bc.ca)

**Mailing address:**

PO Box 9326, Stn Prov Gov't  
Victoria, BC V8W 9N3

**Location:**

4<sup>th</sup> Floor, 1810 Blanshard Street  
Victoria BC V8T 4J1

## Appendix A: Spacing areas and the PNG grid

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A gas spacing area (GSA) is made up of four units of the PNG grid or one section of the Peace River Block.

The centre of one GSA of the PNG grid is the intersection of four blocks of the grid. Example: 1 GSA = unit 100 of Block A; unit 91 of Block B; unit 1 of Block G; unit 10 of Block H, or any other four-unit group moving outward in an adjacent manner.

|                         |     |     |     |     |                         |     |     |     |     |
|-------------------------|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|
| 025                     | 024 | 023 | 022 | 021 | 030                     | 029 | 028 | 027 | 026 |
| <b>094-H-04 Block G</b> |     |     |     |     | <b>094-H-04 Block H</b> |     |     |     |     |
| 015                     | 014 | 013 | 012 | 011 | 020                     | 019 | 018 | 017 | 016 |
| 005                     | 004 | 003 | 002 | 001 | 010                     | 009 | 008 | 007 | 006 |
| 1 GSA                   |     |     |     |     |                         |     |     |     |     |
| 095                     | 094 | 093 | 092 | 091 | 100                     | 099 | 098 | 097 | 096 |
| 085                     | 084 | 083 | 082 | 081 | 090                     | 089 | 088 | 087 | 086 |
| <b>094-H-04 Block B</b> |     |     |     |     | <b>094-H-04 Block A</b> |     |     |     |     |
| 075                     | 074 | 073 | 072 | 071 | 080                     | 079 | 078 | 077 | 076 |

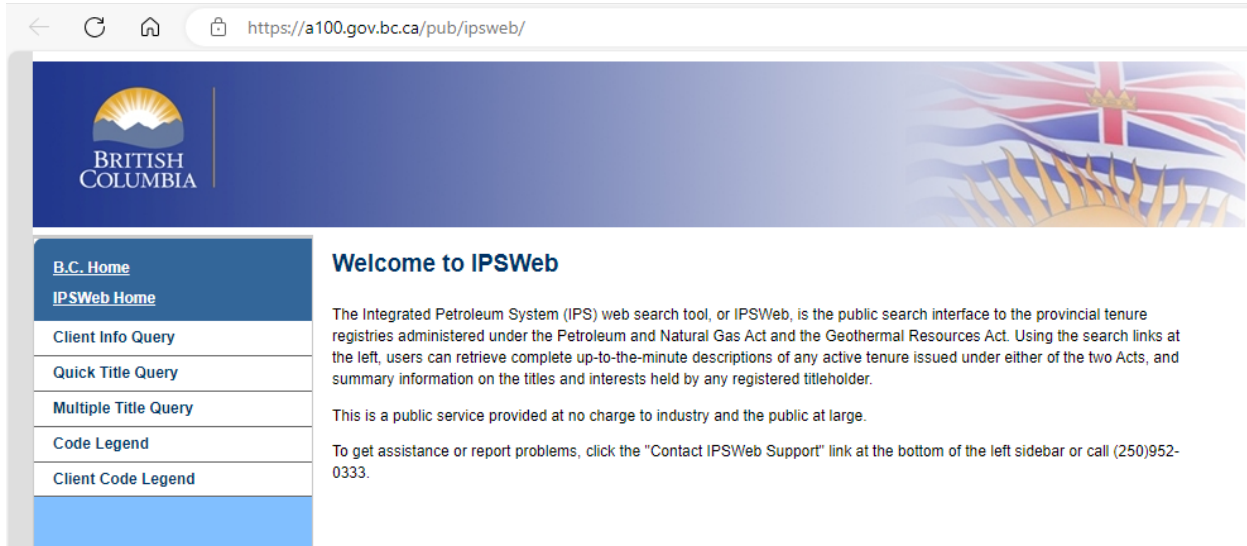
Applications can be made for other than normal spacing (OTNS) areas. The OTNS areas exist where the Peace River Block adjoins the PNG grid and in areas adjacent to British Columbia's jurisdictional boundaries where partial GSAs are added to full GSAs. If you are submitting a request for OTNS areas around the Peace River Block, please see the [Gas Spacing Map for the Peace River Block](#). For more information about the PNG grid, see the [Petroleum and Natural Gas Grid Regulation](#).

See Appendix B for shapefile links for the PNG grid and gas spacing areas.

## Appendix B: Information sources

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The [Integrated Petroleum System \(IPS\) web search tool](#), or IPSWeb, is the public search interface to the provincial tenure registries administered under the *Petroleum and Natural Gas Act* and the *Geothermal Resources Act*. Using the search links, users can retrieve current descriptions of any active tenure issued under either of the two acts, and summary information on the titles and interests held by any registered titleholder:



### Shapefile for subsurface tenure

- [ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG\\_Tenure/](ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG_Tenure/)
- If the FTP site does not open in your web browser, it may be accessed via another method, such as copying the file path to File Explorer, Finder or equivalent, or using a dedicated FTP program. The FTP site includes spatial data for both PNG\_Active\_Tenure and PNG\_All\_Tenure. Applicants are advised to use the Active Tenure data, which excludes inactive tenure (e.g. cancelled/unsold tenure). The All Tenure data includes both active and inactive tenure. For help interpreting the data fields and abbreviations in the shapefiles, refer to the supporting metadata file in the ftp site, and the search links in IPSWeb for Code Legend and Title Query.
- Shapefiles are typically updated monthly. Applicants may also contact [PNGTitles@gov.bc.ca](mailto:PNGTitles@gov.bc.ca) to request a more current version.

### Shapefile for PNG grid (and Peace River block)

- [ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG\\_Grid/](ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG_Grid/)
- If the FTP site does not open in your web browser, it may be accessed via another method, such as copying the file path to File Explorer, Finder or equivalent, or using a dedicated FTP program.

### **Shapefile for gas spacing areas**

- [ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG\\_Grid/On%20Spacing%20Grid/](ftp://ftp.mem.gov.bc.ca/Outgoing/CSGISS/PNG_Grid/On%20Spacing%20Grid/)
- If the FTP site does not open in your web browser, it may be accessed via another method, such as copying the file path to File Explorer, Finder or equivalent, or using a dedicated FTP program.

### **Pools**

- There are two data sources for oil and gas pools, one published by the ministry and one published by the regulator. Ministry and regulator pools are often similar but differ in some cases due to different information or criteria considered by the ministry and regulator, and the timing of the pool information reviews by the ministry and regulator. Oil and gas pools that the ministry recognizes as having been delimited through the exploration and development work of industry are represented by Ministry Oil and Gas Land Plats (land plats). When delimiting the land plats, the ministry considers regulator pools as well as additional geological and engineering, and geophysical information provided to the ministry as part of lease continuation applications. It's recommended that applicants review both pool data sources, consider the similarities/differences, and identify all relevant pools. Shapefiles and additional information for the two pool sources can be found here:
  - Ministry pools: [Guide to Oil and Gas Land Plats and Tenure Areas](#); and
  - Regulator pools: <https://www.bc-er.ca/data-reports/data-centre/>.

## **Appendix C: Calculating the size of a tenure**

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The Ministry maintains two data sources to support calculations of the size of a tenure:

- an [annotated map of the spacing areas within the Peace River Block](#); and
- an Excel workbook listing each unit within the NTS-based system ([NTS Unit Areas](#)) used to describe lands outside the Peace River Block.

As you will see in these sources, the smallest subdivision areas are expressed as decimal portions of a hectare. To arrive at the correct estimate for the purpose of rental calculation, sum the individual areas of the sub-divisions within your lease, and round to the nearest whole hectare only as the final step. Please send an email to [PNGTitles@gov.bc.ca](mailto:PNGTitles@gov.bc.ca) if you would like assistance in the use of these data sources.