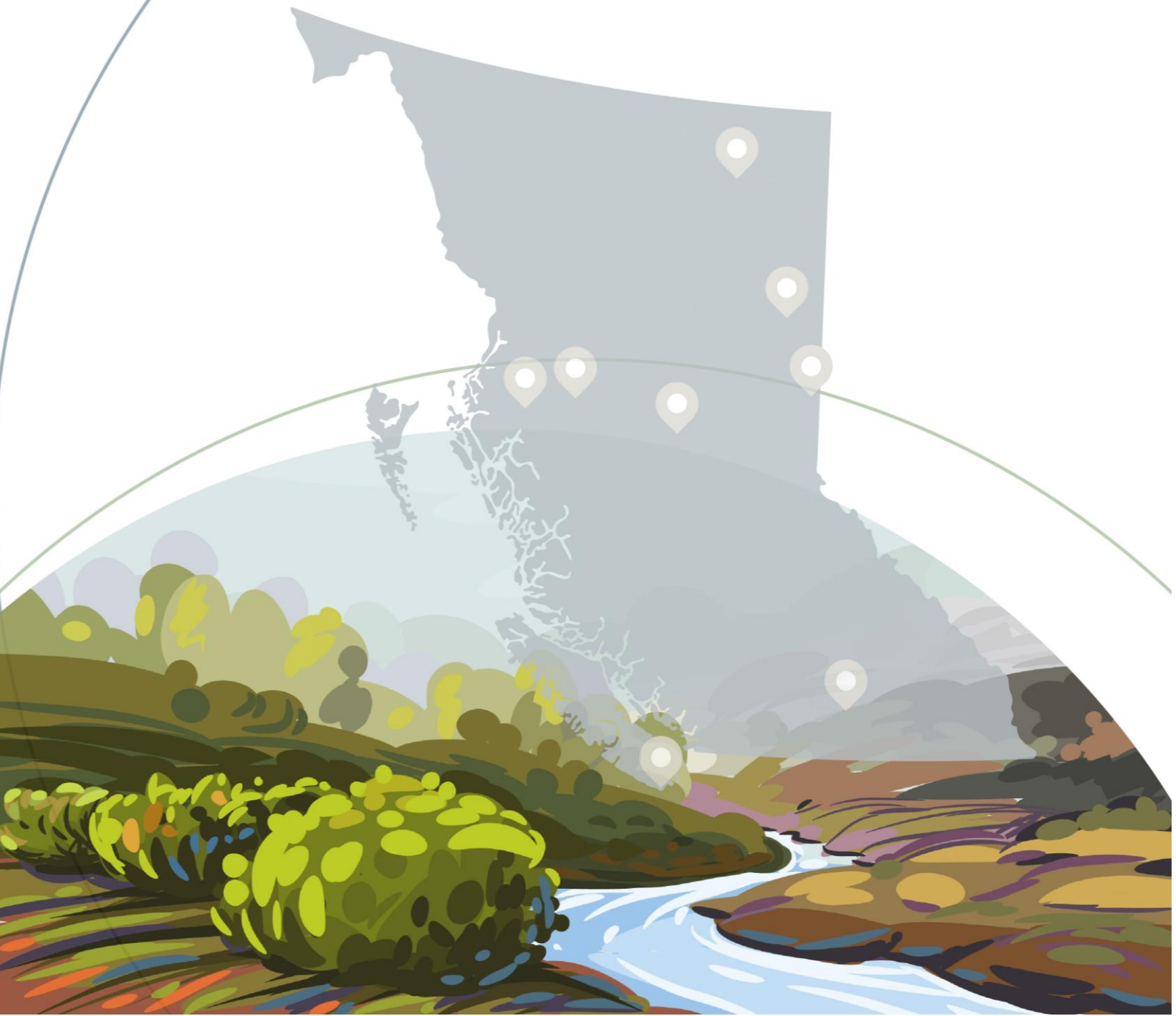
Energy Resource Activity Application Manual

VERSION 2.2: September 2026

BRITISH COLUMBIA **ENERGY REGULATOR**



About the Regulator

The BC Energy Regulator (Regulator) is the single-window regulatory agency with responsibilities for regulating energy resource activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Regulator's core roles include reviewing and assessing applications for industry activity, consulting with First Nations, ensuring industry complies with provincial legislation and cooperating with partner agencies. The public interest is protected by ensuring public safety, protecting the environment, conserving petroleum resources and ensuring equitable participation in production.

Vision, Mission and Values

Vision

A resilient energy future where B.C.'s energy resource activities are safe, environmentally leading and socially responsible.

Mission

We regulate the life cycle of energy resource activities in B.C., from site planning to restoration, ensuring activities are undertaken in a manner that:

- Protects public safety and the environment
- Supports reconciliation with Indigenous peoples and the transition to low-carbon energy
- Conserves energy resources
- Fosters a sound economy and social well-being



Values

Respect is our commitment to listen, accept and value diverse perspectives.

Integrity is our commitment to the principles of fairness, trust and accountability.

Transparency is our commitment to be open and provide clear information on decisions, operations and actions.

Innovation is our commitment to learn, adapt, act and grow.

Responsiveness is our commitment to listening and timely and meaningful action.

Table of Contents

About the Regulator 2

Additional Guidance 5

Manual Revisions 7

1. Overview of Energy Resource Regulations and Application Process 9
   1.1 Regulator's Permitting Authorities 10
   1.2 Regulator's Application Process 11
   1.3 Applicant Obligations 21
   1.4 Compliance and Enforcement 25
   1.5 Regulator Authority under Section 26 of ERAA 25
   1.6 Freedom of Information & Protection of Privacy 26
   1.7 Professional Reliance 27
2. Requirements for First Time Applicants 29
   2.1 New Business Associates 29
   2.2 Master Licence to Cut 31
3. Application Management System Submission Process 32
   3.1 Application Management System Dashboard 33
   3.2 Creating a New Application 34
   3.3 Uploading Spatial Data 39
   3.4 Application Management System Business Identification Numbers 39
   3.5 Completing an Application 42
   3.6 Data Field Completion 44
   3.7 Paying Application Fee(s) 47
   3.8 Review Process 47
4. Completing Activity Details 48
   4.1 Well Activity Tab 49
   4.2 Pipeline Activity Tab 71
   4.3 Facility Activity Tab 86
   4.4 Geophysical Activity Tab 109
   4.5 Road Activity Tab 115
   4.6 Associated Activity Tab 125
   4.7 Short-Term Water Use 142
   4.8 Changes in and About a Stream 164
5. Completing Application Information Details 174
   5.1 Application Management System Administration Tab 175
   5.2 Land Tab 176
   5.3 Agriculture Land Reserve Information Tab 177
   5.4 Forestry Information Tab 191
   5.5 Archaeology Information Tab 196
   5.6 Environmental Stewardship 206
   5.7 Maps and Plans Information Tab 216
   5.8 Application Attachment Information Tab 226

6. Requirements for Engagement/Completing Application Information Details 227
6.1 Requirements for Consultation and Notification Regulation 228
6.2 Rights Holder Engagement 258
6.3 First Nations 272
7. Canadian Energy Regulator Reviewable Projects 277
7.1 Regulators Approval Authorities 278
7.2 Preparing, Planning & Application Requirements 278
7.3 Guidance Requirements 279
7.4 Application Processes 282
7.5 Application Review & Determination 287
8. Reviews and Appeals 288
8.1 Review Request 288
9. Permit Management 291
9.1 Permit Notification; 15-day Waiting Period 291
9.2 Permit Term and Expiry 292
9.3 Amendment Applications 293
9.4 Permit Surrender and Cancellation 293
9.5 Permit Transfer 294
10. Prescribed Transmission Lines 295
10.1 Regulator's Approval Authorities 295
10.2 Preparing, Planning & Application Requirements 296
10.3 Environmental Protection and Management 296
10.4 Application Processes 299
10.5 Application Review & Determination 303
Appendix A: Technical and Engineering Pipeline Assessment Requirement Clauses per CSA Z662 305
Appendix B: Detailed Engineering Application Requirements for Gas Plants 307
Appendix C: Facility Changes Requiring an Amendment 315
Appendix D: Facility Changes Where No Amendment or NOI is Needed 316
Appendix E: Aggregate Operation Application Process 317

Energy Resource Activity Application Manual

Written by the Regulator, the Energy Resource Activity Application Manual is a comprehensive how-to document for energy resource and related applications. This manual explains the Regulator's Application Management System (AMS) for oil and gas, energy resource and related permits.

This manual is intended for applicants requiring permits for energy resources and associated activities. Many industry applicants are familiar with application procedures and operate with a good knowledge of the legal and regulatory requirements and this manual provides a quick reference. Other users may be less familiar with the procedures; therefore, this manual delivers a complete overview of the Regulator's application process. Land owners, stakeholders and other interested parties keen on understanding the Regulator's application process – especially the how, why and what is approved can use this manual. It brings together the pieces of applying for different energy resource permits and is a good resource in knowing just how involved the application and decision making process is for both industry and the Regulator.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Additional Guidance

As with all Regulator documents, this manual does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Regulator staff for clarification.

The Regulator publishes both application and operations manuals and guides. The application manual provides guidance to applicants in preparing and applying for permits and the regulatory requirements in the planning and application stages. The operation manual details the reporting, compliance and regulatory obligations of the permit holder. Regulator manuals focus on requirements and processes associated with the Regulator's legislative authorities. Some activities may require additional requirements and approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities. For example, Federal Fisheries Act, Transportation Act, Highway Act, Workers Compensation Act and Wildlife Act.

Throughout the manual there are references to guides, forms, tables and definitions to assist in creating and submitting all required information. Additional resources include:

- Glossary and acronym listing on the Regulator website.
- Documentation and guidelines on the Regulator website.
- Frequently asked questions on the Regulator website.
- Advisories, bulletins, reports and directives on the Regulator website.
- Regulations and Acts listed on the Regulator website.

In addition, this manual references some application types and forms to be submitted outside of the Application Management System but made available on the Regulator's website. Application types and forms include:

- Heritage Conservation Act, Section 12.2 and Section 12.4
- Road use permits
- Water licences
- Master licence to cut
- Certificate of restoration
- Waste discharge permit
- Experimental scheme application

Manual Revisions

The Regulator is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the Energy Professionals section of the Regulator's website. Stakeholders are invited to provide input or feedback on Regulator documentation to Systems@bc-er.ca or submit feedback using the feedback form.

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
2.2	September 11, 2026	February 27, 2026	4.7.2, 4.7.3	Section 4.7.2: correction to clarify there are activities exempted from requirements to hold an authorization. Section 4.7.3: updated to include operational guidance for persons exempt from the requirement to hold and authorization under the WSA for the construction of ice roads. For more information, refer to Technical Update 2026-05
		July 31, 2026	Various	Updated to reflect changes to NEWT and Water Portal requirements. For more information, refer to Technical Update 2026-15.
		October 1, 2026	Table 6-A, 6.1.9, 6.1.10, 6.2.7	Updated to reflect changes to the Requirements for Consultation and Notification Regulation. Table 6-A: Ministry of Transportation and Infrastructure 9(a-b) and Municipal Council 9(a-b) "Test of Obligation to Provide an Invitation to Consult". Section 6.1.9: removed the mention of facilitation services as this is no longer relevant. Section 6.1.10: added requirement for consultation and notification letter to the Engagement supporting documentation list.

				Section 6.2.7: added requirement for consultation letter to the AMS Rights Holder Engagement Tab. For more information, refer to Technical Update 2026-16.
			4.5.4	Updated the Road Use Permit section.

Chapter 1

Overview of Energy Regulations and Application Process

1. Overview of Energy Resource Regulations and Application Process

Companies looking to explore, develop, produce, and market energy resources in British Columbia must apply to the BC Energy Regulator (Regulator) for activity permit(s). The Regulator's role in permitting energy resource activities is defined by the Energy Resource Activities Act (ERAA).

Effective Sept. 1, 2023, the Energy Resources Activities Act (ERAA) replaced the Oil and Gas Activities Act and expanded the BCER's responsibilities to include the regulation of hydrogen, ammonia, and methanol. The definition of "oil and gas activity" is repealed and replaced with "energy resource activity". The new definition highlights that, in addition to having jurisdiction over the exploration and production of natural gas, the BCER is now explicitly responsible for the oversight of the "construction or operation of a facility for manufacturing hydrogen, ammonia or methanol from petroleum, natural gas, water or another substance".

The Regulator operates within a legal framework embodied in the collection of acts, regulations, standards, practice requirements and management plans governing the mandate of the Regulator and provides a single-window model for energy resource and associated activity operating permits.

Operators apply to the Regulator, and the Regulator reviews, assesses and makes decisions on applications. This consolidated single-window authority provides not only a one-stop place for all energy resource and associated activity requirements, but a consistent application, decision, regulatory and compliance authority. Stakeholders work with one agency, therefore serving the public interest by having an all-encompassing review process for energy resource activities.

In its day to day operations, the Regulator is focused on coordinated, responsive and responsible decision-making. Decisions are made while protecting public safety, respecting those affected by energy resource activities, conserving the environment, and facilitating equitable participation in production.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Please Note:

The Energy Resource Activities Act defines both energy resource activity and related activities and the Regulator adheres to the definitions. The Regulator's glossary and acronym listing is an extension of this manual and defines terms used throughout the energy resource activity. Applicants and permit holders should refer to the glossary to understand the exact definition of terminology as it may differ from other regulatory bodies. Due diligence is required to ensure proper understanding of terms, acronyms and legislation.

1.1 Regulator's Permitting Authorities

The Regulator's specific permitting authority is defined in the Energy Resource Activities Act (ERAA). In order to effectively function as a single-window regulator for energy resource activity in British Columbia, delegation agreements are in place to allow the Regulator to make decisions on certain energy resource and restoration activities within the parameters outlined in those agreements. In addition, certain authorizations granted through specific Acts provide the Regulator permitting powers under specified enactments.

Permits and authorizations granted by the Regulator include:

- Energy resource activity permits under the Energy Resource Activities Act, including well, pipeline, facilities, road and geophysical permits.
- Associated activity authorizations under the Petroleum and Natural Gas Act or Land Act, as applicable, including activities such as investigative use, aggregate operations, work spaces and camp sites.
- Authorizations and approvals under the Water Sustainability Act, including authorizations and approvals for changes in and about a stream, short-term water use and water licences.
- Non-farm use of lands included in the Agriculture Land Reserve (ALR), under delegated authority under the Agriculture Land Regulator Act.
- Master licences to cut and cutting permits and road use permits under the Forest Act.
- Archaeology-related permissions under the Heritage Conservation Act.
- Restoration activities under the Land Act

Specific provincial authorizations related to pipelines subject to the Canadian Energy Regulator Act.

The Regulator provides regulatory oversight at every stage of energy resource development, working with a broad range of stakeholders. Regulator staff have the legislative authority to make decisions on proposed energy resource activities. In addition, the Regulator:

- Tracks permit holder compliance.
- Reviews operational submissions.
- Provides guidance and processes for operators to submit applications and operational requirements.
- Conducts inspections and responds to incidents.
- Takes compliance and enforcement action when needed.

Other Regulatory and Technical Considerations

In addition to the regulatory and technical considerations outlined in this manual, applicants and permit holders should be familiar and understand other provincial and federal regulations, local authority requirements, industry recommended practices, Canadian Standards Association, labour board laws, and workers compensation rules in order to operate in British Columbia.

1.2 Regulator's Application Process

Companies must adhere to the Regulator's application requirements throughout the entire application process. As shown in Figure 1-A, once pre-application requirements are complete, companies prepare and compile the relevant information for submission to the Regulator. Following application submission, the Regulator conducts a comprehensive technical review of the application based on the characteristics, location and circumstances of the activity.

Permits must be in hand before conducting any activity. Permits may have timelines and/or conditions attached and all conditions must be adhered to. Amendments are required to change or adjust existing permits. Amendment applications must be submitted to the Regulator.

This manual focuses on the requirements for the planning and preparation stages and application submission requirements for energy resource and associated activity permits. The Regulator website provides documentation for the latter stages of energy resource development, including operations, compliance, emergency management and remediation and reclamation. Those areas are out of scope of this manual.

1.2.1 Pre-Application Requirements

Pre-application requirements include securing tenure rights and conducting the required consultation and notification and/or engagement with land owners and/or rights holders. Applicants are also encouraged to engage First Nations prior to submitting an application.

Planning of energy resource activity should take into consideration the entire lifecycle of the project and the environmental and social impact of the proposed project. The Regulator makes available documents and data in the public zone of the website to assist in the pre-planning stages including:

- GIS data.
- Major projects coordination and information.
- Public engagement.
- Water information resources.
- Air quality.

The Application Analysis Tool within the Application Management System can be used to assist with pre-application requirements.

Applications require engineering and technical information and this manual provides assistance in preparing complete and accurate data, attachments and requirements. This applies to both the company and agent or representative submitting information on behalf of the company.

Required Consultation and Notification

Consultation and notification activities are outlined in Chapter 6 of this manual. This formalized public engagement process allows land owners and affected

parties to express concerns about proposed energy resource activity and encourages companies to work proactively and collaboratively with those affected by energy resource activity.

First Nations Pre-Engagement

Applicants are encouraged to work with First Nations to consider any environmental, heritage and/or community concerns impacted by energy resource activity. The Regulator suggests applicants initiate and build relationships with First Nations communities by discussing the proposed activities with the communities during the project planning phase and to continue the relationship throughout the project lifecycle.

While not required prior to application, engagement with the public and First Nations within a pre-determined Emergency Planning Zone for Emergency Response Contingency Plans is encouraged since emergency plans must be in place for well, facility and pipeline permit holders prior to operation.

Surface Agreements on Private Land

The Regulator may permit the construction and operation of energy resource activities on private land, but access is subject to a land owner agreement. If an agreement with the land owner cannot be made, the applicant or land owner may apply to the Surface Rights Board for assistance.

1.2.2 Application Submission and Review

To submit an application, operators access the Regulator's Application Management System (AMS). AMS is an online electronic application submission system, for the majority of energy resource and associated activities. Operators may apply for a single activity or multiple activities at the same time.

The application system utilizes spatial data submitted by the applicant to verify geographic location of proposed energy resource activity. The spatial data is an important component since it highlights both the activity and land required. The application system is prompted to automatically activate the specific application tabs based on the activity chosen and the spatial data. Applicants then move through a series of windows within AMS and are prompted to input engineering

and/or technical data into the required fields. Additional supporting information may be required in the application information tabs.

The dashboard page serves as a home page once logged into AMS and provides the status of all applications.

Applications are validated by AMS to ensure all required fields and attachments are completed. Validation must be done before users may submit an application. Applicants can validate the application at any time however, the system will not allow submission of incomplete applications. Within the application tabs there is an overview menu which highlights all outstanding issues that must be addressed before the application can be submitted. The dashboard page can be utilized to follow the status of the application from data entry through to review and decision.

The application system and spatial data requirements are discussed further in Chapter 3 of this manual. Application requirements based on activity and geographic location are detailed in Chapters 4 -7 of this manual.

Please Note:

An application that has had no activity for three months will appear on the dashboard with a status of "Timed Out", and then, after an additional three months of "Timed Out" status, the application is removed from the system. Once removed, the application cannot be retrieved.

1.2.3 Application Review

Once complete, the application is submitted to the Regulator for review. As shown in Figure 1-A, the Regulator conducts a wide range of technical reviews and carries out First Nations consultation during the review and determination process. Technical reviews include engineering (facilities, pipelines or drilling and production), land and habitat, forestry, agriculture, archaeology and environmental management.

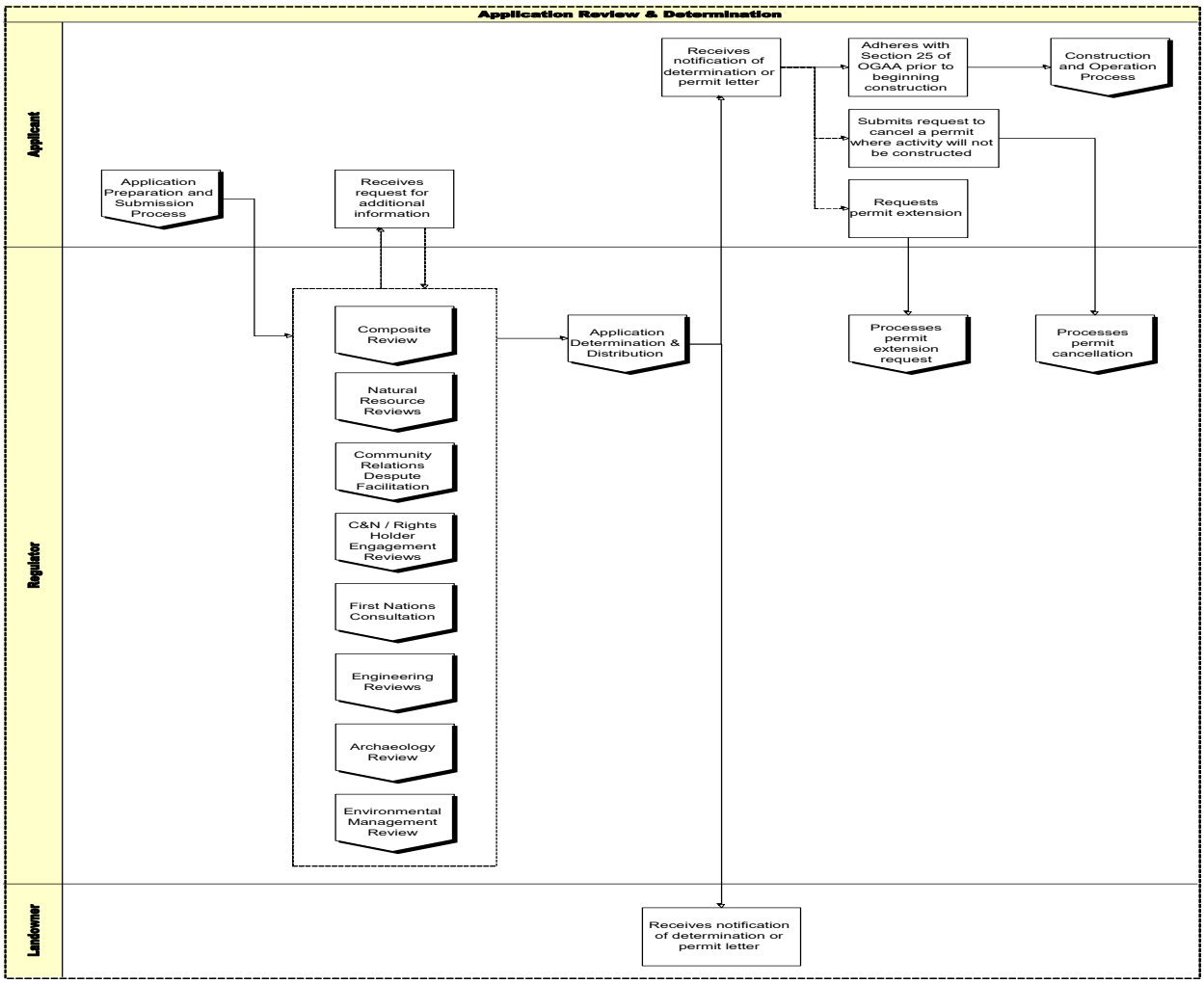
During the review and determination process, the Regulator conducts a wide range of engagement processes, actively liaising with First Nations, stakeholders, land owners and partner agencies. If the Regulator finds minor and/or major

deficiencies, the Regulator contacts the applicant to clarify details, make revisions and/or provide additional information.

Applicants are able to monitor the status of an application by logging into AMS and checking on the status of the application in the dashboard.

The review process is also supported by dispute facilitation services offered by the Regulator's Community Relations department to aid in communication and resolve interest-based differences between applicants and recipients. Further information on the consultation and notification process is detailed in Chapter 6 of this manual.

Figure 1-A: Application Review and Determination Process



Amendments to Permits

Permit holders must submit an amendment application to add, modify or change any permitted energy resource activity and/or associated activity except those activities that meet the criteria for notification. An amendment can include requests for multiple changes to a permit. Multiple amendment applications cannot be submitted for the same permit at the same time. The Regulator will consider only one amendment application per permit at a time.

Engagement, consultation and notification requirements must be met if changes create alterations to the previous engagement, consultation and/or notification.

Please Note:

AMS will restrict the ability to create a duplicate proposed amendment application when an existing amendment application exists with a status of 'In Progress', 'In Revision', or 'In Review'.

Application Withdrawals

A request to withdraw an application must be received by the Regulator from the applicant company after the application has been submitted but prior to a decision being made on the application.

Requests for application withdrawal are made by letter or email submission to a Regulator Authorizations Director. Once a withdrawal request is made, the Regulator review team must accept the withdrawal. The application fee is charged to all applications submitted, regardless of whether or not a permit is granted. Once a withdrawal request is accepted by the Regulator, the application remains visible on the dashboard page, symbolized by an "x" icon. The dashboard page is discussed in further detail in Chapter 3 of this manual.

Applications not yet submitted may be discarded by authorized users without any acceptance by the Regulator. Once discarded, all data will be deleted and cannot be retrieved. A new application must be created if the applicant later decides to proceed with the application.

Application Revision

If the Regulator finds minor and/or major deficiencies in the application, or requires additional clarification, the Regulator will contact the applicant to obtain additional information, clarify details or request that the applicant revise their application. Additionally, an applicant may wish to revise the application for a variety of reasons, including a revision to reduce the overall footprint of the activities within the application. If a revision of application information or spatial data is required, the applicant company must send an email to revisions@bc-er.ca to request that the application status be set to 'In Revision'. This will allow the applicant company or representative working on their behalf, to upload the revised spatial data package or change the application information. The subject line of this email must identify the email as a revision request, and include the pertinent AA#, applicant company name, and activity type(s) included in the application. This email must also include details on the reason for the revision request.

If changes to the original application are made, the applicant must enter a description of the changes in the revision explanation text field provided on the AMS application overview page. If more space is needed to describe the changes, the applicant must upload a rationale document or email that outlines the changes, and where applicable, provide a more detailed summary of revision request. In a case where an application is set to 'In Revision' multiple times, this summary must include reasons and details on changes made to the application for the current revision as well as all prior revisions. Applicants should review all application information to ensure all necessary changes are made prior to submission of the revised application.

Depending on the nature and scope of the revision, additional fees may be calculated. Applicants can upload attachments into AMS for applications with a status of 'In Review,' without a status change to 'In Revision.'

Please Note:

Upon receipt of a revised application, where the only change made was to reduce the overall disturbance (i.e. no additional activities have been added to the application, no changes were made to technical details, no additional land was added that was not included in the original or previous versions of the application) the BCER will send a notice to pertinent First Nations communities to inform them of the change. The BCER will continue with any consultation activities already in progress and will not reopen consultation activities that were concluded on the previous version of the application. Other application reviews (i.e. Land and Habitat review, Archaeology review, technical reviews, etc.) will be carried out on the revised application; however, these reviews are expected to be brief in most cases.

Application Contacts

When the Regulator needs to contact the applicant to clarify details, make revisions, request additional information and/or distribute permits, the Regulator will use the contacts as provided in AMS application. The contacts will be utilized by the Regulator for email correspondence as follows:

- The main Proponent contact name and email shown on the Overview screen, which is selected by the applicant, will be the main contact for **all** on all emails from the Regulator.
- The Contact e-mail shown on the Overview screen; which auto populates as the default contact set up in the Corporate Registry, will be **copies** on all emails from the Regulator
- If a referral agent or land agent is listed in the Administrative tab, they will be **copied** on all correspondence.
- If an Environmental specialist is listed in the Administrative tab they will be **copied** on all environmental related correspondence.
- If an Archaeologist is listed in the Administrative tab they will be **copied** on all Archaeology related correspondence. Please also note that an Archaeologist contact is mandatory should the application have an Archeology component.
- If more than one person is listed per company/contact in the Administration tab, the Regulator will only copy the first person listed and it will be the responsibility for the company/contact to distribute internally/externally as appropriate.
- If an Engineering contact is listed in the Administrative tab they will be copied on all engineering related correspondence. Please also note that an Engineering contact is mandatory should the application have an Engineering component.
- Post approval, the Regulator will distribute electronic copies of permit documents to the Proponent Contact and all Permit Distribution Contacts listed by the applicant on the AMS overview screen.

Please Note:

Contact information shown within the contact drop down list under the Administration Tab populates from accounts in the BCER KERMIT Registry. If a specific contact is not available in the contact drop down list; the contact must ensure an account has been created. A contact can create an account by selecting the "Online Systems Accounts" link found under the "Energy Professionals" section of the BCER website. Once on the "Online Systems Accounts" page, click on "Creating your Account", and follow the instructions provided.

1.2.4 Application Post-approval

Post-approval, activities must be carried out in accordance with the permit, ERAA, regulations and any other applicable laws. Permit holders must adhere to the operational and reporting requirements throughout the life cycle of the energy resource and associated activity. Operational manuals are found on the documentation section of the Regulator's website.

Once a permit is issued, permit holders are responsible for all permit holder obligations (as defined in ERAA), including outcomes of actions of contracted personnel in carrying out permitted energy resource activities on behalf of the company.

An applicant or permit holder may have the right to review and/or appeal a determination as established in ERAA. Guidance on the review process is found in Chapter 7 of this manual. Instructions regarding appeals are obtained from the Energy Resource Appeal Tribunal.

Construction Start Dates

Permit holders must wait 15 days from the day the permit is issued before commencing any energy resource activity on private land, unless the land owner has consented in writing that the energy resource activity may commence. Written consent from a land owner is not required to be submitted to the Regulator; however the permit holder should retain records.

The permit holder must submit a notice of construction start to the Regulator prior to the start of construction activities. Leave to open is required prior to operation

of a pipeline or facility. Minimum time requirements for submission of notice of construction start for various activities are outlined in the regulations and permit conditions specific to the activity.

Notice of Maintenance

The permit holder must submit a notice of maintenance to the Regulator two (2) working days prior to the commencement of any change in or about a stream associated with maintenance activities, as authorized in the permit. Minimum time requirements for submission of notice of maintenance for various activities are outlined in the regulations and/or permit conditions specific to the activity.

A Notice of Maintenance is submitted by completing a Notice of Maintenance form and submitting by email to ExternalNotifications@bc-er.ca

Emergency Planning and Response Programs

The Energy Resource Activities Act requires permit holders to prepare and maintain an emergency response program and a response contingency plan as prescribed in the Emergency Management Regulation (EMR). The requirements and processes described in the EMR and the Regulator's Emergency Management Manual are designed to create a framework for the protection of the public, property and the environment from emergencies arising out of energy resource activities.

1.3 Applicant Obligations

In preparing and submitting an application, applicants are expected to consider the environmental and social impact of the proposed energy resource activity. Companies must, as part of the planning stages, take into consideration the surface and subsurface locations in order to minimize impacts on the social and environmental values. It is the expectation of the Regulator that energy resource sites, once deactivated, will be restored and reclaimed at the end of the project; therefore, careful planning beforehand is required to ensure a successful project end.

When completing application and/or submitting additional reports, companies must provide engineering and technical information on activities carried out during the proposed term. Companies must provide true and accurate information and not knowingly omit relevant information. All data, attachments and requirements must be complete and accurate. If an

agent or representative submits information on behalf of the company, the applicant remains accountable for the accuracy of submission.

Activity Area Overlapping a s.16 or s.17 Land Act Disposition Established by the Ministry of Forests

Applicants wishing to submit a new application, or an amendment must consider proposed activities that fall within a s.16 or s.17 Land Act disposition that has been established by MOF. For proposed activities that will impact land subject to a s.16 or s.17 Land Act disposition, applicants must complete a FrontCounter BC Application Form for Proposed Activities within Established Section 16 or 17 Land Act Dispositions and submit the form, prior to commencement of operations, to FrontCounter BC to request a decision whether to amend the Land Act disposition or determine compatibility to the established disposition.

Permit holders must obtain approval (as defined in ERAA) before starting any energy resource or associated activity(s) and should maintain ongoing dialogue with the Regulator and stakeholders throughout the lifecycle of the project. This includes operational and reporting requirements and continued engagement as defined in operations manuals.

Once approved, permit holders bear responsibility for all permit holder obligations (as defined in ERAA), including outcomes of actions of contracted personnel in carrying out permitted energy resource activities on behalf of the company.

1.3.1 Approved Landscape Management Planning Areas

Treaty 8 First Nation agreements have resulted in a series of ongoing planning processes to produce new land use objectives and guidance. These objectives are intended to redefine the balance between the protection of Treaty rights and responsible resource development in accordance with the Yahey vs. B.C. decision, the Consensus Document, the Blueberry River First Nation (BRFN) Implementation Agreement and broader provincial direction.

The following sections identify application requirements for special planning areas where an approved plan is in effect. These requirements are additive to existing requirements. The thresholds, criteria and rules described below are intended to supplement (and in some cases replace) existing rules and regulations. Where a requirement is more restrictive, permit holders must plan their development in accordance with the more restrictive requirement.

Accompanying application process flow charts are available to assist permit holders in preparing reporting materials and applications in sensitive planning areas.

1.3.1.1 Halfway River First Nation / British Columbia Landscape Planning Pilot

The Halfway River First Nation / British Columbia Landscape Planning Pilot (HRFN LPP) is brought into effect by an update to the Treaty 8 Planning and Mitigation Regulation. Key features of the HRFN LPP:

- Applies to two distinct areas:
    - The LPP Area 1, which overlaps the Blueberry River First Nation's Gundy Complex HV1-C Plan Area (HV1-C Gundy Complex), and
    - The LPP Area 2, which surrounds the HRFN community.
- Operational direction is found within Appendix 1 of the HRFN LPP, the HRFN Adaptive Management Program and Plan, which includes the BCER's Treaty 8 Planning and Mitigation Measures (version 1, released in January 2024).

The spatial files for LPP Area 2 have been added to the AMS Map Viewer and the AMS Application Analysis Report to support project planning and application development. In addition, a map of the areas is included in the HRFN LPP. Maps and shapefiles for these areas can be found here: Halfway River First Nation/B.C. Landscape Planning Pilot - Province of British Columbia (gov.bc.ca).

The HRFN LPP has been brought into effect alongside the Gundy Complex HV1-C Plan for LPP Area 1. In LPP Area 1, where a requirement is more restrictive, permit holders are to plan their development in accordance with the more restrictive requirement. In the LPP Area 2, the HRFN LPP will replace the rules associated with Article 14 of the Blueberry River First Nation Implementation Agreement.

An accompanying Frequently Asked Questions and application flow chart have been posted on the BCER's website.

1.3.1.2 HV1-C Gundy Complex Plan

The Province of British Columbia and BRFN have completed the HV1-C Gundy Complex Plan (the Gundy Complex Plan) as required under the BRFN Implementation Agreement. The Gundy Complex Plan is brought into effect by Treaty 8 Planning and Mitigation Regulation. Key features of the Gundy Complex Plan include:

- A designated protection zone where New Disturbance is not permitted, is intended to recover the ecological and cultural values identified in the Gundy Complex Plan. The protection zone has been designed to meet the minimum 60 percent protection target within the Gundy Complex Plan Area.
- Activities allowed within the protection zone include activities associated with the practice of Treaty Rights, restoration activities and the continuation of existing oil and gas activities. Activities can continue where active oil and gas activities are located within the protection zone. These are categorized as being within the current industry maintenance zone.
- The development zone consists of the areas where future energy development activities are permitted, including new disturbance resulting from energy resource activities. Maps and shapefiles for these areas can be found here: HV1-C Gundy Complex Plan - Province of British Columbia (gov.bc.ca).

1.3.2.1 Conditions for Development in the Gundy Complex Plan Area

The Gundy Complex Plan includes conditions for development of energy resource activities, which describes how existing and new energy resource activities may be carried out within the Gundy Complex Plan Area. These conditions for development are additive to existing requirements described in Article 14.4 of the BRFN

Implementation Agreement and established in the BRFN Implementation Agreement Regulation (renamed the Treaty 8 Planning and Mitigation Regulation). The conditions for development of energy resource activities include:

- Three development categories, ranging from Category 1 low impact activities, where limited effects to the values are anticipated to Category 3 activities, where effects to the values cannot be avoided and offsetting is expected.
- General application information requirements provided with each application in the form of an assessment report to be prepared by a qualified environmental professional (as defined by the Professional Governance Act) or qualified professional (where the discipline or field of practice does not have a regulatory college, but an appropriate level of expertise is still required).
- A plan to mitigate impacts to the values, through a General Environmental Management Plan (EMP), and supplemental Site-Specific Mitigation Strategy (if required).
- Operational rules which are additive to existing regulation, policy and guidance under the Environmental Protection and Management Regulation and the Treaty 8 Planning and Mitigation Regulation, including: riparian setbacks, cultural setbacks, evaluation of impacts within 250m of the Protection Zone and timing windows for peaceful enjoyment and moose.
- Offsite environmental mitigation, also known as offsetting, will be required, in addition to site-specific mitigation measures to offset the following impacts should they be unavoidable: New Disturbance within Riparian Reserve Zones and to Old Forest within the Plan Area.

For applications in the Gundy Complex Plan Area, applicants must have an accepted General EMP and include the BRFN Implementation Agreement form and adapt the Gundy Complex HV1-C: QP/QEP Statement Template into the above noted Assessment Report.

An accompanying frequently asked questions and application process flow chart have been posted on the BCER's website.

1.3.2.2 General Environmental Management Plan

Section 7.5 and Appendix 4 of the Gundy Complex Plan outlines the requirements of the General EMP. The intent of the General EMP is for the permit holder to demonstrate forethought in how environmental impacts, within and beyond the proposed physical footprint, have been considered during project planning.

The Environmental Protection and Management Guideline (Environmental-Protection-and-Management-Guideline.pdf (bc-er.ca)) describes clarification on qualified professionals, content and format requirements for mitigation plans submitted to the BCER.

The General EMP is submitted in advance and independent of applications for activities proposed in the Gundy Complex Plan Area. The General EMP should be submitted to sensitiveplanningareas@bc-er.ca. The General EMP will be reviewed for compliance with the HV1-C Gundy Complex Plan by both the BCER and First Nations, where applicable. Any permits issued will contain legally enforceable conditions to ensure permit holders implement their EMP.

1.4 Compliance and Enforcement

Applicants have a legal obligation to meet all legislated requirements. The Regulator expects applicants and permit holders to use formal practices in day-to-day operations and comply with the Energy Resource Activities Act, the Regulator's specified enactments, and all related regulations.

The Compliance and Enforcement Manual provides further information about the Regulator's compliance processes. It is the permit holder's responsibility to know and uphold any legal responsibilities inside and outside of the Regulator's legislative authority. The Regulator audits and inspects permit holder activities and investigates incidents of alleged non-compliance.

1.5 Regulator Authority under Section 26 of ERAA

Under Section 26 of the Energy Resource Activities Act (ERAA), the Regulator has the authority to refuse, suspend, cancel, or amend a permit.

When making a decision under Section 26, the Regulator can consider the conduct of an applicant or permit holder. In addition, the decision maker may look beyond the applicant or permit holder to consider the conduct of a person (which includes a corporation) associated with an applicant or permit holder.

An associate means any of the following:

1. an agent of the applicant or permit holder;
2. a director, officer or shareholder of the applicant or permit holder;
3. a person who, in the Regulator's opinion, may have influence over the applicant or permit holder or may be able to affect the activities permitted by the permit.

Section 26(2) and (3) of ERAA provide a non-exhaustive list of circumstances that may trigger a decision under Section 26. The following is a list of factors that the Regulator may consider in making a decision under Section 26(1):

- Compliance history of the applicant or permit holder, or an associate of the applicant or permit holder.

- Corporate structure of the applicant or permit holder, or an associate of the applicant or permit holder.
- Experience of the applicant or permit holder, or an associate of the applicant or permit holder.
- Financial health of the applicant or permit holder, or an associate of the applicant or permit holder.
- Financing of the applicant or permit holder, or an associate of the applicant or permit holder.
- Outstanding debts owed by the applicant or permit holder, or an associate of the applicant or permit holder.
- Outstanding non-compliances of the applicant or permit holder, or an associate of the applicant or permit holder.
- The applicant or permit holder, or an associate of the applicant or permit holder, has been convicted of an offence as described in Section 26(2)(f) of ERAA.
- Involvement of the applicant or permit holder in bankruptcy or receivership proceedings.
- Involvement of an associate of the applicant or permit holder in entities that have initiated or are subject to bankruptcy or receivership proceedings.

In addition, the Regulator may make a decision under Section 26(1) of ERAA where there is a relationship (such as employer / employee, officer, director or agent) between an applicant or permit holder and a permit holder that has previously been the subject of a decision under Section 26(1).

Before making a decision under Section 26(1)(b),(c) or (d) of ERAA to suspend, cancel or amend a permit, or under Section 26(5) of ERAA to suspend or cancel an authorization for a related activity, the Regulator must provide the permit holder with an opportunity to be heard. The opportunity to be heard may be conducted in the time and format the Regulator deems appropriate, pursuant to Section 80 of ERAA.

1.6 Freedom of Information & Protection of Privacy

Throughout the course of application preparation and planning, the information collected from a person or other entity may contain personal information as defined by the Personal Information Protection Act (PIPA). Private sector organizations collecting personal information in British

Columbia are subject to the PIPA, which sets out the rules for how personal information may be collected, used or disclosed.

Applicants and permit holders should comply with PIPA when collecting information from persons or entities and can contact the Office of the Information and Privacy Commissioner for British Columbia for more information.

As a public body, the Regulator is subject to the Freedom of Information and Protection of Privacy Act (FOIPPA). Any personal information contained in plans or applications submitted to the Regulator are subject to the protection and security requirements identified in FOIPPA.

1.7 Professional Reliance

This manual specifies instances where the Regulator will rely on Qualified Professionals to conduct necessary works and provide the necessary information that the Regulator requires to be able to make defensible determinations and to confirm that proposed development activities conform with regulation.

The Regulator considers a Qualified Professional to be those individuals who are registered members of one of the following Regulatory Bodies regulated under the Professional Governance Act.

The Regulatory Bodies currently regulated under the BC Professional Governance Act are:

- Agrologists
- Applied Biologists
- Applied Science Technologists & Technicians
- Engineers and Geoscientists
- Forest Professionals

All work submitted by Qualified Professionals must be within their scope of practice and consistent with the standards and practices of their Professional Organization.

Any works submitted which the Regulator deems inconsistent with the standards and practices of the professional organization or outside the professionals field of study will be forwarded to the Professional Organization for review and potential disciplinary action.

The Regulator requires that Qualified Professionals signing off on any environmental assessment and mitigation works provide the following Professional Declaration:

- The assessment of that activity referred to in this report has been conducted in accordance with the standards and practices of the professional organization of which the signer is a registered member.
- The reported information is true based on the signatory's current knowledge as of the date completed. Where data gaps exist in the report, the judgment of the Qualified Professional has been used.
- The signatory has demonstrable experience within the field of work and/or practice for which the statement applies.

This manual will specify within the appropriate sections what works must be completed by Qualified Professionals regulated under the BC Professional Governance Act. If uncertain that works completed by a Qualified Professional is required, please contact a Regulator Authorizations Director to confirm.

Chapter 2

Requirements for First Time Applicants

2. Requirements for First Time Applicants

This Chapter details the administrative requirements of all first time applicants in order that a company may begin the application submission procedures. Applicants engaging in energy resource activities must complete all pre-application requirements as detailed in Chapter 1 and must be registered in the Regulator's corporate registry.

New applicants must register with Petrinex as a Business Associate (BA).and complete a Master Licence to Cut Application Form (MLTC) if they will be submitting applications which require new cut under Cutting Permits (CP). In addition, companies are required to set-up administration and account information in order to use the online submission application system. Both new companies and existing companies are responsible to ensure the account information is current and up-to-date in the corporate registry.

2.1 New Business Associates

The Regulator maintains a corporate registry of companies. The New Business Associate Identifier Application in Petrinex captures general administrative and corporate registry information and is required before submitting an energy resource activity application(s). A New Business Associate Identifier Application and the required attachments are submitted to the Regulator via Petrinex for approval. For more information, refer to the Regulator's Permit Operations and Administration Manual.

BC Corporate Registration

In order to conduct business in British Columbia, a company must be registered with BC Registry. A copy of the corporate registry certificate must accompany the New Business Associate Identifier Application.

Company Administration & Account Information for Regulator Information Systems

As part of the New Business Associate Identifier process, the Regulator creates a system administration account for the applicant company. Companies must then designate authorized individuals with an application security role on behalf of a company. Companies are required to assign roles in the corporate registry as follows:

1) Finance role assigned to an individual for managing account information and giving individual(s) authorization to make payments.
2) Application and/or Application Analysis Tool security roles assigned to representatives for validating and upload spatial data; inputting technical data and other required application information. Each representative is registered as a person then granted a security role from an energy resource company.
3) Administrator role with security to set up and administer account roles.

Users may access the Application Management System or KERMIT from the Regulator's website. It is recommended to access the online systems through a high speed internet connection to maximize performance. Only one account is required to access and use the Regulator's online services, including KERMIT and the Application Management System. KERMIT is the Regulator's Knowledge, Enterprise, Resource, Management, Information and Technology data system. KERMIT enables electronic submission of performance and/or compliance data and accepts various operational submissions related to energy resource activities post approval. Access to the KERMIT system is available on the Online Services page of the Regulator's website.

New Representatives

New representatives must create a KERMIT account using the Regulator's Online Services page in order to be selected by an applicant as part of a permit application in AMS.

Once the account is created, the representative should contact the company administrator of their organization to grant proper security roles. If the representative's company does not exist in AMS, the New Business Associate Identifier process must be completed in Petrinex.

New representatives must also contact the applicable company administrator of the representative's company to ensure the appropriate permissions are assigned to the new account.

2.2 Master Licence to Cut

A Master Licence to Cut Application Form (MLTC) must be completed and submitted before applying for any energy resource activity. The MLTC governs cutting permits authorizing the removal of timber on Crown land and a separate MLTC is required for each forest district. For more information, refer to the Regulator's Permit Operations and Administration Manual.

Chapter 3

Application Management System Submission Process

3. Application Management System Submission Process

This chapter walks an applicant through the steps of applying, submitting and confirming an application using the Regulator's online application system. The system is used for the majority of energy resource and associated activity applications.

The Application Management System is an online portal applicants use to submit energy resource and associated activity applications. Users may prepare multiple applications at the same time by selecting one or all of the activities of the project. Multi-activity applications provide a complete picture of the project and the Regulator encourages applicants to consider applying for all activities at the same time. More information on how to use the system can be found in the AMS User Manual.

AMS allows application information to be completed online. Attachments are uploaded directly. The online application submission process includes:

- Using the analysis tool.
- Reviewing the dashboard.
- Creating a new application.
- Uploading spatial data.
- Completing an application.
- Validating an application.
- Submitting completed application.
- Paying application fee.

Registered applicants are ready to begin the application submission process once the pre-planning stages (Chapter 1 of this manual) are complete and the administrators and/or agents for a company are registered in the Corporate Registry (Chapter 2).

Application Management System Analysis Tool

Since the surface location of energy resource and associated activities is one of the pertinent pieces of information used in the planning and preparation stage, applicants are encouraged to use the Application Analysis Tool in AMS for pre-planning. This tool provides applicants the ability to plan the location of the proposed activity and validate shapefiles for most applications, prior to submitting an application. With this tool, applicants are able to identify potential conflicts to find the best location for an activity and determine what information will be required at the beginning of the application process. Applicants can also generate an Application Analysis Report, prior to the application creation, that indicates what environmental, social and land values will be impacted by a project's proposed location.

This information may then be used to plan engagement activities and/or mitigation strategies. Due diligence must be done by the applicant to verify information and application requirements, including but not limited to the land area.

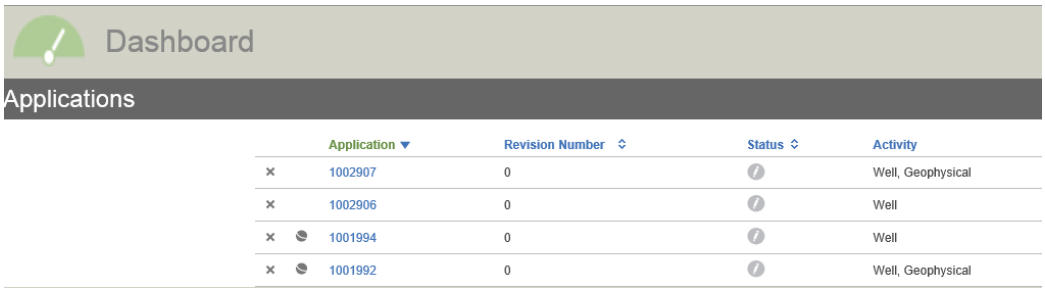
Once an applicant is satisfied with the proposed location(s) and the shapefile has been validated, users with the appropriate security role can create the application through the Application Analysis Tool. At this time, only new applications may be validated and created using the Application Analysis Tool. Shapefiles and applications for amendments and historical submissions cannot be validated and created using the Application Analysis Tool.

Shapefile templates representing the mandatory requirements and correct structure of each activity type are also available for download on the Applications Analysis Tool page. For information regarding the requirements and procedures for preparing the spatial data packages for AMS, see the Regulator's AMS Spatial Data Submission Standards Manual.

3.1 Application Management System Dashboard

The dashboard lists all applications created by the user and the status of the applications including: saved drafts, submitted, withdrawn and in review. For those users with the application security role, the dashboard page can be accessed as it is the main screen and greets users upon sign-in. Users with only the Application Analysis Tool security role, will land on the Application Analysis Tool page. An example of the dashboard screen is show in Figure 3-B.

Figure 3-B: Screen Shot of Dashboard Page



3.2 Creating a New Application

New applications or amendment applications are initiated in the AMS Create Application screen and/or from the Application Analysis Tool. It is recommended that spatial data shapefiles are validated, where applicable, prior to creating an application. Applicants are prompted to identify the application type, applicable activities, proponent name and description of proposed project.

New applications may be for a single activity or multiple activities. The Regulator encourages applicants to apply for the entire project at the same time by creating a new application and selecting each activity required for the project (i.e. multiple activities).

Please Note:

The Application Management System requires specific spatial data standards to appropriately populate both activity and application information. Depending on the activity and application type, the spatial data requirements may be different. Refer to the Application Management System Spatial Data Submissions Standards Manual for more information.

Additional requirements when creating a new application include:

1) Description of proposed project and/or activity including; timelines, scope of operations, activity levels, and other pertinent information to paint a picture of the operation.
2) Spatial data as described in Section 3.3 of this Chapter.
3) Agreement to the terms and conditions of submitting an application. Terms and conditions are presented within AMS. Applicants should read both the terms and conditions and the applicant obligations (Section 1.3 of this manual).

Please Note:

The Energy Resource Activities Act (ERAA) defines both "energy resource activity" and "related activities" and the Regulator adheres to the definitions. The Regulator's glossary and acronym listing is an extension of this manual and defines terms used throughout the application process. Applicants should refer to the glossary to understand the exact definition of terminology as it may differ from other regulatory bodies. Due diligence on the part of the applicant is required to ensure proper understanding of terms, acronyms and legislation.

3.2.1 Activity Types

Applicants are prompted to select the activity type(s) for all proposed activities required for the project. Users are able to create multi-activity applications by selecting one or all of the activities of the project. In addition, when applying for an energy resource activity which requires short-term water use or changes in and about a stream, applicants must be diligent in applying for all activities in order to ensure regulatory compliance. Applicants are asked to select the appropriate energy resource application submission type as follows:

- New ERAA activity including wells, roads, pipelines, facilities, geophysical, and related activities which are associated activities and Water Sustainability Act authorizations.
- New CER Related applications pertaining to activities associated with pipelines regulated under the Canadian Energy Regulator (CER) Act and include: pipeline right of way, road right of way, ancillaries and Water Sustainability Act authorizations.
- Amendment applications when changes to existing permits are required.
- Other submissions including agricultural land assessment, Forest Act as well as historical facility, historical pipeline, and historical road submissions.

CER Related Activity

The Regulator has authority to issue specific provincial authorizations related to pipelines regulated under the Canadian Energy Regulator (CER) Act. These authorizations differ from other authorizations issued by the Regulator under a specified enactment, as they are not related to an ERAA activity however, they can still include:

- Land Act, Sections 11, 38, 39 40 and 96.

- Forest Act, Sections 47.4 and 117.
- Water Sustainability Act, Sections 10, 11 and 24.

New CER-reviewable pipeline right of way applications are submitted to the Regulator for authorization to use and access provincial Crown land. Other additional provincial permits may be required including:

- Authorizations for occupation of Crown land under a Land Act Section 39 License of Occupation for the pipeline right of way, and under a temporary Land Act Section 39 License of Occupation for ancillary land use (decking sites, workspaces, shooflies, etc.). Post-construction, and after surveying requirements are met, a Land Act Section 40 Statutory right of way is issued for the pipeline right of way.
- Approval under Section 11 of the Water Sustainability Act (changes in and about a stream) for stream or water body crossings and Section 10 of the Water Sustainability Act (short-term water use) to divert or use water for energy resource purposes.
- Cutting permit authorizations under Section 47.4 of the Forest Act to harvest Crown timber, and under Section 117 for a road use permit to use forest service roads, if required.

For more detailed information on CER related projects, refer to Chapter 7 of this manual.

3.2.2 Construction Corridor

A construction corridor is an additional area mapped and shown spatially around the application area that allows a permit holder some flexibility in the movement, placement and construction of a permitted energy resource activity. Using this approach can greatly reduce the need for permit amendments, subject to the terms and conditions of the permit.

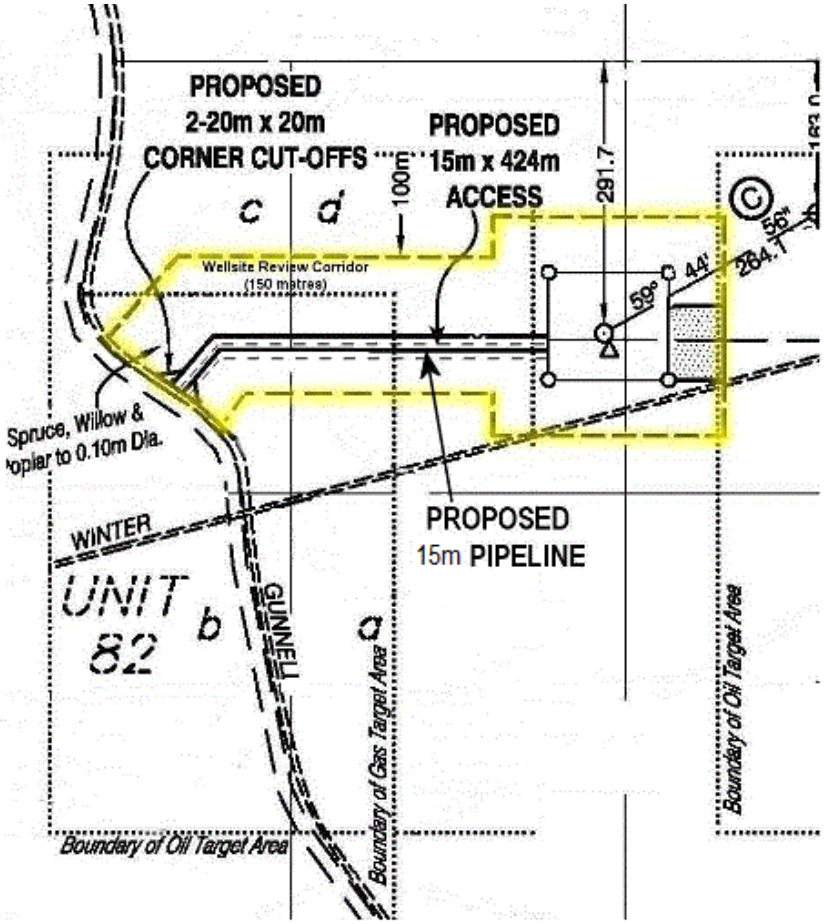
If a construction corridor will be used, the application must identify the total proposed area of each activity within the construction corridor and their proposed location(s) on both Crown and private land. The width and size of the construction corridor is left to the discretion of the applicant. The construction corridor must meet all application requirements, as though it was part of the activity footprint. This includes but is not

limited to environmental and archaeological assessments; First Nations engagement as well as consultation and notification or rights holder engagement.

Any changes made from the permitted area within the construction corridor must be reflected on the post construction plan submitted to the Regulator. Upon acceptance of the post construction plan, all activity placements are final; any future modifications would require an amendment.

Construction corridors are a particularly useful tool for investigate use applications, microseismic applications, or for any application where there is some uncertainty regarding logistics, terrain or potential construction constraints that are anticipated to arise during final layout or construction.

Figure 3-C: Sample Wellsite Construction Corridor mapped area



3.2.3 Proponent Information

As discussed in Chapter 2 of this manual, the project proponent, or applicant, must register with the Regulator. This information is populated in AMS from the Corporate Registry. The applicant selects company name from the drop down list in AMS. If the applicant is not displayed, refer to the New Company Registration section in Chapter 2 of this manual.

3.3 Uploading Spatial Data

Spatial data uploaded by the applicant pre-populates spatially derived application requirements based on geographic location of the energy resource and associated activities and any overlapping or intersecting points. Spatial data is required regardless of land status. There are very few exceptions where spatial data is not required.

Spatial data for AMS must meet stringent data standards in order to be accepted by the system. Shape file templates are available for download within AMS to support spatial submissions. Business validation rules specific to the spatial data must be followed when preparing spatial submissions. Applicants should review the business validation rules listed and technical guidance in the Regulator's Spatial Data Submission Standards Manual.

Spatial submission standards must be upheld when uploading spatial data as part of an application. It is recommended to validate shapefiles prior to uploading spatial data into an application to ensure it meets the standards. The Regulator is not able to accept spatial submissions other than those which meet the standards.

In each activity-specific section of AMS, a globe symbol references spatially derived information that populated from the uploaded spatial data. The map is viewed anytime by clicking on the map icon at the top of the screen.

Please Note:

When uploading new spatial files into AMS for an application, previously entered spatial data will be overwritten by the system and replaced with the new data.

3.4 Application Management System Business Identification Numbers

To support the transformation to multi-activity applications, the Regulator's Application Management System uses unique numeric identifiers to identify both applications and activities. A unique identification number is given to all applications, spatial data polygons, activities and specific parts of activities as follows:

Application Number

Each application submitted in AMS is assigned a unique nine digit application number. This number is automatically generated at time of application and is visible on the dashboard page. Applicants can search for an application by this number. The application number represents all activities included in the submission.

Application Determination Number

An Application Determination number is assigned to an approved or permitted activity or set of activities (multi-activity application). The Determination Number can be referenced by the permit holder for amendments.

Land Identifier Number (Land ID)

Applications requiring land area must include one or many polygons. Each individual polygon is assigned a unique nine-digit Land Identifier (LAND_ID) number. It is automatically generated by the system and is referenced by the permit holder throughout the lifecycle of a project, including amendments and post permit activities. For example, a pipeline project right of way crossing Crown and private land must be submitted as two individual polygons, each of these polygons is assigned a unique LAND_ID.

Land Area Number (LA NUM)

Multiple unique polygons uploaded together and representing all land required for a particular activity, are assigned a nine-digit Land Area number (LA_NUM). For instance, a pipeline project right of way crossing Crown and private land will have individual polygons with each unique polygons having it's own Land ID number. Those Land ID numbers roll up to one Land Area number for the entire project. Some activities, such as a well site area or facility area is assigned a Land ID that will be the same as the Land Area number. The Land Area number enables a complete land based review at a comprehensive level.

Activity Identifier Number

Each activity within the application is assigned an Activity Identifier Number. This number is automatically generated by the system. An example of a specific Activity Identifier Number would be each well in a multiple well application assigned a well authorization (WA) number. The Activity Identifier Number is relevant during the

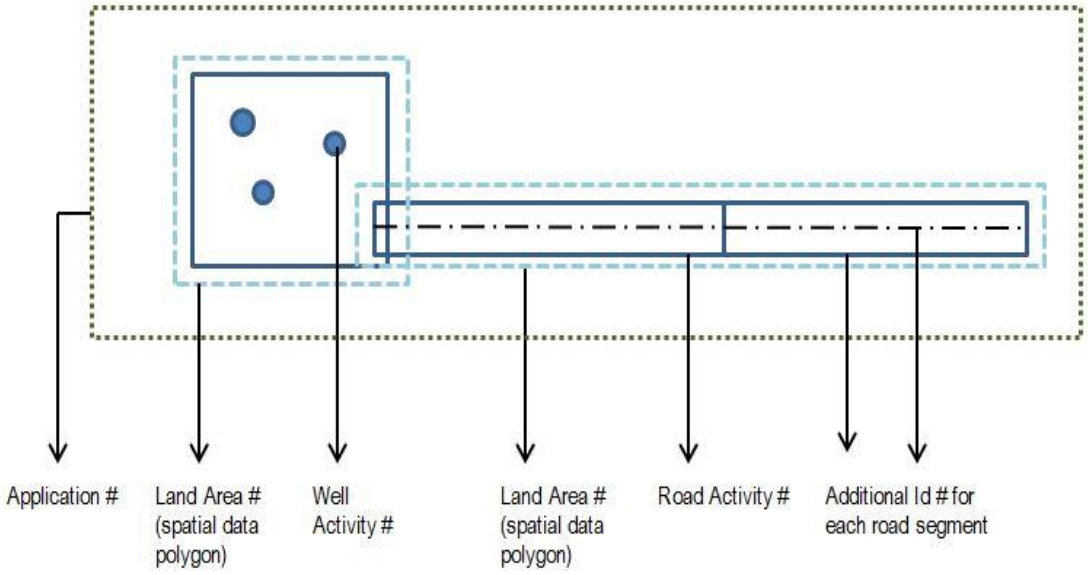
application stage as information and/or data for each activity is required and must correspond to the correct identifier number as presented in the activity information tab.

In addition, permit holders must refer to this activity identifier number for permit holder reporting and submissions.

Additional Identification Numbers

For some activities, for example, road segments; pipeline segments and pipeline installations an additional number is assigned to each part of the activity. The assigned segment number is automatically generated by the system. As with the activity identifier number, the identification number is relevant for permit holder reporting and submissions.

Figure 3-D: Example Identification number assignment to spatial polygons, groups of polygons, activities and parts of activities



Please Note:

The Application Management System has a different numbering system than in the past; therefore, the Regulator discontinued the creation of OGC File Numbers. Existing OGC File Numbers attached to current permits will continue to be used as permit reference numbers (under the label 'legacy BCER number') required for submission of reporting and/or amendments. New permits will reference an Application Determination number (AD No.).

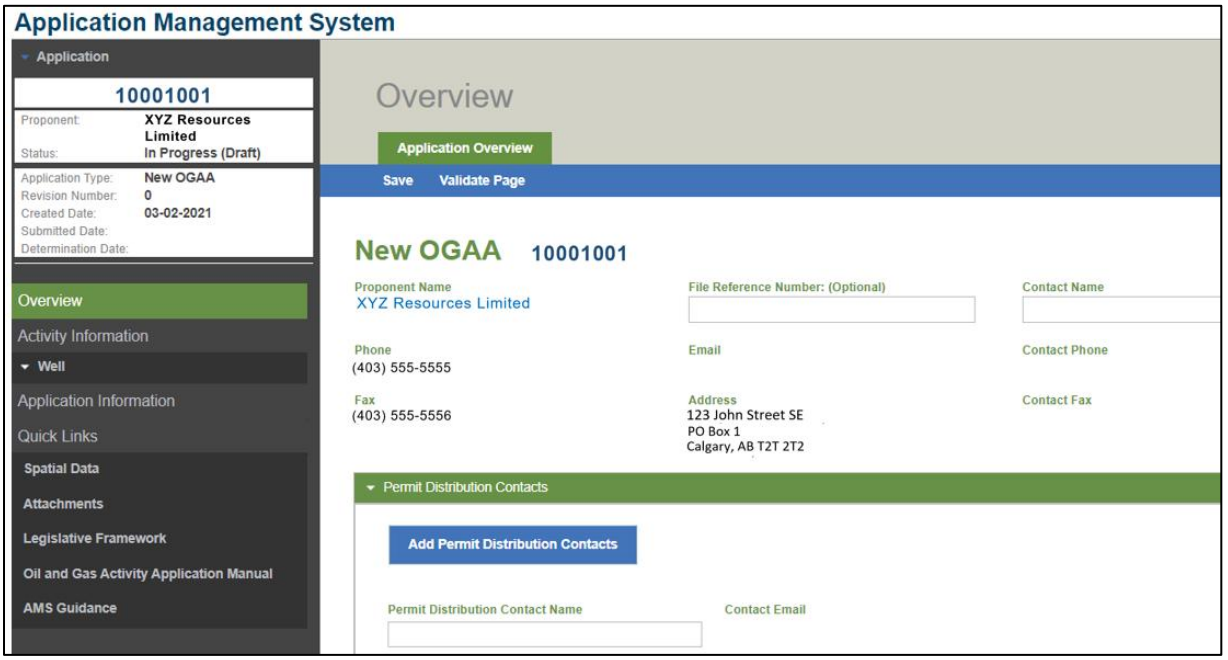
3.5 Completing an Application

Based on the activities identified by the applicant and the spatial data, AMS populates some data fields under the activity-specific and application tabs. The system prompts applicants for remaining mandatory activity-specific engineering and technical information as well as, additional information to support the application and upload attachments.

User Navigation

The Navigation panel as shown in Figure 3-E, provides applicants with the ability to move between various tabs within an application and link to additional resources such as, application documentation, guidance, and the Regulator's regulatory framework.

Figure 3-E: Screen Shot of Navigation Panel and Overview Page



Applications may be validated and then saved at any time. The validation tool will assist in highlighting any missed data input.

While an application is in progress (draft), users are able to add information and/or upload attachments over a period of time, returning to AMS and continuing to enter data without any interruption or loss of information.

Overview Screen

The overview page (as shown in Figure 3-E above) provides a summary of the application and activity applied for. The overview page is accessible after creation of the application and is specific to each application.

3.6 Data Field Completion

Application submission requires the input of technical and engineering information by following the instructions, answering questions and entering data where required within the Application Management System. The data input fields are defined where necessary through hover over hints, links to glossaries and to this manual.

Some spatially derived data fields are identified with a globe symbol. This symbol indicates data is pre-populated by spatial data. Applicants have the ability to alter some of the data fields (altered data is italicized) if required. Applicants will be prompted to enter a reason for change when altering spatially derived fields in an application.

Additionally, spatially derived data fields may trigger additional requirements. Some fields may not be visible if information is not required.

The validation button assists in verifying a complete application. Outstanding requirements, for example: fields not yet completed and/or attachments not yet uploaded, are highlighted in the application overview and on the validation screen. All mandatory data fields must be completed in order for the Application Management System to allow submission.

Attachments uploaded must meet specific size and file formatting restrictions as defined in Section 5.8 of this manual. Attachments are summarized in the Attachments tab.

In addition to this manual, hover-over hints within AMS provide quick guidance on what data is required for a specific data field.

3.6.1 Application Information Tabs

Application information to support the activity may be required depending on the type and location of activity. As shown in Figure 3-F below, all tabs within the application information section are visible to the user, although not all tabs require populating of data. Requirements for spatial data are detailed Section 3.3 of this manual and all other information tabs are presented in Chapters 5 and 6. Application information tabs include:

- Spatial data
- Administrative
- Land
- Forestry
- Stewardship
- Agriculture
- Archaeology
- Consultation and notification
- Rights holder
- First Nations
- Maps and plans
- Attachments

Figure 3-F: Screen Shot of Application Information Tabs



3.6.2 Activity-specific Tabs

Activity-specific tabs are only activated if the activity is chosen when creating a new application or if an additional activity is added to the draft application. Activity-specific requirements are detailed in Chapter 4 of this manual and include:

- Well
- Pipeline
- Facility
- Geophysical
- Road
- Associated activity
- Short-term use of water
- Changes in and about a stream

3.6.3 Validating an Application

The AMS validation feature is used to ensure applications are complete and correct prior to submission to the Regulator and can be used at any time when completing the activity and application tabs.

If an application is incomplete, AMS provides a checklist of outstanding items to be completed or corrected before the application can be submitted.

Once validated successfully, click on the Submit Application button and the Application Management System will confirm application submission. The submission of the application prompts AMS to produce an invoice for payment, if applicable.

Please Note:

Periodically, updates may be made to the spatial datasets that support the spatially derived data fields in the AMS application. For some applications that are “in progress” or put “in revision”, these updates may trigger requirements that weren’t initially triggered when the application was created.

3.7 Paying Application Fee(s)

Energy resource activity applications are subject to the application fees prescribed within ERAA and the Fee, Levy and Security Regulation. An online portal used to pay for various Regulator fees and levies (ePayment) allows applicants to pay application fees electronically.

Once an application is finalized and submitted, the Application Management System calculates application fees and issues an invoice in ePayment.. All invoices must be paid by electronic funds and set up using a Pre-Authorized Debit (PAD) agreement.

If the user is not set up with administrative abilities to pay invoices, the invoice is forwarded to account administrator on file. The user can elect to pay application fees at the time of application submission or use the “Pay Later” function to delay payment for up to 30 days. To pay, an administrator with abilities to pay invoices signs into ePayment and may pay one or multiple invoices at the same time. ePayment provides confirmation of payment information.

An invoice must be paid, regardless of whether or not a permit is granted. Failure to submit payment may result in actions taken by the Regulator including but not limited to:

- Compliance order.
- Contraventions or offences under ERAA.
- Suspension of permit, preventing activity happening on specific permit or other permit.

Applicants with invoices more than 30 days in arrears may not be able to submit new applications. The Application Management System gives a warning upon login to pay outstanding invoices before proceeding with any new applications or amendments.

3.8 Review Process

Once an application is successfully submitted by the applicant, the Regulator begins its review. Only submitted applications are reviewed by the Regulator.

Chapter 4

Completing Activity Details

4. Completing Activity Details

This chapter provides a comprehensive walk through of the Regulator's requirements for completing the activity details in the Application Management System. Each section of this chapter provides an overview of activity, definitions and technical requirements for the activities listed below. Each section corresponds to the activity tab in AMS. Activity-specific requirements (and corresponding section number) includes:

- 4.1 Well
- 4.2 Pipeline
- 4.3 Facility
- 4.4 Geophysical
- 4.5 Road
- 4.6 Associated activity
- 4.7 Short-term water use
- 4.8 Changes in and about a stream

Activity-specific tabs are only activated once a new (or amendment) application is created and is based on the activity (or activities) chosen when creating a new application. In addition, the Application Management System is designed to pull geographic location and coordinates from the spatial data uploaded during the application creation stage which triggers activity and land information. A globe symbol references spatially derived information from the spatial files uploaded.

Additional supplementary information to support the activity may be required depending on the type of activity, location and engineering and technical details provided in the activity tab. The application information tabs are visible and the validation tool will assist in ensuring all components of the application are completed. The requirements for the application information tabs are detailed in Chapter 5 of this manual.

Chapter 4.1 Completing Well Activity Details

4.1 Well Activity Tab

Applicants applying for a well permit or a geothermal well permit must complete the well activity tab in the Application Management System. The well tab is made up of three components: well area overview, well details (further broken down to include well specifications, well hazard, flaring and exemption sections) and well land details.

This chapter is separated into two sections: ERAA Wells and Geothermal Wells including an overview of well permitting, guidance regarding well planning and design, details related to well-specific application requirements and detailed instructions for completing the data fields of the wells tab of the Application Management System.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

ERAA Wells

4.1.1 Wells Defined

Wells are an energy resource activity as defined in ERAA, and are specifically defined in the Petroleum and Natural Gas Act as:

A hole in the ground:

a) Made or being made by drilling, boring or any other method to obtain petroleum or natural gas.

b) Made or being made by drilling, boring or any other method to explore for, develop or use a storage reservoir for the storage or disposal of

petroleum, natural gas, water produced in relation to the production of petroleum or natural gas, waste or any other prescribed substance.

c) Used, drilled or being drilled to inject natural gas, water produced in relation to the production of petroleum or natural gas or other substances into an underground formation in connection with the production of petroleum or natural gas.

d) Used to dispose of petroleum, natural gas, water produced in relation to the production of petroleum or natural gas, waste or any other prescribed substance into a storage reservoir, or

e) Used, drilled or being drilled to obtain geological or geophysical information respecting petroleum or natural gas.

And includes a water source well.

Approved energy resource applications receive a permit under Section 25 of ERAA to carry out construction and operations pertinent to the activity. The permit expires where construction activities have not started within two (2) years of permit issuance. Unless expired, the permit remains active until cancelled, suspended or declared spent, according to the provisions of ERAA.

Well Names

Well names are generated by, and populated into, AMS automatically when spatial data is uploaded. Well names are based on information gathered at the application stage and formatted as follows:

- Company abbreviation – working interest partner(s) abbreviation – well profile – oil and gas field name – legal location or NTS/DLS legal location, including exception codes.

Each well must have a unique legal location. All wells must use the defined NTS or DLS legal location as per the Petroleum and Natural Gas Grid Regulation. After the first well within a quarter unit in the PNG grid system or within a legal subdivision in the DLS system, additional wells must be distinguished from each other with an exception code. Exception codes must be entered into AMS manually to differentiate between multiple wells at a single legal location.

- The 2nd well is identified with exception code “A”, the third well is identified with exception “B” and continues through to exception code “Z”. Sequencing then continues with exception code “AA, then AB and AC through to AZ, followed with BA, BB, BC, etc.

- Once an exception code and legal location has been recorded against a permitted well, that same exception code and legal location cannot be used on another proposed well.

Depending on the number of wells in a quarter unit or legal subdivision; and depending on the order in which wells were applied for, exception codes may not be sequential on a single wellpad. Scenarios may include:

- One wellpad that spans into different NTS or DLS legal locations where wells already exist.
- Multiple wellpads in the same quarter unit or the same legal subdivision where wells already exist.

Exception codes do not have to be in sequence based on the order in which the permit holder plans to drill them.

Oil and Gas Field Name: AMS will spatially derive the oil and gas field name or display "not found" if the well location is not located within a defined field. When "not found" displays, applicants may select the nearest appropriate field from the oil and gas field name drop-down list or enter the nearest geographical location. To enter a field name that is not available in the drop-down list, select "Other Areas" from the list and type the name in the 'specify area' text field.

Well names are issued by the Regulator at the time of permit issuance. Once permitted, the Regulator will not re-name wells or re-organize exception codes to accommodate drilling activities.

Final locations in well head surface coordinates must be reported in the eSubmission portal using the As-Drilled Survey Plan process. If the final UTM coordinates result in the well head being drilled in a different NTS or DLS grid, the permitted legal location and well name will be updated to reflect the drilled NTS or DLS legal location using the next available exception code. Refer to the Energy Activity Operations Manual for further information on the As-Drilled Survey Plan requirements.

Well names can not be renamed to be in sequential order and exception codes will not be re-assigned according to drilling sequence.

4.1.2 Creating a New Well Activity Application

New Well Applications

A new well permit is required for any new well to be constructed and operated, including re-entering wells which have been previously issued a certificate of reclamation.

An application may include a single or multi-well application and may be submitted with other energy resource activities. The system generates data input requirements for additional wells based on the well-points specified within the spatial data upload. Where multi-well pads are planned, the Regulator encourages applicants to submit the all the wells together in one application.

In situations where a new well application is being applied for on an existing wellpad, but additional land is required, an applicant has two options:

Option 1 - Submit a new well application that includes the “additional” land area. The “additional” area must be adjacent to the existing “permissioned” area. The “additional” area will be assigned its own new land id resulting in two land id’s for one wellpad. The Regulator will not merge the new land id for the “additional” area with the existing permissioned land id.

Option 2 - Submit an amendment to the original permit to modify the wellpad area. A replacement polygon may be submitted for the entire wellpad area to be captured under one land id. After the amendment application has been approved, the applicant can then submit a new application for the well on permissioned land.

Well Permit Amendments

A well permit amendment is required for changes to approved well permits as outlined in the following scenarios. Approval of a permit amendment is required before the associated changes are carried out. Amendment scenarios include:

- Surface footprint (surface disturbance) is changed.
- Change in well type (for example from Production to Disposal)
- Change in BHL with attendant changes in well profile such that the well name adds or deletes "HZ".
- Adding (drilling) a new bottom hole location to a well that has previously been drilled and rig released. This can include lengthening the depth, window cutting, or O/H sidetracking from an existing wellbore.
  Note: an Engineering Data Sheet must be submitted with the amendment application as an "Other Attachment".

The following minor well changes do not require an amendment, and can be submitted as a notification providing the well permit includes the notification permission and:

a) prior notice of the change is provided, in the form and manner the BC Energy Regulator requires;
b) notice of the change, other than for changes to the maximum volume and H_2S content of gas to be flared, is provided to the Regulator not less than 7 days in advance of the change taking effect;
c) there is no substantive impact to any aspect of the activities that was included in the consultation;
d) The well activities continue to meet all regulatory requirements and applicable standards.

Well Hazard Planning

- Sour Formations, and Maximum H_2S Concentration (%) therein
- H_2S Release Rate (Maximum Cumulative Drilling, Maximum Completion, Maximum Applicable)
- EPZ Distances (Calculated Drilling, Calculated Completion, Effective)
- Critical Features, and # within Effective EPZ

Bottom Hole Details

- Formation at Total Depth
- Expected Total Depth (TVD, MD) (m)
- BOP Class
- Objective Formation
- Objective Depth (TVD, MD) (m)

Well Flaring

- Flaring Objective Formation
- Maximum H_2S Concentration (%)
- Requested Volume (10^3m^3)

More information on the minor well change notification process, including how to submit a notification, can be found in the Energy Resource Activity Operations Manual.

A permit amendment is not required for the following but must be reported using the "As Drilled Survey Plan" process in eSubmission:

- Minor changes if the proposed final total depth (FTD) resulting from geological prognosis change, or minor changes in well centre coordinates.
- When relocating the well head location within the permitted wellpad.
- After drilling, final well head UTM coordinates must be reported in the eSubmission portal using the As-Drill Survey Plan process. Note: if the final UTM coordinates result in the well head being drilled in a different NTS or DLS legal location, the permitted legal location and well name will be updated to reflect the drilled NTS or DLS legal location using the next available exception code. Well names will not automatically be renamed to be in sequential order and exception codes will not be re-assigned according to drilling sequence. Refer to the Energy Resource Activity Operations Manual for further information on the As-Drilled Survey Plan requirements.

Please Note:

Neither the working interest partner nor the oil and gas field name can be modified through an amendment application. To change the working interest partner a permit holder is required to submit a Well Name Change Notification Form to assetmanagement@bc-er.ca. Oil and gas field names are typically not changed once permitted. To request a change to an oil and gas field name, send a request to servicedesk@bc-er.ca.

Well Identification

The well must be identified by type, sequence and drilling direction.

1. Well type:
   - Gas is a well drilled for the primary purpose of extracting natural gas.
   - Oil is a well drilled for the primary purpose of extracting oil.
   - Water source is a well drilled to obtain water for the purposes of injecting water into an underground formation in connection with the production of petroleum or natural gas.
   - Injection is a well drilled or operated for the primary purpose of injection into a subsurface formation to increase oil recovery or the storage of natural gas. It can be either water or gas injection.

- Disposal is a well drilled or operated for the primary purpose of disposal of fluids that are a by-product of production.
- Observation is a well drilled to observe production parameters.

2. Well sequencing and exception code:
   - Each well must have a unique legal location. All wells must use the defined NTS or DLS legal location as per the Petroleum and Natural Gas Grid Regulation. See the Well Name section above for more information on well sequencing and exception code requirements.
3. Well drilling direction
   - Directionally drilled wells are greater than a five degree inclination for a minimum of 150 metres of measured depth.
   - Horizontally drilled wells have a greater than an 80 degree inclination for a minimum of 100 metres of measured depth.

Both injection and disposal wells require a permit to construct and complete a well. In conjunction, an additional order or permission is required under Section 75 of ERAA before a permit holder can use a particular sub-surface formation for the purpose of disposal or injection. This can be obtained via an amendment to the original permit or independently, depending on the specifics of the case. Early consultation with the Regulator's Reservoir Engineering branch via Reservoir@bc-er.ca is recommended for applications involving wells intended to be part of an ERAA Section 75 Special Projects (e.g., disposal, injection, Good Engineering Practice). As outlined in Section 6.3.1 Consultation Procedure and Timelines – ERAA Section 75 Special Projects, applicants should clearly indicate in the Project Description Form if the application includes wells intended for a Section 75 special project.

Well Classification

Wells are classified as development, exploratory wildcat, exploratory outpost, discovery, special data or observation well as defined in Section 2 of the Drilling and Production Regulation. To determine the classification of a well, refer to the high resolution Schedule 2 Unconventional Zones Map available on the Regulator's website.

The Regulator may reclassify a permitted well, post approval, if a well, or a portion of a well (in the opinion of the Regulator) resulted in a discovery of prior unknown factors.

The Regulator may reclassify re-entries if a well is re-entered and a new pool is not identified. Well information obtained during the re-entry is released in accordance with the classification assigned to the re-entry event.

The classification assigned to the well is reflected on the well permit letter. It is the permit holder's responsibility to review the classification assigned and follow-up with the Regulator if there are any questions.

4.1.3 Well Planning and Design

This section provides typical planning and design requirements, guidelines and considerations when planning and designing a well for an energy resource activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the well application relative to the engineering and technical information provided in AMS; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the components.

Regulatory Requirements

Well activities must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), Drilling and Production Regulation (DPR), the Environmental Protection and Management Regulation (EPMR).

If an exemption is requested from regulatory requirements, an exemption request may be submitted prior to an application, with an application, or after a permit has been issued. It must include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan showing mitigation strategies to reduce impacts.

If exemptions are approved prior to the application, this approval must be attached to the application.

Specific well exemption considerations include:

- Inline testing is required for all new wells within 1.25 kilometres of a residence and 3.0 kilometres or less of a suitable pipeline. If an exemption is desired for a specific well, a justification for the exemption must be included with the permit application. Exemption considerations are outlined in Regulator Directive 2010-03.

Guidance Requirements

In addition to the requirements articulated in the Energy Resource Activity Application Manual, well activities should meet guidance recommendations in the following Regulator documents:

- Energy Resource Activity Operations Manual.
- Inline Testing Directive.
- Supplementary Information for Water Source Wells.

If energy resource activities cannot adhere to the guidance recommendation, then justification for a variance must be included in the permit application. Include specifics of the guidelines not followed, an explanation of why they cannot be followed, proposed plan and mitigation strategies.

Advisory Guidance

The Regional Health Authority must be contacted prior to construction of the camp sump and disposal of sump fluids before reclamation. Locations of the various Health authorities are:

- 1001-110th Avenue, Dawson Creek, B.C., (250) 719-6500.
- 5217 Airport Drive Bag 1000, Fort Nelson, B.C., (250) 263-6000.
- 10115-110th Avenue, Fort St. John, B.C., (250) 263-6000.

Other than Normal Well Spacing

Normal spacing requirements for oil and gas wells are defined within Sections 5 through 7 of DPR.

Other than normal spacing areas occur along the entire provincial boundary and along the boundary of the Peace River Block, (Township-Range survey system), where it adjoins the Petroleum and Natural Gas Grid system. Other than normal spacing areas can also occur where active tenure was surrendered up to the boundary of a newly established park or protected area. They may also be established to manage resource production more equitably.

Horizontal wells with the productive interval open in two or more normal spacing areas, and not within an approved reservoir project (good engineering practice, pressure maintenance or unitized operation), must have an approved enlarged "other than normal" spacing area prior to production.

To space wells outside of the requirements, review the Other Than Normal Spacing Application Guideline and Information Letter EMD 00-09 Other Than Normal Spacing and Target Areas for Petroleum and Natural Gas Wells.

Wells with Surface Casing Set Depth Less Than 600m

Wells with a surface casing set depth less than 600 metres require a justification indicating how the base of useful ground water was determined and how the ground water will be protected. Justifications for the planned surface casing set depth can be submitted to the Regulator via the Application Management System. For more information, refer to INDB 2016-09 Technical Guidance for Determining "Base of Usable Groundwater" on the Regulator's website.

An intermediate casing program can be used as a justification for a shallow set surface casing if the intermediate hole will be drilled with non-toxic drilling fluid and the intermediate casing is to be set deeper than 600 metres and cemented in full length.

4.1.4 Well Specific Activity Requirements

This section outlines requirements for well applications. Requirements are dependent on the characteristics of each well and are outlined in full details below including a description, details of additional information and requirements. In most cases, the details are input into the well application tab within AMS, but may require the upload of an attachment to support the details

Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly as defined in Section 5.8 of this manual.

Technical and engineering well details are required for each well and include surface hole details, bottom hole details, well classification, well type and well characteristics.

For well re-entry of an active or abandoned well the Engineering Data Sheet for Re-entry must be completed and submitted with application as an "Other Attachment".

Water Source Wells Requirements

A water source well is defined in Petroleum and Natural Gas Act as:

- A hole in the ground drilled to obtain water for the purposes of injecting water into an underground formation in connection with the production of petroleum or natural gas.

A water source well permit is required before drilling or operating a water source well. Petroleum and natural gas titles are required for water source wells if petroleum or natural gas is produced. A water well drilled for the purpose of supplying water for drilling, camps, hydrostatic testing of pipelines, etc., does not classify as a "water source well" therefore does not require a well permit, but is regulated under the Water Sustainability Act.

All water source wells require well permits, however, companies wishing to explore for groundwater sources through test well drilling to depths of up to 300m on Crown land, may do so under an Investigative Use through an Associated Activity application. Following test well drilling under an Investigative Use , a water source well permit under ERAA and authorization under the Water Sustainability Act are required before any test well can be used as a water source.

Groundwater test wells drilled to depths greater than 300m on Crown land, or to any depth on private land cannot be authorized under an Investigative Use Permit, and require direct application for a well permit. Investigative Use applications are discussed in more detail in Section 4.6 of this manual.

Applicants are encouraged to consult the Supplementary Information for Water Source Wells document available on the Regulator's website for additional information regarding drilling of test groundwater wells under an Investigative Use and description of operational requirements for water source wells.

Groundwater Usage

The use of groundwater is regulated under the Water Sustainability Act and requires a water authorization (licence or approval) from the Ministry of Forests (MOF). Water licences are required to operate water source wells, unless they access "deep groundwater" as defined in the Water Sustainability Regulation. Consult the Regulator's Water Licence Application Manual.

Operators must comply with the Ministry of Environment's Ground Water Protection Regulation and the Ministry of Health's Protection Drinking Water Protection Act when using groundwater for camp water supply.

Requirements for Fracturing Operations Less than 600m Below Ground

The Drilling and Production Regulation states fracturing operations must not be conducted at a depth less than 600 metres below ground level unless the operations are permitted by the well permit. Fracture model simulation is required as part of the application if fracturing at depths shallower than 600 metres and must include a risk assessment for all potential impacts to usable groundwater resulting from the fracturing operations (where the "base of usable groundwater" is defined as per IB 2016-09). As a minimum, the fracture model simulation report must include:

- Fracture program design including proposed pumping rates, volumes, pressures, and fluids.
- Estimation of the maximum height and length of fracture propagation.
- Determination of the "base of usable groundwater" as per Information Bulletin 2016-09.
- Identification of water supply wells within 200 m of the proposed surface hole location and within 200 lateral metres of the surface trajectory of a horizontal or directional well. Include notification documentation of the water well owners of the proposed activity.

- Development of a groundwater monitoring program for the identified water supply wells that includes pre-drilling and post-fracture sampling of water wells where agreed to by the water well owners.
- Verification of cement integrity through available public data of all wells under the Regulator's jurisdiction within a 200 metre radius of the well to be fractured.
- Determination of bedrock depth.
- Assessment of the suitability and geological integrity of the candidate well for the proposed fracturing operations including casing and cement integrity.

Sour Well Formation Details

Applicants submitting a permit application for a well with an expected H_2S release rate greater than 0.01 m^3/s, must provide additional information, including H_2S release rate rationale spreadsheet and emergency planning zone (EPZ) map. Sour well formation details include:

- All expected sour zones and the corresponding maximum H_2S content.
- Estimated H_2S release rates for drilling and completions in accordance with the CAPP H_2S Release Rate Assessment Guidelines.
- Distance to nearest occupied dwelling. In remote areas, it is acceptable to indicate the distance to the nearest occupied dwelling with a greater than symbol. For example, distance to nearest occupied dwelling: greater than 4.2 kilometres. The Regulator does not require applicants to search a large radius to identify the nearest occupied residence. It is sufficient to ground truth the area out to the edge of the Emergency Awareness Zone (EAZ).

If the well is classified as a special sour well, the applicant must also submit a drilling plan. Drilling plan details include (but not limited to):

- Drilling fluid type.
- Underbalanced drilling (pressure in the well bore is lower than the fluid pressure in the formation).
- Managed pressure drilling information (an additive drilling process used to precisely control the annular pressure profile throughout the well bore).

- Sump information. A remote sump must be shown on construction plans.
- Geological information, including the extent and quality of offset data, a summary of offset hole problems and adverse drilling occurrences, an assessment of the possibility of encountering similar problems and occurrences at the proposed well, and how the problems and occurrences is dealt with.
- Description of the equipment used to drill the well including:
    1. Blowout preventer system, including a discussion as to whether blind shear rams is used and if not, an assessment or evaluation of the possible use.
    2. Drill pipe.
    3. Mud-gas separators.
    4. Drilling fluid system and equipment (type, density, quantity, hole volume, surface volume, stockpile supplies and availability, H_2S scavenger, mixing and pumping equipment).
    5. Wellhead (casing bowl, intermediate spool, valves) and casing (surface, intermediate, production).
- Description of the procedures to be followed in drilling the well including:
    1. Inspection and testing procedures ensuring all equipment is fully operational prior to the well reaching the critical depth and procedures to ensure a state of readiness is maintained.
    2. Procedures to ensure wellsite personnel are familiar with the drilling and emergency response plan, trained in the use of the drilling and safety equipment, and are proficient in blowout preventer and well control procedures.
    3. Procedures to ensure wellbore and casing integrity (directional survey, formation leak-off tests, casing pressure test, caliper logs).
- Description of the monitoring of drilling and drilling fluid parameters to be installed ensuring drilling occurrences (kicks, lost circulation) or warning signs (drilling rate, torque, pump pressure, gas-cut mud) are promptly detected.
- Information to confirm, prior to licensing sufficient well-site personnel are available and adequately trained and experienced for the drilling operation.

Special sour wells are classified by a combination of potential H_2S release rate and distance from an urban centre as outlined below. In addition, the Regulator may classify a well as a special sour well based on the maximum potential H_2S release rate, population density, environment, sensitivity of the area and any expected complexities during the drilling phase.

Potential H_2S Release Rate (m^3/s)	Distance to Boundary of Urban Centre
$0.01 \leq H_2S < 0.10$	≤ 500 metres
$0.10 \leq H_2S < 0.30$	≤ 1,500 metres
$0.30 \leq H_2S < 2.00$	≤ 5,000 metres
$H_2S \geq 2.00$	N/A

Flaring

Where flare volumes are requested as part of a new permit application or well permit amendment application, a technical justification in support of those volumes may be required, and will always be required if the total of all requested volumes across all zones exceed the following thresholds:

- 400 $10^3 m^3$ for a well classified as a development well.
- 600 $110^3 m^3$ for a well classified as either an exploratory outpost or exploratory wildcat well.

Requirements where applicant is not PNG rights tenure holder

According to Section 24.4 of ERAA, if the applicant is not the registered petroleum and natural gas rights holder for the target formation, an agreement between the applicant and the registered holder of the subsurface rights must be in place.

Applicants must adhere to the conditions of the PNG tenure and ensure any proposed applications are compliant with the tenure conditions set out under Section 72 of the PNG Act, if there are any.

If the PNG tenure includes any special conditions, known as caveats, the applicant must provide an explanation of the caveats in AMS. These caveats disclose information related to potential access restrictions that an applicant may adhere to and that the Regulator may need to consider as part of the decision making

process. Caveats may have been identified as part of the pre-tenure engagement referral process with another Ministry, local government and or First Nation.

For more information, refer to the Ministry of Natural Gas Development website.

Emergency Response Planning

An Emergency Response Plan (ERP), or an update to an existing plan, must be submitted to the Regulator prior to commissioning a well, in accordance with Section 7 of the Emergency Management Regulation. Emergency planning zones are determined using H_2S content of product in a well or pipeline. Review Schedule A of the Emergency Management Regulation for more information.

Please Note:

If the proposed application will not penetrate formations containing H_2S or the well product is sweet, enter the Hazard Assessment Zone (km) for the Effective EPZ (km) field in the Calculated Emergency Planning Zone Details section of the AMS application.

4.1.5 Geothermal Wells

On March 31, 2017, the Geothermal Operations Regulation of the Geothermal Resources Act (GRA) was amended. With the amendment to this legislation, the BC Energy Regulator was granted jurisdiction over geothermal wells.

The Geothermal Resources Act regulates wells encountering water equal to and greater than 80 degrees Celsius.

Please Note:

If the proposed application is being designed to extract ground water at a rate that is equal to or greater than 75 litres per second, periodically or continuously for one year or more, an Environmental Assessment review may be required. Please contact the Regulator prior to submission of the application.

4.1.6 Geothermal Wells Defined

The Geothermal Resources Act (GRA) defines a geothermal well and resource as follows:

"**well**" means a hole in the ground:

a) made or being made by drilling, boring or any other method for the purpose of producing a geothermal resource or through which a geothermal resource is or can be produced,
b) used, drilled or being drilled for the purpose of injecting any substance into subsurface strata to assist the production of a geothermal resource, or to dispose of water produced in connection with the production of a geothermal resource, or
c) used, drilled or being drilled for the purpose of obtaining information about a geothermal resource.

"**geothermal well**" means a well in which casing is run and that the minister considers is producing or capable of producing a geothermal resource from a geothermal resource bearing zone.

"**geothermal resource**" means the natural heat of the earth and all substances that derive an added value from it, including steam, water and water vapour heated by the natural heat of the earth and all substances dissolved in the steam, water or water vapour obtained from a well, but does not include:
a) water that has a temperative less than 80 degrees Celsius at the point where it reaches the surface, or
b) hydrocarbons;

"**facility**" means any surface equipment required to produce geothermal resources or to inject water or other fluids produced in connection with a geothermal resource into subsurface strata, but does not include:
a) a pipeline as defined in the Energy Resource Activities Act, or
b) equipment used in connection with the conversion of the geothermal resource into a commercial commodity.

"**development plan**" means a plan for the drilling of the number of wells that are, in the opinion of the minister, sufficient to enable production of a geothermal resource underlying a lease to begin, including providing piping, equipment, reinjection wells and controls required to produce the geothermal resource, but does not include plans for the commercial utilization of the geothermal resource or for converting it into any other form of energy.

The Geothermal Operations Regulation defines a thermal gradient well as follows:

"thermal gradient well" means a well drilled to obtain geotechnical information about a geothermal source.

Approved geothermal applications receive a permit under Section 12 of the GRA to carry out construction and operations pertinent to the activity. The permit expires where construction activities have not started within two (2) years of permit issuance. Unless expired, the permit remains active until cancelled, suspended or declared spent, according to the provisions of GRA.

Geothermal Well Names

Well names are generated by, and populated into, AMS automatically when spatial data is uploaded. Well names are based on information gathered at the application stage and formatted following the same standards as identified for an ERAA well name in Chapter 4.1.1 of this manual.

4.1.7 Creating a New Geothermal Well Activity Application

New Geothermal Well Applications

A new geothermal well permit is required for any new geothermal wells to be constructed and operated, including re-entering wells which have been previously issued a certificate of reclamation.

Currently, the Regulator utilizes an ERAA well application in AMS for the submission of a geothermal well. To create a geothermal well application:

1. Select New ERAA application
2. Select the activity as an ERAA well

Application Information Tabs

Applicants are required to follow the guidance for Application Information tabs which include: Spatial Data, Administrative, Land, Stewardship, Agriculture, Archaeology, First Nations engagement, Rights Holder Engagement, Maps and Plans and Attachment requirements as outlined for an ERAA application found throughout this manual. Exceptions to this guidance, specific to a geothermal well, are identified below.

Additional information on how to create an application can be found in the AMS User Manual.

Agriculture

The ALC-OGC Delegation Agreement does not apply to geothermal activity; however, based on spatial data uploaded, AMS will identify if the application falls within the Agriculture Land Reserve (ALR) and trigger additional questions.

If the application impacts ground disturbance within the ALR an application to the Provincial Agricultural Land Commission will be required to be submitted to them or to the local authority with an ALC delegation agreement.

More information can be found in Chapter 5.3 – Agriculture Land Reserve Information Tab.

Rights Holder Engagement

A geothermal well application will require Rights Holder Engagement (RHE); however, for this application type, AMS will populate the Consultation and Notification tab.

Rights holder engagement information can be found in Chapter 6.2 of this manual.

Please Note:

AMS will populate the C&N tab, rather than RHE tab, therefore the following items will need to be completed:

- The activity radius data fields are required input. The system is designed to only accept the radius for ERAA oil and gas wells as per the Requirements for Consultation and Notification Regulation (RCNR). Enter the minimum radius as outlined in the Section 17 of the RCNR for an ERAA well.
- For a new geothermal well, AMS will require an RCNR Line List to be uploaded, rather than the Rights Holder Engagement Line List. The template can be found here: RCNR Line List.
- Populate the line list with Rights Holder Engagement information. For "Recipient Type", select the "Rights Holder", notify, as per Section 10 of the RCNR.
- AMS will also validate the application submission timelines using the consultation and notification timelines shown in Figure 6-I, rather than rights holder engagement timelines shown in Figure 6-F; within Chapter 6 of this manual.
    - Select "YES" to the question. Exemption from Requirements from Consultation and Notification Regulation requested.
    - When prompted for the Exemption Approval attachment, upload a rationale explaining that the application is for a geothermal well, therefore rights holder engagement timelines apply.

After submission, the application will proceed to a decision once all obligations for rights holder engagement timelines have been met.

First Nations

First Nations consultation for geothermal projects will be assessed on a case by case basis. The Project Description Form is a required attachment and can be found here.

Maps and Plans

Maps and plans for the application should be designed and submitted as per Chapter 5.7 of this manual.

When preparing a construction plan for a geothermal well, ensure position of the well, within the wellpad, references location of the proposed well head in relation to criteria covered under Section 5 of the Geothermal Operations Regulation.

Attachments

Attachments that are mandatory to upload on a specific page will display under the applicable category under the Attachments Tab.

Applicants may wish to upload additional documents directly under the Attachments Tab, such as Emergency Response Plans, Engineering information and any other documentation that may assist in the review of the application.

For more information on Emergency response Plans, refer to the Emergency Response and Safety page on the Regulator's website.

Applicants are required to provide a project summary document including the anticipated temperature and anticipated fluid production.

Well Activity tabs

Further to the application information tabs, the well activity tabs are required to be populated as guidance for an ERAA application found in Chapter 4.1.1 of this manual. Exceptions to this guidance, specific to a geothermal well, are identified below.

Under the Well Overview tab

Oil and Gas Field Name: AMS will spatially derive the oil and gas field name or display "not found" if the well location is not located within a defined field. When "not found" displays, applicants may select the nearest appropriate field from the oil and gas field name drop-down list or enter the nearest geographical location. To enter a field name that is not available in the drop-down list, select "Other Areas" from the list and type the name in the 'specify area' text field.

PNG Tenure Rights ID: Enter the Geothermal subsurface tenure permit number.

Under the Well Details tab

Well Type: Select the appropriate drop down option for the intended use of the geothermal well: "Geothermal Disposal", "Geothermal Injection", or "Geothermal Production". For a thermal gradient well select "Geothermal Exploration". Provide an attachment explaining the intended use of the well.

Well Classification: If the Well Type selected is "Geothermal Disposal", "Geothermal Injection", or "Geothermal Production", then select the Well Classification as: "Geothermal Operation". Otherwise, select the classification option: "Thermal Gradient".

- Applicants must agree to the well classification confidentiality clause by selecting the check box

Bottom Hole Details:

- **Well Profile:** select the profile based on the drill path
- **Formation at depth:** select "Pre-Tertiary"
- **BOP:** select "Other" and provide a description
- **Objective Field:**
  - **Formation:** Pre-Teriary
  - **Fluid:** Water
  - **Depth:** Same as above

Well Hazard Planning: Select "No" as this section does not apply to geothermal wells.

Flaring details: Depending on the geology of the area for the well that is being drilled, flaring may be required. Please refer to Section 4.1.4 of Chapter 4.1 – Completing Activity Details: Well Activity.

Exemption details: Select "Yes", "Yes" then "No" as this section does not apply to geothermal wells.

Application Validation and Submission

The application can be submitted once all mandatory application requirements have been met. For more information on validating and submitting an application, please refer to the AMS User Manual.

AMS Payment

Upon submission of the application, AMS will calculate the application fees for an ERAA well. Applicants are requested to select the e-Pay option to "pay later". Once the application has been submitted, please contact the Authorization Director for the applicable zone to request an adjustment on the application fees from an ERAA well to a geothermal well.

Chapter 4.2 Completing Pipeline Activity Details

4.2 Pipeline Activity Tab

Applicants applying for a pipeline permit must complete the pipeline activity tab in the Application Management System. The pipeline tab is made up of three components: pipeline overview; pipeline details including segment details, segment linkages; installation details and exemptions; and land details.

This section includes an overview of pipeline permitting, guidance regarding pipeline planning and design, details related to pipeline-specific application requirements and detailed instructions for completing the data fields within the pipeline tab.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the applicant to review the manual in its entirety and be aware of the content in other sections of the manual.

4.2.1 Pipelines Defined

Pipelines are an energy resource activity as defined in ERAA as:

Piping through which any of the following is conveyed:

a) an energy resource,

a) Carbon dioxide,

b) Water used for, or produced in the course of, an energy resource activity,

c) Solids,

d) Substances prescribed in Section 133(2)(v) of the Petroleum and Natural Gas Act,

e) Other prescribed substances.

And includes installations and facilities associated with the piping, but does not include:

f) Piping used to transmit natural gas at less than 700 kilopascals (kPa) to consumers by a gas utility as defined in the Gas Utility Act.

g) A well head, or

h) Anything else that is prescribed.

Additionally, the following substances are prescribed in the ERAA General Regulation for the purposes of paragraph (e) above:

- Water and steam used for geothermal activities

And the following is prescribed for the purposes of paragraph (h) above

Pipelines used in a gas distribution main, as defined in regulations under the Safety Standards Act.

Energy Resource is defined in ERAA as:

a) petroleum,

b) natural gas,

c) hydrogen,

d) methanol, or

e) ammonia

In the field, pipelines encompass all piping from pig sending barrel to pig receiving barrel including all segments, risers, and appurtenances in between. For pipelines without pig barrels, the pipeline includes the last valve on the riser (or below ground valve), pump stations, line heaters, regulator stations, etc. prior to the facility tie-in. This transition may occur inside or outside the lease boundary.

Approved pipeline applications receive a permit under Section 25 of ERAA to construct and operate a pipeline. Pipeline permits expire where construction activities have not started within two (2) years of permit issuance. Unless expired,

the pipeline permit remains active until cancelled, suspended or declared spent, according to the provisions of ERAA.

Temporary Above-ground Freshwater Lines

Temporary above-ground lines designed to transport fresh water are not within the definition of a pipeline; therefore a pipeline permit is not required. Temporary above-ground water lines are authorized by the Regulator as associated activity and require an applicable authorization. Associated activities are detailed in Section 4.6 of this manual.

Canadian Energy Regulator (CER) Pipelines

In accordance with Sections 8 and 9 of ERAA, the Regulator has limited authorities with respect to federally regulated pipelines. These authorities do not include the power to issue an approval for these pipelines; however, applications for the pipeline right of way, road right of way; as well as ancillaries including facilities are submitted through AMS. Refer to Chapter 7 of this manual for more information regarding CER applications.

Preliminary Plans and Fixing the Site of a Proposed Pipeline Route

Under Section 23 of ERAA:

- Submitting a pipeline preliminary plan when preparing an application for a pipeline permit is optional. However, it is mandatory when entering land to conduct preliminary surveys or examinations, to fix the site of a proposed pipeline route.

Submission of a pipeline preliminary plan must include:

- Detail the proposed route, including a map of the proposed pipeline route at an appropriate scale:
    1. Base data.
    2. Tenure holders.
    3. Land parcels (legal land title).
    4. Portions of private land under agreement.
    5. Portions of private land without an agreement.
    6. Portion of land on which activities are completed.

- Outline proposed portions on private land where the applicant has not been granted access and submit the prescribed security to the Regulator to compensate the land owner or the Crown for any damage or disturbance possibly caused by fixing the site.
- Complete the required notifications.

Applicants should follow best management practices in addition to the regulatory requirements when following the preliminary plan process including:

- Immediately advise land owner when a situation requires the land owner's attention.
- Immediately notify land owner of changes made in respect of the obligations in Section 23 of the Requirements for Consultation and Notification Regulation.
- Consult land owner on preferred method of land access and only use motorized vehicles with the permission of the land owner.
- Ensure surveyors minimize the number of survey stakes used.
- Ensure surveyors only cut trees or branches in areas where growth is too dense for site lines.
- Ensure any trees or branches cut down are disposed of in a manner acceptable to the land owner.
- Ensure assessments are coordinated (for example, soil assessment with archaeology assessment) to avoid secondary intrusions.
- Provide the land owner with any soil assessment reports.

Additional Consultation and Notification Requirements: Notification Before Fixing the Site of a Pipeline

Notification requirements specific to fixing the site of a pipeline are indicated in Section 15 (3) of ERAA and Section 15 of the Requirements for Consultation and Notification Regulation. This notification precedes the consultation and notification associated with the pipeline permit application.

A person is required to notify the land owner of the intent to enter onto the land owner's property. The notice must include:

- Applicant name and contact name (person entering the land).

- Applicant contact information (or land agent representing the applicant) including contact name and phone number and email address.
- Preliminary plans under Section 23 (1) of ERAA.
- Description of the specific portion of the land to be surveyed or examined, and the activities to be undertaken for the purpose of fixing the site of the pipeline.
- Timelines and order in which proposed activities are carried out. For multi-well pads, include the entire schedule of activities over various years, where applicable.
- Statements advising the land owner of notification and consultation obligations if the company intends to submit an application for a pipeline permit on the land.

Applicants intending to enter on land in accordance with Section 23 (2) of ERAA must, provide notice to the land owner at least two (2) working days before entering the land.

4.2.2 Creating a New Pipeline Activity Application

New Pipeline Applications

A new pipeline permit is required for any new pipeline construction or operation, including pipelines constructed in existing right of way or over new Crown or private land. New pipeline segments can be added to an existing pipeline permit via an amendment application.

Pipelines can be applied for individually or with other energy resource activities as part of a multi-activity project application. The system generates data input requirements for additional activities specified within the spatial data upload.

Pipeline Permit Amendments

Approval of a permit amendment application is required before the associated changes are carried out. Applications for amendments to pipeline permits may be required if the permit holder plans to change the surface disturbance associated with the pipeline permit or certain operating parameters of the pipeline. With respect to operating parameters, changes requiring an amendment to a pipeline permit include:

- Increase in maximum operating pressure.
- A new pipeline segment to an existing pipeline permit.
- Modify pipeline, including installation of a liner within an existing pipe.
- Adding the following installations, these should be added under the pipeline installation section in the application and require spatial data:
    1. Flare stack
    2. Generator
    3. Line heater
    4. Pump
    5. Regulator
    6. Riser
    7. Tank
    8. Valve (pressure control and / or isolation. Isolation valves and Emergency shut down valves should be entered as two separate installations.)
- A permit amendment is required, prior to a change of service, when planned or actual fluid composition of a pipeline is outside of the permitted parameters or does not meet the criteria of a notification. Common examples of change of service fluid that require an amendment include increase of H_2S and changes to some fluid types.
- The following changes do **not** require an amendment, and can be submitted as a notification providing the pipeline permit includes the notification permission and:
    a) prior notice of the change is provided, in the form and manner the BC Energy Regulator requires;
    b) the change is not made before the 7th day after the notice identified in (a) is submitted or the day the permit holder receives notification from the BC Energy Regulator, whichever occurs first;
    c) the change does not affect direct connections to pipelines and facilities;
    d) there are no changes to approved pressure protection, H_2S protection or isolation;
    e) there is no substantive impact to any aspect of the project that was included in the consultation;
    f) the design and operation of the pipeline continues to meet all regulatory requirements and the requirement of CSA Z662

- changes to outside diameter
- adjusting the wall thickness
- changes to the pipe grade as identified in the product change table (see, Energy Resource Activity Operations Manual)
- allowable pipeline product changes
- reducing H_2S
- reducing the maximum operating pressure
- changing the flow direction;
- pipeline segment split
- minor modification for installations

More information on the notification process, including how to submit a notification, can be found in the Energy Resource Activity Operations Manual.

- If the service fluid is seen to go out of specifications, the permit holders should ensure the fluid composition is within the parameters of any connected facility or pipeline until the permit amendment, for the change of service, is approved.
- Amendments to adjoined facilities or facilities linkage changes may be required. See section 4.3 of this manual and the Energy Resource Activity Operations Manual for more information.

Pipeline Integrity Works Applications

Where in-stream works, temporary workspace or other authorizations are required to facilitate regular maintenance and integrity work for pipelines, permit holders are required to do the following:

1. Contact the appropriate Authorizations Director at the Regulator and notify them of the timing of submission and the risk ranking (based on risk rating criteria below) of the integrity works application.
2. Ensure that the application summary clearly identifies the application as integrity work.
3. The application summary must include the level of urgency of proposed integrity works, ranked from 1 to 3 for risk to public safety and environment.

Risk Rating Levels:

- Level 1 - Investigative digs and planned maintenance: Where smart tool analysis or visual inspection has indicated an anomaly of some form and further investigation is required, or planned maintenance works (digs, pipeline replacements, depth of cover maintenance, etc.), that are part of planned infrastructure maintenance where no immediate threat to the environment or public safety is present.

- Level 2 - Known Risk: Where there is exposed pipeline or potential for pipeline integrity to be compromised.
- Level 3 – Emergency Works: Where pipeline integrity is compromised and the threat to the public or the environment is existing or imminent.

Historical Submission: Pipeline

A historical pipeline submission is intended to collect missing data including dates for NCS, NPT, LTO and as built information. The historical pipeline submission is also used for notification of pipeline changes. Specific details for historical pipeline submissions can be found in the AMS User Manual. Any changes, which require an amendment application, cannot be applied through a historical submission.

The historical pipeline submission is selected from the create “application type” menu as “historical submission”.

Historical pipeline applications pass fewer data validation checks upon submission. No fees are collected for an historical pipeline submission.

In order to complete a historical pipeline submission, AMS searches pipelines based on the applicant’s information including:

- Approval determination number.
- Legacy BCER File number.
- Authorized activity number (Pipeline project number).

Once the permit holder enters the historical activity description, AMS pre-populates the information fields based on the current information, where information exists. Complete and/or edit the activity details within the AMS tabs. Spatial data may be uploaded where it does not exist providing it meets the spatial data standards and the spatial data provides the physical location of the facility. Spatial data for historical submissions is optional, except where a notification for segment splits or changes to installations occurs..

4.2.3 Pipeline Planning and Design

This section provides typical planning and design requirements, guidelines and considerations when planning and designing a pipeline for an energy resource activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the pipeline application relative to the engineering and technical information provided

in AMS; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Pipelines must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), the Pipeline Regulation and the Environmental Protection and Management Regulation (EPMR).

Of particular note, as required under Section 3 of the Pipeline Regulation:

- Every permit holder designing, constructing, operating, maintaining or abandoning pipeline infrastructure in British Columbia must follow the most current version of CSA Z662, including Annex N.

CSA Z662 is the standard developed and maintained by the Canadian Standards Association covering the design, construction, operation and maintenance of energy resource industry pipeline systems conveying liquid hydrocarbons, oilfield water and/or steam, carbon dioxide, or gas. It is a legal requirement for operators to meet this standard for pipelines operating under ERAA in B.C.

If an exemption is requested from regulatory requirements, an exemption request must be prepared at the time of application and include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan showing mitigation strategies to reduce impacts.

If exemptions are approved prior to the application, this approval must be attached to the application.

Guidance Requirements

In addition to this Energy Resource Activity Application Manual and the CSA Z662 standard, pipeline activities should meet guidance recommendations in the following Regulator documents:

- Energy Resource Activity Operations Manual.
- Environmental Protection and Management Guideline.

If energy resource activities cannot adhere to the guidance recommendation then justification must be included in the permit application. Include specifics of the guidelines not followed, an explanation of why they cannot be followed, proposed alternative and mitigation strategies.

Pipeline Integrity Management Programs (IMP)

In accordance with Section 7(1) of the Pipeline Regulation:

- A pipeline integrity management program must be prepared in compliance with CSA Z662 including Annex N.

Applicants must be aware of the legal requirements to meet this standard for pipelines operating under ERAA in B.C. and answer IMP-related questions in the pipeline permit application.

Damage Prevention Plans (DPP)

In accordance with Section 7(1) of the Pipeline Regulation:

- All pipeline permit holders must develop and implement a damage prevention plan and submit the program for review upon the Regulator's request. For a successful damage prevention plan, permit holders should review the British Columbia Common Ground Alliance's Recommended Practice for Damage Prevention Programs.

Damage Prevention Programs are intended to reduce the frequency of preventable damage by addressing external/third-party threats to the integrity of pipeline infrastructure.

Surface and/or Subsurface Planning

Pipelines often require surface or subsurface corridors. Environmental considerations must go into planning a pipeline route including:

- Projects may require approval from the Environmental Assessment Office and timelines for approvals should factor into the application planning stages.
- Crossing plan drawings/diagrams should be prepared when crossing water, roads, rails and other utilities. Include a table of crossing type, typicals for all types of crossings and specific design drawings for any aerial crossings.

- Plot plans should be prepared showing the riser/pipeline starts and ends on a site and how it leaves the site going into the right of way. Risers associated with the pipeline require National Topographic Series (NTS) or Dominion Land Survey (DLS) co-ordinates for location confirmation. The locations must be filled out and indicated on the design schematics along with segment specification information. Include as part of the pipeline or amendment to the pipeline, even if it exceeds the width of the existing right of way.
- Geotechnical summary identifying geohazards along the pipeline route and mitigating strategies. This is a required document for all trenchless crossings.

4.2.4 Pipeline Specific Activity Requirements

This section outlines application requirements for pipeline applications. Requirements are dependent on the characteristics of the pipeline and are outlined in full details below including a description, details of additional information and requirements.

In addition to the pipeline project description, pipeline specific details are input into the pipeline application tab within the Application Management System and may require the upload of an attachment. Additional attachments may include (further described in this section):

- Engineering assessment.
- Piping and instrumentation diagram.
- Appurtenance design.
- Above ground pipeline protection and support drawings.
- Pressure control/overpressure protection.
- Proposed pressure test design.
- Leak detection design.
- Gas analysis for new sour pipelines.

Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly as defined in Section 5.8 of this manual.

Technical and engineering pipeline details are required for all known design specifications for the pipeline, and the start and end points of the pipeline. The start and end points are not just from lease to lease, but the exact start and end point of the pipeline is required for all pipeline applications; this information is collected within the line data of the spatial data submission.

If Annex C of CSA Z662 has been used in the design of the pipeline, please attach documentation in the application detailing which segments followed the design along with how Annex C was incorporated into the design.

1. Engineering Assessment

An engineering assessment is required for the activities that fall under the CSA Z662 clauses listed in Appendix A of this manual. Engineering assessments must be performed and documented to the standards outlined in the CSA Z662. The standards are considered engineering documents. Section 20(9) of the Engineers and Geoscientists Act states the assessments must be sealed, signed and dated by a professional engineer licenced in the province of British Columbia.

2. Piping and Instrumentation Diagram (P&ID)

A full P&ID is required for all new pipeline applications and the amendments which affect the whole pipeline. P&ID of the point location can be submitted, if the change is only applied for that point location.

The minimum requirements for P&IDs are:

- All pipelines which are part of the permit are shown, including their connections (input and output).
- All segment breaks indicated and segments labelled (by project/segment).
- Facility and pipeline breaks, if applicable, clearly indicated.
- Spec breaks and class location changes indicated.
- Valves, fittings, flanges, etc. shown.
- Risers indicated with locations.
- Flow direction indications/arrows.
- Any equipment or pressure control directly on the pipeline, including setpoints. (Note pressure control can be on the facility drawings, in which case a separate pressure control attachment can be provided).

- Pipeline fluid or fluids, maximum permitted H_2S and maximum operating pressure.
- Pipeline outside diameter (OD) and wall thickness (WT).
- Drawing cross-references. Indicate on the drawing the line continued on so it is traceable.
- Drawing number, revision number and date.

Risers or installations directly supporting the pipeline are considered part of the pipeline and should be included in the piping and instrumentation diagram. Installation types included on a pipeline application include:

- Pump
- Storage vessel/tank
- Regulator
- Riser
- Pressure control/pressure protection valves/devices
- Isolation valves showing the physical location.
  (If applicable, the distance between valves and relation to major water crossings is to be determined)
- Farm taps
- Line heater
- Flaring
- Generator

Installations not included in the list should be shown on the P&ID and may be included as part of the facility application.

3. Appurtenance Design

An appurtenance is an item that belongs to the pipeline, such as a riser, pig sender, pig receiver or pump stations. The appurtenance design may be shown as a table or schematic that includes all specifications, codes and or standards and appurtenance locations.

4. **Above Ground Pipeline Protection and Support Drawings**

   If the pipeline is installed above ground, provide documentation showing the additional measures taken to protect it from external interference, UV degradation and other possible failure modes. This is not applicable for typical surface piping on a riser site. For aerial crossings, provide documentation for the pipeline support structure.

5. **Pressure Control/Overpressure Protection**

   Pressure control/overpressure protection must include the locations and set points of any devices protecting the line from possibly exceeding maximum operating pressure (MOP).

6. **Proposed Pressure Test Design**

   Pressure test plans should meet the requirements of CSA Z662. Hydraulic test plans must include the test medium, the minimum and maximum anticipated test pressure considering elevation differences, and the hold times. Pneumatic test, plans must include the procedures which are used at the site including all safety protocols. Pneumatic plans must also include a rationale for pneumatic testing.

7. **Leak Detection Design**

   A description and/or drawings of the leak detection methodology is required for liquid hydrocarbon and optional otherwise.

8. **Gas Analysis**

   Representative gas analysis and expected release volume, expressed at standard conditions of 15 degrees Celsius and 101.3 kPa, of hydrogen sulphide from the pipeline. This is required by Section 2 of the Pipeline Regulation.

4.2.5 Additional Considerations for Pipeline Activity

Emergency Response Planning

An Emergency Response Plan (ERP), or an update to an existing plan, must be submitted to the Regulator prior to commissioning the pipeline (Leave To Open), in accordance with Section 7 of the Emergency Management Regulation. Emergency planning zones are determined using H_2S content of product in a pipeline. Review Schedule A of the Emergency Management Regulation for more

information.

Please Note:

Applicants submitting an update to an existing Emergency Response Plan should include a statement identifying the existing plan.

Approval from Other Jurisdictions for Pipelines

The Regulator may authorize a permit holder to construct a pipeline across, along, over or under any highway, road, public place, railway, underground communication or powerline, or another pipeline. Despite this permission, the permit holder may still require authorization for the use or occupation of land from the affected jurisdiction. Applicable legislation should be consulted.

BC One Call

Section 7 of the Pipeline Regulation states:

- A permit holder must not operate a pipeline approved by a permit unless the permit holder is a member of BC One Call. For more information on BC One Call, visit the BC One Call website.

Chapter 4.3 Completing Facility Activity Details

4.3 Facility Activity Tab

Applicants applying for a facility permit must complete the facility application tab in the Application Management System. The facility tab is made up of three components: facility overview; facility details including equipment details, technical specifications and exemptions; and land details.

This section includes an overview of facility permitting, guidance regarding facility planning and design, details related to facility-specific application requirements and detailed instructions for completing the data fields within the facility tab.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.3.1 Facility Permitting Defined

Facilities are an energy resource activity, and are defined in ERAA as:

- A system of vessels, piping, valves, tanks and other equipment used to gather, process, measure, store or dispose of petroleum, natural gas, water or a substance referred to in paragraph (d) or (e) of the definition of pipeline.

Approved energy resource applications receive a permit under Section 25 of ERAA to carry out construction and operations pertinent to the activity. The permit expires where construction activities have not started within two (2) years

of permit issuance. Unless expired, the permit remains active until cancelled, suspended or declared spent, according to the provisions of ERAA.

Facility Types

Applicants must apply for a specific type of facility. The appropriate facility type must be selected in the facility details component of the facility tab in the Application Management System. Facility types include (and are further defined in the Regulator's glossary):

- Battery site
- Compressor Dehydrator
- Compressor station
- Disposal station
- Gas dehydrator
- Gas processing plant
- Gas sales meter
- Injection station
- LNG facility
- Oil sales meter
- Processing battery
- Satellite battery
- Tank terminal
- Water hub
- Well facility
- Pump station
- NGL fractionation facility
- Hydrogen Manufacturing Facility
- Ammonia Manufacturing Facility
- Methanol Manufacturing Facility
- Carbon Dioxide Storage Facility
- Gas Conversion Facility
- Petroleum Refinery

Facilities and operational equipment required in energy resource activities, whether temporary or permanent require a facility permit. The facility application tab in AMS is used for all facility applications, whether within an existing right of way, wellsite or over new Crown land or private land.

Facility Names

Facility names are generated by, and populated into AMS automatically when spatial data is uploaded. Facility names are based on information gathered at the application stage and formatted as follows:

- Operator Abbreviation – Oil & Gas Field Name – NTS/DLS Location – Name Qualifier

AMS will spatially derive the oil and gas field name or display "not found" when a facility location is not located within a defined field. When "not found" displays, applicants may select the nearest appropriate field from the oil and gas field name drop-down list, or enter the nearest geographical location. To enter a field name that is not available in the drop-down list, select "Other Areas" from the list and type the name in the 'specify area' text field.

Liquefied Natural Gas and Gas Processing Plants

Liquefied Natural Gas (LNG) facilities, oil refineries and gas processing plants are considered facilities under ERAA. New plant or refinery applications are submitted under facilities; amendments are submitted when certain equipment is added to an existing plant, such as a new compressor or processing train.

Facility Numbering

Upon issuance of a facility permit, the Regulator's information systems will assign a facility identification number (FACID) to the facility. The codes are used to track facilities and associated operational submissions in the Regulator's KERMIT information system.

4.3.2 Creating a New Facility Activity Application

New Facility Application

A new facility application is submitted to obtain a facility permit on either a new well/facility area or on a previously permissioned well/facility area. A permit is required prior to any construction or installation of equipment and flow of product.

Facilities can be applied for individually or with other energy resource activities as part of a multi-activity project application. The AMS generates data input requirements for additional activities specified within the spatial data upload.

Facility Permit Amendments

An amendment must be used for modifications beyond what is authorized in the permit and is required for facility expansions and activities where work initiates or impacts noise and/or air emissions. Examples where a permit amendment is required include:

- The addition of any equipment listed in AMS under the Facilities Details tab, for example: flare stack, main gas compressor, glycol dehydration unit. (please refer to Appendix C of this Manual for a more specific list),
- Addition of production storage tanks (oil, water, emulsion or condensate)
- Replacing equipment where additional regulatory considerations may be required (e.g. replacing with a larger unit that may consequentially increase processing capacity, noise emissions or waste discharge),
- Increasing the permitted H_2S concentration,
- Increasing the inlet capacity of a gas plant,
- Modifying an aspect of the facility outside the limits of the permissions and authorizations of the permit (such as increases in flare limits).

Appendix C provides a comprehensive list of facility changes requiring a facility permit amendment. Appendix D includes examples of changes that can be made under the existing permit without submission of amendment applications, NOI or updated as-built record drawings.

Please Note:

Drawings included with amendment applications must include clouded areas to indicate amended areas.

Notice of Equipping Wells

Effective December 1, 2025, the installation of piping, equipment and instrumentation on additional wells do not require an amendment and can be submitted as a notice of “Equipping Wells” providing the well facility permit includes the notification permission and:

- Prior notice of the installation is provided, in the form and manner the BC Energy Regulator requires;
- Installation is not started before the 7th day after the notice is submitted or the day the permit holder receives notification from the BC Energy Regulator, whichever occurs first;

- Each additional well has an approved, valid Well Authorization number;
- The new equipment is required to safely produce the additional wells and does not include a process gas compressor, flare system, produced fluid storage tank or dehydrator;
- There is no increase in the H_2S permitted content for the facility;
- There is no substantive impact to any aspect of the facility that was included in the consultation;
- The design and operation of the facility continues to meet all regulatory requirements.

More information on the notification process, including how to submit a notification, can be found in the Energy Activity Operations Manual.

Notice of Intent to Remove All Equipment from a Site

When a permit holder has removed all the equipment and pilings (or cut 1 metre below grade and buried) from a facility site, they must submit a Notice of Intent (NOI). A project description and documentation of proof must be submitted to the Regulator which should clearly identify all facility equipment and piping that was removed. The documentation of proof could include pictures of the location showing the equipment has been removed or a signed confirmation from the contractor that completed the removal. The Regulator's Energy Resource Activity Operations Manual provides more information on Notice of Intent submissions.

Notice of Intent to Suspend a Gas Plant or Other Facility

Suspension of a facility must be carried out in accordance with Section 79 of the Drilling and Production Regulation and notice submitted via a Notice of Intent (NOI). The Regulator's Energy Resource Activity Operations Manual provides more information on Notice of Intent submissions.

Facility Permit Amendment for Change of Service

A change of service typically applies to both a facility and a pipeline and requires that each be amended under the permit in which they were originally issued. If the change of service includes a pipeline that was not originally approved in the same permit as the facility, the permit number for the pipeline must be entered in the description box in the facility amendment.

If a product is introduced into a facility or pipeline that was not originally designed for sour service, an Engineering Assessment, in accordance with the latest edition of CSA Z662, must be completed and attached to the amendment application. A facility permit amendment is also required to increase the permitted H_2S concentration of a facility.

For changes in service at a facility to decrease H_2S concentration, a Notice of Intent (modify equipment or facility) may be appropriate depending on the limitations of the permit permissions. The Regulator's Energy Resource Activity Operations Manual provides more information on Notice of Intent submissions.

Historical Submission: Facility

The historical facility submission is intended to collect missing data into KERMIT. This includes equipment and compressor details that were not required at the time the facility was originally permitted.

The historical facility entry submission is selected from the create "application type" menu as "historical submission". It is often required when the facility has incomplete, absent or incorrect data.

Historical facility submissions pass fewer data validation checks upon submission. No fees are collected for an historical facility submission.

In order to complete a historical facility submission AMS searches facilities approved prior to October 4, 2010 based on the permit holder's information including:

- Approval determination number.
- Legacy BCER File number.
- Authorized activity number (Facility ID#).

Once the permit holder enters the historical activity description, AMS pre-populates the information fields based on the current information; where available. Complete and/or edit the activity details within the AMS tabs. Spatial data may be uploaded where it does not exist providing it meets the spatial data standards and the spatial data provides the physical location of the facility. Spatial data for historical submission is optional.

4.3.3 Facility Planning and Design

This section provides typical planning and design requirements, guidelines and considerations when planning and designing a facility for an energy resource activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the facility application relative to the engineering and technical information provided in the Application Management System; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Facilities must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), Oil and Gas Waste Regulation (OGWR), Drilling and Production Regulation (DPR), or the Liquefied Natural Gas Facility Regulation (LNGFR), as applicable, and the Environmental Protection and Management Regulation (EPMR).

If an exemption is requested from regulatory requirements, an exemption request may be submitted prior to application submission, at the time of application, or following application determination, depending on the specifics of the circumstance, and the regulatory requirements from which exemption is being requested. Exemption requests must include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption may be required).
- Proposed plan showing mitigation strategies to reduce associated impacts relative to the feature that the regulatory provision addresses.

If exemptions are approved prior to the application, this approval must be attached to the application.

Guidance Requirements

In addition to this Energy Resource Activity Application Manual and CSA Z276, CSA Z662 and ASME B31.3 standards, facility activities should be designed to meet guidance recommendations in the following Regulator documents:

- BC Measurement Guideline.
- Flaring and Venting Reduction Guideline.
- BC Noise Control Best Practices Guideline.

If energy resource activities cannot adhere to the guidance recommendation then justification must be included in the permit application. Include specifics of the guidelines not followed or met, an explanation of why they cannot be followed or met, the alternative proposed plan and any relevant mitigation strategies.

Safety Standards Amendment Act: Regulatory Authority and Process Changes

The Safety Standards Amendment Act came into force on November 7, 2016, and has resulted in changes to the administration of regulatory authority and processes by the Regulator and Technical Safety BC.

The Regulator and Technical Safety BC have a revised MOU in place. Please refer to Technical Safety BC for guidance.

All permit holders of Regulator regulated facilities must prepare, regularly update as required, and keep on file the following documentation. These management systems and processes are to be followed in the design, construction, operation, maintenance, and decommissioning of facilities in the province of British Columbia for the particular permit holder. The submission of this information is NOT required in a permit application package, but must be available upon request, or for audit purposes.

1. Permit holders must have the following in place prior to the start-up of new or modified facilities:
    a. a report from a Qualified Professional confirming that all of the elements of a quality assurance/quality control process necessary for construction are documented and applicable to the scope of work. The scope of validation should include at a minimum:
        i. quality planning, control, assurance and continuous improvement processes;
        ii. a full explanation of how the quality objectives will be managed for the duration of the construction including those for the subcontractors and/or the suppliers;
        iii. details regarding how the plan addresses the project quality policy and objectives, quality organization, resource management, information management, codes, standards and specifications,

management of change, control of deviations and concessions, and regulatory legislation compliance; and,

iv. a plan to verify of the effectiveness of the quality assurance program during design, construction and testing.

b. a written description of the management of change process that will be used by the permit holder in the design, construction, and operation of the facility. The management of change system should:

i. include written procedures for managing change;

ii. address the basis for each change;

iii. evaluate potential safety, health and environmental impacts for each change;

iv. define requirements for authorizing changes to be made; and,

v. include methods by which the permit holder will appropriately inform and train affected workers before changes occur.

The Center for Chemical Process Safety Guidelines for Management of Change for Process Safety identifies key components of what would be an acceptable change management system to the Regulator.

c. a Facility Integrity Management Program in accordance with s. 78.1 of the Drilling and Production Regulation.

2. In lieu of Pressure Piping Registration for ASME B31.3 facility piping that was previously under Technical Safety BC jurisdiction, permit holders must have the following in place prior to the start-up of new or modified facilities:

a. P&IDs that include the following information:

i. Number and revision

ii. Design code of construction information

iii. Line identification list showing maximum design pressures, maximum and minimum design temperatures, and pipe specifications including:

- Fluid service
- Dimensions
- ASME material specifications

- Flange, valve and fitting standards
- Heat treatment
- Non-destructive examination requirements
- Corrosion allowance
- Impact testing
- Pressure test conditions and fluid
- Formulas used or reference to code section

b. Stress analysis calculations demonstrating the piping system can withstand or is isolated from all ambient influences, dynamic effects, weight effects, and interface loads, as defined in ASME B31-series code. If these conditions are unknown, clearly stated worst-case loading restrictions shall be included

Liquefied Natural Gas (LNG)

Applicants planning to construct and operate a Liquefied Natural Gas facility (LNG facility) in British Columbia should review the Liquefied Natural Gas Facility Application and Operations Manual. Operators must be familiar with the requirements and procedures for applying and obtaining a permit to construct and operate an LNG facility. Permit holders must follow key regulatory milestones and requirements during the facility's construction, operations and site restoration phases.

Gas Processing Plants

Before submitting an application for a gas processing plant(s), applicants are encouraged to meet with the Regulator and allow sufficient time for application processing based on the specifics of the proposal. The Regulator has defined a process where one or more meetings may be necessary as part of application review and determination. This process includes:

- Submission of a brief written description of the project scope, including sketches of the proposed tentative gathering/processing system and sales tie-in points. Timing for this should be a week prior to the pre-application meeting to allow more meaningful feedback to assist in the preparation of the application. The submission should be directed to pipelines.facilities@bc-er.ca,
- Pre-application meeting with key Regulator staff, and,

- Mid-process meeting to discuss Regulator application reviewed feedback. This meeting is arranged on a case by case basis only when written communication isn't sufficient to answer regulatory questions.

Gas Plant Proliferation Analysis

A gas processing plant proliferation review must be included with the application and must contain the rationale for constructing the newly proposed plant after consideration of existing active plants and pipeline infrastructure feeding into active plants within a 50 km radius. This is required as an attachment with the application for new plants and amendments that increase the throughput of the plant. Other plant amendments do not require a proliferation review.

Flare and Incinerator Systems

Flare and incinerator systems must be designed and operated within the limits specified by a Qualified Professional. Applicants should seek guidance on flare system design from the following regulations and guides:

- API Standard 521.
- Flaring and Venting Reduction Guideline.
- Drilling and Production Regulation (DPR):
    1. Section 47 (c) and (h)
    2. Section 44 (a), (b), (c), (d) and (e)
    3. Section 42 (1) and (5)
    4. Section 43 (1), (2) and (3)
- Energy Resource Activity Operations Manual
    1. Section 9.6.15

The Regulator considers uninterrupted flared volumes with a constant and visible flame under routine operations to be "continuous". This includes fuel gas being burned to maintain a pilot and / or continuous purge in the flare header.

Flare Blackened Areas

Flare blackened areas must be maintained within permissioned well and/or facility application area. If new area is required to accommodate the blackened area, a land amendment to the well and/or facility area is required. Note: Flare blackened area determination must take into consideration the current elevated risks of

wildfires due to recent drought conditions. This may increase the flare blackened area requirements.

If a post construction plan (PCP) has not been submitted or a Statutory Right of Way (SRW) has not been issued for the existing permissioned well and/or facility area, the spatial data file for the land amendment may include a replacement polygon. The replacement polygon must represent the existing permissioned well and/or facility area plus the additional area required for the blackened area.

If a PCP has already been submitted or the well and/or facility area is tenured under a SRW, the spatial data for the land amendment should only include the new area required for the blackened area. The additional area should be referenced as "new" (AREA_TYPE = N) in the spatial data file. Upon submission of the amendment application, the new land area will be assigned a LAND_ID and upon approval, the appropriate tenure will be assigned.

Natural Gas Venting Requirements

Effective January 1, 2025, applicants for new facilities or amendments for existing facilities that include the installation of major equipment such as a compressors, dehydrators or production tanks must demonstrate near elimination of natural gas venting.

It is expected that venting during normal operations will not occur from the following sources:

- Production tanks.
- Compressor seals.
- Glycol dehydrators.
- Pneumatic devices and pumps that are powered by natural gas.

Emergency shutdown devices and pneumatic compressor starters are not included in the definition of pneumatic devices.

For new well facility applications, venting of natural gas is prohibited. For existing well facilities, consideration should be given to eliminating venting.

Venting from the above sources, except for pneumatic devices at new facilities, may be permitted if an applicant demonstrates that it is impractical to eliminate the venting for one or more of the following reasons:

- Impairment of the safe operation of the facility;
- Impairment of the reliable operation of the facility;
- Economic feasibility based on a net present value that considers the following:

- Capital costs
- Operating costs
- Total emission reduction achieved
- Provincial price of carbon emissions

Economic feasibility calculations should be completed in a manner that is consistent with section 1.8.1 of the Flaring and Venting Reduction Guideline.

Calculations should be based on a CO_2 equivalent basis using a global warming potential of 28 for methane.

Leak Detection

Leak detection system with adequate controls must be in place according to Section 39 of the Drilling and Production Regulation. The Regulator may require additional levels of detection and control based on the location and specifics of a facility installation. Examples of common leak detection and control include high/low pressure alarms/shutdown, H_2S/LEL/fire detection, ESDV, etc.

Overpressure Protection

Overpressure protection must be designed and operated according to CSA Z662 and/or ASME B31.3. The Regulator may require additional levels of detection and control based on the location and specifics of a facility installation.

Secondary Containment

All produced oil, water and condensate storage (production) tanks as outlined in Section 50 of the DPR have secondary containment requirements.

On a case-by-case basis, there is an option for produced water tanks to utilize a double wall design in place of a dyke or berm for secondary containment.

- The double wall design option must include a secondary tank system capable of holding 110 per cent of the primary tank's volume where the space between the tanks has a level indicator and high-level shutdown.
- The main tank must have a high-level shutdown.

The Regulator has established standards for secondary containment for above-ground tanks storing fluids not produced from an oil, gas or water well. Installations adhering to the standards detailed below will meet regulatory requirements for secondary containment, as per the Drilling and Production

Regulation, Section 50 (1) and (2), the most recent version of CSA Z662 and the most recent version of the National Fire Protection Association (NFPA) Code Section 30, (specifically, but not limited to NFPA 30, Chapter 1, section 1.4.2).

The minimum requirements for secondary containment of non-production tanks include:

- Tanks greater than 45 gallons (one barrel) and less than 12,000 gallons (U.S. gallon), 45,400 litres or 45.4 m^3, storing chemicals, fuel or other products, for example, methanol and corrosion inhibitor, on a wellsite or facility site, will meet the standard for secondary containment with a double-walled tank design.
- The installation of a single-walled tank design with a catch-bin for containment or a dyke, as long as the capacity provides for 110 per cent of the tank volume.
- Tanks less than 45 gallons do not require secondary containment and tanks greater than 12,000 gallons (U.S. gallon), 45,400 litres or 45.4m^3, require dyking or berming to contain an unexpected release of fluid.

Barrels containing non-production fluids such as chemicals (glycol, amine, corrosion inhibitor, etc.); fuel for gensets or helicopters; oil (lube, engine crankcase) for compressors, one or more barrels can be stored at a location without secondary containment as long as the barrels are located in a manner where a spill would be contained within the facility area, and the spilled fluid would be contained in an area free of hazards such as away from a source of ignition. For production tanks in a tank farm, NFPA 30 requires the dyke / berm secondary containment to be sized for the containment of the full volume of the largest tank only. The requirement for barrel docks are described in NFPA 30.

Typical pop tank installations do not require secondary containment, as long as the facility site is constructed to contain all on-site fluid storage volumes and surface run-off. Where a pop tank is being used as both a drain tank and for emergency PSV fluid carry-over capture, secondary containment is required.

Truck Out Boxes

Truck out boxes are considered spill or leak prevention devices, not secondary containment. As a best practice, the Regulator recommends the boxes are installed inside the tank's secondary containment boundary. Any deviation from this design must achieve the same results, and is considered on a case by case

basis. The design should be configured to enable the truck operator to remain outside the secondary containment area while loading and unloading the fluid.

Truck out boxes should be reflected on the drawings relative to the tank's secondary containment boundary as follows:

- By showing the location of the truck out boxes on the Plot Plan, PFD or P&ID, and/or
- By inserting a note on the drawings stating the location of the truck out boxes.

Petroleum Storage Tank Design

The general standards for atmospheric and low-pressure petroleum storage tanks in B.C. are included in the following American Petroleum Institute (API) documents:

API-650	Welded Steel Tanks for Oil Storage: governs the construction of tanks storing products with internal pressures of up to 2.5 psig.
API-651	Cathodic Protection for Above-Ground Petroleum Storage Tanks.
API-652	Lining of Above-Ground Petroleum Storage Tanks.
API-653	Tank Inspection, Repair, Alteration, and Reconstruction.
API-620	Design and Construction of Large Welded Low-Pressure Storage Tanks: construction of tanks with internal pressures of up to 15 psig.
API-2000	Venting Atmospheric and Low-Pressure Storage Tanks.
API-2350	Overfill Protection for Petroleum Storage Tanks.
API-2015	Cleaning Petroleum Storage Tanks.
API-2550	Measurements and Calibration of Petroleum Storage Tanks.

For general requirements on underground tank inspections and abandonment, refer to CSA Z662, API-1604 and NFPA 30.

Water Storage at Facility Sites

Long-term produced water storage sites where containment ponds and/or other produced water storage and treatment equipment is constructed for reclaimed, blended, or produced water, including frac flow back water, are part of the facility

application process. This type of stand-alone produced water storage facility must be applied for as a water hub facility. If a produced water storage containment pond is to be constructed at an existing facility site, such as a compressor facility, a new application must be submitted for a water hub facility. Existing facilities other than a water hub, cannot be amended to add a water hub via permit amendment to add storage capacity or related equipment.

If a facility is proposed to store only fresh water (fresh water storage site), an application for an associated activity can be submitted, as described in Section 4.6 of this manual. Fresh water storage sites may also be subject to authorizations under the Water Sustainability Act and Dam Safety Regulation.

Light Control

The Regulator requires that operations at a well or facility do not cause excessive emanation of light. It is expected that permit holders have done all that is reasonable to mitigate light emissions to surrounding areas, without compromising the safety of workers or the facility's safe operation.

Mitigation measures that might be considered include:

- Minimizing the amount of lighting required while ensuring safe operation of the facility,
- Minimizing brightness of lights to the extent practicable,
- Use of automated sensors that shut down lighting in areas of no activity where it is safe to do so, and,
- Re-angling, shading or screening of lighting.

As required in Appendix B of this manual, a summary of how light pollution has been identified, considered and mitigated must be included as a mandatory application deliverable for gas processing plants.

4.3.4 Facility Specific Activity Requirements

This section outlines application requirements for facility applications. Requirements are dependent on the characteristics of each facility activity and are outlined in full details below including a description, details of additional information and requirements. In most cases, the details are input into the facility

application tab within AMS, but may require the upload of an attachment to support the details including:

- Project description (as described below).
- Piping and instrumentation diagram.
- Process flow diagram.
- Gathering system schematic.
- Plot plan.
- Air dispersion model (as described below).
- Dehydration engineering and operations sheet (as described below).
- Discharge of waste reporting (as described below).
- Sand Management Plan (as described below).
- A table of all design codes to be used in the facility design, construction and operation including a summary of the scope of application of each code within the facility.
- a table of all natural gas fired appliances proposed at the facility with the corresponding ASME Boiler and Pressure Vessel Code section, burner control system standard, appliance rating, and pressure piping standard, for which the appliance was designed.

Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly as defined in Section 5.8 of this manual.

1. Project description

Provide a brief description of the project and any comments relevant to the facility and/or application. Specific information is required in project descriptions accompanying new facility applications and facility amendment applications and should include:

- New facility application – include oil condensate capacities in project description,
- New facility application – include the means and plans for security and access control in accordance with Section 39(3) of the Drilling and Production Regulation and/or Section 8(1)(e) of the Liquefied Natural Gas Facility Regulation in project description,
- Notice of Intent to suspend a gas plant or other facility: include a list of wells from the schematic, a rationale for shut-in and plan and duration of

shut in in project description. Must also show provisions have been made to:

i. Store, handle and dispose of toxic material,

ii. De-pressure the facility,

iii. Dispose of corrosive, combustible or explosive fluids,

iv. Minimize or prevent degradation of the plant or facility equipment, vessels and piping,

v. Secure the plant or facility against unauthorized entry and vandalism,

vi. Periodically have the plant or facility and site inspected by qualified persons, and,

vii. Address any other concerns the Regulator has identified.

2. Air Dispersion Modelling

Applicants shall consider the impacts to ambient air quality as a result of routine combustion of sour gas and / or combustion of gas containing >=1 mole per cent H_2S for a duration of >=15 minutes or that results in 1 tonne/rolling 24 hours of sulphur emissions. Results and records of air dispersion modelling must be attached to facility permit applications where this applies. Further information can be found in the Flaring & Venting Reductions Guideline, Section 6.10.

3. Dehydrator Engineering and Operations Sheet

A Dehydrator Engineering and Operations Sheet (DEOS) must be attached to facility applications or amendment applications where new or used glycol dehydration equipment is to be installed, where existing glycol dehydration equipment is to be modified, or requested changes to the facility affect the dehydration process. The DEOS must show that the dehydration process will follow the Regulator's policy on benzene emissions outlined in the Flaring and Venting Reduction Guideline.

4. Discharge of Waste

Some facilities require a waste discharge authorization under Section 6 of the Oil and Gas Waste Regulation. This approval is required when:

- The cumulative rated power of all compressor drivers is greater than 600 but less than 3,000 kilowatts of total power,
- The cumulative rated power of all oil pump drivers is greater than 600 but less than 3,000 kilowatts of total power,

- The cumulative rated power of all electricity generator drivers is greater than 600 but less than 3,000 kilowatts of total power,
- The facility includes dehydrators, line heaters or treaters that combust high sulphur gas (> 1 per cent) and are each rated at 150 kilowatts or more, or,
- The facility is a processing plant.

The first three items in the bulleted list above are individual entities and must not be combined to determine total driver power. The Application Management System prompts for the upload of a completed Schedule 3 form if an approval under Section 6 OGWR is required. The Regulator's Environmental Management and Reclamation department conducts the appropriate review and determination process for waste discharge approvals based on the information entered at time of facility application. No separate application is needed.

Some facilities are not subject to the OGWR, thus requiring a Waste Discharge permit under the Environmental Management Act and are described in Section 2(1) of the OGWR. Contact the Regulator's Director, Environmental Management and Reclamation for more information.

Additional Facility Requirements

1. Engineering Assessment

   The Regulator may request an engineering assessment, as deemed necessary. Engineering assessments must be completed in accordance with the latest version of CSA Z662, including:

   - Design capacity of the facility and design standard used.
   - Gas rate for a gas facility and solution gas rate for an oil facility.
   - Total sulphur emissions of the facility.

2. Sand Management Plan

   All operators of wells within British Columbia utilizing sand fracturing are required to develop and implement an appropriate Sand Management Plan. The Sand Management Plan is a comprehensive plan outlining the preventative steps to reduce, monitor, and capture sand returns, incorporate leak detection, monitor and maintain piping integrity, and ultimately minimize the risk of loss of containment due to sand erosion. The Sand Management Plan, and all records relating to sand monitoring

and testing programs, must be reviewed and updated at regular intervals or as required and made available to the Regulator upon request. The Sand Management Plan must take into consideration and document:

- procedures for monitoring sand returns during cleanup and define the cleanup target criteria for sand returns,
- procedures for monitoring sand returns upon initial production, during the life of a well, and after periods of extended pressure buildup,
- proposed de-sanding equipment upon initial production and throughout the life of a well,
- when a well workover, recompletion, or well-bore alteration takes place there must be an adequate plan to either complete additional flowback through well testing equipment, or another means to control sand returns and potential erosion in surface and equipment,
- piping configurations to minimize erosion,
- well facility design to detect and control leaks as quickly as practicable,
- maximum velocity determination and methods to keep velocities within appropriate and defined parameters as stated by API RP 14E or the NORSOK standard P-001. Either standard may be used, but must then be followed in its entirety for erosion calculations,
- baseline and ongoing ultrasonic testing, and interpretation of results,
- justification for location of erosion sensing devices and demonstration of effectiveness, if applicable,
- the application and as-built P&IDs must include the maximum well design flow rates that incorporate the calculated maximum design erosion flow velocities in the facility piping,
- management of design changes, and
- communication and documentation procedures of operating limits with field personnel.

3. Produced Water Storage Facility Requirements

   A Produced Water Storage Facility (ie: water hub) is established where produced (saline) fluid is stored separately from a facility used to compress, dehydrate, store, or process gas, oil or byproducts. Produced

Water Storage Facilities can be a single activity application or may exist at the same site as another facility such as a compressor station or gas processing plant. Regardless of application type, produced water storage will be permitted as a separate water hub facility type. Examples of water hubs include containment ponds, long-term above-ground walled storage systems (C-Rings), or large steel tanks used to contain fluid partially or wholly sourced from produced (saline) water. Water hub facilities may be constructed for fluid storage prior to hydraulic fracturing, water treatment, mixing or blending, or storage prior to disposal.

Applications for a Produced Water Storage Facility must include a Preliminary Operation, Maintenance and Surveillance (OMS) Plan with the application. The OMS plan is a comprehensive asset life-cycle plan that provides operational staff with the information required to ensure safe operation of the facility. Content within the OMS plan will vary and is dependent on the Failure Consequence Classification of the facility, when required. Applicants may use the latest Canadian Dam Association's Dam Safety Guidelines as a reference for the expected content and format of an OMS plan.

The Preliminary OMS Plan, at a minimum, is expected to include:

- Project Description.
- Facility roles and responsibilities.
- Design and geotechnical details, including consideration of groundwater conditions and rationale for facility site selection determined by the geotechnical assessment.
- Anticipated operating lifespan and year of decommissioning based on liner life.
- Discussions on conformance / deviation relative to the Management of Saline Fluids for Hydraulic Fracturing Guideline.
- Description of the produced, fresh, and treated water process flow, including sources of storage fluids.
- Produced water inventory management and monitoring accountabilities. This may include fresh and treated water.
- Operating requirements including routine operating procedures, allowable deviations from routine procedures and emergency procedures.
- Maintenance requirements including vegetation management, control of potential burrowing animals, cleaning / flushing of piping, erosion control measures, fencing, netting, signage and access ways.

- Surveillance requirements including frequency of routine visual inspections, formal engineering inspections, instrumentation and special inspection triggers (heavy rainfall, seismic activity, exceedance of maximum water level, etc.).
- Leak management:
    - Leak detection system(s) description, including sub-drain system management and surface water management.
    - Method of monitoring and reporting.
- Groundwater Monitoring Plan, in accordance with Appendix A of the Management of Saline Fluids for Hydraulic Fracturing Guideline.
- Counter measures, responses and training in the event of a spill.
- Spill kits and equipment associated with spills and spill response on site.
- Wildlife exclusion measures.

The following may be required within the Preliminary OMS Plan, depending on the results of the Failure Consequence Classification:

- Description of onsite communication infrastructure (phone lines, internet, etc.).
- Description of site access routes, to ensure accessibility in case of emergency.
- Public safety systems.
- Maintenance and security requirements.

When live storage is proposed at a site, a failure mode and environmental consequence assessment must be completed to determine an acceptable site and inform the mitigation options that will reduce the consequences in the event of a failure incident at the selected site. The following **must** be included as appendices to the Preliminary OMS plan when live storage is proposed for a Produced Water Storage Facility:

- Failure Consequence Classification: A Failure Consequence Classification in the event of a breach of the lined-earthen embankment, must be assessed by the owner considering the Dam Safety Regulation, Schedule 1 guidelines, for acceptance by the Regulator. The Failure Consequence Classification shall consider the latest Canadian Dam Association guidelines and bulletins, including Environmental Consequence Classification.
- Hazard and Failure Mode analysis: Both the external hazards (outside the permit holder's control) and internal hazards and the corresponding failure modes of these dam-like structures / ponds must be assessed, considering relevant loadings during

the siting and design stage. Consideration of challenges and issues that may impact the design of such a proposed structure or facility and the potential mitigation measures must be considered during the design stage.

The Regulator may condition the following post-permit requirements:

- Operation, Maintenance and Surveillance Plan: a final site-specific OMS plan for the subject water hub facility.
- Safety Assurance Statement signed by the Professional Engineer(s) responsible for the design and oversight of facility construction, which provides assurance on the adequacy of the facility design and construction of the facility towards the safety of the public and the protection of the environment.
- Annual engineering inspections of the facility.

4. Comingled Production

   Comingled production approvals are required attachments for some facility applications. The Regulator's Production Allowables web page provides more information on comingled production approvals.

Gas Processing Plant: Additional Requirements

The review must include the rationale for constructing the newly proposed plant after consideration of existing active plants and pipeline infrastructure feeding into active plants within a 50 kilometre radius.

Appendix B of this manual provides a detailed listing of technical documentation to be included in an application for a gas processing plant in addition to specific details on requirements for plans, diagrams and maps.

4.3.5 Additional Considerations for Facilities Activity

Emergency Response Planning

An Emergency Response Plan (ERP), or an update to an existing plan, must be submitted to the Regulator in accordance with Section 7 of the Emergency Management Regulation. Emergency planning zones are determined using H_2S content of product in a pipeline, well or at a facility. Review Schedule A of the Emergency Management Regulation for more information.

Chapter 4.4 Completing Geophysical Activity Details

4.4 Geophysical Activity Tab

Applicants applying for a geophysical permit must complete the geophysical application tab in the Application Management System. The geophysical tab is made up of two components: geophysical details and geophysical land details.

This section includes an overview of geophysical permitting, guidance regarding geophysical planning and design, details related to geophysical specific application requirements and detailed instructions for completing the data fields within the geophysical tab.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.4.1 Geophysical Exploration Defined

Geophysical exploration is an energy resource activity under the Energy Resource Activities Act (ERAA) and is specifically defined in the Petroleum and Natural Gas Act (PNG) Act as:

- Investigation of the subsurface by seismic, gravimetric, magnetic, electric and geochemical operations and by any other method approved by the Regulator, but does not include the use of geophysical well logs, vertical seismic profile surveys or other surveys obtained from a well.

Approved energy resource applications receive a permit under Section 25 of ERAA to carry out construction and operations pertinent to the activity. The permit expires where construction activities have not started within two (2) years of permit issuance. Unless expired, the permit remains active until cancelled, suspended or declared spent, according to the provisions of ERAA.

A geophysical exploration permit is spent when the Regulator receives a final plan from the permit holder. The Geophysical Regulation states final plans must be submitted within 60 days after the date of project completion.

4.4.2 Creating a New Geophysical Application

New Geophysical Applications

A new geophysical permit is required for all new geophysical exploration programs to be carried out including programs or portions of programs carried out within existing disturbance.

Since geophysical exploration includes surface, subsurface and aerial, applicants must indicate the program type, energy source and construction method for the activity within the geophysical details component of the geophysical tab.

Geophysical Permit Amendments

A permit amendment is required before the associated changes are carried out. A geophysical exploration permit amendment is required for the following scenarios:

- Adding lines.
- Changing line locations or details, where the permit does not explicitly provide for this via authorization of 'Line Shift Variance'.
- Corrections to inadvertent data errors where the error is in the permit or impacted on the decision.

4.4.3 Geophysical Exploration Planning & Design

This section provides typical planning and design requirements, guidelines and considerations when planning and designing geophysical exploration. The standards and guidelines presented here form a substantial basis for assembling

an application. The Regulator reviews the geophysical application relative to the engineering and technical information provided in the Application Management System; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Geophysical exploration activities must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), Geophysical Exploration Regulation (GER) and the Environmental Protection and Management Regulation (EPMR).

If an exemption is requested from regulatory requirements, an exemption request must be prepared at the time of application and include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan showing mitigation strategies to reduce impacts.

If exemptions are approved prior to the application, this approval must be attached to the application.

Specific to geophysical exploration, an applicant may request an exemption from part or all of the geophysical project report and the final plan in accordance with Sections 2 and 3 of the Geophysical Exploration Regulation.

Guidance Requirements

In addition to this Energy Resource Activity Application Manual, geophysical exploration activities should meet guidance recommendations in the following Regulator documents:

- Energy Resource Activity Operations Manual.
- Environmental Protection & Management Guideline.
- Horn River Basin and Muskwa-Kechika Management Area Guidance document.

If energy resource activities cannot be carried out in accordance with the guidance recommendation, then justification must be included in the application. Include specifics of the guidelines not followed, an explanation of why they cannot be followed, proposed plan and applicable mitigation strategies.

Notification in Advance of Camp Applications

Applicants must notify Peace River Regional District (PRRD) and the Northern Rockies Regional Municipality (NRRM) as a rights holder in advance of submitting any camp applications.

Geophysical Exploration Buffers & Prior Consent for Reduced Buffer Distances

Section 4 and Schedule 1 and 2 of the Geophysical Exploration Regulation (GER) states buffer distances for geophysical exploration near pipeline, utility, residence, etc. and establishes buffer distances in relation to prescribed structures for the use of energy sources in carrying out geophysical exploration.

Where reduced buffer distances are planned, as provided in Schedule 2 of GER, written consent must be obtained from the owner of the structure prior to carrying out the activityIn order to avoid amendments, the Regulator encourages applicants to obtain consent from structure owners for any planned reduced buffer distances prior to application submission.

When planning projects and buffer distances, applicants should take into consideration that some residences, as defined within the GER, may not be registered or identified in provincial land registries. All residences, including permanent and temporary dwellings, and cabins, must be factored into application planning and buffers complied with during geophysical operations.

Overlapping Projects

Applicants should use the analysis tool within the Application Management System to investigate for overlapping geophysical projects in an effort to minimize environmental impacts on the land base. Overlaps exist where two or more geophysical projects cover portions of the same area of land.

The coordination of overlapping projects should occur wherever practicable and arrangements made to use the same seismic lines (source or receiver) and/or access other geophysical projects for overlap. As a general permit condition, the Regulator requires that any opportunity to coordinate or use existing lines or access identified in the field (not previously identified by an applicant or the Regulator) must be taken wherever practicable. Justification and mitigation

measures must be explained for geophysical programs overlapping and not coordinated or using existing seismic lines within 400 metres of the proposed line.

Geophysical Line Shift Variance

Line shift variance provides flexibility in the field to move geophysical lines one way or another within the variance permitted. The line shift variance must comply with buffer distances and appropriate archaeology and consultation and notification requirements must be conducted. Geophysical projects without a line shift variance and needing to move locations require an amendment.

Completing Reconnaissance as Part of Geophysical Application Planning

Observing field conditions is critical, and reconnaissance evaluations are essential to planning for and completing a geophysical exploration application. Ideally, site evaluations are assessed through a combination of aerial and ground reconnaissance.

Pictures taken during the area reconnaissance may accompany the application in order to assist in the Regulator decision making process. Digital pictures must be .jpg format uploaded in the attachments tab of AMS. Suggested pictures include:

- Wildlife/wildlife features encountered.
- Stream crossing locations.
- Re-growth on existing lines that are planned for use.
- Overall picture of area.

In addition, applicants may be able access the following tools and methods through Data BC and other external sources to assist in evaluating site conditions and operational planning:

- Crown land status maps.
- Forest development plans/ forest stewardship plans.
- Aerial photography.
- Forest cover maps.
- Fish and wildlife mapping.
- Light Detection and Ranging (LiDAR).

4.4.4 Geophysical Program Activity Requirements

This section outlines application requirements for geophysical applications. Requirements are dependent on the characteristics of each geophysical program. In most cases, the details are input into the geophysical application tab.

Applicants must provide general statements regarding primary and secondary watercourse crossing methods and how they will be constructed. Applicants are then required to submit a list of all watercourse crossings constructed with method of crossing utilized within the post construction submission (final plan).

Mapping Requirements Specific to Geophysical Programs

In addition to the mapping requirements for all projects, proposed geophysical projects require the following mapping:

1) 1:20,000 Maps:
    - 2D project maps require UTM (NAD 83 CSRS) or latitude and longitude coordinates at the start and end of each line.
    - 3D project maps require UTM (NAD 83 CSRS) or latitude and longitude coordinates at the corners of the project area.
    - Forestry cutblocks (colour coded to status) and any other overlapping tenures.
    - Mechanical stream crossings.
    - Approximate number of push outs to be constructed; total to be confirmed on the final plan.
    - If heli-assisted operations are proposed, amount and size of helipads must be indicated on the legend; total to be confirmed on final plan.
    - Include staging areas and campsites (if required for less than 100 days).
2) 1:250,000 Access Map (this can be inset into the above map or on a separate map):
    - Access to the project highlighted in yellow.
    - Project outline.
    - Trapper boundaries and numbers.

Chapter 4.5 Completing Road Activity Details

4.5 Road Activity Tab

Applicants applying for an energy resource road permit must complete the road application tab in the Application Management System. The road tab is made up of three components: road overview, road details, and road land details.

This section includes an overview of road permitting, guidance regarding road planning and design, details related to road-specific application requirements and detailed instructions for completing the data fields within the road tab.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.5.1 Roads Defined

As of September 01, 2023 the Oil and Gas Road Regulation was replaced with the Energy Resource Road Regulation.

Energy resource roads are prescribed as an energy resource activity in ERAA and are defined within the Energy Resource Road Regulation (ERRR) as: .

(1) (a) A road or portion of a road that is constructed or maintained to facilitate the carrying out of a primary activity;

(b) A road or portion of a road that was constructed before June 3, 2013 [the coming into force of the Energy Resource Road Regulation] under the Land Act, the Petroleum and Natural Gas Act, or the Pipeline Act.

(2) Subsection (1) does not apply to a road that

(a) has been deactivated, or

(b) is required to be maintained under an enactment other than

(i) this regulation, and

(ii) an Act referred to in subsection (1) (b).

Approved energy resource applications receive a permit under Section 25 of ERAA to carry out construction and operations pertinent to the activity. The permit expires where construction activities have not started within two (2) years of permit issuance, unless a permit extension has been granted. Unless expired, the permit remains active until cancelled, suspended or declared spent, according to the provisions of ERAA.

The ERRR prescribes the rights and obligations of permit holders related to design, construction, maintenance, use and deactivation of energy resource roads.

Road Types

Applicants must apply for a specific type of energy resource road. The appropriate road type must be selected in the road details component of the road tab in the Application Management System. Road types are defined further in the Regulator glossary and include:

- Long-term, all-weather road is a roadbed surfaced with gravel.
- Short-term, low-grade road is constructed during non-frozen ground conditions with a minimal grade and adequate drainage control. Low-grade access may be constructed during frozen ground conditions.
- Snow and/or ice road is construction and suspension activities carried out during frozen ground conditions with minimal soil disturbance.
- Existing traditional winter access is construction and suspension activities carried out during frozen ground conditions with minimal soil disturbance.

4.5.2 Creating a New Road Application

New Road Application

A new energy resource road permit is required for any new road to be constructed and operated, for a non-status road to be maintained or modified by an energy resource operator, or to acquire an energy resource road permit for a road currently regulated under another statutory authority (Transfer of Jurisdiction).

Roads can be applied for individually or with other energy resource activities as part of a multi-activity project application. The system generates data input requirements for additional activities specified within the spatial data upload.

Road Amendment

A road permit amendment is required to:

- Carry out activities not authorized by, or which are alterations to the original permit.
- Modify an ERAA permitted road, except modifications allowed under the terms of the permit or the Energy Resource Road Regulation.

Please Note:

An ERAA road permit is required prior to carrying out maintenance activities on non-status roads. Several non-status roads can be included in one road permit application by identifying each road as a separate segment in the application. Permit holders will be required to submit a Historical submission for existing permitted roads that have not been transitioned to an ERAA road permit or have not been reconciled prior to submitting an amendment.

Transfer of Jurisdiction (MOF/Regulator)

To apply for an ERAA road permit on an existing road authorized by MOF applicants should include the following additional attachments:

- Documentation indicating the current road tenure holders' willingness to relinquish the road in favor of an energy resource operator.
- Confirmation from MOF of willingness to close the road permit upon the Regulator's approval of an energy resource road permit.

It is the responsibility of the current road tenure holder to provide a disclosure of new information relevant to the road to the proposed energy resource operator.

The Regulator will not transfer a road permit issued by MOF to an energy resource operator; but will work with MOF to enable the issuance of an ERAA road permit.

Roads that may be the subject of a transfer of jurisdiction can be applied for as a standalone ERAA Road permit, or included as part of a multi activity ERAA application if applicable.

The Regulator will forward a copy of the ERAA road permit to MOF in order to terminate the MOF road permit. During this interim period, there may be spatial overlap of the MOF permit and ERAA permit while the digital inventory gets updated.

Historical Submission: Road

The historical road submission is intended to define the process to transition existing permitted energy resource roads to an ERAA road permit and to collect or update missing information required for road reconciliation.

The historical road submission is selected from the create "application type" menu as "historical submission". Scenarios where a historical road submission is appropriate are:

- When an existing permitted road has not been transitioned to an ERAA road permit.
- The road information has not been reconciled.
- The road information is inaccurate or missing segment data and/or stream crossing information.

An existing permitted road must be reconciled and hold a valid ERAA road permit before the permit holder may apply to amend or modify the road.

Please Note:

If a permit holder wishes to submit a historical submission for a road that has been reconciled and holds a valid ERAA road permit, the applicant must provide a rationale explaining why the submission is required.

4.5.3 Road Planning & Design

This section provides typical planning and design requirements, guidelines and considerations when planning and designing a road for an energy resource activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the road application relative to the engineering and technical information provided in the Application Management System; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Roads must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), the Energy Resource Road Regulation (ERRR), the Pipeline Crossings Regulation (PCR), and the Environmental Protection and Management Regulation (EPMR).

Part 3 of ERRR outlines requirements related to road construction, including:

- Supervision of design, construction and maintenance by a qualified person, clearing widths, bridges and culverts, record keeping requirements, hazard warnings and post-construction reporting.

The Water Sustainability Act regulates authorization to make changes in or about a stream. A federal Fisheries Act review may also be required by DFO. ERRR regulates construction of bridges and/or culverts as part of a road to facilitate a crossing. Permit holders must be aware of and abide by Canadian Standard Association and Canadian Highway Bridge design codes for bridges or culverts.

If an exemption is requested from regulatory requirements, an exemption request must be prepared at the time of application and include:

- Specific regulatory provision requiring an exemption.

- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan showing mitigation strategies to avoid, reduce, or mitigate potential impacts.

If exemptions are approved prior to the application, this approval must be attached to the application.

A permit (either an ERAA road permit or an AACT access permit) is **NOT** required if utilizing an existing road for a limited duration or one time use. This also includes well permit holders who need to access a wellsite for the purpose of abandoning the well.

In addition:

- An ERAA road permit is NOT required when:
  - An energy resource operator is not actively maintaining, or causing maintenance to be required by the use of the existing road, nor causing harm or damage to the environment with the use of the road. Exceptions to requiring a permit may also apply where roads are temporarily being maintained during winter seasons. (i.e.. in the case of snow plowing, a road permit may not be required, however, a Section 11 WSA authorization may be required if stream crossing are identified).
  - An energy resource operator is maintaining a road on private land that existed prior to January 27, 2011, as per Section 118.1 ERAA.
- An ERAA road permit is required for:
  - **New roads** (new construction on Crown or private land)
  - An existing non-status road on Crown land that is being maintained and is being used to carry out a primary energy resource activity such as:
    - Maintenance to road grade beyond snow plowing.
    - Road being maintained and there is a permanent bridge installation or major culvert required.
    - Road being maintained for active production.
    - Road being maintained and is a 'mainline' high traffic or higher speed road that needs signage / road frequency – will need to determine/investigate responsible party prior taking action seeking to assign.
  - A road on private land that is being maintained and existed after January 27, 2011.

- An existing road that requires a modification that includes the addition of a (permanent structure) bridge and/or a major culvert.
  - A temporary clearspan bridge is not considered a permanent structure; but an amendment to the Regulator would still be required as this would be considered a change to their permit.

A formal exemption can be granted under Section 28 of the ERRR by the Executive Director, Permit Adjudication or the Vice-President, Applications.

AACT – Temporary Access

Temporary access means a trail, shoe-fly or a means of accessing a related activity that is required during the construction of that related ERAA activity. Temporary access cannot be constructed to the standards identified within Part 3 of ERRR, otherwise the applicant should be advised to apply for an ERAA road permit.

CER Related Road Right of Way

A 'Road' applied for as an CER Related Road Right of Way, must be related to an CER project as per Section 9 of the ERAA under a specified enactment.

Guidance

- Issuance of a permit is authorized under a specified enactment as defined in ERAA.
- Section 8 of ERAA defines the Regulator's responsibilities under specified enactments.
- The ERRR applies by policy.

CER Ancillary – Access

Access means a trail, shoe-fly or a means of accessing a related activity that is required during the construction of the related CER activity.

Guidance

- Ancillary access is temporary.
- Issuance of a permit is authorized under a specified enactment as defined in ERAA.
- Section 8 of ERAA defines the Regulator's responsibilities under specified enactments.

Guidance Requirements

In addition to this Energy Resource Activity Application Manual, roads should meet guidance recommendations in the following Regulator documents:

- Energy Resource Activity Operations Manual.
- Environmental Protection and Management Guideline.

Planning Road Right of Way

Provide a rationale for the proposed right of way location chosen and overall details for the road including to and from locations, right of way length and maximum width. Proposed road right of ways must also be identified on the project construction plan. If there is a road nearby that can provide access, provide a rationale for why new construction is needed.

Planning Construction Corridors

Provide an additional mapped area around the proposed road right of way providing for construction corridor. Construction corridors allow the flexibility to construct the road and accommodate any related activities.

Planning for Stream Crossings

Stream crossings required for road construction can be applied for as part of a road permit application and approved under ERAA, and / or the WSA. A review under the federal Fisheries Act may also be required by DFO for any changes in or about a stream.

Stream crossing authorizations issued with a road permit are valid for the life of the road, except as otherwise limited in the permit or the Energy Resource Road Regulation.

Road modifications requiring the installation or replacement of a bridge or major culvert associated with the road require an amendment to the road permit and an application for Changes In and About a Stream under Section 11 of the WSA and detailed in Section 4.8 of this manual.

Planning for Borrow Pits

Borrow pits are applied for as part of an Associated Activity application as detailed in Section 4.6 of this manual.

4.5.4 Road Specific Considerations for a Road Activity

Forest Service Roads

If the proposed road enters or affects a Forest Service Road right of way, or Ministry of Transportation and Transit (MOTT) right of way, consent to carry out the approved activities must be obtained from the applicable agency before the project begins.

A road use permit (RUP) is required to use Forest Service Roads to carry out energy resource activities unless an exemption is granted in accordance with section 22.1(4) of the Forest and Range Practices Act. All Road Use Permit holders will be required a client number.

RUP could be obtained by completing RUP application form along with a map and submit via email to RoadUsePermits@bc-er.ca.

For additional information on forest road administration, please refer to the Guidance documents for oil and gas activities.

Road Use Requirements Applicable to all Energy Resource Permit Holders

Permit holders must review and comply with ERRR:

- Part 3: outlines requirements related to road maintenance including: general and technical road maintenance, bridge maintenance, and limited maintenance related to temporary stoppage in road use.
- Part 4: outlines requirements related to streams and stream crossings.
- Part 5: sets out road use and operation provisions and requirements including: right of access, limited application of the Motor Vehicle Act to energy resource roads, speed restrictions, use and requirements related to traffic control devices, storage and disposal, temporary closures, temporary restriction of access, removal of objects, and the use of energy resource roads maintained by a road permit holder.
- Part 6: prescribes requirements for road permit holders in relation to road deactivation.

Use of Energy Resource Roads Maintained by a Road Permit Holder

Section 21 of the ERRR establishes requirements related to use, notification and contribution to maintenance costs associated with using an energy resource road maintained by a road permit holder:

- Providing Notice of Use to the road permit holder at least 14 days before the intended use will begin.

Upon receiving a notice of intended road use the road permit holder must provide to the permit holder providing the notice, an estimate of costs along with supporting data and records in relation to maintenance or any modifications necessary to accommodate the intended use of the permit holder, or to repair any damage caused by the user.

Chapter 4.6 Completing Associated Energy Activity Details

4.6 Associated Activity Tab

Applicants applying for an associated activity (AACT) permit must complete the associated activity application tab in the AMS. The AACT tab is made up of two components: AACT details and AACT land details.

This section includes an overview of AACT permitting, guidance regarding associated activity planning and design, details related to AACT specific application requirements and detailed instructions for completing the data fields within the AACT tab.

For stand-alone Water Sustainability Act authorizations, rights holder engagement is required and the line list must be uploaded under the Rights Holder Engagement tab in AMS. For further information regarding rights holder engagement requirements, refer to Chapter 6.2 of this manual.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.6.1 Associated Activity Defined

Section 1 of Energy Resource Activities Act (ERAA) defines energy resource related activity as an activity:

- That, under a specified enactment, must not be carried out except as authorized under the specified enactment or that must be carried out in accordance with the specified enactment.
- The carrying out of which is required for or facilitates the carrying out of an energy resource activity.

Please Note:

The Energy Resource Activities Act defines both energy resource activity and related activities and the Regulator adheres to the definitions. The Regulator's glossary and acronym listing is an extension of this manual and defines terms used throughout the energy resource activity. Applicants and permit holders should refer to the glossary to understand the exact definition of terminology as it may differ from other regulatory bodies. Due diligence is required to ensure proper understanding of terms, acronyms and legislation.

AACT's are related activities that require an authorization under either the Land Act or under s.138 of the Petroleum and Natural Gas Act where applicants cannot adhere to s.8.3 of the Crown Land Permission Policy. The Regulator does not issue authorizations for associated activities on private land.

In accordance with Section 24(3) of ERAA:

- The Regulator may not grant an authorization to a person for a related activity unless the person holds, or has applied for, a permit for the energy resource activity related to that activity.

For some AACT, such as Investigative Use or Restoration activity, the Regulator may grant authorizations without the existence of a primary energy resource activity permit or application where it has delegated authorities to do so. Contact the appropriate Authorizations Director for more information.

The AMS Restoration Release Guide provides additional information on restoration activity.

Approved AACT applications receive an authorization which generally expires two (2) years after the date of issuance if the activity has not begun. If the activity is carried out prior to two years from the date of issuance, the authorization remains active for so long as required. Any subsequent tenure renewals will be issued by the Regulator, as required.

Associated Activity Intended Land Use Types

Associated activity applications can be submitted for several intended land use types, including:

- Access
- Above ground fresh water line
- Aggregate / Borrow Pit
- Airstrip
- Campsite
- Cathodic Protection Anode Bed
- Communication site
- Deck site
- Fresh water storage site
- Gate monitoring site
- Helipad
- Investigative use – General
- Investigative use – Water source well testing
- Monitoring site
- Offset
- Powerline
- Restoration
- Site remediation
- Staging area
- Storage area
- Sump
- Water source dugout
- Workspace

The AACT type is auto-populated into the AMS based on attribute data included within the spatial data upload.

4.6.2 Creating an Associated Activity Application

Associated activities can be applied for independently, but also can be combined in a multi-activity application along with the primary activity. The Regulator encourages multi-activity applications wherever practicable, especially when additional authorizations are required in relation to the associated activity.

Amendments

An amendment may be used for the addition of associated activities and / or for the modification of existing associated authorizations. The application must include a clear description of the changes in the amendment application description box. Any changes must also be highlighted on the associated construction plan.

4.6.3 Associated Activities Planning & Design

This section provides guidelines and considerations when planning and designing associated activities. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the associated activities application relative to the technical information provided in the Application Management System; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Associated activities must meet the design and operational requirements outlined in the Energy Resource Activities Act (ERAA), the Land Act and the Petroleum and Natural Gas Act.

If an exemption is requested from regulatory requirements, an exemption must be applied for at the time of application, and must include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan showing mitigation strategies to reduce impacts.

The exemption request must demonstrate that it is not reasonably practicable for the activity to comply with the regulatory requirements, and must be reviewed and approved by the Regulator.

Guidance Requirements

By policy, the Regulator applies the tests and principles of the Environmental Protection and Management Regulation (EPMR) to AACT applications. Refer to the Environmental Protection and Management Guide (EPMG) for more information regarding how the Regulator considers the identified values.

If energy resource activities cannot be carried out in accordance with the guidance recommendations in this chapter and in the EPMG, then a rationale must be included in the permit application. The rationale must include specifics of the guidelines not followed, an explanation of why they cannot be followed, as well at outline any planning strategies or operational measures that have been or will be implemented to mitigate impacts on the associated value.

4.6.4 Associated Activity Specific Activity Requirements

This section outlines application requirements for AACT applications. Requirements are dependent on the characteristics of the associated activity and are outlined in more detail below including a description, details of additional information and requirements. In most cases, the details are input into the associated activity application tab, but may require the upload of an attachment to support the details. A rationale text box may be indicated as optional in AMS, this is not because the submission of the rationale itself is optional. However, the option to include the rational in the associated text box is optional rather than uploading a more comprehensive rationale as an attachment. Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly as defined in Section 5.8 of this manual.

Please Note:

Applications submitted without appropriate rationales will be subject to processing delays while the Regulator waits for the required application deliverables.

Aggregate / Borrow Pits

The Ministry of Energy and Mines has delegated limited authorities to the Regulator to authorize aggregate operations under the Mines Act. Applicants should indicate whether, in their assessment, if a Mines Act Permit is required. The aggregate operation /worksite borrow pit categorization key provided in Appendix E illustrates the difference between an aggregate operation, and an energy resource aggregate operation and a worksite borrow pit.

Worksite borrow pits are defined as an excavation of clay, gravel, rock, shale, sand or soil used solely for the construction of the related energy resource infrastructure. Worksite borrow pits are temporary in nature and permission to further excavate material is considered spent on the completion of construction of the associated energy resource infrastructure. Work in and around a worksite borrow pit is subject to WorkSafeBC regulations.

Energy Resource Aggregate Operations

Energy Resource Aggregate Operations are an excavation of shale, gravel, rock, or sand used for the construction or maintenance of energy resource infrastructure that does not meet the criteria for a worksite borrow pit.

Criteria considered in determining energy resource aggregate operations for the proposed pit include:

- Size of proposed pit (is it greater or less than 3 ha).
- Life of proposed pit (is it needed for more than 2 years).
- Development of a bench.
- Volume extraction is greater than 25,000 tonnes per year.
- Blasting that involves processing of aggregate.

These criteria are a general guideline for determining when an applicant must apply for an Energy Resource Aggregate operation; if there are questions about the categorization of the worksite borrow pit / aggregate operation please contact the appropriate Regulator Authorizations Director.

Please Note:

Energy Resource Aggregate Operations considered by the Regulator include only the excavation or quarrying of aggregate that:

- produce material solely for the construction and maintenance of energy resource infrastructure;
- is not located within a construction corridor;
- does not produce materials for sale to or use by any party other than for the permit holder, or the holder of an approval referred to in Section 9 of ERAA, with authorization for its use;
- does not produce sand for use in hydraulic fracturing; and
- is subject to the requirements of the Health, Safety, and Reclamation Code for Mines in British Columbia.

Applications for aggregate operations, whether for energy resource purposes or not, that do not meet the above criteria, must be submitted directly to the Ministry of Energy and Mines. If there are associated Land Act authorizations required, the Regulator remains responsible for adjudication of those.

All energy resource aggregate operations are considered a mining activity under the Mines Act and are subject to the requirements of the Health, Safety and Reclamation Code for Mines in British Columbia. WorkSafeBC regulations do not apply.

An energy resource aggregate operation requires a Mines Act Permit in addition to a License of Occupation under Section 39 of the Land Act to occupy and use Crown land. As per the Health, Safety and Reclamation Code for Mines in British Columbia, all Mines plans, including programs for reclamation and closure, must be updated at a minimum of 5 years upon commencement of activity.
Applications for an energy resource aggregate operation must include a mine plan and mine emergency response plan as follows:

Mine Plan must include:

- Project description.
  a) Kind of aggregate material (clay, shale, gravel, rock, sand).
  b) Purpose – proposed use of material.
  c) Proposed start/end dates.
  d) Identification of the Mine Manager appointed under Section 21 of the Mines Act (name and contact information).
  e) Timing of activities (continuous, seasonal, intermittent).

f) Description of proposed work.

g) Activities and estimated disturbance:

- List any access roads / Trails / Heli Pads / Air Strips, including area of disturbance.
- Description of Sand, Gravel and Quarry Operations, including area for each activity:
    - Excavation of Pit Run.
    - Crushing.
    - Mechanical Screening.
    - Washing.

h) Settling Pond- provide the number of settling ponds, area of disturbance, and how the water will be disposed of i.e.. Recycled / Exfiltrate to ground / discharge to environment.

i) The estimated total mineable reserves over the life of the mine (tonnes).

j) The estimated annual extraction of material from site (tonnes/yr).

k) The estimated volume of timber to be cleared (m3).

l) Equipment list.

m) Blasting/rock crushing requirements (if any).

- Site condition:

a) Application area description (Forest composition, hydrology, geology, etc.).

b) Description of surrounding development.

- Engineering design & construction:

a) Mine location and size.

b) Site Preparation:

- Description of stripping overburden.
- Overburden management: storage location, height and slope, etc.

c) Pit slopes.

d) Perimeter berms.

e) Depth of groundwater table.

f) Proposed access and exit point.

g) Drainage exit locations.

h) Mine development maps and cross sections indicating:

- Depth.
- Length/width of open pit area.
- Length/width of total project area.
- Slope ratios.
- Setback areas with measurements.
- Overburden storage area with dimensions.

i) Erosion and sediment control.

j) Vegetation management strategy.

k) Reclamation plan.

Blasting Plan

A blasting plan should be included with the application if blasting is to be carried out to extract materials from the proposed pit. The blasting plan should include a map showing the existing infrastructures adjacent to the proposed site. The proponent should submit justification that the integrity of these infrastructures will not be impacted from blasting. The plan must be submitted by a Qualified Professional.

Mine Emergency Response Plan

Guidance on the development of a Mine Emergency Response Plan is available online from the Ministry of Energy and Mines.

Royalties Payable on Aggregate Material Mines

Aggregate volumes removed from a worksite borrow pit and from an energy resource aggregate operation may be subject to the payment of royalties to the Ministry of Forests as defined in the Crown Land Operational Policy: Aggregate and Quarry Materials.

Development and Reclamation Plan Requirements

Borrow pit and aggregate operations activities must be reclaimed in accordance with the reclamation plan. The following development and reclamation plan requirements must be prepared by a Qualified Professional.

- Plan view (map) of proposed development featuring:
  1. Topographic features.
  2. Property boundaries.
  3. Watercourses and drainages on the property and within 150 metres of the boundaries.
  4. Final boundaries and proposed excavation.
  5. Access roads
  6. Access to public roads.
  7. Proposed stockpiles (e.g., topsoil, overburden, product, etc.)
  8. Buildings and other facilities.
  9. Sediment control structures.
  10. Fencing and berms.
- Cross sections of proposed development illustrating:
  1. Original land surface.
  2. Typical configuration during mining, indicating the angle of slope and bench locations, if applicable.
  3. Proposed configuration upon completion of reclamation.
- Plan on the progressive development and reclamation of the aggregate operation/borrow pit:
  1. Describe the progressive development of the aggregate operation/borrow pit and reclamation plan.
  2. Describe the backfilling materials and placement procedures.
  3. Excluding lands not reclaimed. The average land capability to be achieved on the remaining lands must not be less than the average existing prior to the activity.
  4. Land, watercourses and access roads must be left in a manner ensuring long-term stability.
  5. Re-vegetated lands to a self-sustaining state using appropriate plant species.
  6. Re-vegetated lands so the growth medium must satisfy land use, capability, and water quality objectives. All surficial soil materials removed must be saved for use in reclamation programs, unless the objectives are otherwise achieved.
  7. Land and watercourses must be reclaimed in a manner consistent with the adjacent landforms where practicable.

- Prior to abandonment:
    1. All machinery, equipment and building superstructures must be removed.
    2. Concrete foundations must be covered and re-vegetated.
    3. All scrap material must be disposed of in a manner acceptable to an inspector.

Fresh Water Storage Sites

Under the Water Sustainability Act (WSA), the storage of water from a groundwater source or a stream (which includes a lake, pond, river, creek, spring, ravine, gulch, wetland or glacier) requires an authorization. In addition, structures constructed for water storage above natural grade elevation behind a berm or a barrier (i.e., "live storage") are dams under the Dam Safety Regulation (DSR) and require compliance with the construction and operational standards specified by the Ministry of Forests (MOF). Water storage behind a dam may also require a water licence.

Applicants for the use of Crown land for the construction and operation of a Freshwater Storage Site are required to provide the following information to the Regulator, in addition to what is specified for a standard Crown land application:

- Type of proposed water storage infrastructure planned for the site (e.g. c-rings, tanks, earthen excavation, etc.).
- Should the water storage involve a berm or barrier, provide the:
- Proposed maximum height of any berm or barrier above native grade elevation that enables the storage of water.
    - Total proposed water storage volume (cubic metres, m^3).
    - Total proposed "live storage" volume (m^3). Live storage is calculated as the volume of water stored above native grade elevation behind a berm or a barrier that would be released by a failure of the berm or barrier.
- If the structure is a dam other than a minor dam, provide the anticipated classification of the dam, following the approach detailed in Schedule 1, Section 2, of the DSR.

Applicants are required to provide the above noted information in the Activity Description box, or attach a document providing the above-noted information to any associated activity application for a freshwater storage site submitted through the Regulator's AMS.

Dam Safety Regulation

Under the Dam Safety Regulation (DSR), a "dam" means a barrier constructed for the purpose of enabling the storage or diversion of water from a stream or aquifer.

The DSR creates three categories of dams (refer to Figures 4.B and 4.C below):

1. Minor dams: Section 2 of the DSR specifies minor dams as:
   - Less than 7.5 m in height; and
   - Capable of impounding at full supply level a maximum total live storage volume of 10,000 m^3 or less.

   Minor dams are exempted from the DSR, except in situations where the Comptroller or Water Manager believes the dam is potentially hazardous to public safety, the environment, or land or other property.

2. All dams: except minor dams, must comply with all parts of the DSR except Part 3, which only applies to certain large dams.

3. Large dams**:** All parts of the DSR including Part 3 apply to certain "large" dams or dams with a significant or higher consequence classification. The regulatory requirements for dams to which Part 3 of the DSR applies are more substantial. These dams meet one or more of the following criteria:
   - 1 m or more in height, and live storage of >1,000,000 m^3.
   - 2.5 m or more in height, and live storage of >30,000 m^3.
   - 7.5 m or more in height (regardless of volume).
   - The dam has a consequence of failure classification of significant, high, very high or extreme.

The construction, operation, maintenance, surveillance and decommissioning of any Freshwater Storage Site that is a dam under the DSR must be consistent with the DSR and the Ministry of Forests (MOF) dam safety guidelines. Applicants should refer to the MOF Dam Safety Program for detailed information.

Where the proposed Freshwater Storage Site is a dam, except for minor dams, applicants are required to:

- Follow MOF's requirements specified in the Plan Submission Requirements for the Construction and Rehabilitation of Dams;

- Complete and submit required plans and other information for the proposed dam to:
    - Dams <9 metres in height – MOF Regional Operations (Prince George).
    - Dams ≥9 metres in height – MOF Dam Safety Section (Victoria).
- Obtain "leave to commence construction" from MOF prior to the construction of any live storage potential for the dam.
- Comply with the DSR for the construction, operation, monitoring, maintenance, and removal etc., of the dam.
- Contact the appropriate Dam Safety Officer if assistance is required.

.

Figure 4.B: Application of the Dam Safety Regulation to Dams in British Columbia

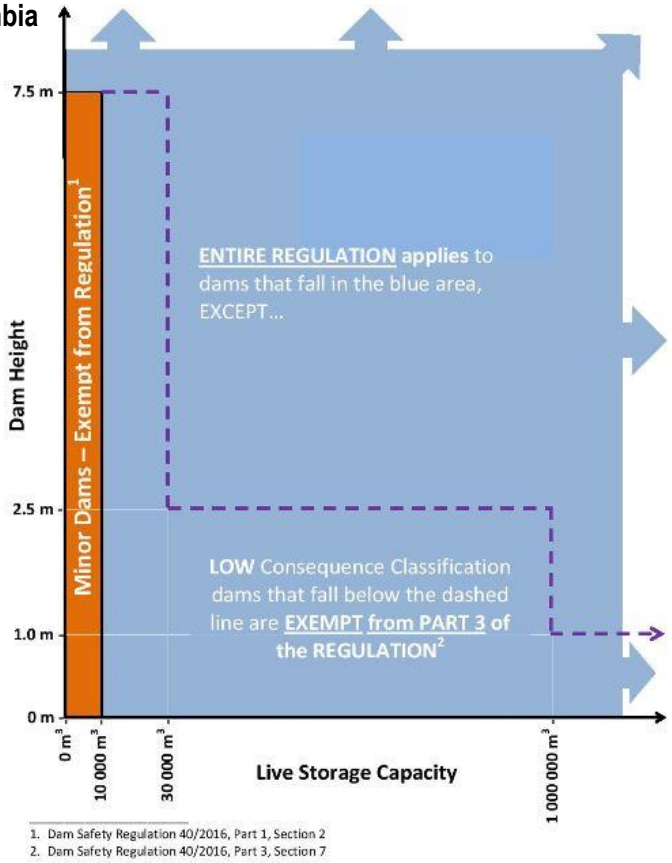
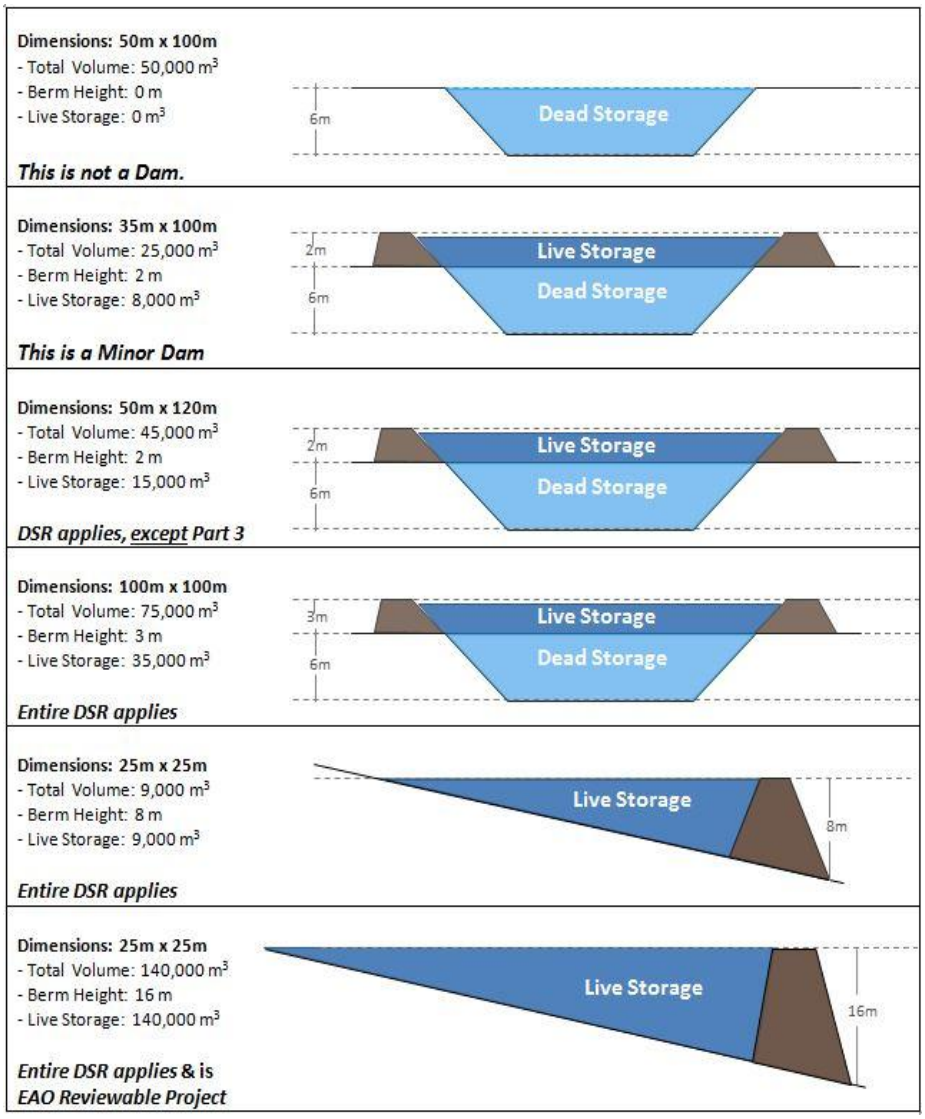


Figure 4.C: Examples of Water Storage Sites that are Dams or not Dams



Authorization to Store Water

All Freshwater Storage Sites storing water from a stream or a groundwater source require authorization under the WSA for the storage. Section 3(2) of the Water Sustainability Regulation stipulates that a short term use approval cannot be used to authorize water storage by a dam to which Part 2 of the DSR applies, unless the dam is authorized by a water licence. Energy resource operators who are proposing to store water from a stream or from a groundwater source in a Freshwater Storage Site can obtain the storage authorization in either of two ways:

1. Where the Freshwater Storage Site is a dam, except for a minor dam, the water storage must be associated with a water licence. Should an operator already have a water licence, it may be possible to amend the licence to add additional works to the licence, including a dam used to create the storage. Should an operator not have an existing water licence, the operator is required to apply for and obtain a water licence before a dam enabling live storage of water is constructed. Water licence applications are made to the Regulator using the online application portal.
2. Where the Freshwater Storage Site is a minor dam, or is an earthen excavation that is not a dam (i.e., with no live storage), authorization for water storage can be provided either with a short term use approval (Section 10 of the WSA), or with a water licence.

Environmental Assessment Act Requirement

Under Part 5 of the Reviewable Projects Regulation, a Freshwater Storage Site that is a dam with a berm height that equals or exceeds 15 metres is a reviewable project under the Environmental Assessment Act. The operator must contact the Environmental Assessment Office to determine whether an Environmental Assessment Certificate is required.

Equipment Storage Sites

The Regulator may authorize energy resource operators to use land for the purposes of temporarily storing equipment that is not currently in use on operating areas. This will generally be for centralizing equipment that is in transition in preparation for sale, alternate use or recycling. The Regulator will consider applications for this type of storage site under the following conditions:

- The proposed storage area must be located on an existing disturbance. The Regulator will not authorize new cut for the storage of aged equipment.
- Authorization terms will be limited to a maximum of five years.
- The application must include an explanation of what measures will be taken to ensure the site is restored to the standard of Section 19(1) of the EPMR prior to permit expiry.

Microseismic Monitoring Site

Applications for microseismic monitoring activity are submitted as an associated activity (AACT) through the Application Management System (AMS). When applying for a microseismic monitoring site in AMS, the correct associated activity

type (AS_TYPE) to use in the spatial file is “MONS” (monitoring site), no other type will be accepted.

Microseismic monitoring applications are accepted on Crown land only, where monitoring sites are required outside the permitted wellsite area. The Regulator does not issue authorizations for associated activities on private land. Additionally, microseismic activity on private land is an exempted activity under the ALC/OGC Delegation Agreement, therefore, an application to the Regulator for microseismic activity on private land is not required; but landowner agreements may be required.

Applicants are also required to provide the following information in the application description section, or as an attached rationale, when completing the application:

a) The purpose of the program (seismicity, fracturing or completions, etc.)
b) The type of equipment and installation method.
    i. If the installation method is buried, the depth of equipment
    ii. If the equipment permanent or non-permanent.
c) If the monitoring program will be run continuously or intermittently.

Since a relatively small area of land may contain many geo stations, and there may be uncertainty regarding the exact locations, it is recommended that the application include a construction corridor.

Where microseismic monitoring equipment is installed in a wellbore, the permit holder must submit a Notice of Operations for the installation and removal of the equipment. No well permit amendment is required to install monitoring equipment in a wellbore.

Offsite Environmental Mitigation

Applicants who are required to apply for Offsite Environmental Mitigation (also known as offsets) under regulation, must include offset areas as an associated activity type within their application. The spatial data must include and reference the associated activity type (AS_TYPE) for Offset (OSET).

Where required, an impact offsetting plan must be included as part of the application for the energy resource activity. The Environmental Offsite Mitigations Guidance document and accompanying frequently asked questions have been developed to assist energy resource companies to understand the requirements for offsite environmental mitigation.

4.6.5 Additional Considerations for Associated Activities

Approvals from Other Jurisdictions for Camps

The Regulator may authorize energy resource operators to use land for the purposes of a camp; however, additional authorizations and permits are required from other jurisdictions to construct and operate a camp. For more information refer to the Approvals from Other Jurisdictions for Camps Guidance Document.

The Peace River Regional District (PRRD) plans for potential impacts on services and infrastructure resulting from the operation of worker camps within the PRRD boundaries. Those camps that will house more than 30 workers are of particular interest, and permit holders with camps that meet that threshold will be required to provide such information annually to the regional district. For more information refer to PRRD website: https://prrd.bc.ca/temporary-use-permits/.

The Northern Rockies Regional Municipality is cognizant of potential impacts on municipal services, infrastructure, and socioeconomics, resulting from the operation of worker camps within the NRRM Boundaries. The NRRM requires all camps to secure the appropriate zoning, or a Temporary Use Permit prior to camp construction or siting. For more information please contact the NRRM Regional Development and Planning Department: https://www.northernrockies.ca/.

Chapter 4.7 Completing Short Term Water Use Activity Details

4.7 Short-Term Water Use

Authorization to divert or use surface water or groundwater for energy resource activities is obtained through either a licence or use approval, issued under Section 9 or 10, respectively, of the Water Sustainability Act (WSA).

Applicants applying for a use approval must complete a Short-Term Water Use application in the Application Management System (AMS). A Short-Term Water Use application is made up of two tabs: Short-Term Water Use (POD) Overview and Point of Diversion Details.

Applications for water licenses cannot be submitted through AMS. Information and guidance related to the water licence application process is available from the Regulator's Water Information website.

Water resources in the province of British Columbia are co-managed by the Regulator and the Ministry of Forests.

The Regulator is responsible for any authorizations issued to energy resource operators that are required to facilitate the carrying out of energy resource activities. This includes applicants that are not energy resource operators but whose primary business is to supply water or water logistic services to energy resource operations.

This section includes an overview of short-term water use permitting and provides guidance regarding planning and design, details related to application requirements, and instructions for completing the data fields within an application.

Where short-term water use questions arise that are not addressed in this section, the Regulator's Regional Water Manager or Assistant Water Manager should be contacted.

Please Note:

This manual is written as a whole and is available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.7.1 Short-Term Water Use Defined

Short-Term water use for energy resource development is a type of related activity, as defined in ERAA. Through ERAA, the Regulator is empowered to grant authorizations under specified provisions of the Water Sustainability Act.

In accordance with Section 24(3) of ERAA:

- The Regulator may not grant an authorization to a person for a related activity unless the person meets the prescribed requirements.
- For short-term water use related to major projects, prior to application for an energy resource activity related to the project, the Regulator may grant authorizations without the existence of a primary energy resource activity permit or application where it has delegated authorities to do so. Contact the Regulator's Major Projects team for more information.

Applications for use approvals are submitted as either stand-alone, or in combination with primary activity applications. If applying for a stand-alone authorization, a cross-reference number for a related primary activity is required at the time of application in order to verify the applicant criterion is met.

Term

By regulation, a short-term water use approval may be issued for a term not exceeding 24 months. The expiration date is noted on the approval.

A use approval cannot be amended to extend the term beyond 24 months from the date of issuance of the original authorization.

Where short-term water use is required beyond 24 months, applicants must submit a new application to the Regulator and are required to reference the

previous Application Determination (AD) number, short-term water use activity identifier, and/or Legacy BCER Number in the Activity Description section of the Short-Term Water Use (POD) Overview tab.

If activities have not started by the end of the permit term, the applicant must re-apply to the Regulator for a new use approval in order to use water.

4.7.2 Creating a Short-term Water Use Application

Applicants select their applied for activity type in the "create application" screen of AMS. For short-term water use there is only one activity: Short Term Water Use (POD).

Point of Diversion Application

A short-term water use approval is required for water withdrawals from pre-defined points of diversion (POD). Applications can be made for single or multiple points of diversion. Points of diversion include rivers/streams, lakes/ponds, and water source dugouts.

Short-Term Water Use Applications

A short-term water use approval is required for any water to be diverted or used, for the purpose of an energy resource activity, unless the activity is exempt under Division 4, Part 2 of the Water Sustainability Regulation. New short-term water use authorizations are also required to:

- Continue water use where a pre-existing use approval has expired; and/or
- Divert or use water from a new diversion point.
- The applicant must provide details on their water demand and a rationale to support the volume of water requested.
- The applicant must provide information on associated works or activities, such as water storage, water transportation methodology (pipeline, truck, etc.), and intake and pumping systems if applicable.

Short-Term Water Use Authorization Amendments

Approval of an authorization amendment is required before the associated use can be carried out. Amendments for short-term water use authorizations are required for:

- Adding or changing diversion points;
- Changing the length of the approval (up to 24 months from the approval's effective date); or
- Any other changes to permit provisions.

By regulation, increases to the authorized total withdrawal volume for any POD cannot be submitted as an amendment unless they were erroneously estimated. Changes in the total withdrawal volume require the current use approval to be cancelled and a new short-term water use application submitted to the Regulator.

When submitting amendments to a short-term water use approval, a letter explaining the amendment and why it is required needs to be submitted.

Short-Term Water Use Policy

The Regulator's authorization of short-term water use approvals is consistent with the provisions of the Water Sustainability Act. The duration of a use approval cannot exceed 24 months. Upon the expiration of a use approval, subsequent applications for authorizations are reviewed and adjudicated as new applications.

In some instances, energy resource operators may require water licences issued by the Regulator including:

- Where a company proposes to construct permanent water infrastructure (e.g., a pipeline) as part of its water supply strategy.
- Where a company requires assurance of long-term water access through the "first in time, first in right" principle of the Water Sustainability Act.
- When a company proposes to divert surface or groundwater into a structure that is a dam under Part 2 the Dam Safety Regulation.

Water Source Details

Water source types must be identified when submitting a short-term water use application. Applicants must determine and select the purpose, quantity, source of water, and the works required.

The Water Sustainability Act vests "the water at any time in a stream" and the "percolation and flow of groundwater" to the Crown. The WSA defines groundwater as "water naturally occurring below the surface of the ground" and considers all groundwater to be from an aquifer.

An aquifer is defined in the WSA as:

> "(a) a geological formation,
>
> (b) a group of geological formations, or
>
> (c) a part of one or more geological formations that is groundwater bearing and capable of storing, transmitting and yielding groundwater."

Definitions for surface water source types include:

- Lake/pond: a body of relatively still fresh water, localized in a basin. Lakes and ponds are contrasted with rivers or streams, which normally flow. There are no universally accepted criteria to distinguish ponds from lakes, however, as general guidance; ponds can range in size from a few square metres to approximately two hectares, while lakes are generally larger than two hectares. Most lakes are filled and drained by rivers and streams. Lakes and ponds are both "streams" as defined in the Water Sustainability Act.
- Stream: a natural watercourse of fresh water flowing towards an ocean/sea, lake or other river, sometimes drying up prior to reaching another water body. Small channels may also be called by several other names, including stream, creek, brook, rivulet, tributary, rill, ravine and gully. A stream in this manual specifically refers to a stream as defined in the Water Sustainability Act, which includes: a lake, pond, river, creek, spring, ravine, gulch, wetland (swamp, marsh or fen) or glacier, whether or not usually containing water, including ice.
- Water source dugout: created when a pit or other earthen excavation is used as a source of water that has naturally accumulated water via surface water diversion, runoff, snowmelt, rainfall, or groundwater inflow. Refer to the "Water Policy Bulletin: Authorization requirements for storage and use of water in dugouts August 2017" for more information

under the Water Sustainability Act. For dams refer to Part 2 of the Dam Safety Regulation.

Water Storage

Authorization is required for the storage of water diverted under a short-term water use approval. Storage should be selected where the applicant is applying for a section 10 use approval and is intending to store the water before and during use, the applicant is required to provide the following information pertaining to the primary storage locations to be authorized:

- A table listing the location(s) of primary water storage sites, with UTM coordinates and/or other location identifiers;
- Type of water storage (e.g. tank, c-ring, earthen excavation, dugout, dam);
- The total volume of water to be stored at each storage location;
- If water storage is on Crown land, the associated Crown land authorization;
- If water storage is on private land, the name of the landowner and the PID of the private land;
- For all proposed water storage involving earthen excavations provide:
    - Total water storage volume (m^3);
    - Maximum height of any berm or barrier above native ground elevation, if the excavation has a berm;
    - Maximum "live water storage" volume (m^3), if the excavation has a berm or barrier (Live storage is calculated as the volume of water stored above native ground elevation behind a berm or barrier);

If the water storage is associated with a water licence, the water licence number.

Please be aware that a short-term water use authorization (or a water licence) is required for any water storage structure intercepting groundwater or water from a "stream" as defined in the WSA, regardless of whether the source of water is located on Crown land or private land. Under the Water Sustainability Act, the Regulator cannot authorize in a short-term use approval the storage of water in a Dam to which Part 2 of the Dam Safety Regulation applies unless the dam has been authorized under a water licence. All storage of water in a Dam to which Part 2 of the Dam Safety Regulation applies must be authorized under a water licence.

Environmental Flow Needs Assessment

The Regulator evaluates Environmental Flow Needs (EFN) as required under Section 15 of the Water Sustainability Act. The EFN of a waterbody is defined as "the volume and timing of water flow required for the proper functioning of the aquatic ecosystem."

The BC Environmental Flow Needs Policy is a coarse screen to assess the risk to EFNs (**Figure 1**) where the origin of the water is a stream, lake, or wetland, or a dugout or aquifer that is reasonably likely to be hydraulically connected to a stream, lake, or wetland. An EFN assessment is required for all proposed water withdrawals from a stream, river, lake or wetland.

For proposed water withdrawals from water source dugouts or dams that are potentially hydraulically connected to any streams, lakes or wetlands (e.g., within 50-100 metres) the applicant must assess the hydraulic connectivity. Unless the applicant can demonstrate otherwise, the Regulator will assume hydraulic connection to any waterbody within a reasonable (generally 50-100 metres) distance of the source. If hydraulically connected, the application must also include an assessment of the EFN of the proximal stream, lake or wetland, performed by a Qualified Professional.

In situations where information is available from the Northeast Water Tool, the Northwest Water Tool, or the Omineca Water Tool, these tools can be utilized to assist in assessing the EFN of the primary source.

Applications for water diversion and use in the Blueberry River, Upper Beatton River, and Lower Sikanni Chief River Watersheds shall refer to the New Environmental Flow Needs Framework for Water Management interim guidance documentation and tool.. For more information refer to IU 2023-05 Implementing the Northeast British Columbia Treaty Agreements: New Framework for Water Management.

If no information is available from these tools, the EFN of the primary source as well as the EFN of any hydraulically connected stream, lake or wetland must be assessed by a Qualified Professional and a report submitted to the Regulator with the short-term water use application.

If the application relates to water in an aquifer the applicant is required to provide the official names of each stream or other aquifers known to the applicant to be reasonably likely to be hydraulically connected to the source aquifer, or if there is no official name, a locational description of each stream or aquifer.

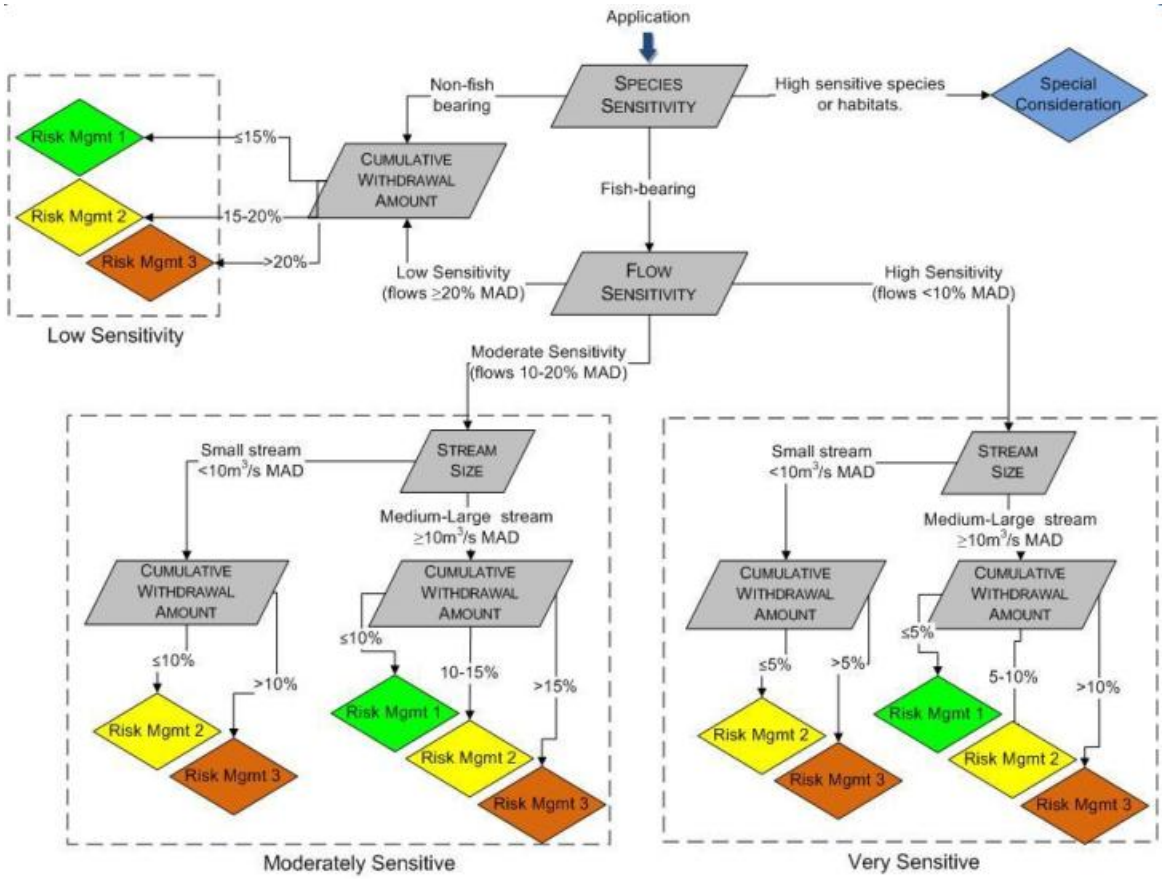


Figure 1. BC EFN Environmental Risk Management Framework

Withdrawal Volumes and the Regulator Decision Framework

The Regulator manages use approvals to protect fisheries or aquatic resources, and the drinking water supply.

There is considerable variability in the hydrology of water bodies across B.C., varying from east (drier) to west (wetter). There is also a very strong seasonality of water supply, varying from high runoff rates during the spring snowmelt period

(typically mid-April until late June), to low runoff rates during winter (typically early-December until late March).

The volume of water requested through a use approval should be reasonable with respect to the associated activities. The short-term water use application should be consistent with the guidance detailed below and consistent with Section 15 of the Water Sustainability Act and the BC Environmental Flow Needs Policy.

If energy resource activities cannot adhere to these water withdrawal guidance recommendations, a rationale and justification must be included in the permit application, along with the additional operational practices or mitigations that will be employed to prevent any adverse effect on the water supply in that watershed. Field-based monitoring evidence must clearly show sufficient inflow to a lake or discharge in a stream to support the requested water withdrawals for the specified time. Applicants are required to use a Qualified Professional to collect, interpret and provide support with field data.

Guidance on water withdrawals are as follows:

1) Winter Season Withdrawals in Northeast B.C. (December 1 – March 31)

   Watersheds with drainage areas less than 500 square kilometres are likely to have zero or near zero discharge during most winters, and will likely not support water withdrawals.

2) Watersheds with drainage areas of 500 square kilometres or greater, the following framework is used to guide winter water withdrawals:

   - Quantitative values on Mean Annual Discharge (MAD) and Dec – Mar winter discharge is estimated for all watersheds in northern B.C. from NEWT or the BC Water Tool for other areas.
   - Small rivers and streams in northeast B.C. are subject to deep ice formation and very low flows during the winter period. In some cases, field evidence indicates there can be zero flow. The small quantities of liquid water remaining in small streams during winter can be critical for over-winter survival of fish.

3) Water source dugouts: the water in water source dugouts is acquired through the diversion of surface water or shallow aquifers, and/or through the percolation and flow of groundwater, unless proven otherwise. Streams

proximal to water source dugouts (e.g. within 50 to 100 metres of any edge of a water source dugout) have the potential to be hydraulically connected to the dugout. As such, there is a requirement that short-term use approvals for water source dugouts consider the environmental flow needs of streams, lakes or wetlands reasonably likely to be connected to the water source dugout.

Where there are no environmental flow needs concerns relating to proximal streams with a water source dugout, there is no restriction on water withdrawals.

4) Winter Season Lake Withdrawals: Inflow to most lakes in northeast B.C. during the winter period is usually zero or near-zero due to prolonged and sustained temperatures below freezing, frozen ground conditions, and the accumulation of precipitation as snow. The maximum cumulative volume of water (for all use approvals and water licences) approved for withdrawal from lakes during the winter flow period is restricted to a 10 centimetre drawdown from the high water level (HWL) mark, as a function of the lake area, regardless of the watershed area for the lake. An estimate must be provided of the available water for authorization in the lake based on a 10 centimetre drawdown and current authorizations. Examples are shown in **Table 4.I**.

5) If energy resource activities cannot adhere to the above, the application must include field-based monitoring evidence collected and interpreted by a Qualified Professional which provides clear support showing sufficient inflow to a lake or discharge in a stream during the winter period to support the requested water withdrawals.

6) The Regulator will evaluate applications for winter withdrawals outside of northeast B.C. on a case by case basis, taking into account the characteristics of the watershed and the volume of water requested.

Table 4.I. Winter Lake Maximum Water Allocation

Lake	Lake Area (hectares)	Lake Area (m^2)	Maximum Drawdown (m)	Maximum Cumulative Volume for Approval (m^3)
Lake 1	4.3	43,000	0.10	4,300
Lake 2	27.5	275,000	0.10	27,500
Lake 3	11.6	116,000	0.10	11,600
Lake 4	125.0	1,250,000	0.10	125,000

7) Open-Water Season Withdrawals (April 1 – November 30)

- Rivers and streams: The maximum volume of water approved for withdrawal from rivers and streams during the open-water season is **guided** by the water availability as calculated by NEWT or the BC Water Tool for other areas and the Environmental Flow Needs Policy, as shown in **Figure 1.**
- Lakes: the maximum volume of water approved for withdrawal from lakes during the open-water season is **guided** by the water availability as calculated by NEWT or the BC Water Tool, and limited to the 10 centimetre maximum drawdown limit from the HWL mark. An estimate of the available water must be provided for the lake based on a 10 centimetre drawdown, and other authorizations.
- Water source dugouts: there is no restriction on the water withdrawal from water source dugouts unless additional restrictions are required as a result of the Environmental Flow Needs of hydraulically connected streams.

Please Note:

Please be aware that the WSA gives the decision maker the discretion to request any additional information he or she may deem necessary for a determination to be made on the application.

Cancellation and Expiration of Short-Term Water Use Approvals

If a permit holder decides not to use water from an active use approval, the permit holder may submit a letter requesting cancellation of the authorization prior to expiry of the authorization to the Authorizations Director of the Regulator administrative zone in which the POD is located. The cancellation request letter must clearly identify:

- Application Determination and Short-Term Water Use numbers assigned within AMS;
- Point(s) of diversion; and
- Whether or not any water withdrawal has occurred to date.

If water withdrawal occurred prior to the date of cancellation, the permit holder is required to report water withdrawal up to the date of cancellation.

4.7.3 Short-Term Water Use Planning & Design

This section provides typical planning and design requirements, guidelines, and considerations when planning and designing for short-term water use for an energy resource activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Regulator reviews the short-term water use application relative to the engineering and technical information provided in the Application Management System; therefore, applicants should review this section for an indication of any application requirements or attachments required in relation to the required components.

Regulatory Requirements

Short-term water use activities must comply with the requirements outlined in the Water Sustainability Act and its regulations, including the Water Sustainability Regulation, the Groundwater Protection Regulation and the Dam Safety Regulation.

The Regulator does not grant exemptions under the Water Sustainability Act. However, some relevant activities are exempted by regulation from requiring authorization under the Act to divert and use water. Specifically, the exemption for well drilling as it pertains to geotechnical investigations specified in Part 4 of the Water Sustainability Regulation. Under this Part, use approvals are not required for geotechnical or geophysical drillings as long as (among other restrictions as specified in this Part):

- The water diversion is done by or supervised by a Professional Engineer or Professional Geoscientist licensed or registered under the Engineers and Geoscientists Act, or a qualified well driller as per Section 7 (a) (1) of the Groundwater Protection Regulation, for geotechnical or geophysical exploration wells;
- The proponent does not divert water from any one location on a stream or aquifer for more than 5 consecutive days;
- The proponent does not divert water from a stream or aquifer for more than 10 days in any calendar month;
- The proponent does not divert more than 10 m^3 of water per day from a stream or aquifer;
- The proponent does not divert or use water from a wetland;

- The proponent does not divert or use water from a stream that is within the boundaries of a protected area;
- The proponent does not divert or use water from a stream, other than a lake, unless the width of the flowing water in the steam channel is at least 5 metres at surface level; and/or
- The proponent does not divert or use water from a lake unless the surface area of the lake is at least one hectare.

Another example of activities that are exempted by regulation from requiring authorization under the Act to divert water is the construction of ice roads for restoration-related purposes. This exemption is only applicable to ice roads used to support the decommissioning, assessment, or restoration (including remediation) of a site, whether or not the site is a dormant or former site within the meaning of the Dormancy and Shutdown Regulation.

The ice road exemption is subject to the general exemption rules set out in Part 2, Division 4 of the Water Sustainability Regulation, including:

- Water diverted under the exemption must only be used to construct or maintain ice roads;
- The ice roads must be located within the Northeast regional economic zone;
- The construction or maintenance of the ice road is required to be in support of restoration activities;
- The ice road must not be maintained after May 1.

In addition, persons diverting water under the exemption are subject to the following record-keeping requirements:

- Recording the source of the water being diverted (e.g., stream, lake, freshwater reservoir or dam);
- Recording the geographic location from which water is diverted, such as coordinates of the Point of Diversion (POD);
- Recording the volume and rate of water diversion; and
- Recording the details of how activities carried out under the exemption adhere to all the "Rules for exemptions" in the Water Sustainability Regulation.

Records must also include documentation of how potential effects on Environmental Flow Needs at the POD and/or any hydraulically connected lake, stream or aquifer were considered. To support this assessment, it must be demonstrated that diversion activities did not reduce stream depth below 30 cm

or contribute to more than 10 cm of drawdown in lakes, consistent with best management practices applied under water authorizations. These criteria provide a minimum benchmark to help ensure water diversions do not pose a risk of significant harm to fish, wildlife or aquatic ecosystems associated with the POD.

Guidance Requirements

In addition to this Energy Resource Activity Application Manual, short-term water use applicants should review the following:

- Environmental Protection Management Regulation and Guideline;
- Wildlife Act requirements to leave muskrat and beaver houses and dens undisturbed;

Additionally, the following operational requirements must be planned for and met:

- End-of-pipe intakes must be screened with maximum mesh sizes in accordance with the Fisheries and Oceans Canada 'Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater'.

Water Supply Verification (Northeast and BC Water Tools)

When making an application for short-term use of water from specific points of diversion, applicants are required to indicate that sufficient water supply has been verified.

Before submitting an application to the Regulator, applicants are required to utilize the Northeast Water Tool (NEWT), or the BC Water Tool, as applicable, to assist in estimating the water supply within the watershed of the proposed water source and in determining whether water is likely to be available for permitting at the POD within the watershed of the proposed water source.

Reports generated from NEWT or the BC Water Tool provide information on estimated mean monthly discharge, existing licenced or approved uses, and potentially available water based on the B.C. Environmental Flow Needs Policy Risk Management Levels. Applicants are required to use the generated reports and submit these reports with all short-term water use applications for watercourses, where data from these tools is available. If no report is available from these tools, the required information must be submitted by a Qualified Professional.

The Regulator's water information webpage provides detailed information on the use and limitations of the Water Tools. Please be aware that **these tools are not useful for estimating the annual or seasonal runoff into water source dugouts, and there is a higher degree of uncertainty for watersheds smaller than 500 km²**.

Where streamflow measurements exist, such as from the Water Survey of Canada or industry-specific measurement sites, applicants are encouraged to supplement the Water Tool analysis with data from these sources. NEWT and the BC Water Tool now provide hydrometric and climate data including streamflow, surface water quality, groundwater quality, groundwater level, and climate.

Additional information is required for sensitive and highly variable streams, and large water volume requests. Because of the natural variability and associated low flows, it is recommended that a low flow analysis be conducted and the seasonal withdrawal period be considered. Open-water season is defined as April 1 – November 30 and the winter water season is defined as December 1 – March 31.

Water Sources with Water Allocation Restrictions

Some water sources (rivers, lakes, springs, etc.) in Northeast B.C. are noted by the Ministry of Environment (MOE) and MOF as having Water Allocation Restrictions.

A Water Allocation Restrictions map layer is contained in the Regulator's GIS coverage titled Areas Established by BCER. Industry is advised when a Point of Diversion (POD) application is located within a source specified as having a Water Allocation Restriction via the Application Analysis Tool Report, or the SOE (Spatial Overlay Engine) Report. An applicant for sources specified as having a Water Allocation Restriction is required to submit additional information to support the application.

A Water Allocation Restriction alerts water users and Regulator staff of current or potential water allocation concerns. This information is considered by the Regulator, along with all other relevant information, when making short-term water use decisions.

Three types of Water Allocation Restrictions are noted in the Regulator's map coverage:

- **Fully Recorded** indicates that the source has water shortages and that water for further allocations may be limited, seasonally limited, or not available.
- **Possible Water Shortages** indicates that the stream is nearing the Fully Recorded stage and there is potential for periods of insufficient water availability.
- **Office Reserve** indicates that a specialized comment has been placed by MOE/MOF on the source that must be taken into consideration for further water allocation decisions.

As per Section 12.1.b.iii (Application and Decision Maker Initiatives) and Section 15.1 and 15.2 (Environmental Flow Needs) of the Water Sustainability Act, the Regulator requires that an application for water diversion from a source specified as having a Fully Recorded or Possible Water Shortage status include a hydrological report to support the application. The hydrological report will:

- Be produced by a Qualified Professional;
- Provide detailed information on weekly, monthly, seasonal, and annual means and variable discharge for the source, derived from analysis of long-term streamflow data associated with the source or from simulations based on long-term hydrology data;
- Document existing authorized water diversions on the source, and quantify the extent by which existing diversions affect weekly, monthly, seasonal, and annual discharge at the POD;
- Document fisheries utilization of the water source at and downstream of the POD, and the Environmental Flow Needs of the source to maintain fish resources, where the Water Allocation Restriction is associated with fisheries or environmental flows;
- Document community or domestic drinking water use and other licensed water diversions at and downstream of the POD, where the Water Allocation Restriction is associated with maintaining community or domestic drinking water supply or another existing licenced water use.
- Include both the maximum and minimum pumping rates, and the minimum depth (e.g. minimum 0.30 m) above the bottom of the watercourse to install the pump to prevent entrainment of sediment and aquatic organisms; and,

- Make recommendations for rates and thresholds of daily, weekly, monthly and seasonal water diversions to address Environmental Flow Needs such that the factors triggering the Water Allocation Restriction specification are addressed.

Approvals for water diversion from sources specified as Fully Recorded or Possible Water Shortage will generally include special permit conditions, including:

- Discharge monitoring before and during diversion (which can include Water Survey of Canada stations, if available);
- Specified Environmental Flow Needs thresholds linked to discharge monitoring, below which water diversion will not occur.

Please be aware that in all cases where EFN threshold conditions have been applied, the Regulator's Compliance and Enforcement Department is tasked with conducting site investigations to ensure compliance.

Authorizations for Crown Land Access and Associated Developments

A short-term water use approval alone does not grant any land tenure or access, only the use of water from the approved diversion point. Additional authorization under either the Land Act, Petroleum and Natural Gas Act, or Section 24 of the Water Sustainability Act may be required.

Applicants must determine if additional authorizations are required to support operations under the use approval. (For example, access to the water withdrawal point(s)). If the proposed activity, as described in the short-term water use application, requires primary or associated activities (roads, water storage sites, pipelines and facilities) and/or the use of Crown land, applicants must apply to the Regulator for permits related to these requirements. Applicants are encouraged to submit applications for all activities associated with a short-term water use application as a single multi-activity application in AMS.

Additional Requirements for Engaging Rights Holders

For the purposes of short-term water use applications, rights holders as defined in the Water Sustainability Act include: water licensees, applicants for water licences, use approval holders, short-term water use applicants, riparian owners, and landowners whose property is likely to be detrimentally affected by the applicants' operations.

Applicants must notify and engage with rights holders as defined in the Water Sustainability Act and provide a summary of that engagement with their application, using the Rights Holder Engagement Line List as detailed in this manual.

Surface Agreement for Activities on Private Land

Access to private land is not granted along with use approvals. Activities associated with a use approval, that are to be carried out on private land, such as space for pumps or access roads, require a surface agreement with the land owner. Surface agreements must be in place before applying to the Regulator; however, the agreement is not required to be submitted with the application.

Authorizations for Temporary Water Lines or other Works under Section 24 of the Water Sustainability Act

Section 24 of the Water Sustainability Act discusses the requirements for permits needed over Crown land(s). In the application, the applicant must identify, if any, works, as defined in the WSA, that are required for the water withdrawal.

A Section 24 authorization may be issued for the installation of a temporary above ground fresh water line over Crown lands if no new cut is required and the line is not to be run within existing ROWs.

Other Considerations for Temporary Water Lines:

- If a water line is located on Crown land where new cut is required, an associated activity application is required; this process is done through the Application Management System (AMS). The Regulator does not encourage or support additional cut for temporary water lines associated with short-term water use.

- If a temporary water line is required, a map clearly indicating the proposed water line route must be submitted.

Please Note:

Impacts to recreation features, trails, recreation facilities, interpretative forest sites or recreation sites identified, authorized or established under the Forest and Range Practices Act are subject to additional authorizations by the Ministry of Forests. Applicant Information Guide: Authorization to Use a Recreation Site or Trail (gov.bc.ca)

4.7.4 Short-Term Water Use Specific Activity Requirements

This section outlines application requirements for short-term water use applications. Requirements are dependent on the characteristics of each short-term water use activity (i.e. each POD in the application) and are outlined in detail below.

In most cases, the details are input into the short-term water use application tab, but may require the upload of additional attachments to support the details including:

- Water Tool Report (NEWT or the BC Water Tool)
- Environmental Flow Needs (EFN) assessment and mitigation, if required; and/or
- Mapping of hydraulically connected streams, lakes, or wetlands.

If the EFN assessment includes more than one POD, the POD's must be properly labelled to align with the Diversion Map.

Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly, as defined in this manual.

Diversion Map

A diversion map illustrating in detail the location and extent of planned activities at an appropriate scale is required. The diversion map must be uploaded in the Maps and Plans tab of the Application Management System and clearly indicate:

1) Map date;
2) POD locations and labels;
3) Primary Storage site locations;
4) Direction of streamflow if withdrawals are proposed from a stream;
5) NTS and BCGS map sheet numbers indicated on a legend and on the maps;
6) North arrow;
7) Version number (for example, “Revision #1, Amendment #1”);
8) Any planned works associated with the proposed short-term use of water.

4.7.5 Additional Considerations for Short-Term Water Use Activity

Use Approvals Preceding Water Licence Applications

If applying for a short-term use approval with the intent to subsequently apply for a water licence under section 9 of the WSA, a full Water Management Plan (WMP) prepared by a Qualified Professional is required to be submitted. This requirement ensures that all considerations be taken to confirm future water availability and thus the Regulator will treat the short-term use approval application as a water licence application. A WMP template is provided in Appendix B within the Water Licence Application Manual.

Post Approval Reporting

Companies holding short-term use approvals are required to submit monthly water withdrawal data to the Regulator on a quarterly basis. Water withdrawal data must be reported for each approved withdrawal location and is submitted through eSubmission. For information on eSubmission, please refer to the eSubmission Portal User Guide on BCER website.

Data submitted quarterly is comprised of the total volume withdrawn each month (cubic metres). If no volume was withdrawn for a reporting period, or a part of a reporting period, a volume submission is still required. In this case, the volume withdrawn is "0.00 m^3". Reporting periods are listed in Table 4.J.

Table 4.J Submission Reporting Periods

Reporting Period		Report by Date
January – March	----------	April 25th
April – June	----------	July 25th
July – September	----------	October 25th
October – December	----------	January 25th

The Regulator deems a failure to report as non-compliance and may take action depending on the severity of the infraction.

If a use approval has been cancelled, the permit holder is only responsible for reporting on water withdrawals occurring up to the cancellation date.

Compliance and Enforcement Related to Water Authorizations

Special conservation officer status allows the Regulator to enforce specific sections of the Water Sustainability Act. Enforcement can include:

- Warnings.
- Prosecution (violation tickets or court appearance).
- Restriction of issuance of renewals and cancellation of existing permits.

Section 94 of the Water Sustainability Act states when and why an approval may be cancelled or suspended by the regulator. Cancellation or suspension by the Regulator can occur when an operator fails to:

- Make beneficial use of the water.
- Construct within the timeframe.
- Pay rental/fees.
- Comply with an approval condition.

- Comply with the Water Sustainability Act.
- And/or other reasons as defined in Section 94 of the Water Sustainability Act.

Chapter 4.8 Completing Changes in and About a Stream Activity Details

4.8 Changes in and About a Stream

Applicants applying for an energy resource activity causing changes in and about a stream as defined in the Water Sustainability Act must complete the changes in and about a stream application tab in the Application Management System (AMS). The changes in and about a stream tab is made up of two components: stream details and exemptions. This section includes an overview of changes in and about a stream activity permitting, guidance regarding changes in and about a stream planning and design, details related to changes in and about a stream specific application requirements and detailed instructions for completing the data fields within the changes in and about a stream activity tab.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.8.1 Changes in and About a Stream Defined

Common changes in and about a stream activities include the construction, maintenance and removal of watercourse crossings and crossing structures. Other types of works that comprise changes in and about a stream include stream diversion, stream bank erosion protection and/or stabilization, debris removal and beaver dam management.

Changes in and about a stream (instream works) are defined in the Water Sustainability Act (WSA) as:

a) Any modification to the nature of a stream including the land, vegetation, natural environment or flow of water within a stream.

b) Any activity or construction within the stream channel that has or may have an impact on a stream.

The Regulator considers any works within the high water mark of any stream as "changes in and about a stream."

Doing any instream works without a written authorization is a violation of the WSA. This includes the construction of dugouts across streams, or the diversion of streams into dugouts, to enhance water capture and storage.

Instream works are authorized in one of two ways. For energy resource activities (wells, pipelines, geophysical, facilities or roads) permitted under ERAA, instream works can be authorized by the energy resource activity permit, and the provisions of ERAA and the EPMR apply. For instream works associated with related activities, including CER related approvals, instream works must be authorized in accordance with Section 11 of the WSA or Section 39 of the WSR. There are some distinct differences between these application streams with respect to instream works.

Despite the differences in the definition of a "stream" between the WSA and EMPR, operational assessments and field surveys usually integrate the two criteria. As noted further in this document, all applications for changes in and about a stream must indicate the riparian classification of the stream per Section 22-24 of the EPMR, as this detail is required for the Regulator's review. This is further detailed in the Environmental Protection and Management Guideline (EPMG).

Instream Works for Energy Resource Activities

The legal mechanism by which instream works associated with energy resource activities is authorized is ERAA. A review under the federal Fisheries Act may also be required by DFO for any changes in and about a stream.

Section 39(5) of the Water Sustainability Regulation defines instream works authorized by a permit issued under the ERAA and in accordance with the EPMR and any applicable permit conditions as authorized changes; additional authorization under Section 11 of the WSA is not required for ERAA activities. Thus, for instream works associated with energy resource activity applications, the definition and classification of streams as defined in the EPMR will be used to evaluate and authorize works.

The EPMR defines a stream as a watercourse scoured by water or containing observable deposits of mineral alluvium, a continuous channel bed greater than 100 metres in length, connected to a fish-bearing stream or lake or waterworks (all as defined in the regulation).

Small ephemeral or intermittent streams that do not meet the EPMR definition and classifications of a stream (S1-S6) are classified as "Non-Classified Drainages (NCD)". An NCD is an ephemeral or intermittent watercourse having a continuous defined channel that is less than 100 metres in length and at some points may spread over a level area without defined banks, before flowing again as a defined channel.

Please Note:

A NCD is not a stream under the EPMR. Therefore, it is not required to be identified or evaluated in new ERAA applications where changes in and about a stream are applied for with an ERAA activity, or for amendment applications where the original permit included an ERAA activity. However, if the existence of a NCD is suggested in the TRIM data, the construction plan should show it as a NCD.

Instream Works for Related Energy Resource Activities

The legal mechanism by which instream works associated with a related activity are authorized is Section 11 of the WSA. A review under the federal Fisheries Act may also be required by DFO for any changes in and about a stream.

The requirement for authorizations for instream works under Section 11 of the WSA pertains to streams as defined in that Act, which has a broader meaning than in the EPMR. A "stream," as defined in the WSA, includes any natural watercourse or source of water supply, whether usually containing water or not, and a lake, river, creek, spring, ravine, wetland, swamp or gulch". Streams do not have to contain water in all times of the year, and can be ephemeral or intermittent.

The term "natural watercourse" is not defined in the WSA; however, common usage indicates that a natural watercourse is a natural channel where water flows over a bed between defined banks. The flow of water does not need to be constant, but the channel must be a permanent and distinct feature on the landscape. The watercourse may also, at some point, spread over a level area without defined banks, before flowing again as a defined channel.

Please Note:

A NCD is a stream under the WSA, therefore, it must be identified or evaluated in CER applications and/or related activity applications where changes in and about a stream have been included. Appropriate provincial authorizations and/or approvals must be acquired before commencing any works in and about a NCD.

Authorized Changes

As per INDB 2021-06, Regulator staff have received designations as Habitat Officers. As a result, applicants proposing activities constituting an "authorized change", per Section 39 of the WSR, can submit their notification(s) directly to the Regulator.

The new designation does not modify the regulatory requirements for submitting a notification of an authorized change under of the WSR.

A statement of the terms and conditions for the authorized changes may be provided by the Habitat Officer, or if an applicant has not received a response from the Habitat Officer within 45 days, they may proceed with the authorized changes subject to the requirements set out in Part 3 of the WSR.

In order to submit a notification of change in and about a stream to the Regulator, applicants must submit a Changes In and About a Stream application through the Regulator's Application Management System (AMS). Applicants must indicate in the Application Description section of AMS that the application meets the requirements for notification under Section 39 of the WSR. In addition, applicants will need to upload a project description that states how their activities are consistent with an authorized change set out in Section 39 of the WSR, including relevant conditions.

Applying for Authorization to Carry Out Instream Works

Activities comprising of or including instream works, as defined above, require authorization in writing, other than Authorized Changes under the WSR . Regulator staff may need to make a determination during application or project review as to whether the works will be authorized under ERAA or the WSA. Guidance on operational assessment is as follows:

- Streams, as mapped in the provincial Freshwater Atlas coverage (TRIM maps, at 1:20,000 scale), are assumed to be streams under the WSA and ERAA, unless demonstrated otherwise.
- Activities crossing or intersecting a "mapped" stream, but where there is believed to be no stream, require the submission of field-based evidence collected by a qualified individual to demonstrate that there is no stream.
- Small streams, which can have subtle field expression, are difficult for field surveys done in the winter season, when snow covers the ground. It should not be assumed that because a stream cannot be seen under snow cover that a stream does not exist.
- Any streams meeting the S1-S6 classification of streams as defined in the EPMR are required to further identify the riparian management areas associated with the streams as part of the application deliverables.

There are instances where a stream exists in the field but is not depicted on the provincial map base. Authorization for any works in or about the stream is still required.

If a feature depicted as a stream on the Freshwater Atlas coverage is not evident during the field survey, the construction plan submitted in conjunction with the application should note "No Watercourse Evident" or "No Watercourse Visible" (or something similar) and instream works for that watercourse do not need to be included in the application itself (i.e. in the spatial data submitted with the application). The features must not be listed as NCD in the application.

Man-made ditches and ditch lines are generally not streams under the WSA, and applicable authorization may not be required for a person to do "works" associated with ditches. That said, where manmade structures have sufficiently naturalized, they may become streams to which the provisions of WSA or ERAA apply. Where there is a question of whether or not a watercourse or waterbody is a stream, please contact the appropriate Regulator's Authorizations Director to discuss the specific situation and how works in or in proximity to that feature may be considered in an application.

In addition, in some cases, where ditches are being used as fish habitat (this can occur commonly on floodplain areas) the requirements of the federal *Fisheries Act* may apply.

4.8.2 Creating a Changes in and About a Stream Activity

It is recommended that instream works be applied together with the related ERAA or CER activity(s) application or as an amendment to the related ERAA or CER activity permit. If it is necessary to apply for instream works as a stand-alone (single) activity, applicants must provide rationale explaining why the related application determination(AD) number cannot be amended to include the changes in and about a stream activity. Single activity applications for instream works must provide a cross reference number to a primary energy resource activity to which the application relates in accordance with Section 24(3) of ERAA.

Regardless of what regulatory provision the instream works will be authorized under, the location of any proposed works must be included in the spatial data and "Changes in and About a Stream" must be selected as an activity type in the application. For information on completing this tab in the AMS, refer to section 4.8.4, below.

Applications can include multiple stream impacts (e.g. multiple stream crossings for a road, pipeline or geophysical program).

Changes in and About a Stream Authorization Amendments

Permit holders must submit an amendment application to add, or modify any portion of an authorization for instream works. For any instream works authorized through an ERAA permit, any modifications to the authorization will require an amendment to the ERAA permit. An amendment can include requests for multiple changes to a single permit but multiple amendment applications cannot be submitted for the same permit at once.

Term of Approval

Changes in and About a Stream authorizations are only valid for the initial construction of the works, unless otherwise indicated in the permit or authorization. Specific permit provisions authorizing instream works for general maintenance and operations activities associated with ERAA road and pipeline permits authorize instream works for the life of the activity. Refer to the terms of

the specific permit when considering whether additional authorization is required for instream works for maintenance or operations purposes.

4.8.3 Changes in and About a Stream Planning & Design

This section provides planning requirements, guidelines and considerations when planning an application for instream works. The Regulator reviews the application relative to technical information provided in AMS; therefore, applicants should review this section for an indication of any application requirements or attachments required.

Regulatory Requirements

Changes in and about a stream must meet the applicable design and operational requirements outlined in the Energy Resource Activities Act (ERAA), the Water Sustainability Act (WSA), the Water Sustainability Regulation (WSR), the Ground Water Protection Regulation (GWPR), the Dam Safety Regulation (DSR), and the Water District Regulation (WDR). The Regulator does not grant exemptions under the WSA.

Guidance Requirements

In addition to this Manual, applications for instream works should follow guidance provided in the EPMG for minimizing and/or avoiding impacts on the surrounding landscape. Additional guidance is available from the following:

- Fish-stream Crossing Guidebook (published by the Ministry of Forests, the Ministry of Environment, Fisheries and Oceans Canada) for more information on planning stream crossings on fish bearing streams.
- For many types of proposed works, relevant standards and best practices are found at the following Ministry of Environment link: Standards and Best Practices for Instream Works.
- The Canadian Association of Petroleum Producers provides guidance on pipeline-associated watercourse crossings: Pipeline-Associated Watercourse Crossings.

If the energy resource activities cannot adhere to these guidance recommendations, a rationale must be included in the permit application. This

rationale must be prepared by a Qualified Professional and include site specific information regarding the guidelines not followed, an explanation of why they cannot be followed, and the proposed plan and mitigation strategies the company will implement in lieu of the guidance recommendations not followed.

Riparian Classification

All watercourses impacted by the application must be assigned a riparian classification as defined in Section 22, 23 and 24 of the EPMR. Guidelines and requirements for riparian classification of streams, wetlands, and lakes are provided in Chapter 5 of the Regulator's EPMG. The riparian classification must be entered in the Application Management System. Please see note above regarding non-classifiable streams (NCDs).

Crossing-type Selection

For watercourse crossings, the crossing method must be indicated in the application. Crossing methods include: aerial, bank erosion protection, bridge, ice bridge, clear span bridge, snow fill, culvert, major culvert, debris removal, gravel removal, punch and bore, (HDD) directional drill, micro tunneling, matting, stream diversion, temporary ford, flow isolation and open cut. Applications may include multiple stream impacts and/or crossings.

If an activity requires multiple crossing methods for a stream crossing location, applicants are required to identify one primary crossing method. Applicants must then select all other crossing method(s) that may be required from the secondary crossing method drop down list. Primary and secondary crossing methods are not applicable to mechanical crossings.

If a mechanical stream crossing is required, the applicant must respond 'Yes' to the question, "Is a mechanical crossing required at this location?". When 'Yes' is selected, applicants may select the applicable mechanical crossing method from the drop down list.

4.8.4 Changes in and About a Stream Activity Requirements

This section outlines application requirements for changes in and about a stream application. Requirements are dependent on the characteristics of instream works and are outlined in full details below. In most cases, the details are input into the changes in and about a stream application tab in AMS, but may require the upload of supporting attachments, including:

- Sketch plan (if applicable).
- Fisheries habitat assessment.
- Mitigation Plan.

Attachments must meet specific size and file formatting restrictions as defined in Chapter 7 of this manual.

Fish Habitat Assessment

Where a Qualified Professional has determined the proposed activities may adversely affect fish habitat or water values through direct or indirect means, a Fish Habitat Assessment (FHA) must be completed in the potentially affected area.

Applicants are responsible for determining fish presence or absence and assessing fish streams for fish habitat values prior to application for instream works.

A Fisheries Habitat Assessment must include at a minimum the following information:

a) Stream classification as per the Environmental Protection and Management Regulation.

b) Description of fisheries habitat at the stream reach to be impacted.

c) List of fish species that may be present within the stream reach to be impacted.

d) Applicable Least-Risk Fisheries Timing Window.

e) Confirmation if works are to occur within or without the applicable Least-Risk Fisheries Timing Window.

f) Mitigation to be implemented if works are to occur outside the applicable Least-Risk Fisheries Timing Window.

Plans, Designs and Drawings Signed by a Qualified Professional

Some changes in and about a stream applications require the submission of designs, plans and drawings signed and sealed by a Professional Engineer (P.Eng) licensed or registered under the Engineers and Geoscientists Act, and/or a Qualified Professional (QP). Applications that require these deliverables include:

- Bank erosion protection – P.Eng.
- Bridge construction, maintenance or removal (other than clear span) – P.Eng.
- Major culvert construction, maintenance or removal – P.Eng (a Major Culvert is a pipe that has a diameter of 2,000 mm or greater, a pipe arch having a span of 2,130 mm or greater, an open bottom arch having a span of 2,130 mm or greater; or any stream culvert with a maximum design discharge of 6 cubic metres per second or greater.
- Stream diversion – QP.
- Large debris removal – QP.
- Gravel removal – QP.

Works plan

For applications involving works other than watercourse crossings, a Works Plan must accompany the application. The Works Plan for projects involving gravel or debris removal, bank erosion protection, or stream diversion, must be completed by a Qualified Professional. Works Plans should include the following:

- A detailed description of the works proposed including a rationale for why the works are required.
- Site-specific stream and aquatic habitat information.
- A description of the operational activities that the company will utilize to avoid or mitigate impacts to the stream values.
- A project monitoring plan.
- Any other relevant information that may assist the decision maker in rendering a decision on the application. Photos are recommended.

Chapter 5

Completing Application Information Details

5. Completing Application Information Details

Application information supports the activity application and may be required depending on the application type and/or location of the energy resource and associated activity. This chapter provides detailed instructions of the Regulator's requirements for completing information details related to all of the activities included in an application in the AMS.

Each section of this chapter provides an overview of application information section, definitions and requirements to support the activity listed below. Application information detail requirements (and corresponding section number) in this chapter includes:

- 5.1 Administration
- 5.2 Land
- 5.3 Agriculture
- 5.4 Forestry
- 5.5 Archaeology
- 5.6 Stewardship
- 5.7 Maps and plans
- 5.8 Attachments

Consultation and engagement with land owners, rights holders and First Nations are also application information tabs but due to the specifics and importance of the pre-planning requirements, they are detailed in Chapter 6 of this manual.

Application Information specific tabs are visible and available to populate once spatial data is uploaded as required for a new (or amendment) application. Data fields and application requirements are based on the activity being applied for. The validation functionality assists in ensuring all components of the application are completed. The requirements for the activity tabs are detailed in Chapter 4 of this manual. The Application Management System is designed to spatially derive geographic location and coordinates when the spatial data is uploaded during the application creation stage which triggers activity and land information. A globe symbol references data fields that are spatially derived.

Chapter 5.1 Completing Application Information Details: Administration

5.1 Application Management System Administration Tab

Information relating to the company representatives (and consultants) involved in application development is captured on the administrative tab. Anyone providing information on behalf of an applicant, and who wishes to access the application, must be registered and appropriate security roles assigned in the Regulator's corporate registry in order to be selected in AMS. For more information on this registration process, see Chapter 2 of this manual.

If the applicant company provides the representative with application security roles within the Regulator's corporate registry, the representative is able to view applications for which they have been included as a representative, and contribute application data or information.

- Contact information is mandatory for the following representative types: an archaeology contact, if the application contains an archaeological component,
- an engineering contact, if the application contains an engineering component, and
- a registered forest professional contact, if the application falls within a timber harvesting land base and new cut is required.

These contacts are identified as the individuals who provided information under their professional reliance within the application and will receive an e-mail notification and an attached report relevant to the information provided upon submission of an application to the Regulator.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Chapter 5.2 Completing Application Information Details: Oil and Gas Land Use

5.2 Land Tab

The Application Management System includes an application-level land tab to capture land information for an entire application (including land for each activity in the application). Each activity also has an associated land tab, to capture land information specific to each activity at the activity-level; which then populates into the application-level land tab. The Regulator uses this information to support various reviews carried out on an application, and to support tenuring of Crown land area, where required.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Chapter 5.3 Completing Application Information Details: Agriculture Land Reserve

5.3 Agriculture Land Reserve Information Tab

Submission of an application for an energy resource or associated activity within identified agricultural reserve lands must include additional application deliverables specific to agricultural land. The required ALR deliverables vary based on the planned activity.

The agricultural land reserve tab requires specific application information details. This section includes an overview of the agricultural land reserve, guidance regarding agricultural land reserve planning and design, details related to agricultural land reserve specific application requirements and detailed instructions for completing the data fields within the agricultural land reserve tab.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Please Note:

The Energy Resource Activities Act defines both energy resource activity and related activities. The Regulator uses the term "associated activities" in Section 4.6 of this manual to refer to some related activities associated with primary energy resource activities. The ALC-OGC Delegation Agreement and other guidance documents use the term "ancillary activities" to define associated energy resource activities and ancillary activities.

5.3.1 Agricultural Land Use Defined

The Agricultural Land Reserve (ALR) is a provincial zone in which agriculture is recognized as the priority use. ALR is a designation of land under the Agricultural Land Commission Act (ALC Act). The purpose of the ALR is to preserve agricultural land; its boundaries are based on the agricultural capability of the soil, not on the current use or ownership of the land.

ALC-OGC Delegation Agreement

The Agricultural Land Commission (ALC) is the B.C. provincial agency responsible for the administration of the ALR. The ALC and the Regulator have signed a delegation agreement designed to further the one window regulatory approach for the energy resource sector in British Columbia.

The ALC-OGC Delegation Agreement (Delegation Agreement) delegates limited authorities to the Regulator under the Agricultural Land Commission Act (ALC Act) to authorize non-farm use of agricultural lands for energy resource activities within the Northern Rockies and Peace River Regional Districts. The Delegation Agreement also exempts some energy resource activities and ancillary activities from the requirement of an application for permission for non-farm use of ALR lands, where the prescribed criteria are met.

Before beginning the application submission in the Application Management System, determine if the proposed development is exempt from ALC application for non-farm use under the Delegation Agreement.

Please Note:

The Delegation Agreement does not apply to proposed developments related to pipeline projects regulated by the Canadian Energy Regulator; therefore, no ALR Schedule A report or Appendix II Rationale Statement is required for these types of activities.
The Delegation Agreement applies only within Northeast BC. Applicants submitting applications outside of Northeast BC that impact ALR lands must acquire ALC approval prior to the Regulator adjudicating on the associated energy resource or related activity application.

Determining Exemption from ALC Act Application Requirements

Appendix I of the Delegation Agreement describes categories of energy resource activities and ancillary activities requiring applications under the ALC Act, or exempt from this requirement. Applicants should use this table in determining if a proposed development is exempt from requirements related to an application under the ALC Act. For reference, proposed developments exempt from application under the ALC Act for non-farm use, and those requirements related to an application under the ALC Act, are listed below (numbering corresponds to Appendix I of Delegation Agreement).

1) Energy resource activity and ancillary activity sites (other than items 4 and 6) for which, on a section basis or equivalent, the combined total area occupied by existing and proposed activities is ≤ 20.0 hectares.

3) Pipelines or electric power lines that are buried, power lines that are immediately adjacent to access roads.

5) Conversion of an existing energy resource activity site to an energy resource activity or ancillary activity site that is listed in (i) – (v) below, for which no new land is required.

    i. Facilities (including gas processing plants) that handle product from more than one facility or well site.

    ii. Camps.

    iii. Sumps.

    iv. Borrow/aggregate extraction sites.

    v. Produced-water / fresh water storage sites.

Please Note:

Non-farm uses that are exempt from the requirements of an application under the ALC Act for permission for non-farm use are subject to the conditions for reporting and reclamation set out in Section 4.3 of the Delegation Agreement. The applicant is still required to submit a Schedule A report and include an Appendix II Rationale in the ALR tab.

As per Appendix I of the Delegation Agreement, the following require an application to the Regulator, under the ALC Act for non-farm use permission:

Item 2) Energy resource activity and ancillary activity sites (other than items 3 and 5) for which, on a section basis or equivalent, the combined total area occupied by existing and proposed activities is > 20.0 hectares.

Item 4) Electric power line that is not immediately adjacent to access roads.

Item 5) Conversion or expansion of an existing energy resource activity or ancillary activity, or a new energy resource activity or ancillary activity that is listed in 5 (i) – (v), for which new land is required and the total project (lease) area is >3.0 hectares.

Item 6) Energy resource waste storage, treatment, and/or disposal facility that is operated by a person who is not a producer, or a conversion or expansion of such a site for which new land is required.

Applications under ALC Act for Non-Farm Use

If the proposed activity requires an application under the ALC Act, the applicant is required to attach further deliverables to the agriculture tab (no separate application is necessary). These include referrals and responses from pertinent local governments (Peace River Regional District and/or Northern Rockies Regional Municipality), and the Ministry of Agriculture, in addition to a Schedule A Report and Appendix II Rationale. Upon receipt of the application and prior to making a decision under the ALC Act, the Regulator considers input from local governments and the Ministry of Agriculture referrals and also the Schedule A and Appendix II Rationale. This review is carried out concurrently with the review of the entire application.

To determine the category of energy resource activities or ancillary activities using Appendix I, applicants may need to complete area calculations to determine, on a section basis or equivalent, the combined total area occupied by existing and proposed energy resource activities.

Refer to page 12 of the Delegation Agreement for more information regarding area calculations.

All existing and proposed energy resource activities and associated activities should be included in calculations of combined total area, except:

- Pipelines (if underground), including temporary workspace required for construction purposes reclaimed at the same time as the pipeline right of way.
- Single riser site that is directly related to the operation of a pipeline and is less than or equal to 0.1 ha.
- Electric power lines with single-pole structures.
- Seismic lines (including cut lines made by hand or machine in the course of geophysical exploration) and temporary use sites for

geophysical exploration (including camps) where the seismic lines and sites are immediately reclaimed following the completion of the geophysical exploration, if such reclamation is required by permit or by ERAA.

- Temporary winter access that is constructed in frozen conditions where no roadbed development is required, and
- Temporary use sites for ancillary activities (for example, log decking sites, workspaces, campsites, geotechnical investigation areas, storage sites, etc.) where:
    1. The site is only used during the construction phase of an energy resource activity, and will be immediately reclaimed following the completion of the construction phase of the energy resource activity.
    2. No surface soil stripping or significant compaction or rutting (as compared to adjacent site) is reasonably expected to occur, and if such things do occur, the disturbed area is immediately reclaimed; and
    3. The site is available for farm use after the construction phase of the energy resource activity has been completed.
- Areas for which a Schedule B report declaring reclamation as completed has been accepted by the BCER.

5.3.2 Agriculture Requirements for Various Application Types

New ERAA Applications

Required ALR application deliverables, including additional deliverables for an ALC Act Application for Non-Farm Use (where required), must be submitted on the agriculture tab in the Application Management System. Where ERAA activity applications include AACT activities, ALR deliverables must include consideration of these areas.

New Applications for Associated Activities on Crown Land

For AACT applications, related to ERAA activity; but submitted as a single activity application, required ALR application deliverables, including additional

deliverables for an ALC Act Application for Non-Farm Use (where required), must be submitted on the agriculture tab.

ALR Assessment for Associated Activity Sites on Private Land

Where a proponent plans to use private land within the ALR for the purpose of an AACT and if an application is being made separately from an ERAA application, an Agriculture Assessment application ('ALR Assessment' application type) is created in the Application Management System. When submitting this application, required deliverables are limited to spatial and agriculture related details. ALR application deliverables are similar to those for new ERAA applications. The use of the agriculture assessment application type is considered an exception. The recommended standard process is to include AACT on private land with an ERAA activity application.

Please Note:

For AACT sites on private land, the Regulator does not grant permission to carry out the activities (e.g. construct a borrow pit), but may grant permission for non-farm use of ALR land or acknowledge that the AACT is exempt from an ALC Act Application for Non-Farm Use.

Amendments

When submitting an amendment application associated with an ERAA permit, associated energy resource activity, applicants must submit amended ALR application deliverables, including amendments to ALC Act authorizations (where applicable).

5.3.3 Agricultural Land Reserve Information Requirements

This section outlines requirements for agricultural land reserve information. Requirements are dependent on the characteristics of each application and are outlined in full details below including a description, details of additional information and requirements. In most cases, the details are input into the agricultural land reserve tab, but may require the upload of an attachment to support the details including:

- Appendix II rationale statement.

- Schedule A report.
- Referrals from Ministry of Agriculture and local government.

Attachments must meet specific size and file formatting restrictions in order to be uploaded correctly as defined in Section 5.8 of this manual.

Appendix II Rationale Statement

When planning energy resource activities on ALR lands, applicants are expected to minimize disturbance to ALR land and agricultural operations by limiting the extent of disturbance to what is necessary to safely and appropriately conduct the activity. Appendix II of the Delegation Agreement provides a hierarchy of land types where energy resource activities should be located to minimize impact on agricultural operations. Ultimately, minimizing impact on agricultural operations is achieved by determining the optimal combination of total area disturbed and location of the activity in relation to current and planned agricultural operations and agricultural capability of the land.

In making an application to the Regulator for permission to carry out an energy resource activity on ALR land, applicants must submit an Appendix II Rationale statement. This statement should clearly identify how the design and location of the proposed energy resource activity addresses the guidelines set out in Appendix II of the Delegation Agreement.

Please Note:

The Appendix II Rationale textbox in the ALR tab is character limited. It may be necessary to upload the rationale as an attachment in order to clearly demonstrate how the guidelines set out in Appendix II of the Delegation Agreement have been met.

Schedule A Report

Schedule A Reports are required for all activities located on ALR lands, with the exceptions listed in Schedule A of the Delegation Agreement. A Schedule A Report is intended to outline and record the predevelopment assessments and conservation planning carried out by the project proponent with respect to ALR lands. These reports must be prepared and signed by both a Professional Agrologist in accordance with the Professional Governance Act and the applicant, and are intended to include the following information:

- Area assessment: to link with Appendix II guidelines and document current land resource and agricultural use in the area of the application

to aid in planning the activity location in a manner that minimizes agricultural impacts.

- Predevelopment site assessment: to document baseline site information for soil management and reclamation planning.
- Recommendations for soil conservation: based on an analysis of planned developments using the baseline site assessment.
- Reclamation planning.

For most applications, all items listed above are required. However, if the proposed energy resource activity and/or ancillary activity is located entirely on an existing site, a subset of this information may be required. Schedule A, Table 1 of the Delegation Agreement provides detailed instructions to use in preparing a Schedule A report and report requirements.

Please note: As of September 1, 2022 all Schedule A reports must be prepared and signed by a Professional Agrologist registered with the BCIA.

Area Assessment

An area assessment aids in planning the location of energy resource activities to minimize the impact on agricultural lands by associating the activity planning guidelines set out in Appendix II of the Delegation Agreement and documenting current land resource and agricultural use in the area. The area assessment consists of a 1:20,000 scale or larger recent air photo or satellite imagery base showing the surface land use and on which the following features are plotted:

- Agricultural capability units.
- Agricultural use, residences, and farm buildings.
- Existing energy resource activities and ancillary activities.
- Linear features, including roads and pipelines.
- Quarter section boundary lines, land ownership information and farm units.
- Surface water features and other significant terrain features that may limit development.
- Location of the proposed activities.

For more information regarding area assessments, refer to the Delegation Agreement. An example area assessment is shown in Figures 5-A and 5-B.

Please Note:

For applications on private land where the land owner will not grant surface access for the purposes associated with the preparation of a Schedule A Report, the minimum application deliverables are an area assessment and an Appendix II Rationale. The Regulator will consider this material when making a statutory decision on the proposed activity, and will require the applicant to submit a completed Schedule A after gaining surface access to the land. In these cases, disturbance to the land will not be allowed until after the Regulator has reviewed the completed Schedule A Report.

Figure 5-A: Area Assessment Example

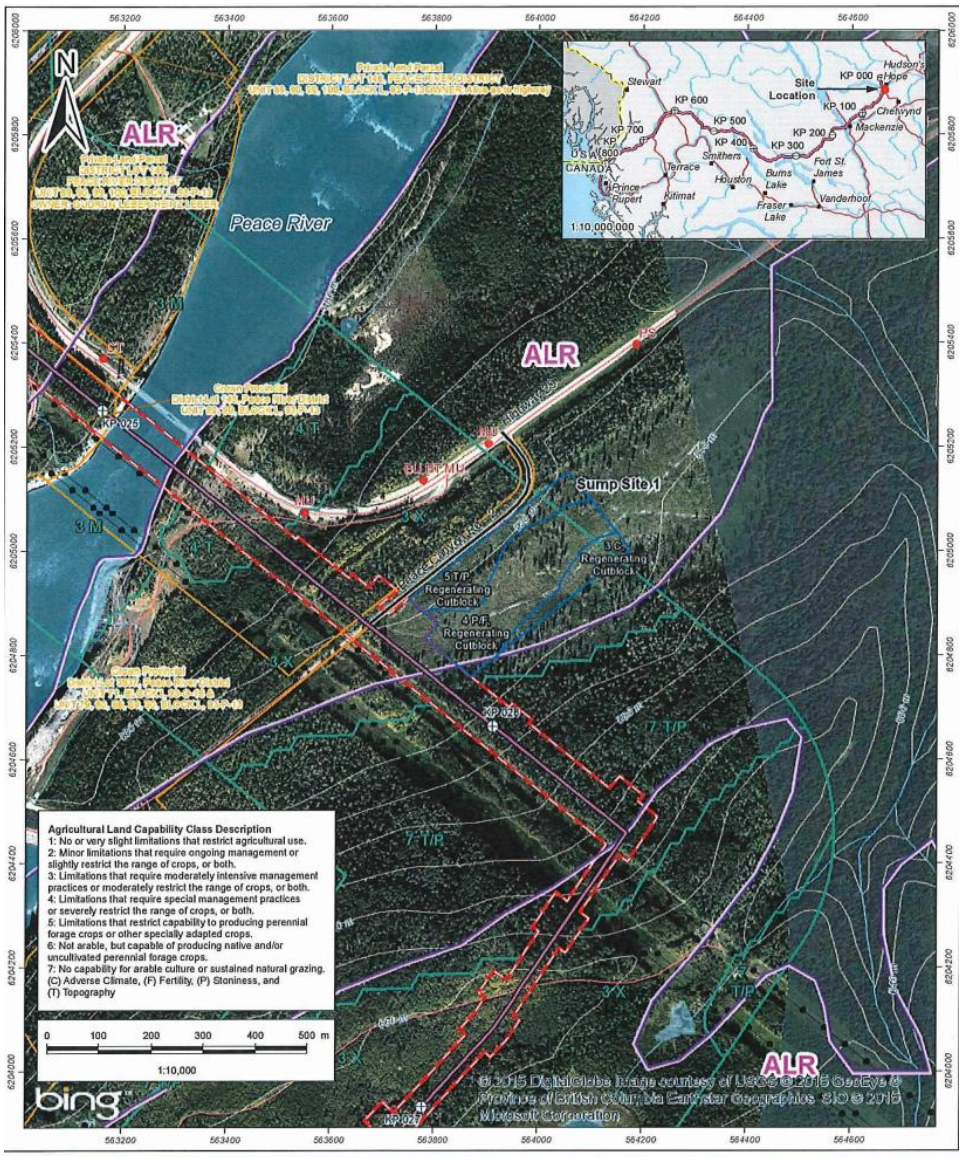
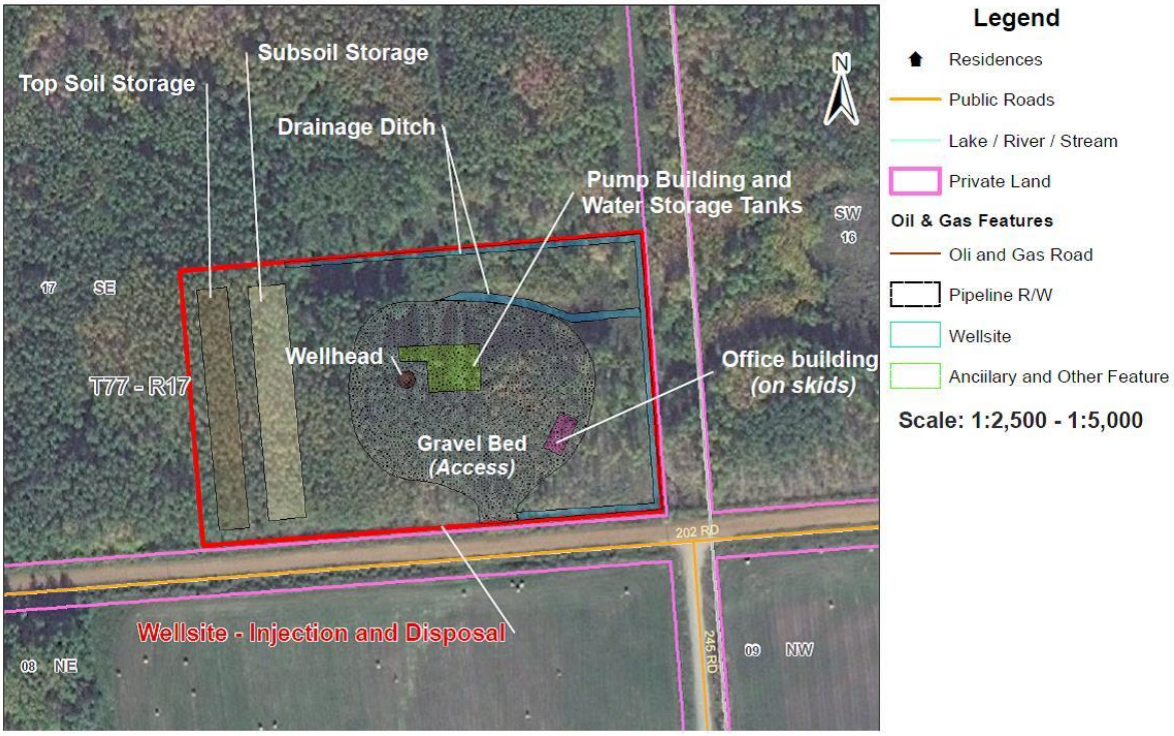


Figure 5-B: Area Assessment Example



Site Assessment

A site assessment documents the site information for soil management and reclamation planning and at a minimum must include:

- Site information.
- Site description.
- A description of sampling procedures used to carry out the soil assessment.
- Soil assessment.
- Invasive plants information (if the site assessment is conducted during the growing season).
- Maps.

For a more detailed description of information required in a site assessment and required sampling procedures, refer to pages 18-20 of the Delegation Agreement.

Recommendations for Soil Conservation

The site assessment should include any site specific measures for the construction and production phases that are recommended to achieve effective and efficient restoration as required under the Schedule B of the Delegation Agreement, including measures relating to:

- Topsoil stripping depths and storage.
- Preventing or controlling erosion and compaction.
- Surface water management.

for the purpose o

Reclamation Plan

The reclamation plan provides a brief description of how the site will be restored once it is no longer required for the energy resource activity. The reclamation plan must include:

- Post energy resource activity land-use objective.
- Soil handling.
- Re-vegetation.

Specific reclamation criteria for lands within the ALR are found in the site reclamation requirements as part of the Schedule B section in the Delegation Agreement.

In cases where developments are planned on private land, a Schedule A report must be filed with the surface land owner and with the Regulator.

Please Note:

Please note: Landowners are directly affected by proposed developments and they must be consulted about construction methods and reclamation plans when preparing the Schedule A Report. For further information please see the Delegation Agreement Q&A and page 16 of the Delegation Agreement.

Referrals to Ministry of Agriculture and Relevant Local Government

In preparation of an application that is not exempt from an application under the ALC Act, applicants are required to engage and gather comments from the B.C. Ministry of Agriculture and the relevant local government (Northern Rockies Regional Municipality or Peace River Regional District, depending on the location of the proposed non-farm use).

To carry out this engagement, applicants must provide the Ministry of Agriculture and the relevant local government with a referral package and cover letter. Applicants must then allow 21 days for response prior to submitting their application to the Regulator. Copies of any responses received by the applicant, and copies of the referral cover letter, must be attached to the application submitted to the Regulator on the agriculture tab. Applicants may submit their application to the Regulator prior to the elapse of 21 days referral time line, with written approval from an Authorization Director, providing that the full referral package will be submitted after the 21-day referral period.

Contents of the referral package must include:

- Referral package cover letter.
- Copy of the ALC application printout of the ALR Assessment Details tab in AMS.
- Schedule A report and Appendix II rationale.

Referral cover letters must include:

- Applicant company name and contact info.
- Statement that the referral is being sent to satisfy the requirements of the Delegation Agreement.
- A short description of the proposed project.
- Statement describing why an ALC application to the Regulator is required.
- A statement indicating a 21 day response period.
- Instructions on how to submit a response or request further information.
- Statement indicating that responses may be submitted to the applicant of the proposed activity or directly to the Regulator. Responses to the Regulator are emailed to ALR.Referrals@bc-er.ca.

If a concerned response from the Ministry of Agriculture or relevant local government is received during the 21 day response period, applicants are encouraged to further engage the responding party and attempt to resolve issues or concerns raised. The Regulator may further engage these parties during application review.

A Local Government ALC Referral Letter Template can be found on the Regulator's website.

Chapter 5.4 Completing Application Information Details: Forestry

5.4 Forestry Information Tab

Submission of an application for an energy resource or associated activity may include additional application deliverables specific to forestry, if new cut is required.

The forestry tab requires specific application information details. This section includes an overview of forestry information, guidance and details related to forestry specific application requirements and detailed instructions for completing the data fields within the forestry tab.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

5.4.1 Forestry Information Defined

The Regulator issues cutting permits to facilitate the cutting of timber required as part of the construction of proposed energy resource or associated activities on Crown land. Cutting permits are issued under a Master Licence to Cut (MLTC), and stumpage is payable according to the applicable (interior or coast) appraisal manual.

5.4.2 Forestry Information Requirements

The Application Management System requires input of information to inform a decision to issue an authorization for a cutting permit for applications where new cut is required on Crown land.

Authorizations for cutting permits can be applied for and issued with the permission or authorization to carry out the primary or associated activity by populating the Forestry Tab within the ERAA or CER application. Alternatively, applicants may choose to submit a separate Forest Act Application.

The Forest Act application can be used in scenarios where a new cutting permit or changes to an existing cutting permit (with no modifications to the existing permissioned area) is required. Some additional scenarios where only changes to the Forestry authorization may be needed include: transfers; expired cutting permit(s); expired Master Licence(s) to Cut and where new cut is required only over MoTT areas.

The Regulator does not issue cutting permits for activities on:

- Timber Reserves on private land

In these areas, cutting permits must be issued by the Ministry of Forests through the land owner. When preparing applications for submission to the Regulator in these areas, applicants should not include these areas in new cut area calculations.

Harvesting within Woodlots & other Area Based tenures:

Upon engagement, if the Woodlot holder, or other Area Based Tenure Holders is not interested in the cutting and removing of timber on the site of the proposed energy resource activity, and with the tenure holder's consent, a CP associated with the proponents MLTC may be issued.

If area over a woodlot is required with the cutting permit in an application, the proponent must include this area as new cut in the application. To avoid delays in the review of the application, the proponent should include correspondence regarding the woodlot holders consent with the application.

If an agreement cannot be reached between the two parties, the energy resource proponent should inform the BCER prior to, or upon application. Once the BCER is satisfied that an agreement is not achievable, they can submit a request to the appropriate DM requesting that the identified area be deleted from the Woodlot or other Area Based Forest Tenure.

Activity Area Overlapping Ministry of Transportation and Transit Right of way

The Regulator issues cutting permits for any new Crown land disturbance within Ministry of Transportation and Transit (MoTT) unconstructed road allowances and/or MoTT rights of way. Both unconstructed and constructed road allowances and/or MoTT rights of way must be clearly marked in the body of the construction plan and included as a separate area item in the construction plan area table. The Regulator will not issue land tenure over MOTT right of way. The area within the road allowance must be reflected in spatial data submitted for the application as per the Spatial Data Submission Standards manual.

Please Note:

The submission of a MOTT polygon in AMS is mandatory when an applicant requires new cut within the MOTT right of way. If the application does not require new cut within a MOTT right of way, it is not mandatory to include the MOTT polygon.

Please Note:

If the proposed activity enters or affects a MOTT right of way, consent to carry out the approved activities must be obtained from MOTT before the project begins.

Amendments

When submitting an amendment application associated with an existing approval, submit amended forestry details where applicable.

Reduction to permitted area of cut does not require an amendment application as this will be addressed through the post construction process.

5.4.3 Forestry: Additional Considerations

Stumpage

The Ministry of Forests posts appraisal manuals for the interior and coast outlining the process for determining stumpage payable on cutting permits issued for energy resource development.

Area based stumpage rates are applied to new Crown land areas disturbed for energy resource activities and related activities as defined in the Energy Resource Activities Act or authorizations for investigative purposes issued under the Land Act.

The Interior Appraisal Manual Table 6-8 shows the districts where area based stumpage rates apply along with the reserve stumpage rate for cutting authorities with less than 10 hectares of area. For these permits, as-cleared information reported by the permit holder on the post-construction plan or geophysical final plan submission is forwarded to the Ministry of Forests.

Cutting authorities with 10 hectares or more area must use the stumpage rate prescribed in Table 6-3 in the Interior Appraisal Manual.

Refer to the Ministry's Timber Pricing page for more information and guidance.

Stumpage Waste Assessment

Operators cutting Crown timber are required, regardless of utilization, to report and pay the province for the timber. According to the specifications detailed in the Master Licence to Cut, exempted merchantable fibre, outside the Forest Districts described in Section 6.6 of the Interior Forest Appraisal Manual, must have a waste survey completed and ensure stumpage is billed accordingly.

Forest Health

Fibre waste left onsite must be managed to minimize fire and pest risks and must be disposed of at the end of the clearing phase or at the end of the summer fire season, whichever comes first.

Post Construction Information

As a condition of the MLTC, permit holders submit as-cleared information within 60 days of clearing. As-cleared information is submitted to the Regulator as part of the post-construction plan submission requirement. The Regulator forwards as-cleared information to the Ministry of Forests for stumpage billing.

Fibre Utilization

Permit holders are encouraged to utilize merchantable timber harvested during the construction phase of the energy resource activity lifecycle. For example, timber may be utilized on-site (i.e. corduroy, rails, etc.), as coarse woody debris in nearby restoration operations, or be made available to potentially interested third parties. Prior to wasting harvested timber, permit holders should notify potentially interested parties of the size, species, volume and location of available timber. Potentially interested parties may include, but are not limited to, mill operators, forest licensees and local First Nations.

Chapter 5.5 Completing Application Information Details: Archaeology

5.5 Archaeology Information Tab

Submission into the Regulator's Application Management System (AMS) for an energy resource or associated activity must include application deliverables specific to archaeology as discussed in this section. The required archaeological deliverables vary based on the planned activity. The information entered into the archaeology tab of AMS is to be entered by, or obtained from a certified or permitted archaeologist.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

5.5.1 Professional Reliance and Results Based Archaeological Review

The professional reliance and results based review process at the Regulator was established in 2004 and is designed to support the following objectives:

- Increase the efficiency and effectiveness of the review process.
- Ensure compliance with applicable legislations (Energy Resource Activities Act (ERAA) and Heritage Conservation Act (HCA).
- Support proponents in the fulfilment of their permit obligations.
- Manage archaeological resources by balancing and considering all land values.

- Guide, evaluate and provide recommendations to improve the effectiveness of proponent's management systems as they apply to archaeological resources through the Archaeology Audit Program (AAP).

The Regulator's Heritage Conservation Program has three main streams of business:

- Application screening and review of archaeological components.
- Heritage Conservation Act section 12.2 and 12.4 permit adjudication and administration.
- Archaeology Audit Program.

Important Preparation and Submission Factors

1. If the archaeology tab is displayed in an application, a certified archaeologist or permitted archaeologist must be listed on the administrative tab. A professional reliance email notification will be sent to the archaeologist listed on the administrative tab upon submission of the application.

2. A certified archaeologist or permitted archaeologist must review each application area to evaluate the potential for impacts to archaeological values and identify what, if any, additional work may be required. The Regulator expects applicants to:

    - Engage a reputable archaeological consulting company employing professionals eligible to work in the application area under Section 12.2 of the Heritage Conservation Act and specific to the application area.

3. The certified archaeologist or permitted archaeologist completes the Archaeological Information Form (AIF) designed for AMS and the appropriate data fields within the archaeology tab. An AIF designed for AMS can be found on the Regulator's website and should be used for all applications when new disturbances are anticipated within an application area.

    Ideally, the information on the AIF will be entered into AMS by the applicant's archaeologist and the form submitted to the applicant for confirmation of project information and upload. In instances where the applicant has not granted permissions for their archaeologist to access AMS, either the applicant or their agent will complete the archaeology tab. The archaeology tab must be completed and consistent with the information provided on the AIF.

Either the energy resource applicant, their agent or their archaeologist must upload the completed and signed AIF into AMS. The uploaded document should be placed under "Other Document."

Please Note:

The AIF is an auditable document and must include the appropriate HCA Section 12.2 permit number and the certified archaeologist or permitted archaeologist signature.

4. The submitted information (both within AMS and on the AIF) are reviewed by the Regulator Heritage Conservation Program staff for accuracy and appropriateness.

5. Archaeological reports resulting from a field assessment (Archaeological Impact Assessment (AIA) or Preliminary Field Reconnaissance (PFR)) may be submitted at numerous points during the application (or pre-application) process, depending on the timing of the field assessment. However, all reports must be uploaded, consistent with the schedule below. Reports must be uploaded under the Archaeology Report dropdown option. For post-permit issuance uploads of archaeological reports, see point 8.

    - Reports with no archaeological management recommendations

      If no archaeological management recommendations are provided, the archaeological report must be uploaded as soon as possible and prior to construction commencement. Inclusion of a completed archaeological report greatly facilitates a number of reviews during the application process, including the Regulator's archaeological review and the First Nations consultation processes.

    - Reports with archaeological management recommendations:

      If the report makes archaeological management recommendations, construction work must not proceed until the report is approved by the Regulator. The following steps must be followed when archaeological management recommendations are made:

        i. The archaeological consultant responsible for the field assessment must discuss mitigation strategies with the energy resource applicant and present the results of the assessment

and proposed mitigation strategies within the context of an AIA report.

ii. The report is submitted to the Regulator for approval of all archaeological management recommendations. Submissions must be made via Arch.Submissions@bc-er.ca for review and approval.

iii. Once the report has been reviewed, the Regulator provides formal notification to the applicant and the archaeologist regarding approval or decline of the report and recommendations within.

iv. Once an approval letter is received from the Regulator, the applicant must upload the report and approval letter into AMS.

The mitigation review and approval procedures discussed above are currently in place and have been established over the past two decades; they have proved to be the most efficient manner to approach archaeological site recoveries and facilitate communication among Regulator staff, energy resource proponents and archaeologists. The only change to the process associated with the implementation of AMS is the required upload of the approval letter.

Since the implementation of AMS in July 2016, the Regulator has observed that the most accurate application submissions for archaeological information are those where the archaeologist has access to and enters the information into the archaeology tab in AMS. Granting the archaeologist application security role permissions greatly reduces the need to move applications into revision.

6. If the project is regulated by the CER, the Archaeology Branch is responsible for the acceptance of any archaeological reporting. Copies of accepted reports should be provided to the Regulator and uploaded to AMS or Kermit as appropriate.

7. HCA Section 12.4 permits are reserved for unique scenarios where a project cannot avoid disturbing an archaeological site. The applicant or energy resource activity permit holder must apply to the Regulator for a permit issued under Section 12.4 of the Heritage Conservation Act specific to the activity that will be carried out. These permits are applied for independent of AMS and an upload of the permit application into the system is not required at the time of development

application submission.".

8. To upload an archaeological report post permit issuance, open Kermit External and select the 'Post Permit Actions' tab. Under the heading 'Permits', click 'Find Permits' and enter the AD# or Legacy BCER File#. Press search. Click on the AD# and click the 'Attachments' tab. Under the heading 'Post Approval Attachments' click on 'upload.' An upload prompt will appear, click +Add files and select the file for upload, select document type 'Archaeological Assessment Report.' Click 'start upload.' Press save.

9. All documents relating to the archaeological component of applications must be retained by energy resource applicants and are subject to review by Regulator staff during formal or informal audit processes. These records include application information, assessment information and communication documents between the energy resource proponent and the archaeologist.

5.5.2 Guiding Legislation and Regulations

Applicants are responsible and accountable for ensuring that planning and development activities comply with the Heritage Conservation Act (HCA), Energy Resource Activities Act (ERAA) and all supporting Regulator policies and conditions of permit. The Regulator's archaeological application requirements are based on HCA and ERAA and the Regulator endeavors to ensure applicants remain within these legislative and policy requirements. Special conditions may be added to development permits for proponents to facilitate the protection of archaeological resources.

All archaeological sites are protected under the HCA. This protection is not affected by an error or omission in the Provincial Heritage Register or by failure to register property in the Provincial Heritage Register. The Heritage Conservation Act protects all archaeological sites whether on private or public lands. Under Section 12.1of the HCA:

- Archaeological sites are protected against any damage. This protection applies to all sites, regardless of whether they are located on Crown or private lands and regardless of the level of disturbance.

Under Section 36 of the Heritage Conservation Act:

- Anyone found to be in contravention of Section 12.1 is liable for a fine or imprisonment.

5.5.3 Supporting Information

Conducting an Archaeological Impact Assessment (AIA)

Archaeological field work involving survey and sampling (ground truthing and testing) is typically referred to as an Archaeological Impact Assessment (AIA). An AIA is conducted prior to any on-the-ground development activities. An AIA where no testing has been conducted may be referred to as a preliminary field reconnaissance or PFR. The results of an AIA or PFR are detailed in a written report.

An AIA (field testing and verification) may be completed at any time before or during the application and review period or after a permit has been issued. However, all archaeological field work must be completed prior to any ground altering activities unless detailed in special conditions or directions from the Regulator.

Compliance as it Relates to a Professional Reliance and Results Based Regulatory Review

Compliance with the requirements of the Heritage Conservation Act (HCA), Regulator policies, guidelines or associated legislation and conditions of permit must be adhered to. If a company is found by the Regulator to be in non-compliance with any requirements, the company may be excluded from the expedited archaeological review stream until all issues have been resolved. During this period the proponent must ensure all archaeological requirements are met and reports are submitted to the Regulator before the archaeological component of the application review will be completed. In other words, development permits will not be moved to decision until all reporting is submitted and approved by Regulator Heritage Conservation Program staff, which could result in significant delays.

These sanctions do not exclude the proponent from further penalties, which may be imposed by the Regulator or the Province of British Columbia under Section 36 of the HCA.

5.5.4 List of Supporting Materials

Types of Reports

Archaeological Impact Assessment (AIA):

An AIA refers to archaeological field work conducted. Subsurface shovel testing of areas deemed to have archaeological potential may be conducted to identify archaeological sites within the proposed project area. An AIA where no testing has been conducted may be referred to as a preliminary field reconnaissance or PFR.

Archaeological Impact Assessment Report (AIA report):

The results of an AIA are detailed in an AIA report.

Archaeological Overview Assessment (AOA):

An AOA is largely a desktop review of available literature including reports, ethnographic studies, site inventory records and physiographic mapping. The resultant report describes the subject area's potential for containing archaeological resources and may provide recommendations if appropriate.

Archaeological Overview Assessment Report (AOA Report):

The results of an AOA are detailed in an AOA report.

Preliminary Field Reconnaissance (PFR):

PFR refers to a field inspection that establishes if a subject area contains archaeological potential. Most often, if a PFR is conducted and the application area is found to contain archaeological potential, the attending archaeological company will perform a full AIA.

An archaeologist may also downgrade an AIA to a PFR if the intended AIA area proves to have no archaeological potential. The results of the field inspection would be detailed in an AIA or PFR report.

Preliminary Field Reconnaissance Report (PFR report):

The results of PFR are detailed in a PFR report.

Other Reference Terms

Administrative Change:

For the purposes of the archaeological review, an Administrative Change refers to an application that has no ground disturbance or clearing activities associated. Examples of administrative changes are a transfer of road tenure or document corrections. Any revision or amendment to components that involve an increase in size, change in shape or position, is **not** considered an administrative change. It is recommended that the applicant contact the Regulator's Heritage Conservation Program staff to confirm the application meets the requirements of an administrative change prior to application submission.

Archaeological Potential:

Archaeological potential refers to the possibility that archaeological resources may be present within a defined area. Potential is determined through examination of sets of variable criteria that change according to geographic location and geophysical characteristics.

Archaeology Audit Program (AAP):

The Regulator conducts audits of energy resource proponent's archaeological management systems. The audit supports a professional reliance and results based regulatory review of the archaeological portions of applications.

Archaeology Branch:

The Archaeology Branch of MOF is responsible for maintaining and distributing archaeological information regarding the management of archaeological resources in British Columbia.

Borden Number:

The Borden Numbering system is a naming convention created by Charles Borden for archaeological sites found in Canada. A unique set of letters and digits are assigned to every new archaeological site as they are recorded in the provincial data base.

Certified Archaeologist:

An experienced archaeologist who is approved and listed under a Section 12.2 permit of the HCA issued by the Regulator for the purpose of conducting archaeological impact assessments.

Heritage Conservation Act (HCA):

The HCA is the legislation that protects heritage in British Columbia. Under Section 12.1 of the HCA, archaeological sites are protected against any damage. This protection applies to all archaeological sites, regardless of whether they are located on Crown or private lands. Under Section 36, Offence and penalty, anyone found to be in contravention of Section 12.1 is liable for a fine and/or imprisonment. This protection is not affected by an error or omission in the Provincial Heritage Register or by failure to register property in the Provincial Heritage Register.

Permitted Archaeologist:

An experienced archaeologist who holds a permit under Section 12.2 of the HCA for the purpose of conducting archaeological impact assessments.

Professional Reliance and Results Based

The professional reliance review process for archaeology at the Regulator is based on the requirement that energy resource proponents contract certified or permitted archaeologists to provide recommendations that are then passed on to the Regulator. Although the onus for protecting archaeological resources is placed on the applicants, the Regulator provides support for both individual application processing and entire archaeological resource management systems.

The Regulator's expedited review allows applications to be processed prior to the completion of archaeological assessments or submission of reports for those assessments. Exceptions and expectations for this advantage may be modified based on situation or performance.

Associated with a professional reliance and results based approach is the Regulator's Archaeology Audit Program (AAP) (see definition for AAP).

Remote Access to Archaeological Data (RAAD):

RAAD is an online GIS application that allows authorized users to view spatial data about B.C.'s archaeological sites. RAAD is maintained by the Archaeology Branch of MOF.

Section 12.2 Permits:

A permit may be issued under Section 12.2 of the HCA to allow for the completion of archaeological impact assessments. These permits allow archaeologists to complete field assessments within the confines of special terms and conditions outlined in the permit.

Effective June 1, 2024, under ERAA, a specified enactment with provision for section 12.2 of the HCA authorizes the Regulator to issue section 12.2 inspection permits to energy resource applicants. This authority is for the entire province of B.C. for energy resource developments and the Regulator's authority is in place of the Archaeology Branch's authority. The Regulator's powers do not include projects that are subject to Canada Energy Regulator (CER) review and approval as CER project are specifically excluded from this provision.

Section 12.4 Permits:

A permit may be issued under Section 12.4 of the HCA if impact to an archaeological site cannot be avoided. These permits allow applicants to alter a known archaeological site within the confines of special terms and conditions outlined in the permit.

Under ERAA a **specified enactment** with provision for section 12.4 of the HCA, authorizes the Regulator to issue alteration permits to energy resource proponents when an archaeological site cannot be avoided. This authority is for the entire province of B.C. for energy resource developments and the Regulator's authority is in place of the Archaeology Branch's authority. The Regulator's powers do not include projects that are subject to Canada Energy Regulator (CER) review and approval as CER projects are specifically excluded from this provision.

All archaeological forms and documents are found on the Regulator's manuals, guidelines and forms page at Energy Professionals | BC Energy Regulator (BCER) (bc-er.ca).

Chapter 5.6 Completing Application Information Details: Environmental Stewardship

5.6 Environmental Stewardship

Submission of an application for an energy resource or associated activity must include additional application deliverables specific to environmental stewardship. The required stewardship deliverables vary based on the planned activity.

The stewardship tab requires specific application information details. This section includes a brief overview of stewardship, guidance regarding stewardship planning and design, details related to stewardship information requirements and detailed instructions for completing the data fields within the stewardship tab.

The Regulator's Environmental Protection and Management Guideline (EPMG) provides specific guidance for applicants and should be thoroughly reviewed in addition to this section of the manual.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

5.6.1 Environmental Stewardship Planning & Design

Companies must adhere to the Environmental Protection and Management Regulation (EPMR) of the Energy Resource Activities Act (ERAA) in order to conduct energy resource activities. Section 25(1) of ERAA states:

- The Regulator may issue a permit if, after considering government's environmental objectives, the applicant meets the requirements of those objectives.

The Environmental Protection and Management Regulation (EPMR) establishes the regulatory requirements for stewardship of environmental values and features while carrying out energy resource activities. The EPMR applies to energy resource activities on Crown land but does not apply to subsurface aspects of energy resource activities nor private land.

The EPMG provides guidance for applicants and permit holders in meeting the requirements of the Environmental Protection and Management Regulation.

Applicants and permit holders must plan energy resource activities to avoid and/or minimize impacts to environmental values, mitigate impact where no realistic opportunity exists to avoid, and/or restore the impacted area to its pre-development state. General protection and management approaches must continue during the operational stages so adequate management controls are in place and monitor operations to identify further opportunities to reduce environmental impacts.

Government Environmental Objectives

Government's environmental objectives requiring management and protection are identified in the EPMR and further explained in the EMPG and includes:

- Water supply well.
- Riparian reserve zones.
- Wildlife and wildlife habitat areas:
    - Ungulate winter range.

  - High priority wildlife.
  - Wildlife tree retention areas.
  - Wildlife habitat features.
- Old growth management areas.
- Fisheries sensitive watersheds.
- Resource features.
- Cultural heritage resources.

Applicants should provide all relevant information with the application so the Regulator may make an informed decision while maintaining the values identified as Government environmental objectives. The consideration of an effect or change to an environmental value, whether material or adverse, is considered based on all available information.

5.6.2 Environmental Protection and Management Requirements

Part 3 of the EPMR prescribes operational requirements applicants must consider and applications must adhere to in relation to:

- Water quality (for operating areas and adjacent areas).
- Aquifers.
- Crossings of streams, wetlands and lakes.
- Deleterious materials into streams, wetlands or lakes (energy resource activities must not result in any deleterious material deposited).
- Operations within wetlands.
- Natural range barriers.
- Invasive plants.
- Forest health.
- Soil conservation.
- Seismic lines.
- Restoration of operating areas.

Applications must meet these operating requirements. If an applicant requires an exemption on the application according to the provisions of Part 3, an exemption request must be included in the permit application submission to the Regulator.

5.6.3 Application Requirements Specific to Environmental Stewardship

Environmental Features Established by Order

The EPMR (Part 4, Division 2) identifies and establishes environmental features defined through legislative acts and provincial ministerial orders.

The majority of the features are spatially identified. Where an activity is planned within a spatially identified environmental feature area, the Application Management System automatically indicates the intersecting or overlapping features.

While some features established in Section 25 of the EPMR are not spatially identified, all features must be identified during activity planning and included on the activity application construction plan.

Some Part 4, Division 2 features are not formally identified by order; however, applicants should consult the EPMG as some features are established through other mechanisms for planning and operations, when known to the applicant or encountered in the field. Examples include wildlife habitat features and Old Grown Management Areas (OGMA).

If activities are planned to intersect features identified in EPMR Part 4, Division 2, a rationale and mitigation plan prepared by a Qualified Professional must be included as part of the permit application.

Areas Established by BCER

The Regulator has identified areas that require specific application guidance or may be subject to special permit conditions and/or advisory guidance. When proposed activities overlap these areas, a short explanation must be provided in

the rationale text box. Where required, a mitigation plan must also be submitted as part of the application.

Areas Established by BCER include environmental features and those that have additional safety, environment, and resource management concerns.

Areas Requiring a Mitigation Plan

Activities located in the following areas require a mitigation plan, as per Appendix B of the Environmental Protection and Management Guideline, to be submitted with the application:

- **Peace Island Park** area is identified as a sensitive area, having high public use and recreation value. For all applications, the Regulator encourages industry to avoid operations in this area. While applications in Peace Island Park are accepted, they are subject to an enhanced review and engagement process.
- **Pink Mountain Borrow Pit** is identified as an emergency source of water for fire suppression for the town of Pink Mountain. For all applications, the Regulator encourages industry to avoid operations in this area.
- **Lynx Creek Boat Launch** is identified as an area with recreational value built and maintained by the District of Hudson's Hope. For all applications, the Regulator encourages industry to avoid operations in this area. While applications in the Lynx Creek Boat Launch area are accepted, they are subject to an enhanced review and engagement process.
- **Twidwell Bend** is identified as an area with public use and recreational value. While applications in Twidwell Bend are accepted, they are subject to an enhanced review and engagement process.
- **Wonowon Borrow Pit** is identified as an emergency source of water for fire suppression for the town of Wonowon. For all applications, the Regulator encourages industry to avoid operations in this area.
- **Caribou Mitigation Zones:** Areas with a conservation or restoration focus or a Sustainable Resource Activity Area. These areas were established under the Intergovernmental Partnership Agreement for the Conservation of the Central Group of the Southern Mountain Caribou. A Caribou Impact Assessment and Mitigation Plan is to be submitted to the Caribou Recovery Committee. Please see the Environmental Protection and Management Guideline, Section 1.8.2, for further information.

- **Hudson's Hope Source Protection Area** is a protection area for the District of Hudson's Hope groundwater supply wells. For all applications, the Regulator encourages industry to avoid operations in this area.
- **Hot Water Physa Resource Review Area** is a protection area for *Physella wrighti*, a wildlife species endemic to Liard River Hot Springs Provincial Park and listed as Endangered under the *Species at Risk Act*. The area was established by Liard River Hot Springs Provincial Park (LRHSPP) and the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) in support of the recovery strategy for Hot Water Physa. Guidance recommends no industrial directional drilling for gas within the 10 km referral zone. For all applications, the Regulator encourages industry to avoid operations in the area.

Please Note:

A permit may be required to conduct an activity in a Federally Listed Species at Risk Area: Species at Risk: Permit Applications

Areas Subject to Special Permit Conditions and Advisory Guidance
Activities located within the following areas may be subject to special permit conditions and/or advisory guidance, but have no additional application requirements (such as a mitigation plan):

- **INJ / DISP:** Potential high reservoir pressure zone. Location is within 2 km of a well used for fluid injection or disposal operation. Applicants are advised that drilling and completion programs should include the ability to control high pressure fluids. See Chapters 7, 8 and 9 of the Energy Resource Activities Operation Manual for additional drilling information.
- **Buick Creek – Silverberry:** A potential high reservoir pressure zone, Triassic formation. Applicants are advised that drilling and completion programs should include the ability to control high pressure fluids. See Chapters 7, 8 and 9 of the Energy Resource Activities Operation Manual for additional drilling information.
- **Heritage Montney Area:** A proposed well location is within or proximal to an oil accumulation. Applicants are advised that well primary product is subject to final determination after six months of production. See Primary Product Determination for Montney Formation Wells for further information.

- **Northern Montney Area:** A proposed well location is within or proximal to an oil accumulation. Applicants are advised that well primary product is subject to final determination after six months of production. See Primary Product Determination for Montney Formation Wells for further information
- **Ground Motion Monitoring Permit Condition Area:** Wells in this area are subject to ground motion monitoring requirements during hydraulic fracturing operations. Special permit conditions may be attached to well approvals. See Guidance for Ground Motion Monitoring and Submission for further information.
- **Kiskatinaw Seismic Monitoring and Mitigation Area:** Wells in this are area subject to the Kiskatinaw Seismic Monitoring and Mitigation Area Special Project Area. See INDB 2021-13 for additional information.
- **Farmington Development Area:** Activities located in this area are subject to the Farmington Development Special Project Order. See INDB 2018-26 for additional information.
- **Site C Project General Area:** Special permit conditions may be attached to well approvals in this area to protect the integrity of the Site C Dam.
- **Aitken Creek Gas Storage Reservoir** area is subject to a special project order under ERAA. Well applications in this area which are identified as having planned drilling near or through this gas storage reservoir are subject to an enhanced review. Special permit conditions may be attached to well approvals in this area to protect the integrity of the gas storage reservoir.

Identifying Water Works, Water Supply Wells and Aquifers

- Water works and water supply wells: identify all known waterworks and water supply wells within 100 metres of the proposed operating area (excluding geophysical operations) as part of the activity application construction plan. Known waterworks information is obtained from the BC Geographic Warehouse (BCGW). For private land, waterworks location information is obtained from land owners.

- Aquifers and groundwater recharge areas: Applicants must identify in permit applications all known aquifers potentially impacted by the activity, regardless of the distance from the proposed operating area.

Where water works or water supply wells are within 100 metres of a proposed development, a mitigation plan prepared by a Qualified Professional must be included in the corresponding permit application to the Regulator.

Activities Intersecting with Resource Management Zones

B.C. Land or Coastal Marine Plans provide increased assurance of, and form the foundation for, balanced solutions meeting economic, environmental, social and cultural needs throughout the province. The plans inform both government decision makers and persons seeking natural resource development opportunities.

Proposed energy resource activities should be reviewed before application in the context of any applicable Land or Coastal Marine Plan. Projects should conform to the objectives established for the plan management zone in which the project is proposed.

Where projects fall within special management zones or the equivalent, applicants are expected to provide a rationale and mitigation plan prepared by a Qualified Professional detailing:

- Why the activity must occur within the special management zone or equivalent.
- What planning and/or operational measures (present and future) are being taken to mitigate impacts to the values identified for the zone.
- What planning and/or operational measures (present and future) are being proposed to mitigate impacts to the values identified for the zone.

Applicants may provide a short explanation in the rationale text box; however, the attached mitigation plans must be prepared and signed by a Qualified Professional.

Activities Intersecting Parks, Protected Areas or Ecological Reserves

Energy resource activity is not generally allowed within parks, protected areas or ecological reserves. However, there are extenuating circumstances where the Regulator may consider applications for activities proposed within these areas. Before submitting an application for activity within a park, protected area or ecological reserve, applicants should contact the Regulator.

If energy resource activities cannot adhere to the guidance and recommendations, then justification and a mitigation plan prepared by a Qualified Professional is required. The justification should detail why it is necessary to operate within the park, protected area or ecological reserve, and the mitigation measures that will be implemented to minimize impacts. Park Use Permits issued by the BC Ministry of Environment must also be attached to the permit application.

5.6.4 Regulatory Exemptions

Exemptions occur where applicants and/or permit holders are pursuing approval for non-compliance with the regulation. If an exemption is requested from regulatory requirements, an exemption must be prepared at the time of application and include:

- Specific regulatory provision requiring an exemption.
- Rationale for exemption (explanation of why an exemption is required).
- Proposed plan prepared by a Qualified Professional showing mitigation strategies to reduce impacts.

If exemptions are approved prior to the application, this approval must be attached to the application.

The Regulator may exempt energy resource operators from one or more of the environmental protection and management requirements for a specific operating area or an adjacent area. The exemption request must demonstrate that it is not reasonably practicable for the activity to comply with the requirement, and must be reviewed and approved by the Regulator.

5.6.5 Guidance Variations

If energy resource activities cannot adhere to the Regulator's guidance recommendations, a rationale must be included in the permit application, along with specifics of the guidelines not followed, an explanation of why they cannot be followed, proposed plan and mitigation strategies. This rationale and mitigation must be prepared by a Qualified Professional

5.6.6 Mitigation Plan Requirements

Mitigation plans outline how potential adverse impacts to a feature, species or value are to be avoided or minimized. Mitigation plans may be needed for a variety of values and situations. Regardless of the trigger for a mitigation plan, the requirements and format stay consistent. This section provides links to guidance to prepare and submit a mitigation plan as part of a permit application.

Mitigation plans must be completed by the applicant and a Qualified Professional, hired by the applicant. The Qualified Professional must have an appropriate background relevant to the species, feature or value being addressed in the mitigation plan, and must be a member, in good standing, of a governing body under the Professional Governance Act. The mitigation plan relies on a professional reliance model, whereby the professional presents and upholds the appropriate mitigation and the applicant upholds the terms of the mitigation plan as part of the permit.

For further details on mitigation plans and their requirements please see Appendix B of the Environmental Protection and Management Guideline.

Additional and over arching provincial policy on Environmental Mitigation Plans can be found here.

Chapter 5.7 Completing Application Information Details: Maps and Plans

5.7 Maps and Plans Information Tab

Maps and plans support activity applications and the requirements differ depending on the energy resource and/or associated activity selected as well as the technical and engineering information provided.

Applications should have one map for the entire application, not individual sets of maps per activity within the application.

Applications must include mapping illustrating in detail the location and extent of planned activities, as required. Required mapping information includes the following.

- Construction plans – this is a mandatory requirement for most applications
- 1:20,000 and 1:250,000 plans
- Diversion plan for short term water use applications
- CIAS Sketch plan - Mandatory for all stand alone CIAS applications and technical only amendments that include CIAS. Where CIAS is included in new multi-activity applications or land amendments for ERAA or CER, the CIAS activity may be shown on the construction plan and the CIAS Sketch plan is optional
- Individual Ownership Plan (IOP) for activity on private land.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

All construction plans and maps should include the following information, as applicable for the application:

1) Title Block information:
    - Applicant company name.
    - Project name, if applicable.
    - BCGS mapsheet.
    - Legal description of the project.
    - Date plan prepared (yyyy/mm/dd).
    - Scale.
    - Version number (i.e.: revision #1, amendment #1).
    - Survey company name, address and phone number.
    - Sheet numbers (e.g., sheet 1 of 2).
    - Survey company job number.
    - Survey company drawing number.
    - Table of crossings.
    - Crossing number.
    - Drawing number.
    - Approved by and checked by name.
    - Project manager.
    - Notes.
    - Revision information (number, completed by and date of revision).
2) Area block to summarize the following in the legend:
    - Total area of Crown
    - Total area of private land
    - Total area within MoTT rights-of-way.
        1. Total area of new cut within MoTT rights of way
    - Total area of new cut within any woodlot required to be included with the cutting authorization
    - Total area of new Crown land disturbance (excluding the areas of MoTT and woodlot, if broken out separately in the tables)

- Area of existing Crown land disturbed.

3) Scale bar placed above the title block where it will not interfere with the drafted areas.

4) Body of the plan should include, as applicable:

- Surveyed Crown land (District Lot Numbers; NTS; DLS legal descriptions, etc., including theoretically surveyed Crown land posted, but not titled), as applicable.
- Unsurveyed Crown land, if applicable
- Private land should indicate the owner name, parcel identifier number (PID no.), title number and the areas of disturbance
- North arrow.
- Construction corridors and activities within the corridor, the energy resource activity (e.g. pipeline or well), deck sites, workspaces, brush pushouts, or any other associated activities required must be indicated on the construction plan and listed in the plan area tables, etc.. The construction corridor should be indicated on the construction plan, using dashed lines and mark “Construction Corridor”. The area table on the construction plan should reference the total area (in hectares) encompassed by the construction corridor; this area will be reflected in the spatial data within the total application areas. See Figure 3-C for an example.
- UTM coordinates for the activity; including from and to locations or beginning and end UTM coordinates for all linear proposed projects.
- Activity specific information (such as disturbance measurements in meters or kilometers), if applicable.

5.7.1 Map Detail

This section provides detailed instructions of the Regulator’s requirements for maps and plans.

BCGS Map sheet(s) refer to all BC Geographic Series map sheets (BCGS) and must include all areas affected by the proposed activity. Hand sketches are not acceptable as map attachments. In addition to the mapping information listed in section 5.7, maps and plans requirements include:

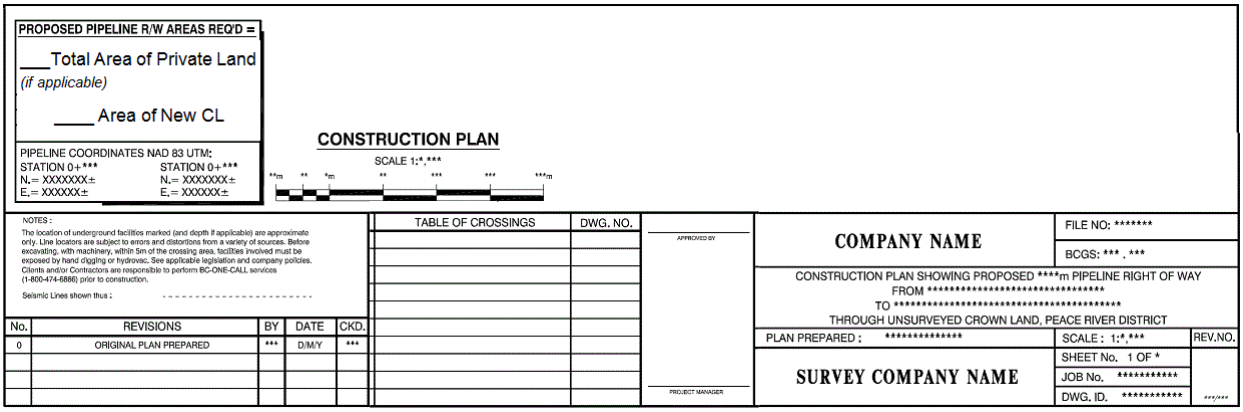
1) 1:20,000 Maps:
   - Project area along with brief description of all proposed areas e.g. “Proposed 10x30m Workspace (new cut)”.
   - Permitted projects in the area (existing wellsites, pipelines, sumps, or associated activities).
   - All roads including temporary access roads.
   - Seismic/Trails.
   - Cut blocks and woodlots.
   - Contours.
   - Trappers, Guides and Range Tenures.
   - Water features (including labels).
2) 1:250,000 Access map:
   - Access to project
   - Access description text box marking out KM to project showing all route changes
3) Diversion map (at appropriate scale) mandatory for all short-term water use water applications to illustrate in detail the location and extent of planned activities. The map should include the following:
   - Include access to each point of diversion (POD).
   - Show existing tenures impacted. (e.g. Rights Holders as per WSA, tenured water source dugouts)
   - Water features.
4) CIAS Sketch Plan (at appropriate scale) to illustrate in detail the location and extent of the changes in and about a stream activity.

5.7.2 Construction Plans

Construction plans inform the Regulator about the company's plans for constructing the proposed works, including details about the location and size, associated activity sites and other details of the project's development. Applicants must include construction plans with applications. See Figure 5-F for an example of a table of information.

This section provides instructions on the requirements for all construction plans plus additional information required for specific authorizations including facilities, pipelines, wells, roads and water.

Figure 5-F Sample of Construction Plan Title Block Information



5.7.3 Construction Plan Basic Requirements

In addition to the requirements listed in section 5.7, construction plans must include:

1) Label on plan indicating:
    - Dimensions and area of Crown land.
    - Dimensions and area of linear segments, if applicable.
    - Location of Agricultural Land Reserve (ALR), if applicable.
    - NTS and/or DLS coordinates (units, block, and group).
    - Chainages.

- Deflections.
- Crossing numbers, if any, to correspond to the table of crossings.
- Vegetation changes (brush/tree types).
- Dimensions and area of associated activity sites (decking sites, temporary workspaces, etc.), if applicable.
- Cut blocks, range tenures, guide outfitter areas, Indian reserves, coal tenures and all other areas of special interest.

2) Plan diagram to indicate:
    - Dimensions and area of Crown land (including any associated activity sites).
    - Dimensions and area of linear segments, if applicable.
    - Location of Agricultural Land Reserve (ALR), if applicable.
    - Woodlot area clearly marked.
    - Cut blocks, range tenures, guide outfitter areas, Indian reserves, coal tenures and all other areas of special interest should be indicated and labelled on plan.
    - NTS coordinates (units, block, group); chainages; deflections; crossing numbers, if any, to correspond to the table of crossings; vegetation changes (brush/tree types) and a North arrow.
3) Plan diagram to indicate and classify waterbodies within 100 metres of a proposed energy resource activity or Crown land application (i.e. campsite, storage site, borrow pit, etc.).
4) Stream crossings are required for all stream and waterbody crossings required to carry out energy resources activity and identified in the application (Section 11 of the Water Sustainability Act). The crossing number must match the crossing identified in the construction plan. UTM Coordinates (NAD 83 CSRS) must be identified and the name of the stream or waterbody. The crossing number, UTM coordinates and the name of the stream or waterbody must also be identified in the Crossing Table.

Additional Construction Plan Requirements: Facilities

Construction plans for facility applications must include all roads, rights-of-way, public utilities, easements, road allowances and places of public concourse located within 60 metres of storage tanks and production equipment, and/or within 80 metres of flare stacks and incinerators. The plan must also show

drainages and the proximity to the lease, adjacent surface improvements and surveyed polygons of facilities.

Additional Construction Plan Requirements: Pipelines

Construction plans for pipelines should identify well authorization numbers. Applicants should also indicate previously assessed construction corridors for activity permitted under separate AD #'s.

Construction plans must indicate the constructed and unconstructed MoTT road allowance within the body of the plan and ensure the area table has road allowances separated from the pipeline right of way and/or associated activity areas. The construction plan area table must clearly indicate the new cut and existing area for road allowances.

Indicate the total hectares of (total area of Crown or private land) what is included on the construction plan, including the right of way and any workspaces, pushouts, deck sites, shoofly's, etc.

Indicate pipeline coordinates in NAD 83 UTM CSRS, for example:

- Station 0 + 000 Northing & Easting.
- Station 1 + 123 Northing & Easting.
- Lateral from Station 0 + 035 Northing & Easting.
- Lateral to Station 0 + 456 Northing & Easting.

Additional Construction Plan Requirements: Roads

Construction plans should include a detailed table of road segments. Road segments must not include more than one land type. For example, a road including a portion on Crown land and a portion on private land would include two segments, with the to and from locations starting at the intersection of the land types. Road segment tables should include:

- Segment land type status (e.g. Crown land, private land, road allowance, woodlot tenure).
- Segment legal description: from and to locations.
- Segment NAD 83 UTM coordinates northing / easting: from and to locations.

- Segment length.
- Maximum segment width.
- Segment area (hectares), broken down by new or existing disturbance.

Additional Construction Plan Requirements: Amendments

Construction plans submitted with amendment applications should show all the changes for the proposed activity.

- Revised construction plans should include a detailed table of amended areas.
- Within body of the revised plan, highlight the amended areas and include a text box with a description of areas amended.

Additional Construction Plan Requirements: Wells

If horizontally drilled wells are selected on the application, both the heel and the bottom-hole location must be provided on the construction plan. If a sump is being applied for with the application, it must also be shown on the construction plan.

Mapping Requirements Specific to Geophysical Programs

In addition to the mapping requirements for all projects, proposed geophysical projects require the following mapping:

1) 1:20,000 Map (or appropriate scale):
   - 2D project maps require UTM (NAD 83 CSRS) or latitude and longitude coordinates at the start and end of each line.
   - 3D project maps require UTM (NAD 83 CSRS) or latitude and longitude coordinates at the corners of the project area.
   - Forestry cutblocks (colour coded to status) and any other overlapping tenure.
   - Mechanical creek crossings.

- Approximate number of push outs to be constructed; total to be confirmed on the final plan.
- If heli-assisted operations are proposed, amount and size of helipads must be indicated on the legend; total to be confirmed on final plan.
- Include staging areas and campsites (if required for less than 100 days).

2) 1:250,000 Access Map (this can be inset into the above map or on a separate map):

- Access to the project highlighted in yellow.
- Project outline.
- Trapper boundaries and numbers.

5.7.4 Emergency Planning Zone Mapping Requirements

The Emergency Planning Zone (EPZ) map must show details about public facilities and residences (seasonal or otherwise) within the EPZ and the Emergency Awareness Zone, and should match the boundary of the emergency awareness zone. Map sheets scale should be 1:20,000 and should not be larger than 76 x 122 cm (30 x 48 inches). Inserts to show necessary detail should be used as needed.

The map must show:

- The EPZ (default to the greater of either drilling radius or completion radius for wells).
- The Emergency Awareness Zone (twice the EPZ radius).
- Public or private facilities such as schools, churches, community halls, hospitals, campgrounds.
- Residences and urban centers within the zones.
- Location of trap lines or other tenures (guide outfitter areas, grazing leases, etc.
- Well, facility and/or pipeline location.
- Trails, roads, numbered and named highways, railroads, airports, rivers and lakes.
- All industrial activity sites.

- Known egress issues.
- Other information relevant to an emergency.

Chapter 5.8 Completing Application Information Details: Attachments

5.8 Application Attachment Information Tab

Attachments uploaded within the Application Management System support activity applications and are required depending on the energy resource and associated activity selected and the technical and engineering information provided. This section provides detailed instructions of requirements for uploading attachments.

Each activity and application information section in this manual provides specific instructions for attachment requirements. The Attachment tab in AMS allows applicants to view all attachments uploaded within the activity tabs. It is organized by activity and applicants are able to see what was uploaded for each section and what is still required. Applicants may view attachments and/or upload new attachments using this tab while the application is still in the creation stage.

Some attachments are conditional, meaning they must be uploaded on a specific activity or application page and will display under the Attachments tab, categorized by the activity or application tabs.

In some cases, attachments must follow specific formats. For example, consultation and notification line lists must use the line list spreadsheet template. Unless otherwise indicated, the Regulator recommends either Word, Excel, jpg or pdf format. File sizes are limited to 50mb.

Chapter 6

Requirements for Engagement and Completing Application Information Details

6. Requirements for Engagement/Completing Application Information Details

Application information, including engagement activities, supports the activity application and is required for all energy resource and associated activity applications. This chapter provides detailed instructions of the Regulator's requirements for completing both the engagement requirements and the application information details in the Application Management System.

Consultation and engagement with land owners, rights holders and First Nations are application information tabs, like the previous chapter, but due to the specifics and importance of the pre-planning requirements for these three areas, they are detailed in this Chapter.

Each section of this chapter provides an overview of application information section, definitions and requirements to support the activity listed below. Application information detail requirements (and corresponding section number) in this chapter includes:

- 6.1 Consultation and notification
- 6.2 Rights holder engagement
- 6.3 First Nations

Chapter 6.1 Completing Application Information Details: Consultation & Notification

6.1 Requirements for Consultation and Notification Regulation

Consultation and Notification (C&N) is required as part of the application process and is intended to promote communication and collaborative engagement between proponents, land owners and rights holders prior to application submission. Applicants are encouraged to adopt industry's best practices and assist in the avoidance or mitigation of any potentially adverse impacts.

Submission of an application for an energy resource or associated activity must include additional application deliverables specific to consultation and notification. The required consultation and notification vary based on the planned activity and location of activity.

The consultation and notification tab in AMS requires specific application information details. This section includes an overview of consultation and notification, guidance regarding consultation and notification, details related to consultation and notification requirements and detailed instructions for completing the data fields within the consultation and notification tab.

Details of applicant's responsibilities to comply with ERAA and all regulations, including the Requirements for Consultation and Notification Regulation (RCNR), are discussed in Chapter 1 of this manual. In addition to the requirements listed in this section, Regulator staff may request additional information where necessary to facilitate review of the application.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

Regulatory Requirements

The Energy Resource Activities Act (ERAA) and the Requirements for Consultation and Notification Regulation (RCNR) require energy resource applicants to conduct formal consultation and/or notification with recipients prior to submitting an application for an activity. Refer to the definition of an "applicant" in Part 1 and persons prescribed in Part 2, Division 1 and 2 of the RCNR to determine whether consultation and notification is required as part of the application.

Additional Guidance

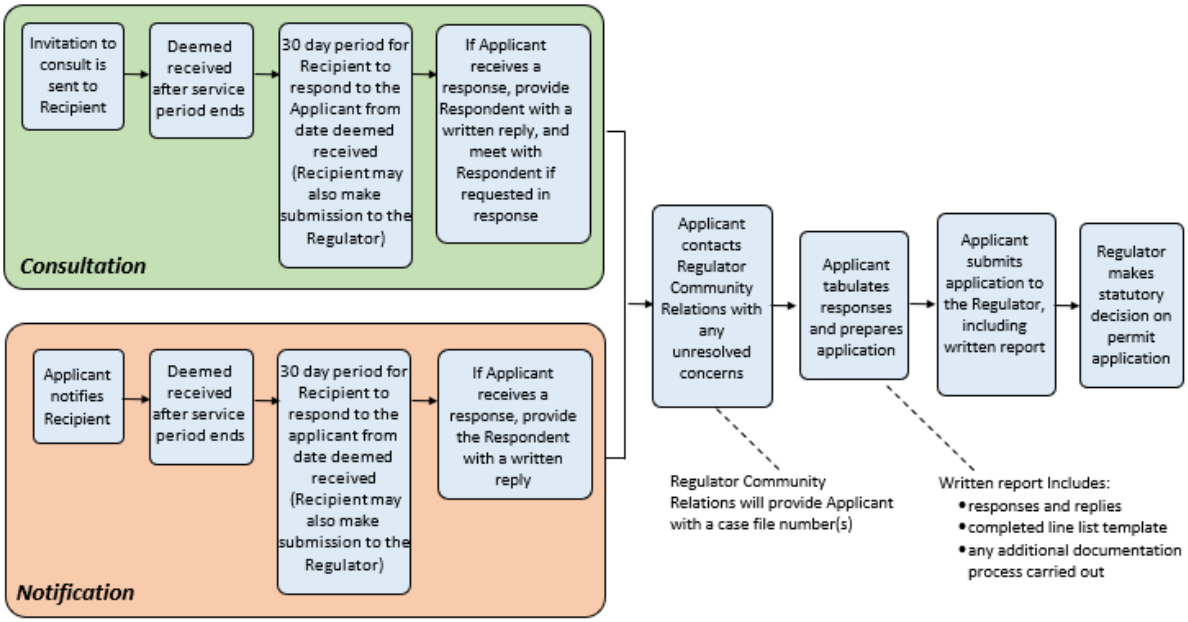
The Consult with Landowners & Rights Holders page on the BCER website provides links to resources with respect to rights and interests surrounding proposed and permitted energy resource activities on or near private or Crown land.

The BC Registered Trapper and Petroleum Industry Agreement on Notification and Compensation is a useful tool for industry and trappers and sets out guidelines for reasonable compensation for both parties.

6.1.1 Consultation and Notification Overview

The consultation and notification processes are similar since both provide a formalized engagement; however, the difference in obligation between the two generally arises from proximity to proposed energy resource activities. Consultation recipients are typically closer and as such, the consultation process provides the opportunity for discussion between the applicant and the recipient. The steps in the consultation and notification process are outlined in Figure 6-A below.

Figure 6-A Consultation and Notification Process Steps



Consultation

Consultation is the exchange of information regarding proposed energy resource activities between applicants and recipients within the consultation distance. It begins when an Invitation to Consult is sent from an applicant.

Notification

Notification provides written information regarding proposed energy resource activities to recipients within the identified notification distance. Where consultation is conducted with recipients, notification is not required.

Please Note:

Notification requirements specific to fixing the site of a pipeline are indicated in Section 23 (3) of ERAA and Section 23 of the Requirements for Consultation and Notification Regulation (RCNR) and detailed in Section 4.2 of the pipeline section of this manual.

Who Must Provide Consultation or Notification?

Any person or company intending to submit an application to the Regulator that meets the definition of an applicant in the Requirements for Consultation and Notification Regulation (RCNR), including those prescribed in Section 3(1) of the RCNR, must carry out the prescribed consultation or provide the prescribed notices, according to the RCNR prior to submission of the application.

The RCNR does not apply to stand-alone related activities as defined under ERAA. Specific information regarding rights holder engagement for related activities on Crown land (associated activities and/or CER activities) is reflected in Section 6.2 of this manual.

Where an application includes a primary activity and a related authorization, consultation and notification must be done for the entire development, not just the primary activity. The material provided in the invitation to consult and/or notice documents must include all proposed activities, not just the primary activity.

The applicant must provide notification to the land owner on whose land the activity is proposed under Section 22 (2) of ERAA (for initial applications) or Section 31 (1) of ERAA (for amendment applications), or as otherwise noted in specific circumstances, outlined in Section 31 (1.1) of ERAA.

Some exemptions from land owner notification can be granted. Refer to Section 6.1.12 of this manual for information regarding exemptions from consultation and notification requirements.

Please Note:

If an applicant offers C&N, by choice or inadvertently, the prescribed process must be followed.

6.1.2 Land Owners and Rights Holders

Land Owners

A land owner is:

- a person registered in the land title office as the owner of the land surface or as its purchaser under an agreement for sale; or
- a person to whom a disposition of exclusive use (lease, rental of property, or outright sale) of Crown land has been issued under the Land Act.

A land owner is not the Government, or a person who holds a Licence of Occupation for non-intensive occupation and use of Crown land.

Rights Holder

A rights holder is a person granted non-intensive occupation, use of or other rights over Crown land by permit, licence, or approval. Further information specific to rights holders is detailed in Section 6.2 of this manual.

If any level of government holds a tenure such that it would qualify as a rights holder, the respective agency would be consulted, not as government, but as a rights holder. Tenures that qualify entities as rights holders include:

- Licence under Section 39 of the Land Act.
- A community forest agreement, first nations woodlot license, forest licence, timber license, timber sale licence, tree farm license, or woodlot licence under the Forest Act.
- A forestry licence to cut under the Forest Act, if the licence is a major licence.
- A permit for geothermal exploration, a lease or a well authorization under the Geothermal Resources Act.
- A grazing permit or grazing licence under the Range Act.
- A guide outfitter's licence for Crown land, guiding territory certificate for Crown land or a registered trapline under the Wildlife Act.
- A claim under the Mineral Tenure Act.
- A conditional or final water licence under the Water Sustainability Act.

Please Note:

Provincial and Federal government agencies are not considered rights holders under ERAA. Applicants are not obligated to engage agencies in advance of an application to the Regulator; however, applicants are encouraged to advise the Regulator of any Land Act Map Reserves or Resource Features (as defined in the EPMR) as early as possible, even prior to submitting an application to the Regulator, to allow the Regulator to consider and facilitate any required engagement with other government agencies and avoid delays in application processing. It should be noted that any proposed activities on federal Crown land will require consultation with the relevant Federal government department/agency as per Section 6 or 8(b) of the Requirements for Consultation and Notification.

Representation Agreements

In some cases, recipients may designate an individual or agency to communicate on their behalf in the consultation and notification process. The Regulator needs to be satisfied that the legal recipient of consultation / notification, as documented in Divisions 2 and 3 of the RCNR, has designated someone else to communicate on their behalf in the process. Letters designating representation need to be addressed to the Regulator, signed by the official recipient, name the designate, and may also give direction on the parameters of the representation (e.g. only for this application, only for this time period, for all matters related to ERAA).

Letters must be provided for each application – the Regulator will not keep a record of representation for use on different files.

For Power of Attorney the Regulator requires a copy of the legal document as there are specific parameters on documents, such as restrictions and timelines.

6.1.3 Determining Obligations to Consult or Notify

Obligations to carry out consultation or notification are prescribed in the RCNR, and are based on proximity to the proposed activities and other factors, such as presence on an area subject to the right of a rights holder, or the presence of a residence or structure within the consultation or notification zone.

The table and diagrams on the following pages outline a series of tests to determine a potential applicant's obligations to notify or consult. Table 6-A is intended to highlight the different factors which create obligations to notify or consult among the various persons and entities identified in the Requirements for Consultation and Notification Regulation. Figures 6-B through 6-E illustrates examples of the application of the consultation and notification tests.

Table 6-A: Notification or Consultation

Person / Entity	Test for Obligation to Provide Notification	Test for Obligation to Provide an Invitation to Consult	Exclusions
Land owner 6	Land owner of land on which activities are planned.	Land owner of land on which activities are planned.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
Local Authority 8(1)(a), 11(1)(a)	All or part of a structure owned by the local authority is within an applicable notification distance Consultation can be provided instead.	All or part of a structure owned by the local authority is within an applicable consultation distance.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
Government of Canada 8(1)(b), 11(1)(b)	All or part of a structure owned by the government of Canada is within an applicable notification distance. Consultation can be provided instead.	All or part of a structure owned by the government of Canada is within an applicable consultation distance.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
First Nations 8(1)(c), 11(1)(c)	All or part of the First Nation's reserve is located within the applicable notification distance. Consultation can be provided instead.	All or part of the First Nation's Indian reserve is located within the applicable consultation distance.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
Person / Registered land owner 8(2)(a-c), 11(1)(d)	All or part of the land is located within an applicable notification distance. Consultation can be provided instead.	All or part of: a residence the person occupies, a structure the person uses for livestock, or a school or related structure owned by the person is located within the applicable consultation distance.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.

Table 6-A: Notification or Consultation

Person / Entity	Test for Obligation to Provide Notification	Test for Obligation to Provide an Invitation to Consult	Exclusions
Person who has entered into agreement with land owner to lease or rent a residence or a structure used for livestock on the land 8(1)(d)		All or part of a residence or structure is within the applicable consultation distance.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.

Table 6-A: Notification or Consultation

Person / Entity	Test for Obligation to Provide Notification	Test for Obligation to Provide an Invitation to Consult	Exclusions
Rights Holders 7(a),(b); 10(a),(b)	The proposed activities are to be carried out on an area subject to a right of the rights holder, and the applicant has not provided an invitation to consult Consultation can be provided instead.	The proposed activities are to be carried out on an area subject to a right of the rights holder, and it is known to the applicant the ability of the rights holder to exercise their right will be directly and adversely affected by the proposed activities.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
Ministry of Transportation and Transit 9(a-b)		A **pipeline** proposed within the right of way of a highway as defined in the Transportation Act, and is to be used for transporting petroleum, natural gas or both, or - water associated with activities performed in	Only applicable to pipelines.

Table 6-A: Notification or Consultation

Person / Entity	Test for Obligation to Provide Notification	Test for Obligation to Provide an Invitation to Consult	Exclusions
		relation to petroleum, natural gas, or both.	
Municipal Council 9(a-b)		A **pipeline** proposed within the right of way of a highway as defined in the Transportation Act, and is to be used for transporting petroleum, natural gas or both, or - water associated with activities performed in relation to petroleum, natural gas, or both.	Only applicable to pipelines.
Person who holds a conditional or final licence under the Water Sustainability Act with respect to the community watershed 11(2)(a)	All or part of a known community watershed is established or continued under the Act and is located within an applicable notification distance Consultation can be provided instead.	The proposed activities are to be carried out on an area subject to a right of the rights holder, and it is known to the applicant the ability of the rights holder to exercise their right will be directly and adversely affected by the proposed activities.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.
Person who holds a construction permit or operating permit under the Drinking Water Protection Act with respect to	All or part of a known community watershed is established or continued under the Act and is located within an applicable notification distance. Consultation can be provided instead.	The proposed activities are to be carried out on an area subject to a right of the rights holder, and it is known to the applicant the ability of the rights holder to exercise their right will be directly and adversely affected by the proposed activities.	Consultation is not applicable to geophysical activities, as there is no prescribed consultation distance for geophysical activities.

Table 6-A: Notification or Consultation

Person / Entity	Test for Obligation to Provide Notification	Test for Obligation to Provide an Invitation to Consult	Exclusions
the community watershed 11(2)(b)			

Notification is not required to be sent to a landowner to whom was given notice under Section 22(2) or 31(1) of the Act with respect to the same application, or to a person who was provided with an invitation to consult.

Please Note:

Tree Farm Licence and Forest Licence holders require an Invitation to Consult if the proposed activities are to be carried out on an area subject to a right of one of these licence holders. Thus, the Invitation to Consult is only required if the proposed activity intersects an area where the licence holder holds a cutting permit and the cutting permit area has not been harvested.

Figure 6-B: Consultation and Notification Test

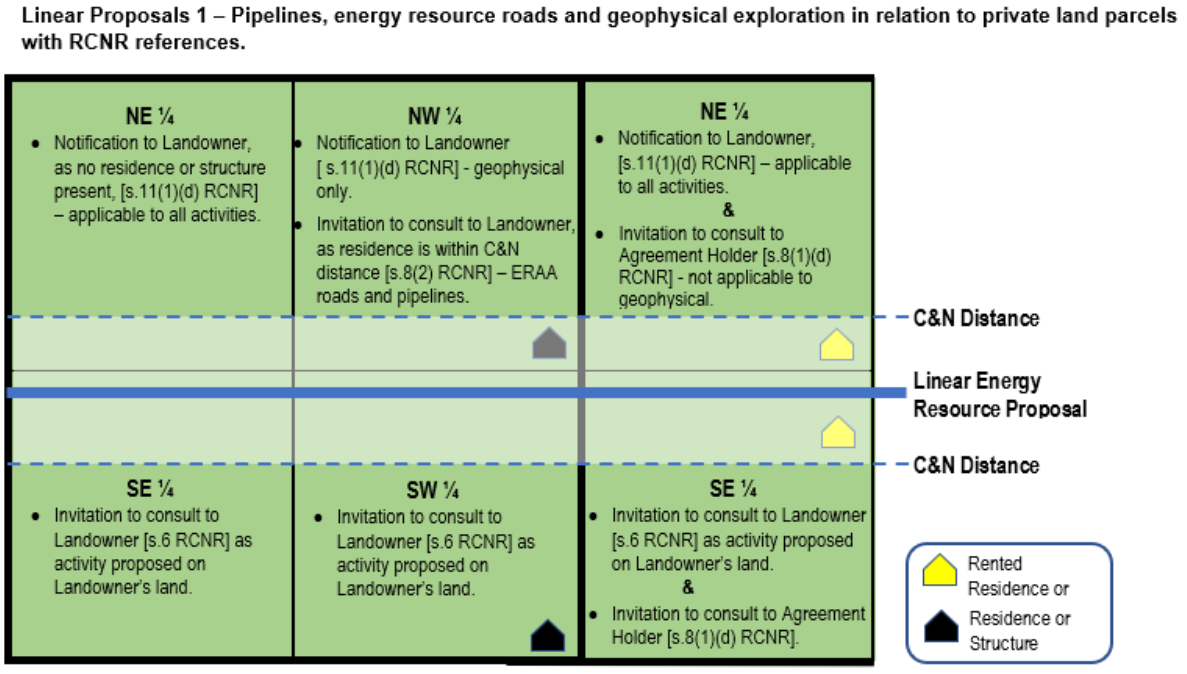


Figure 6-C: Consultation and Notification Test

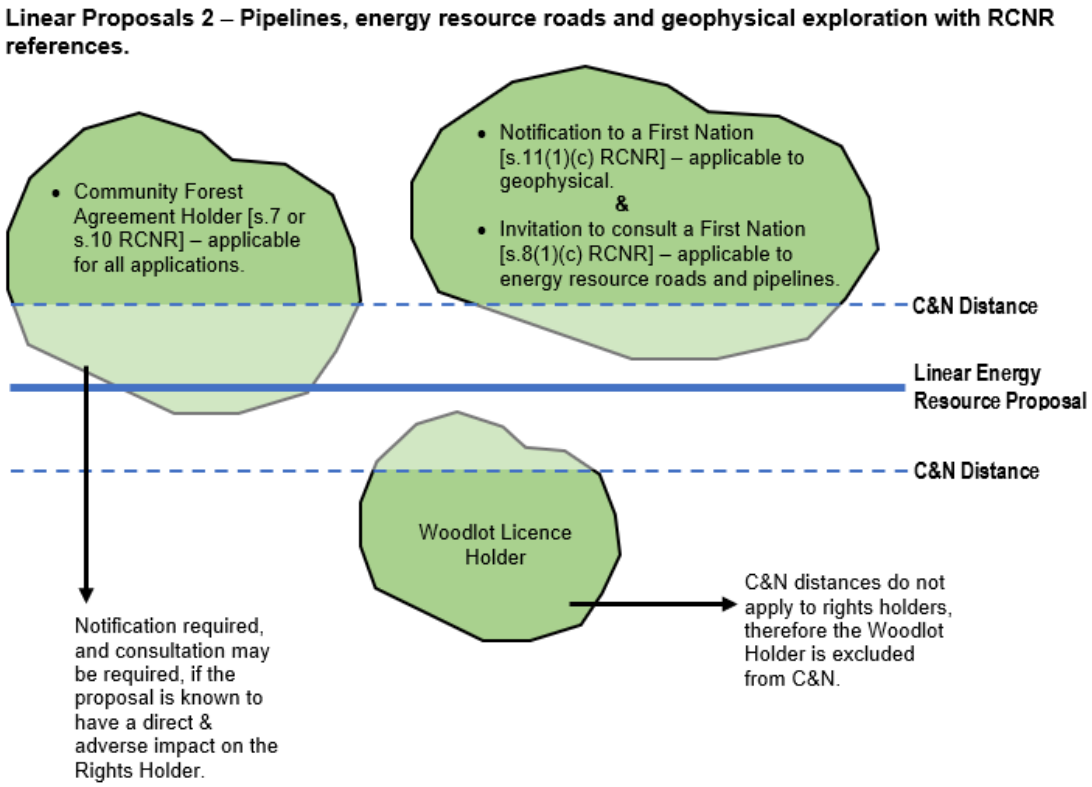


Figure 6-D: Consultation and Notification Test

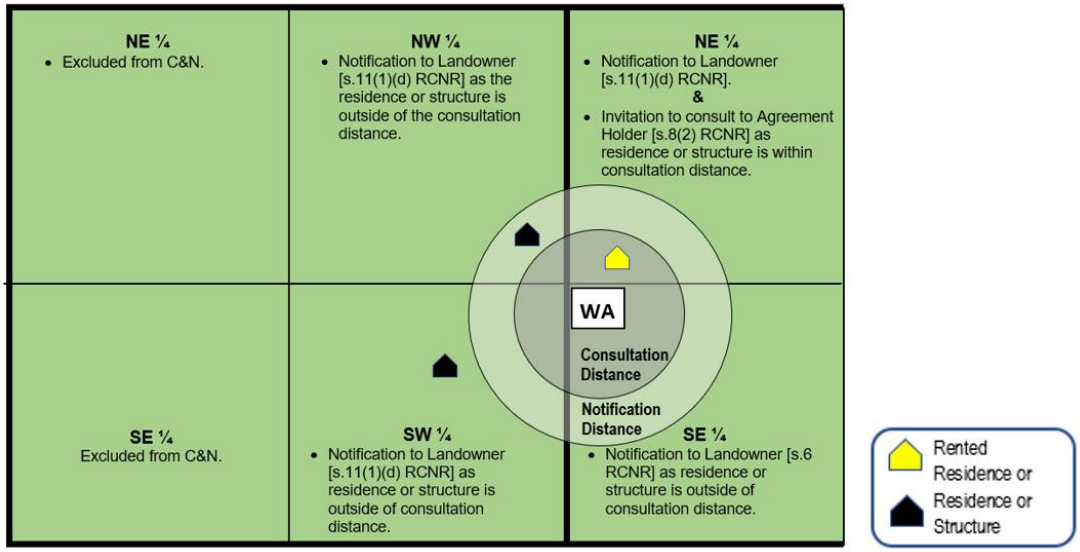
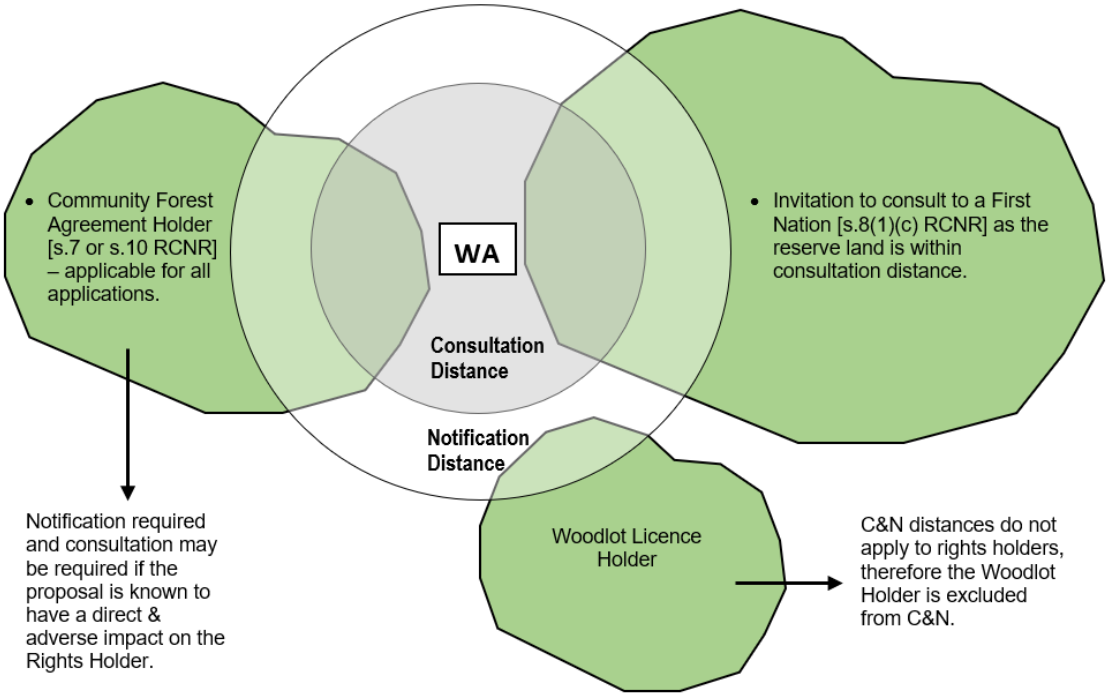


Figure 6-E Consultation and Notification Test



6.1.4 Calculating Consultation and Notification Distances

Minimum distances have been set for consultation and notification associated with specific activities in the RCNR, Section 17. Distances are measured horizontally from:

- Centre point of a facility area or wellsite
- Centre line of the right of way of a pipeline, energy resource road right of way, or seismic line.

For each category of activity, there is a minimum distance where notification or consultation is required, as outlined in Table 6-B and illustrated in Figures 6-G and 6-H.

Where an application includes a construction corridor and the applicant wants the flexibility to move the activity footprint anywhere within the corridor, consultation and notification distances must be measured from the outer edge of the corridor.

Where an application includes both a primary activity and a related authorization, consultation and notification must be done for the entire development, not just the primary activity. The content and material provided in the invitation to consult and/or notice documents must include reference to all activities, not just the primary activity.

Table 6-B below makes reference to distances in the Consultation and Notification Regulation.

Table 6-B: Consultation and Notification Distances for Energy Resource Activity as per s.17 of the RCNR

Energy Resource Activity	Consultation Distance	Notification Distance
LNG facility, petroleum refinery, manufacturing plant, gas processing plant that is a Class C natural gas facilities and not subject to an environmental certificate	3,300 metres	3,300 metres
Facilities not listed above and have a facility area or wellsite	1,000 metres	1,500 metres

Energy Resource Activity	Consultation Distance	Notification Distance
measuring less than 5 hectares.		
Facilities not listed above and have a facility area or wellsite measuring equal to or more than 5 hectares.	1,300 metres	1,800 metres
Wellsite measuring less than 5 hectares	1,000 metres	1,500 metres
Wellsite measuring greater than or equal to 5 hectares.	1,300 metres	1,800 metres
Pipeline	200 metres	200 metres
Energy Resource Road	200 metres.	200 metres.
Geophysical	Not applicable	400 metres.

Figure 6-G: Illustration of Consultation and Notification Distances Surrounding a Well or Facility.

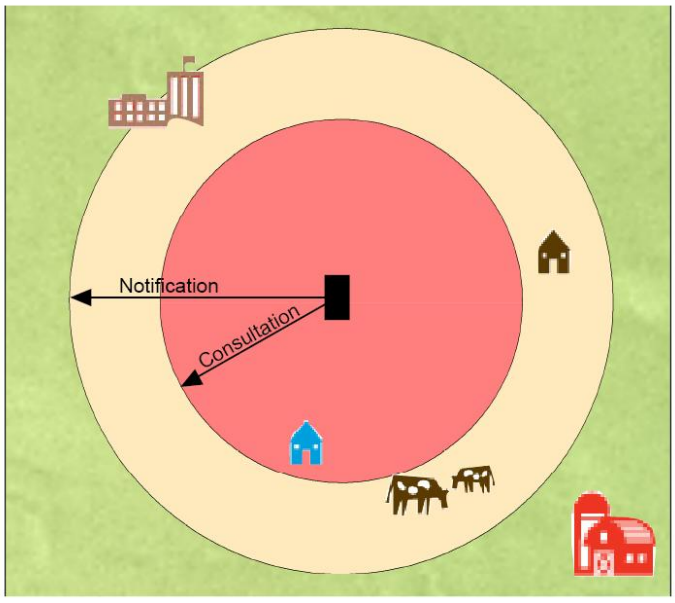
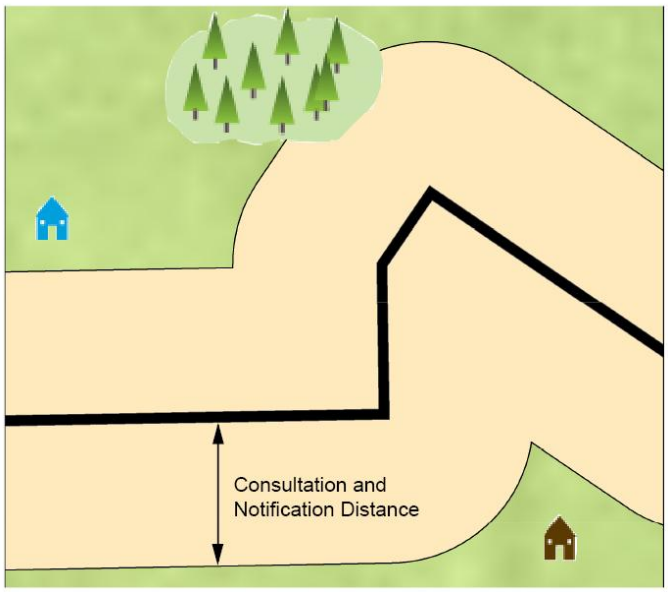


Figure 6-H: Illustration of Consultation and Notification Distances Along a Pipeline



6.1.5 Information for the Recipient

Documentation Requirements

Notification

Notification packages to recipient(s) must include the information listed in Section 19 of the RCNR.

The prescribed descriptions in Section19(3) (a) to (e)) must also include:

- All legal locations potentially impacted by the contemplated activities must be noted, including cases where a project may be carried out on an area covering more than one legal location, but owned by the same land owner.
- For multi-activity permits, including multi-well pads, describe the entire anticipated schedule of activities over various years, where applicable.

Consultation and notification template examples are provided as guidance regarding the required content of notices and invitations to consult under the Requirements for Consultation and Notification Regulation (RCNR). Refer to Examples #1 through #4, which can be found here.

Example #1: RCNR Section 19 and Section 20: consultation for a wellsite, road and borrow pit.

Example #2: RCNR Section 19 and Section 20: consultation for a pipeline, road and temporary workspace.

Example #3: RCNR Section 19: notification for a wellsite, road and borrow pit.

Example #4: RCNR Section 19: notification for a pipeline, road and temporary workspace.

The following points should be considered when drafting a notification or consultation letter.

RCNR:

- The definition of "Proposed Activities" refers to ERAA activities.
- Anticipated vehicle traffic on energy resource roads means traffic on energy resource roads (ERAA roads) within the consultation distance that are not the proposed road (if any).
- "Ancillary activities" refers to activities, the carrying out of which are required for the purpose of carrying out energy resource activities. Ancillary activities may also be "related activities" as defined in ERAA and referenced in Section 19(3)(c) of the RCNR.
- Section 20(2) of the RCNR requires information for each phase. The 2 phases indicated in the consultation letters are suggested based on common practice. This applies to consultation letters only.
- Section 20(2)(b)(i) of the RCNR requires a description of reasonably foreseeable noise, dust, light and odours. In cases where any of these would not be expected, it is suggested to include that information for each phase. This applies to consultation letters only.
- Section 20(2)(b)(ii) of the RCNR requires a description of traffic on energy resource roads within the consultation distance. It is suggested to also include traffic associated with the activities that is outside of these parameters, such as a preferred traffic route if applicable. This applies to consultation letters only.
- Include the Regulator's mailing address and/or email address (BC Energy Regulator Bag 2 Fort St. John, BC V1J 2B0 (WrittenSubmissions@bc-er.ca) for the recipient to make a written submission to the Regulator.

Please Note:

Consultation and Notification maps must be at an appropriate scale to show clearly the activities in relation to dwellings, facilities and nearby urban centers.

Consultation

In addition to the information required to be included in a notification package, an invitation to consult must also include the content outlined in Section 20 of the RCNR.

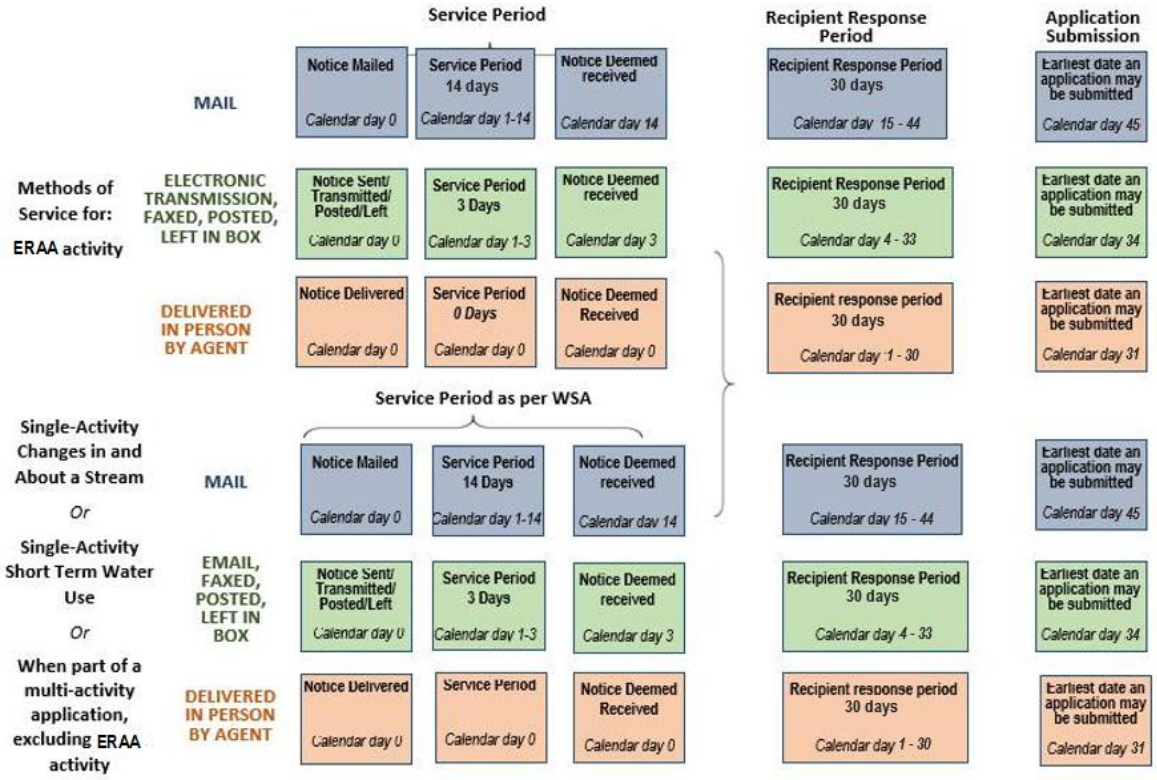
6.1.6 Consultation and Notification Timelines

Applicants must carry out the prescribed consultations and notification while budgeting for appropriate timelines and taking into consideration delivery methods. Applicants must provide recipients a 30-day review and response period. All documentation must follow the methods of service set out in the Service Regulation or Section 79(1) of ERAA.

Figure 6-I shows graphically the timeline for service period and response period to determine consultation and notification timelines.

Figure 6-I : Using Service Period and Response Period to determine consultation and notification timelines for new applications.

Where the last day of the recipient response period falls on a statutory holiday, the response period will be extended to the next day that is not a statutory holiday.



Consultation and Notification Activity Complete

The obligation to notify or consult is fulfilled as prescribed in Section 19 and 20 of RCNR, respectively. An application can be submitted:

- The day after the thirty day response period, after the last required notification or consultation was deemed received, or
- Prior to 30 days if:
    - All respondents indicate they have no concerns or (if applicable) are not requesting a meeting. Letters of non-objection from all respondents confirming this need to be provided in the application.

- All respondents withdraw all concerns or (if applicable) a request for a meeting. Letters of non-objection from all respondents confirming this need to be provided in the application.
- An exemption from C&N timelines is granted by the Regulator.

There are no further obligations for C&N if no written responses are received.

If a written response is received following the prescribed response period, the applicant has no obligation under the RCNR to provide a written reply or schedule a meeting. However, the Regulator recommends that applicants make best efforts to address and resolve concerns with affected land owners and rights holders. The Regulator will consider any written submission made respecting an application.

Letters of Non-objection

A letter that signifies there are no concerns with a proposed project is referred to as a letter of non-objection. RCNR section 22(3)(a) enables the proponent to apply to the Regulator earlier than 30 days if they have received this from all parties who have been provided consultation or notification. Letters of non-objection do not require a reply.

It is not a "non-objection" if there are additional comments that note concerns or things the recipient would like the applicant to do; those are considered written responses and, if such correspondence is received by the applicant within the 30 day engagement window, a written reply is required.

Please Note:

If a respondent withdraws all concerns or (if applicable) a request for a meeting, this is not the same thing as a waiver allowing construction to commence prior to the 15 day waiting period outlined in ERAA Section 25(6).

Major Changes

If there is a major schedule change for energy resource activities, or the permit holder decides not to carry forward a planned energy resource activity, all recipients should be notified of the change.

6.1.7 Replying to Respondents

Recipients of consultation or notification with interests in or concerns about a proposed energy resource activity may provide a written response to the applicant or the applicant's designated contact. If a written response is provided within the 30 day response period, the recipient is then referred to as a respondent.

Respondents may detail concerns and any proposed recommendations for mitigation. If the response is received before or within the 30 day consultation and notification response period the applicant must reply, in writing, as soon as practicable. The obligation to notify or consult, and thus the ability for the applicant to submit the application, is not met until the last written reply has been sent.

The applicant's written reply must contain all of the relevant provisions outlined in Section 21 of the RCNR, as applicable.

Where a written response to an invitation to consultation includes a request for a meeting, the applicant must make reasonable efforts to meet with the respondent in a timely manner and provide a summary of the meeting in the written reply which will be uploaded to the Regulator with the application. If reasonable efforts have been made to schedule the meeting and the 30 day response period has elapsed without the meeting being scheduled, the application may be submitted along with a detailed explanation of the efforts made to schedule a meeting. The written reply must also include:

- A description of any revisions, if any, based on the concerns
- A statement that the written response and written reply will be included in the application to the Regulator
- If the application is for a new (ERAA section 24) application, a statement that the respondent may make a submission to the Regulator

Recipient concerns, proposed recommendations for mitigation and meeting requests are tracked. Applicants should consult the RCNR to ensure all prescribed statements are correct and included.

The Regulator provides the required RCNR Line List template for applicants to use for all correspondence records. The completed RCNR Line List along with recipient written responses and replies must be included in the application submission as part of the written report (detailed in Section 6.1.10 of this manual).

6.1.8 Written Submissions to Regulator

In addition to the consultation and notification processes, Section 22 (5) of ERAA conveys the right for anyone with an interest or concern about a proposed activity and/or its proposed location to make a written submission. While not required, a Written Submission Form is recommended and available on the Regulator's website or directly from the Regulator.

Written submissions are made directly to the Regulator, can happen at any time in the application process, and may be made by any person. This differs from recipient requirements and written responses which are specific to consultation and notification and have clear guidelines and timelines. The Regulator forwards written submissions to applicants, along with a Case File Number. Where received prior to application submission, the Case File Number must only be referenced on the Line List when concerns remain unresolved at the time of application submission. The applicant is not required to reply, however may be encouraged to respond in order to assist in resolution of issues. Completed Written Submission Forms are sent by email to: WrittenSubmissions@bc-er.ca, or submitted directly to the Regulator's Fort St. John or Dawson Creek offices.

Unresolved Concerns

To ensure decisions are made with full knowledge it is important that any concerns that remain unresolved at the time of application submission, including those outside the Regulator's regulatory jurisdiction (e.g. access and compensation), are noted as unresolved concerns in the RCNR Line list. It is also important to note if concerns were raised and responded to verbally; these should also be included in the RCNR Line list for the application.

Case File Numbers

Case file numbers must be referenced on the RCNR Line List in applications when Written Submissions have been received and the concerns with respect to the proposed activities remain unresolved.

If a written submission is received by the Regulator, the applicant will be provided with the assigned case file number. If the application has been submitted the case file number can be used for reference but will need to be used in an updated line list should there be a revision.

If there are outstanding concerns, applicants should contact the Community Relations department well in advance of submitting an application to obtain case file numbers, when required. Case file numbers will be provided to the applicant upon receipt of the following information:

- a copy of the notification and the map sent to the recipient;
- the written responses and replies exchanged during the consultation and notification timeline; and
- the name, contact information, and recipient type for those with unresolved concerns.

If there is no documentation identifying unresolved concerns and mitigating actions, a brief summary noting verbal exchanges is required.

One case file number will be assigned per land owner or rights holder, per application. It is important to note that case file numbers are not interchangeable or reusable. If a case file number has been provided to the applicant and is not used (e.g. if issues are resolved prior to submitting the application), please advise Community Relations and the case file number will be cancelled.

Case file numbers should not be referenced on the RCNR Line List when concerns regarding the proposed activities have been resolved. If the concerns have been resolved, applicants should indicate “no” on the RCNR Line List and contact the Community Relations Department to cancel the case file number.

6.1.9 Dispute Facilitation & Conflict Resolution

Conflicts not resolved before submitting an application affect the Regulator’s review process and may determine whether an application is approved with changes, without changes or refused.

It is recommended that applicants provide full documentation regarding their efforts to resolve concerns to the Community Relations Department prior to submitting an application. This will assist in a more efficient application review and decision process.

6.1.10 C&N Application Requirements

Written Report

ERAA requires that each permit application subject to consultation and notification requirements include a written report, summarizing the results of consultation and notification activities. Note: the written report has been incorporated under the Consultation & tab within AMS.

The Regulator requires the applicant to upload components of the written report into AMS during the application process. Specific files, relevant to the written report, to be uploaded include:

- Completed consultation and notification line list. The line list is a summary record of the consultation and notification activities performed with each recipient. The RCNR Line list template is found on the Regulator website and includes an example for guidance. The AMS will not accept line list templates that are altered or missing required information.

To assist applicants with aligning the differences between the previous line list and the current RCNR Line List, the following tables have been prepared:

  - RCNR Feature Type Concordance
  - RCNR Recipient Type Concordance

- Engagement supporting documentation, which includes:

  1. All notification/consultation information, if applicable;
  2. Details of any known concerns and mitigating actions taken by the applicant;
  3. Responses received from respondents and replies made by the applicant. The package of responses/replies must also include attempts made by the applicants to contact the respondent. The applicant should make an effort to follow up with the recipient if mail is returned, sent to wrong address and/or to ensure package was attempted to be delivered; and
  4. A copy of the consultation or notification letter provided, including all required information set out in Section 22(2) of the ERAA, Section 19 of the RCNR, and Section 20 of the RCNR.

5. Summaries of meetings that provide information about issues, actions and outcomes.

- Consultation and notification map showing the proposed activities in relation to dwellings, facilities and nearby urban centers. The map must cross reference consultation and notification recipients from the Line List.
- For activities located on private land, with the exception of geophysical applications, an ownership map must be uploaded with the application. An Individual Ownership Plan (IOP map) must be at an appropriate scale that allows directly impacted land owner(s) to easily identify their land and the impact of permitted energy resource activities on that land

Please Note:

PID numbers must be included in the line list under the "Recipient Legal Land / Parcel description of Rights Holder Tenure Identifier" tab.

6.1.11 Revisions and Amendments

Revisions

A project can either be revised prior to application submission, or after application submission but before a decision. Applications may be revised as a result of the consultation and notification process and associated engagements with recipients or not, and in some circumstances, additional consultations or notifications may be required.

In accordance with Section 13 of the RCNR, the obligation to notify or consult is triggered for a revision to the project or revision to the application in one or more of the following ways:

g) a change to the area on which the applicant intends to carry out the proposed activities by increasing that area by one hectare or more, or shifting that area by 100 metres or more,

h) by adding to the proposed activities the drilling of a new well;

i) by adding to the proposed activities any of the following:

   i. the construction of a new pipeline

   ii. the construction of a new facility

   iii. the installation of new storage tanks, compressors, dehydrators, flare stacks, generators or stabilizers;

iv. the installation of new gas processing equipment for fractionation, liquefaction or extraction of hydrocarbons or other substances

v. without limiting subparagraph (i), (ii), (iii) or (iv), the installation of any new major equipment that may significantly increase the amount or duration of the noise, dust, light and odours, or anticipated vehicle traffic on energy resource roads within the consultation distance, if applicable, that will be caused by the proposed activities

j) by increasing the capacity of a proposed facility for petroleum, natural gas or water so as to change the class of the facility.

Section 14 of the RCNR outlines requirements for consultation and notification for revisions.

Revisions that result in new recipients falling within the prescribed consultation or notification distances require consultation or notification. The service period timeline and the consultation and notification response period timeline of 30 days will apply in resubmitting a revised application to the Regulator.

Those, who were previously consulted or notified, but are affected by a revision and still remain in the revised C&N radius require revised consultation or notification explaining the revised program.

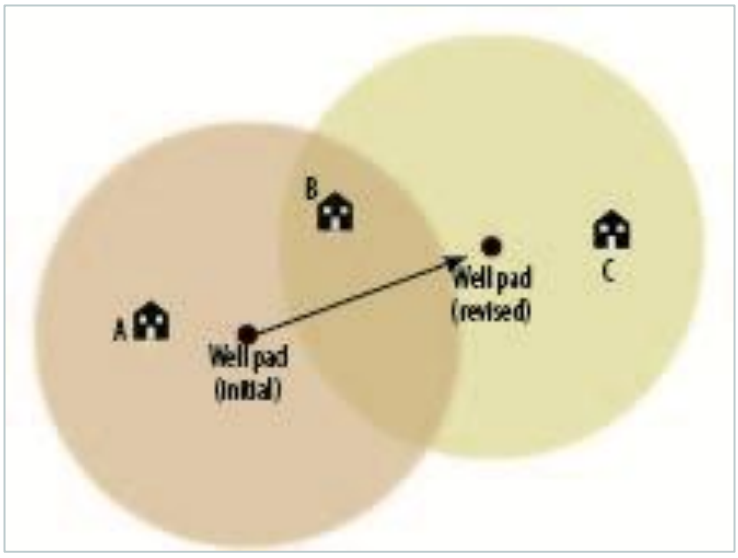
If the revision is to add a new pipeline that is not sour, an invitation to consult is required to be provided only to land owners on whose land the new pipeline would be constructed

It is not required that those who were previously consulted or notified and who are no longer in the C&N radius be further engaged; however it is a best practice to notify them explaining that they are no longer potentially affected.

A revision as shown in Figure 6-F, may result in a different applicable consultation distance than the initial proposal. For example:

- Incorporating a facility onto a wellsite.

Figure 6-F Significant Revision in Consultation Distance



Amendments Applications

The applicant must provide notification to the land owner on whose land the activity is proposed under Section 31(1) of ERAA, except where exempted from doing so under Section 31(1.1). The notice must provide a description of the proposed amendment. The notice must also advise the recipient that they may send a Written Submission (within 15 days of receiving the notice) to the Regulator regarding the amendment. The applicant does not need to wait 15 days after the notice is deemed received before submitting the amendment application.

As per Section 31(5) of ERAA after an amendment application has been submitted, the Regulator may require, an applicant to complete all or a portion of the prescribed requirements outlined in the RCNR. If the Regulator compels the applicant to provide additional consultation/notification, applicable reviews will continue during the prescribed service and response periods; however, a decision will not be made until obligations have been met and it is confirmed that no objections/outstanding concerns have been raised by the affected parties.

Specific requirements for additional C&N on amendment applications are determined on an application-by-application basis by the decision maker. Typically, the decision maker's consideration of additional C&N under Section 31(5), will apply where there is the potential for adverse impact to the rights of the rights holder or adjacent land owner. This consideration is primarily centred around quiet enjoyment of the land and will usually focus on amendments that

involve changes in activity levels that may increase air (primarily dust), noise or light emissions. Additional considerations that may require consultation or notification for an amendment include:

- New rights holders or landowners of the land on which an operating area is located.
- Previous unresolved concerns.
- An increase in area or shift in location.
- An increase in class of facility.

Please Note:

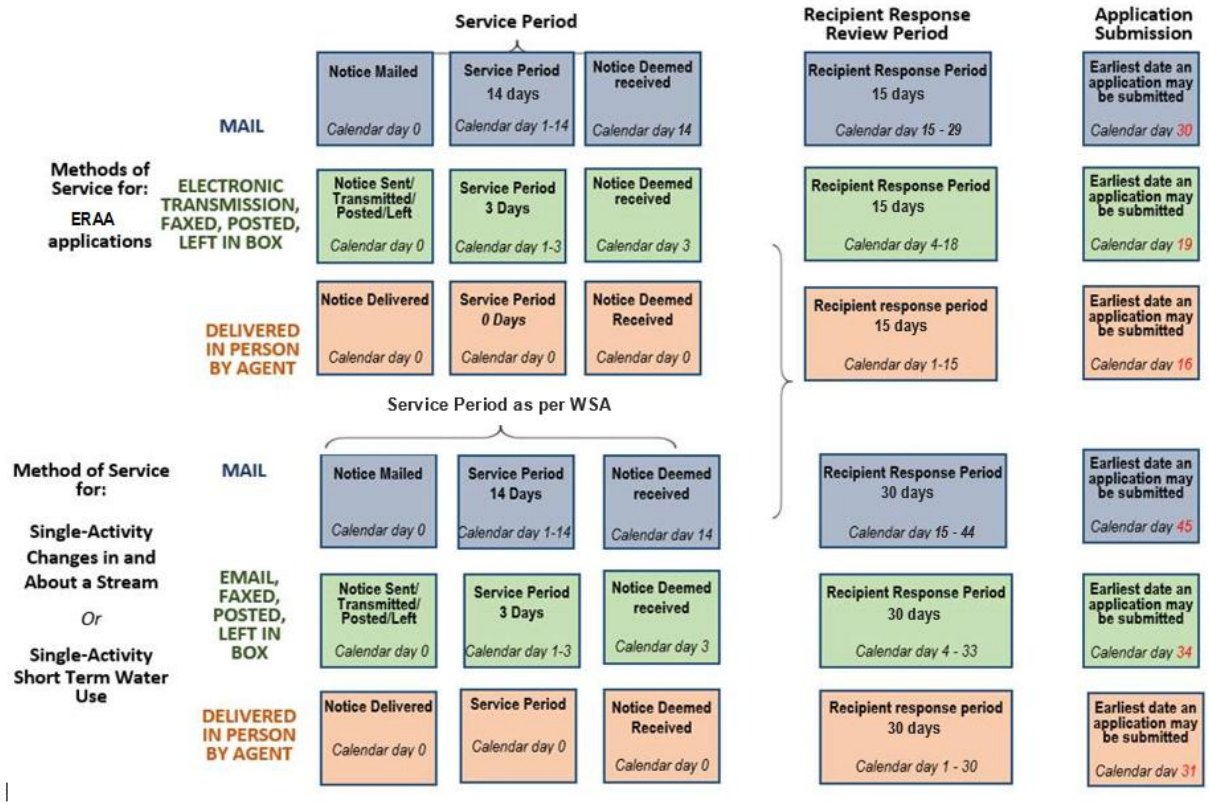
Not all C&N requirements associated with ERAA amendments are mandatory, Applicants are encouraged to contact an Authorizations Director prior to submission of an amendment application if they have any questions about additional consultation or notification

Please Note:

Including the prescribed content of notice requirements constitutes offering C&N. If a permit holder does offer C&N by choice or inadvertently, the prescribed process must be followed

Figure 6-G Amendment application submission timelines for Service Period and Response Period for C&N

Where the last day of the recipient **response** period falls on a statutory holiday, the **response** period will be extended to the next day that is not a statutory holiday. Timelines with respect to the amendment application submissions in AMS are managed internally.



6.1.12 Exemptions from C&N Obligations

Upon written request from the applicant, the Regulator may exempt an application from consultation and notification requirements specified in Section 22 (3) of ERAA. In doing so, the Regulator may also substitute other consultation and notification requirements. It is important to note that the Regulator cannot exempt applicants from providing notification to landowners of proposed energy resource activities, per Section 22(2) of ERAA.

Requests for exemptions must include:

- a description of the proposed activity;
- a precise explanation of which prescribed requirements the applicant is requesting exemption from;
- the rationale behind the request including and explanation of why it is unreasonable or unachievable to fulfill the prescribed requirements; and
- an explanation of what the applicant proposes to do in lieu of the prescribed requirements, if applicable.

Exemption requests must be submitted to the Regulator by e-mail, and can be directed, as appropriate, to the Executive Director, Permit Adjudication; or the Vice President, Applications.

If an exemption is granted, the proponent must include the written exemption letter from the Regulator with the application.

Exemptions Regarding Amendments

Under Section 31(1.1) of ERAA, the Regulator may exempt a person or class of persons from the requirement to provide notice under Section 31(1).

The Regulator may also exempt an applicant from providing notice to directly impacted land owners, provided certain criteria are met, as per Section 31(1.1).

The Regulator issued a class of persons exemption under Section 31(1) in March 2016. Further information about this exemption can be found in Exemption 2016-02 here. When submitting an application to which this exemption applies, AMS will prompt applicants to respond to specific questions pertaining to class of exemptions.

6.1.13 Permit Extensions

Requirements for a Permit Extension

Upon receipt of a permit extension request per ERAA 32 (2), a Regulator's decision maker may require that C&N be carried out prior to making a decision on the application per Section 32(3). If required, the applicant must carry out C&N and provide the information outlined in Sections 19 and 20 of the RCNR.

For further clarification, it is recommended that a proponent contact an Authorizations Director prior to submitting an extension request to determine if C&N will be required.

Please Note:

Including the prescribed content of notice requirements constitutes offering C&N. If a permit holder does offer C&N by choice or inadvertently, the prescribed process must be followed.

Chapter 6.2 Completing Application Information Details: Rights Holder Engagement

6.2 Rights Holder Engagement

Rights holder engagement is required as part of the application process for CER related approvals, single activity Associated Activities (ACT) on Crown land, and single activity authorizations permitted under the Water Sustainability Act or multi-activity applications that include both AACT and water use activities Submission of an application for any of the above applications must include additional application deliverables specific to rights holder engagement.

The rights holder engagement tab requires specific application information details. This section includes an overview of rights holder engagement, guidance regarding rights holder engagement, details related to rights holder engagement requirements and detailed instructions for completing the data fields within the rights holder engagement tab.

6.2.1 Rights Holder Engagement Process Overview

The province coordinates resource management related to energy resource activities and is mindful of reducing adverse effects on long-term rights holders' interests. The methods used to engage rights holders may vary depending on the nature and scope of the proposed related activity. Rights holder engagement is a process to ensure appropriate engagement with rights holders in cases where the consultation and notification process does not apply.

Rights Holder Defined

A rights holder is a person granted non-intensive occupation or use of Crown land by permit, licence or approval. Rights holder is defined under the RCNR and are indicated as follows:

Legislation	Permission
Land Act	Licence under Section 39
Forest Act	Forest licence
	Forestry licence to cut (major)
	Community forest agreement
	First Nations woodland licence
	Timber sale licence
	Timber licence
	Tree farm licence
	Woodlot licence
Range Act	Grazing permit
	Grazing licence
Wildlife Act	Guide outfitters licence for Crown land
	Guiding territory certificate for Crown land
	Registered trapline
Mineral Tenure Act	Mineral claim
Geothermal Resources Act	Geothermal exploration permit, lease or well authorization
Water Sustainability Act	Water licence (conditional or final)

The Regulator requires applicants to engage with rights holders prior to submitting an application. The applicant is expected to notify a rights holder if the proposed activity is within an area subject to the right of a rights holder (e.g., the proposed related activity falls within a guide outfitter's tenure) or if the proposed activity is deemed to have the potential to adversely affect existing rights (e.g. if the proposed activity could result in impacts to downstream water rights holders).

If proposed activity is within an area subject to the right of a rights holder or as detailed in engagement requirements for Water Sustainability Act applications below, and it is known to the applicant that the ability of the rights holder to

exercise their rights are likely to be directly and adversely affected, the Regulator expects the applicant to engage the rights holder in consultation.

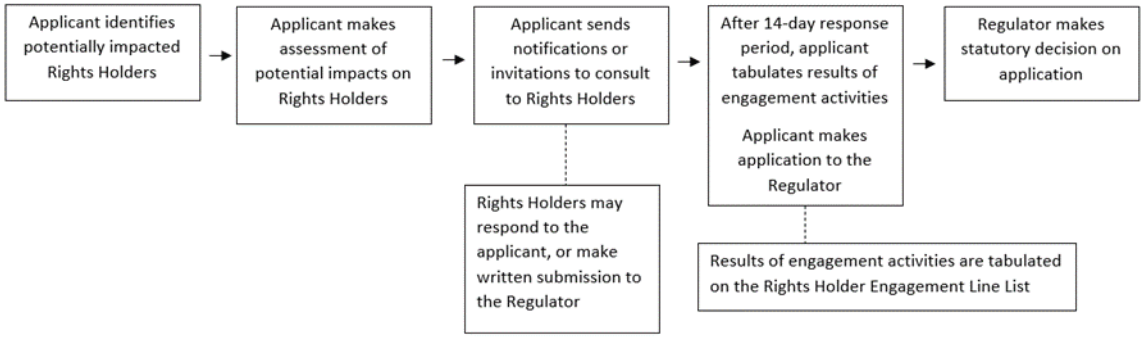
Please Note:

If a legal recipient chooses to designate someone to communicate on their behalf, a letter designating the representation must be sent to the Regulator. The letter must be addressed to the Regulator, state the name of the designate, outline the parameters of the representation, and be signed by the official recipient.
Letters must be provided for each application, as the Regulator will not keep a record of representation for use on other applications.

Please Note:

For Power of Attorney, a copy of the legal document must be sent to the Regulator.

Figure 6-K: Rights Holder Engagement Process



Who must carry out Rights Holder Engagement?

The rights holder engagement process must be carried out by applicants preparing applications for the following activities:

- Associated activities when submitted as a single-activity application (i.e.. not included in consultation and notification processes carried out on an ERAA activity).
- CER pipeline right of way applications.
- CER road right of way applications
- CER ancillary applications.
- Short-term water use authorizations when submitted as a single-activity application (i.e.. not included in consultation and notification processes carried out on an ERAA activity).

- Changes in and about a stream authorizations when submitted as a single-activity application (i.e.. not included in consultation and notification processes carried out on an ERAA activity).
- Water Licence applications.

In addition, the rights holder engagement process must be carried out in preparing revision or amendment applications if the revision or amendment will change the location of the activity or if the applicant expects the changes may lead to additional adverse impacts on rights holders.

Provincial and federal government agencies are not considered rights holders. Applicants are not obligated to engage agencies prior to submitting an application to the Regulator, however, applicants are encouraged to advise the Regulator of any provincial or federal interests, such as Land Act Map Reserves or Resource Features (as defined in the EPMR), as early as possible. The Regulator will facilitate any required engagement during the application review.

Please Note:

If an Associated Activity was included in the Consultation and Notification process carried out under an ERAA application but is being applied for separately from that ERAA application, further rights holder engagement is not required prior to application for the associated activity. However, the engagement information must be completed and uploaded into AMS on the applicable RHE Line List with the application.

Please Note:

Prior to the submission of an application for a camp, applicants are required to notify the Peace River Regional District (PRRD) and the Northern Rockies Regional Municipality (NRRM) as a rights holder.

Rights Holder Engagement Requirements for CER Related Approvals and Associated Activity (AACT) Authorizations

The province makes every effort to ensure that resource management is coordinated and that the related energy resource activities will not adversely affect long-term rights holders' interests. The methods used to engage rights holders may vary depending on the nature and scope of the proposed related activity.

Engagement materials provided to the rights holder must provide sufficient information to enable an understanding of the proposed activity and its relationship to the rights holder's legally granted interests. Generally, relevant information includes:

- Applicant name and contact information.
- Description of the location of proposed activity, and associated activities.
- Activity specifics including any significant structures and equipment to be added.
- Any roads that will be used to carry out the proposed activities.
- Approximate timing schedule of project where applicable.
- Map that shows the proposed activities in relation to rights holder's area of interest.
- Statement advising the rights holder may make a Written Submission to the Regulator and at any time prior to the application decision.
- Recipient response options. Clearly state options for recipients to respond including:
    - Responding directly to applicant.
    - Providing a Written Submission to the Regulator.

The Regulator requires the applicant to document their completed rights holder engagement process and include it with the application submission. Applications can be submitted to the Regulator once the rights holder engagement service period and response period timelines have passed.

Methods of Service

Acceptable methods of service for the distribution of rights holder engagement materials are identified in the Service Regulation.

Determining RHE Timelines – Service Period and Response Period for New Applications and Amendments

Prior to submitting an application, applicants must ensure service period and response period obligations have been met. The applicable response period begins once the service period obligations have ended and notice is deemed received. However, applicants may apply earlier if a letter of non-objection is received from impacted rights holders is received or by requesting a variance from engagement from the Regulator. If a written response is received within the prescribed engagement period, the applicant is required to submit the response including the applicant's written reply with the application.

Applications that include both related associated activities and water use activity will default to the latest application submission timeline; unless obligations have been met or a variance from the timeline is granted.

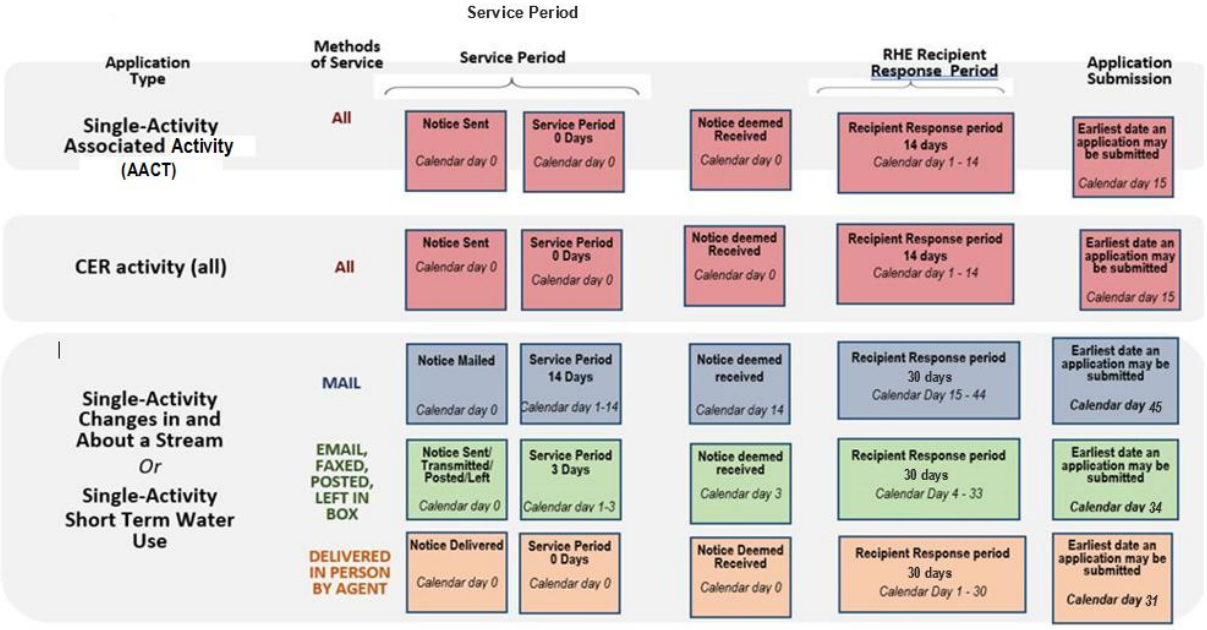
For specific application timeline examples, refer to Figure 6-L below.

Best Practices

If there is a major schedule change for an activity, or if the permit holder decides not to carry forward with the planned activity, all recipients should be notified of the change.

Figure 6-L: Application submission timelines using the Service Period and Response Period for Rights Holder Engagement (for both new applications and amendment applications)

Timelines with respect to the amendment application submissions are managed internally.



Rights Holder Engagement Requirements for Water Sustainability Act Authorizations

Approvals granted under the Water Sustainability Act (WSA) are defined in the WSA as rights holders whose water rights may be detrimentally affected by the issuance of the authorization under consideration. These include applications for (Short-Term Water Use (use approval), Changes in and about a stream (change approval) and Water Licences).

Water rights holders include:

- Water licensees.
- Applicants for water licences.
- Use approval holders.
- Use approval applicants.

The Water Sustainability Act also specifies that riparian owners and those land owners whose property may be physically affected by the issuance of the licence or authorization under consideration must also be notified. If access across private property is required the applicant must have land owner consent. On Crown land currently under treaty, riparian owners are generally expected to include those First Nations in whose traditional territory the proposed water withdrawals are to occur.

First Nations deemed as riparian owners will be engaged as per the Regulator's First Nations consultation process and therefore do not require notification during rights holder engagement.

A search of the Water Licenses Web Query, along with the North East Water Tool (NEWT), or the BC Water Tool should be completed before submitting a Short-Term Water Use Application, to assist with determining water rights holders on the same water source.

Applications for water diversion and use in the Blueberry River, Upper Beatton River, and Lower Sikanni Chief River Watersheds shall refer to the New Environmental Flow Needs Framework for Water Management interim guidance documentation and tool.. For more information refer to IU 2023-05 Implementing the Northeast British Columbia Treaty Agreements: New Framework for Water Management.

Applicants must notify and engage with rights holders, riparian owners and land owners as defined in the Water Sustainability Act, and provide a summary of that engagement with their application. For change approval applications, verification of the landowners consent is required and must be included with the application.

Rights holders, riparian owners and land owners must be notified according to the requirements outlined in Section 117 of the Water Sustainability Act (WSA) which specifies the ways in which a notice may be given or delivered. Section 117 also specifies when a notice may be deemed received depending on which delivery method has been utilized.

Section 13(1) of the WSA requires the decision maker to direct applicants to give notice; therefore, it is recommended that applicants contact the Regulator prior to providing notification.

Notification materials provided to rights holders, riparian owners and land owners must include:

- The name of the decision maker (BC Energy Regulator).
- The applicant name and contact information.
- A map indicating the POD location/s and/or the proposed works in relation to the rights holders, riparian owners or land owner's area of interest.
- A description of the proposed timing and extent of works.
- A statement advising the rights holder, riparian owner or land owner that they may object to the proposed water withdrawals via Written Submission to the Regulator within 30 days of receiving the notice.
- The BC Energy Regulator's Fort St. John mailing address to which objections can be sent.

Notification material must include sufficient information to enable an understanding of the proposed water withdrawals to be made and their relationship to the rights holders, riparian owners, or land owner's legally granted interests.

Notification template examples are provided as guidance regarding the required content of notices under the Water Sustainability Act. Refer to Example #5, which can be found here.

Methods of Service

Acceptable methods of service for the distribution of rights holder engagement materials and for standards used in determining when a document is to be deemed received, specific to water use activities, is outlined in Section 117 of the Water Sustainability Act.

Service Period and Response Period timelines for New Applications and Amendment Applications Specific to Water Use Activities

Prior to submitting an application, applicants must ensure service period and response period obligations have been met. The applicable response period begins once the service period obligations have ended and notice is deemed received. However, applicants may apply earlier if a letter of non-objection is

received from impacted rights holders is received or by requesting a variance from engagement from the Regulator. If a written response is received within the prescribed engagement period, the applicant is required to submit the response including the applicant's written reply with the application.

Applications that include both water use activity and related associated activities will default to the latest application submission timeline; unless obligations have been met or a variance from the timeline is granted.

For specific application timeline examples, refer to Figure 6-L.

The Water Sustainability Act gives the decision maker discretion to determine if further Rights Holder Engagement is required as well as if a decision can be rendered before the 30 day response period has expired. The Regulator encourages companies and the affected rights holder(s) to try to resolve concerns before contacting the Regulator

Rights Holder Engagement Requirements for Water Use and Related Associated Activity Applications

The Regulator requires that the applicant document their completed rights holder engagement process and include with the application:

- The Rights Holder Engagement Line List.
- A description of all mutually acceptable agreements made including copies of all Letters of Non-Objection received. Letters of Non-Objection must be signed by the rights holder, riparian owner or land owner.
- Details of any known rights holder, riparian owner or land owner concerns and a description of any actions taken or measures applied by the applicant in response to these concerns.

Once the application is received the decision maker will determine if he or she is satisfied with the Rights Holder Engagement undertaken by the proponent.

Best Practices

If there is a major schedule change for an activity, or if the permit holder decides not to carry forward with the planned activity, all recipients should be notified of the change.

Case File Numbers

Case file numbers must be provided in applications when Written Submissions have been received and the concerns with respect to the proposed activities remain unresolved. The Regulator's Community Relations department is able to provide case file numbers upon receipt of information including the following:

- Copy of notification and map sent to recipient.
- Written responses and replies exchanged during the engagement timeline.
- Name, contact information and recipient type for those with unresolved concerns.
- If no documentation identifying unresolved concerns and mitigative actions, a brief summary noting verbal exchanges.

Please Note:

Case file numbers are assigned for the designated person/activity are not interchangeable or reusable. If a case file number has been provided to you and you no longer require it (e.g. if issues are resolved prior to application) please advise the Community Relations department so the Regulator can cancel the case file number.

6.2.2 Written Submissions to Regulator

In order for the Regulator to make informed decisions it is necessary to understand interests or concerns of those who may be directly impacted by a proposed activity. The Regulator has adopted by policy the opportunity to make a Written Submission for those wishing to convey interests/concerns. The Written Submission Form available on the Regulator's website.

Written submissions are made directly to the Regulator and can happen at any time in the application process and may be made by any person.

The Regulator forwards written submissions to applicants. The applicant is not required to reply, however may be encouraged to respond in order to assist in resolution of issues. Completed Written Submission Forms are sent by email to WrittenSubmissions@bc-er.ca, or submitted directly to the Regulator's Fort St. John or Dawson Creek offices. Written submissions are reviewed by the Regulator's statutory decision maker prior to making a statutory decision on the associated permit application.

6.2.3 Replying to Respondents

Rights holders with interests in or concerns about a company's proposed energy resource activity may submit a written response to the applicant or the applicant's designated contact.

Respondents may detail concerns and any proposed recommendations for mitigation. If the response is received within the applicable response period, the applicant is strongly encouraged to reply, in writing, as soon as possible. When part of the rights holder engagement process, this response is not mandatory but is a valuable opportunity to provide information to the rights holder and demonstrates a desire to address concerns.

Respondent concerns, proposed recommendations for mitigation and meeting requests must be tracked by the applicant. The Regulator provides the required Rights Holder Engagement Line List Template for applicants to use to track all correspondence records. The completed RHE Line List along with respondent written responses and replies must be included in the application submission.

6.2.4 Unresolved Concerns

Conflicts not resolved before submitting an application affect the Regulator's review process and may determine whether an application is approved with changes, without changes or refused.

If there are unresolved concerns, the applicant is required to include details of the concerns and the proposed mitigation actions with the application submission.

The Regulator uses the rights holder engagement documentation for evaluation and may:

- Make a decision on the application, based on the engagement documentation.
- Recommend the applicant continue consultation.
- Recommend the use of dispute resolution.

Please Note:

To ensure decisions are made with full knowledge, it is important that all concerns that are unresolved at the time of application, including those outside of the Regulator's regulatory jurisdiction, are noted as unresolved concerns. It is also important to note if there are any concerns that were raised and responded to verbally.

6.2.5 Dispute Facilitation & Conflict Resolution

The applicant and recipient(s) after all reasonable efforts are made, may require facilitation services within the Regulator if issues remain unresolved. This non-mandatory process exists to aid communication and resolve interest-based differences between applicants and consultation and notification recipients.

This facilitation may be as simple as prompting the exchange of additional information to providing neutral mediation between parties. An assessment of the processes and activities completed and the specific circumstances will determine the type of facilitation service most effective. Landowner Liaisons within the Regulator's Community Relations Department are available to assist with dispute facilitation.

6.2.6 Variance Requests

Where the rights holder engagement process described in this manual is not practicable for a specific application, applicants may request permission to use alternate engagement practices or strategies. Variance requests must be made to the appropriate Authorizations Director prior to application. Written approval of alternate engagement practices or strategies must be included with the application.

6.2.7 Completing the Rights Holder Engagement Tab

Applicants should follow the instructions, answer questions and enter data in the Application Management System. Applicants are required to upload the following items onto the rights holder engagement tab:

- Rights Holder Engagement Line List. The line list is a summary record of the engagement activities performed with each recipient. The line list template is found on the Regulator website and includes an example for guidance.
- A copy of the provided notification letter.
- Engagement map showing the proposed activities in relation to rights holders' areas of interest. The map must cross reference rights holder engagement recipients from the Line List.
- All written responses from respondents and replies from the applicant. It is recommended that the package of responses and replies include a sample copy of the Notification and/or Invitation to Consult letters sent to recipients.
- Letters of non-objection (if applicable).

Chapter 6.3 Completing Application Information Details: First Nations

6.3 First Nations

As an agent of the Crown, the Regulator fulfils any provincial obligation to consult with First Nations on any potential impacts to their rights recognized and affirmed by Section 35(1) of the Constitution Act, 1982.

Submission of an application for an energy resource or associated activity may require additional application requirements in regard to First Nations and is based on the planned activity and location of activity. The First Nations tab requires application information details.

This section includes an overview of First Nations consultation, guidance regarding First Nations consultation, details related to First Nations consultation requirements and detailed instructions for completing the data fields within the First Nations consultation tab.

In addition to the requirements listed in this section, Regulator staff may request additional information where necessary to facilitate review of the application.

6.3.1 Consultation Procedures and Timelines

Administration Boundaries

Administrative boundaries established through consultation agreements guide where consultation for each First Nations community takes place. Where there is no agreement in place, applicants should refer to the Consultative Areas Database. Depending on the community to be engaged, the consultation process, and the application, requirements may be different.

Treaty 8 First Nations

Consultation process agreements are established between the Regulator and some Treaty 8 First Nations. Where agreements are in place with a Treaty 8 First Nations community, the consultation process is guided by the agreement. The Application Management System identifies Treaty 8 First Nations to be consulted based on the spatial data.

All existing agreements with First Nations are found on the First Nations page of the Regulator's website.

Treaty 8 Planning and Mitigation Measures

As of April 15, 2024 the planning and mitigation measures outlined within the Treaty 8 Planning and Mitigation Measures are now required within Treaty 8 territory in Northeast British Columbia. Organized by activity type (e.g., seismic, roads, aggregate and borrow pits, pipelines, facilities, and water) the measures provide baseline measures for environmental values, restoration, and additional project planning considerations. Please review these planning and mitigation measures carefully as they must be addressed in application materials submitted to the BCER, including, but not limited to:

- New requirements for construction plans including known wildlife trails.
- Wetland hydrological integrity plans signed by a qualified professional.
- Restoration Plans signed by a qualified professional.
- Mitigation Plans for mineral licks and wallows signed by a qualified professional.
- If a proposed borrow pit is expected to hold water, a plan, written and signed by a qualified professional, indicating whether the pit may be hydrologically connected via surface and/or groundwater flow.
- For water withdrawals, documentation, confirmed by a qualified professional, must indicate whether the water withdrawal location is hydrologically connected to surface water.
- Wildlife trails crossed by pipelines require a mitigation plan signed by a professional.

It is recognized that the mitigation measures may not be practical or applicable in every circumstance. If an applicant considers certain measure(s) to be infeasible, they

are expected to discuss these issues with the affected Treaty 8 Nations during pre-engagement, propose alternatives and try to come to a collaborative solution.

As part of the application, applicants must describe how they have considered the measures in the planning stages, provide a rationale for why these measures were not applied, and provide reasonable alternatives to mitigate effects, as appropriate.

For more information on the Treaty 8 Planning and Mitigation Measures please see the accompanying Frequently Asked Questions.

BRFN Implementation Agreement

Effective immediately, applicants are required to submit the BRFN Implementation Agreement Form (Form) with all new or amendment applications that fall within BRFN's territory. The Form should be completed after pre-engagement and uploaded as an "Attachment for Treaty 8 Nations" within the Blueberry River First Nations section under the First Nations tab. A guide to submitting applications consistent with the Implementation Agreement can be found here. Please pay particular attention to page four which outlines the additional application requirements that require reviews by a qualified professional.

Please see IU 2023-12 for more information and guidance regarding this consultative process.

Non-Treaty 8 Nations

For non-Treaty 8 First Nations, the Regulator follows internal procedures based on provincial guidelines and recent court decisions regarding consultation procedures. Where applications require consultation with non-Treaty 8 communities, spatial data identifies non-Treaty 8 nations to be consulted.

Consultation Agreements

The Regulator works closely with First Nations to establish negotiated Agreements and Memoranda of Understanding as living documents, recognizing that both documents are the foundations for long, collaborative working relationships. The established formal consultation processes provide for First Nations' participation in the consultation process and ensures applications are dealt with as effectively and efficiently as possible.

An application, amendment or a revision to an energy resource activity which may have a potential adverse impact to the Nation's Section 35(1) rights is classified in accordance with the applicable consultation process agreement.

Timelines

General consultation timelines are provided in consultation process agreements and indicate the amount of time a First Nations community is given to review and respond.

Best practice dictates that applicants engage with First Nations early and often and to refer to the consultation process agreements as a guide to the consultation procedures and timelines.

Where concerns are identified by the First Nation, there may be additional time required to complete the consultation process. The Regulator will discuss those concerns and potential solutions with the First Nation. In some cases, this may include facilitating meetings between the First Nation and applicant to discuss concerns and proposed accommodation measures.

ERAA Section 75 Special Projects

Applications involving wells intended to be part of an ERAA Section 75 special project (e.g., disposal, injection, Good Engineering Practice) should clearly indicate in the Project Description Form that an ERAA Section 75 special project approval will be required. Applicants are encouraged to request that the Regulator's consultation for the special project be conducted in conjunction with the AMS application. Early engagement with Reservoir Engineering via Reservoir@bc-er.ca is recommended to support a streamlined approval process.

Additional Reference Documents for First Nation Consultation

Additional reference documents regarding the First Nation consultation process and the applicant's role are available on the Regulator's website. Applicants may also refer to the Ministry of Aboriginal Relations and Reconciliation's Building Relationships with First Nations: Respecting Rights and Doing Good Business,

and the Environmental Assessment Office's Proponents Guide to First Nation Consultation in the Environmental Assessment Process.

The Regulator may make available additional information to First Nations to assist with the engagement process and to assist First Nations with decisions.

6.3.2 Pre-Engagement with First Nations

To support reconciliation and ensure the meaningful participation of Indigenous people in processes affecting them, the BCER requires proponents to engage affected First Nations prior to application submission (pre-engagement) when planning energy resource activities on private or non-private land.

The objective of pre-engagement is for proponents and First Nations to proactively share information, identify potential impacts to Aboriginal and Treaty Rights, and discuss measures to avoid/mitigate those potential impacts when planning energy resource activities.

The Guidance for Pre-Engaging with Indigenous Nations document provides information to support industry's pre-engagement with the First Nations as part of application and development planning process. The Regulator has a sample Engagement Log and a sample Pre-Engagement Record spreadsheet available on the website for use by industry, although if alternative formats capturing similar information area already in use, these can be used as well. These records should be included for each application submitted to the Regulator and can be uploaded as an attachment in the applicable First Nations consultation section under the First Nations tab in AMS.

These records will be considered in the application review and decision-making process, but they do not replace the First Nations consultations carried out by the Regulator as described above.

Chapter 7

Canadian Energy Regulator Reviewable Projects

7. Canadian Energy Regulator Reviewable Projects

The Canadian Energy Regulator (CER) (formerly, the National Energy Board (NEB)) reviews and makes determinations on applications for federally regulated pipeline projects. In determining whether a pipeline project should proceed, the CER reviews, among other things, its economic, technical and financial feasibility, and the environmental and socio-economic impact of the project. The CER conducts audits and inspections of federally regulated pipeline construction and operation to ensure that engineering, safety and environmental requirements are met.

The CER and the Regulator entered into a Memorandum of Understanding (MOU) to enhance cooperation and coordination between the parties, to outline a mutual aid agreement between the parties in respect of incident investigation and emergency response, and to establish a protocol for coordinating training and technical liaison in areas of comment interest between the parties.

CER approvals differ from other authorizations issued by the Regulator under specified enactment, as they are related to activities regulated under the federal Canadian Energy Regulator Act rather than the Energy Resource Activities Act (ERAA). To maintain this distinction, separate application types have been created in the Regulator's Application Management System (AMS) for CER related approvals. The Regulator may also conduct inspections of any CER related project on which an approval has been issued by the Regulator.

This chapter includes an overview of the Regulator's regulatory authority with respect to CER related projects, guidance requirements, and application specific requirements. For detailed instructions on completing application data fields in AMS, the reader may need to refer to other chapters of this manual.

Please Note:

This chapter is dedicated to CER related applications; however, this manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. The applicant should review the manual in its entirely and be aware of the content in other sections of the manual.

7.1 Regulators Approval Authorities

In accordance with Section 8 and Section 9 of ERAA, the Regulator has limited authorities with respect to federally regulated pipelines and related ancillary activities. These authorities do not include the power to issue an approval for pipelines; however, applications for provincial authorizations including the pipeline right of way, road right of way, and ancillaries, including facilities, are submitted to the Regulator through AMS.

The Regulator has authority to issue specific provincial approvals related to pipelines regulated and/or related ancillary activities under the Canadian Energy Regulator Act including:

- Land Act, Sections 11, 38, 39, 40 and 96;
- Forest Act, Sections 47.4 and 117; and
- Water Sustainability Act, Sections 10, 11 and 24.

7.2 Preparing, Planning & Application Requirements

As part of a CER pipeline or ancillary application, every applicant must:

- Prepare and submit construction plan(s), and additional maps and plans are required for the project as per Chapters 5.7 of this manual.
- Carry out Rights Holder Engagement (RHE) and submit the required RHE Line List in accordance with Chapter 6.2.
- The Regulator will consider the Environmental Protection and Management Regulation (EPMR), particularly Government's Environmental Objectives (GEOs), in its review of applications. Applicants should provide a document, such as an environmental management plan, that describes the conformance of their proposed activity with each of the GEOs in the EPMR.
- Complete an Archaeological Information Form (AIF) as described in Chapter 5.5 of this Manual.

- Carry out First Nations Engagement as described in Chapter 7.3.7 Engaging First Nations.
- Include a First Nations Project Description Form and Cover Letter(s).
- Upload the relevant Canadian Energy Regulator approval or application document.

7.3 Guidance Requirements

7.3.1 Environmental Protection and Management Regulation

By policy, the Regulator applies the tests and principles of the EPMR to applications for provincial authorizations for CER regulated pipeline projects. Refer to the Environmental Protection and Management Guide (EPMG) for more information regarding how the Regulator considers the identified values.

If CER related activities cannot be carried out in accordance with the guidance recommendation in this chapter (and other applicable chapters) and the EPMG, then a rationale must be included in the application. The rationale must include specifics of the guidelines not followed, an explanation of why they cannot be followed, as well as outline any planning strategies or operations measures that have been or will be implemented to mitigate impacts on the associated value.

7.3.2 Rights Holder Engagement

The province makes every effort to ensure that resource management is coordinated and that energy resource activities will not adversely affect long-term rights holders' interests. Methods used to engage rights holders may vary depending on the nature and scope of the proposed related activity. If the proposed activity is within an area subject to the rights of the rights holder, and the applicant knows the ability of the rights holder to exercise their right will be directly and adversely affected, the Regulator expects the applicant to engage the rights holder before submitting an application. Chapter 6.2.1 includes a comprehensive list of rights holders.

Where the RHE process, described in Chapter 6.2 this manual, is not practicable for a specific application, applicants may request permission to use alternate engagement practices or strategies. Variance requests must be made to the appropriate Authorizations Director prior to application. Written approval of alternate engagement practices or strategies must be included with the application.

If a pipeline will be constructed over, under, parallel or perpendicular to another pipeline, and the applicant has not obtained agreement about construction from the owner of the existing pipeline, a detailed description of efforts made to obtain agreement must be included in the RHE Line List.

7.3.3 Map Reserves and Notations of Interest

Provincial and Federal government agencies are not considered rights holders. Applicants are not obligated to engage agencies in advance of an application to the Regulator; however, applicants are encouraged to advise the Regulator of any Land Act map reserves, Notations of Interest, or Resource Features (as defined in the EPMR) as early as possible, allowing the Regulator to consider and facilitate engagement with other agencies and to avoid delays in application processing.

7.3.4 Archaeology Related Authorizations

To allow the Regulator to consider impacts to archaeological resources, applicants are required to complete the Archaeology tab in AMS and submit an AIF as an attachment; however, the Archaeology Branch of the Ministry of Forests (MOF) oversees archaeological work carried out in accordance with the Heritage Conservation Act (HCA). Please refer to Chapter 5.5 of this manual for more information on Archaeology.

Applicants are responsible for ensuring that the appropriate archaeological assessment work is carried out prior to construction.

Where development activities such as harvesting trees, excavating utility trenches, or other ground-disturbing activities need to be conducted within the boundaries of a recorded archaeological site, a Site Alteration Permit under Section 12 of the HCA is required. The Archaeology Branch issues Site Alteration Permits for CER pipelines and ancillary activities.

7.3.5 ALR Disturbance

As CER projects are federal jurisdiction, they are not subject to the Delegation Agreement between the Provincial Agricultural Land Commission (ALC) and the BC Energy Regulator, signed December 2017. However, the ALC expects that all CER projects will reclaim ALR lands to the same agricultural standard as other energy resource developments on ALR lands. Applicants are required to contact the ALC if a CER activity falls within the ALR.

7.3.6 Engaging First Nations

To support reconciliation and ensure the meaningful participation of Indigenous people in processes affecting them, the BCER requires proponents to engage affected First Nations prior to application submission (pre-engagement) when planning energy resource activities on private or non-private land.

The objective of pre-engagement is for proponents and First Nations to proactively share information, identify potential impacts to Aboriginal and Treaty Rights, and discuss measures to avoid/mitigate those potential impacts when planning energy resource activities. Determining the First Nations to be consulted on each proposed activity is the responsibility of the Regulator. However, in order to create application packages and conduct the required pre-engagement, applicants can obtain information on the First Nations in whose territory their activities are proposed by referring to the Consultative Areas Database (CAD) on GeoBC.

The Guidance for Pre-engaging with Indigenous Nations document provides information to support industry's pre-engagement with the First Nations as part of application and development planning process. The Regulator has a sample Engagement Log and a sample Pre-Engagement Record spreadsheet available on the website for use by industry, although if alternative formats capturing similar information area already in use, these can be used as well. These records should be included for each application submitted to the Regulator, and can be uploaded as an attachment in the applicable First Nations consultation section under the First Nations tab in AMS.

These records will be considered in the application review and decision making process, but they do not replace the First Nations consultations carried out by the Regulator.

7.4 Application Processes

Applicants may submit their complete CER pipeline right of way and related ancillary applications to the Regulator after having submitted the related pipeline application to the CER; however, the decisions on Regulator applications are pending CER approval for the related pipeline (a Certificate of Public Convenience and Necessity).

Once all application documents have been prepared, the pipeline application may be submitted to the Regulator through the AMS. Applicants may prepare a multi-activity by selecting one or all of the activities required for the project. Multi-activity applications provide a complete picture of the project and the Regulator encourages applicants to consider applying for all activities in a single application. Please see Chapter 3 (Application Management System Submission Process) of this manual for detailed instructions on completing applications.

7.4.1 Pipeline Rights of Way

New CER-reviewable pipeline project applications are submitted to the Regulator for approval to occupy and use provincial Crown land under Section 39 of the Land Act. The Regulator does not issue an approval for the pipeline itself. Additional provincial approvals may be required to carry out construction of a CER pipeline, including:

- Occupation of Crown land under Section 39 of the Land Act for related ancillary activities (decking sites, workspaces, shooflies, etc.);
- Cutting permits under Section 47.4 of the Forest Act to harvest Crown timber, and approval under Section 117 for a road use permit to use forest service roads; and
- Approvals under Section 10 of the Water Sustainability Act to divert or use water for energy resource purposes and Section 11 for changes in and about a stream (e.g., crossings and maintenance activities).

Crown land for a CER pipeline and CER related ancillary activities (camps, workspaces, etc.) are issued a License of Occupation under Section 39 of the Land Act. After post-construction submission and survey requirements are met, the license may be replaced by a Land Act Section 40 Statutory right of way (for pipelines) or modified to match the post construction plan (for ancillaries). A License of Occupation conveys non-exclusive use for the purpose described and is not a registerable interest in the land. Government may authorize overlapping and layering of tenures.

Chapter 4.2 of this manual (Completing Pipeline Activity Details) provides guidance on applying for pipelines in AMS and should be referenced when applying for CER related pipelines; however, there are distinctions between ERAA regulated pipeline and CER related pipeline applications. Notable differences are:

- Due to the Regulator's authorities, AMS will generate a modified version of the Pipeline Details tab for CER related pipelines; and
- Rather than a Consultation and Notification tab, AMS will generate a Rights Holder Engagement tab for CER related pipelines.

Spatial requirements for CER related pipelines applications are in the AMS Spatial Data Submission Standards Manual.

Please Note:

Under the Land Act, the Regulator cannot dispose of private land; however, legislation states the Regulator must charge an application fee for the pipe. Therefore, the Regulator requires spatial data for pipeline segments on both private and Crown land. A pipeline segment must be within a land polygon.

7.4.2 CER Related Roads Rights-of-Way

The Energy Resource Activities Act (ERAA) and Energy Resource Road Regulation (ERRR) do not apply to CER-reviewable projects; therefore, any road permit that may be granted to CER pipeline permit holders are issued under Section 39 of the Land Act and apply to Crown land only. For all types of road applications (whether ERAA or CER related), the Regulator expects the same information to be provided, and CER related applicants should refer to the Energy Resource Road Regulation for a clear sense of the standards to which proposed CER related roads should be designed, built, maintained, and decommissioned. CER related roads will be subject to permit conditions similar to provisions found in the ERAA and ERRR.

The Regulator does not issue CER related road permits on private land but does approve changes in and about a stream (e.g., stream crossings), under Section 11 of the Water Sustainability Act, associated with roads on private land.

For guidance on completing application fields for road applications in AMS, please see Chapter 4.5.5 (Road Activity Submission: Data Field Completion) of this manual. In addition, the

applicant should refer to the AMS Spatial Data Submission Standards Manual for guidance on preparing spatial data for CER related road applications.

7.4.3 New Road Application

A road approval is required for any new road on Crown land to be constructed and operated, for a non-status road to be maintained or modified by a CER pipeline permit holder, or to acquire a road approval for a road currently regulated under another statutory authority (Transfer of Jurisdiction).

Roads can be applied for individually or with a CER pipeline right of way or ancillary as part of a multi-activity application. The system generates data input requirements for additional activities specified within the spatial data upload.

Road applications for new roads must include all the applications requirements outlined in Section 7.2 of this chapter.

Please Note:

A road permit is required prior to carrying out maintenance activities on non-status roads. Several non-status roads can be included in one road permit application by identifying each road as a separate segment in the application.

7.4.4 Road Amendment Application

A road amendment is required to carry out activities not approved by, or which are alterations to the original approval or to modify an approved road, except modifications allowed under the terms of the approval.

Road amendment applications may require RHE, depending on the nature of the amendment. If the applicant knows the ability of the rights holder to exercise their right will be directly and adversely affected, the Regulator expects the applicant to engage the rights holder before submitting an amendment application.

7.4.5 Transfer of Jurisdiction

Applications for a "Transfer of Jurisdiction" of an existing road authorized by the Ministry of Forests (MOF), must be submitted as a new road application. The Regulator will not transfer a road issued by MOF to a CER pipeline operator but will work with MOF to enable the issuance of a Land Act road approval.

To apply for a CER related road permit on an existing road authorized by MOF applicants should include the following additional attachments:

- Documentation indicating the current road tenure holders' willingness to relinquish the road in favour of the CER operator; and
- Confirmation from MOF of willingness to close the road permit upon the Regulator's approval of a Land Act road permit.

7.4.6 CER Related Ancillary Activities

This process may be used to obtain access to provincial Crown land for stand-alone requirements, such as those that may arise during planning or maintenance activities, including (but not limited to) investigative use permits, temporary workspaces, and any compressor sites and meter stations (facilities) associated with a CER pipeline and located on Crown land.

Additional approvals that may be required with CER Related Ancillary applications may include Short-Term Water Use, Changes in and about a Stream, and new cut on Crown land.

Please see Chapter 4.6 (Completing Associated Activity Details) of this manual and the AMS Spatial Data Submission Standards Manual for guidance on completing stand-alone ancillary applications.

Please Note:

The Regulator may approve land use to energy resource operators for the purposes of a camp; however, additional authorizations and permits may be required from other provincial agencies to construct and operate a campsite.

7.4.7 Water Sustainability Act Section 10 Application Process

Applicants must acquire authorization under the Water Sustainability Act to use or divert any Crown water resources, except as otherwise exempted under the Water Sustainability Regulation. The water use approvals process may be used to obtain provincial authorizations for short-term use of water.

Please see Chapter 4.7 (Completing Short-Term Water Use Activity Details) of the manual and the AMS Spatial Data Submission Standards Manual for guidance on completing Short-term Water Use applications.

7.4.8 Water Sustainability Act Section 11 Application Process

Applicants must acquire authorization under the Water Sustainability Act for any works proposed to occur within a stream. The watercourse crossings and works process may be used to obtain provincial authorizations for stand-alone activities, such as those that may arise during planning or maintenance activities.

Please see Chapter 4.8 (Changes in and About a Stream Activity Details) of this manual and the AMS Spatial Data Submission Standards Manual for guidance on completing Changes in and About a Stream applications.

7.4.9 Forest Act Section 47.4 Application Process

The Forest Act application can be used in scenarios where an applicant may require a single use (stand-alone) licence to cut on Crown land or within a MoTT right of way. If a new cutting permit or a renewal of a cutting permit is required, the application can be made in AMS Application through the Forest Act application..

7.4.10 Forest Act Section 117 Application Process

Forest Roads declare as Forest Service Roads (FSR) by the MOF are constructed, modified and generally maintained by forest companies. Section 117 of the Forest Act enables application for a Road Permit (RUP) for industrial use of a FSR that excludes forestry activities. The Regulator considers road use applications related to energy resource activities and renders decisions on RUP applications throughout the province.

Applications for RUP are outside of AMS and must be submitted electronically, via email to RoadUsePermits@bc-er.ca. There are no spatial requirements for RUP applications. Please see Chapter 4.5.4 of this manual for additional information regarding the application process.

7.5 Application Review & Determination

It is in the best interest of an applicant to submit their Regulator applications as soon as possible after submitting a CER application. Spatial data is a requirement of Regulator applications and this spatial data will inform the Regulator's determination on any applications that may overlap the area planned for a CER pipeline, road and/or related ancillary. If applications are submitted to the Regulator prior to the applicant receiving their CER Certificate of Public Convenience and Necessity, the Regulator application may be halted until such time that the CER approval is issued.

Please see Chapters 1.2.2 (Application Submission and Review) and 1.2.3 (Application Review) of this manual for details regarding the Regulator's application review processes. The Regulator's technical reviews for CER related applications do not include engineering or agriculture.



8. Reviews and Appeals

In accordance with ERAA, a formal review and appeal process exists to review and revisit decisions made by the Regulator. Only an eligible person may submit a formal request for Regulator review officers (in the case of a review) or the Energy Resource Appeal Tribunal (in the case of an appeal) to revisit certain determinations.

Because the appeal process is administered by the Energy Resource Appeal Tribunal and considered an independent body, the Regulator's guidance does not comment on the procedures or processes of the Energy Resource Appeal Tribunal.

This chapter provides details of the review request procedures and requirements.

8.1 Review Request

Not all determinations made by the Regulator are eligible for review. The Regulator's Review and Appeal Coordinator and the designated review official determines the eligibility of a review request based upon three criteria: the determination, the requestor, and the date in which the request was received by the Regulator. As defined within Section 69 of ERAA, a determination is only reviewable if:

- Decision is made by the Regulator under Section 25 or 26.
- Declaration is made by the Regulator on its own initiative under Section 27.
- Order is made by the Regulator under Section 40(f).
- Order is issued by an official or the Regulator under Division 2 of Part 5.
- Finding is made by the Regulator under Section 62.

- Administrative penalty is imposed by the Regulator under Section 63.
- Prescribed decision is made under ERAA:
  a) Section 9 of the OGAA General Regulation prescribes the following decisions as determinations for the purpose of Section 69.
- Transfer of a permit or authorization under Section 29.
- Permit amendment under Section 31(7).

A determination is not reviewable if the decision is already subject to an appeal under Section 72 of ERAA. For more information regarding appeals, see the following section.

Eligible Review Requester

Only eligible requesters may submit a determination review request. Part 6 of ERAA defines an eligible person to submit a request as:

- Permit applicant.
- Permit holder or former permit holder.
- Person to whom an order under Section 49(1) has been issued.
- Person with respect to whom the Regulator has made a finding of a contravention under Section 62 of ERAA.

The Regulator only accepts review requests from the persons listed above. Land owners are not eligible to submit determination review requests, but may submit appeal requests to the Energy Resource Appeal Tribunal based upon the criteria established within Section 72(2) of ERAA.

Review Request Timeline and Submission

A request for a review must be received by the Regulator's Review and Appeal Coordinator within 30 days of receiving either the determination or any written reasons for the determination, whichever is the later.

A request for a review must be submitted in writing to the Regulator. The request must identify the grounds on which the review is requested. Upon receipt and verification of eligibility, a review official is assigned to hear the determination review. According to Section 69 of ERAA, the review official is a person who did not make the determination, but who is designated in writing to review the determination.

Review requests are emailed to DeterminationReviews@bc-er.ca or sent by direct mail to the Regulator's head office at:

BC Energy Regulator

Review and Appeal Coordinator

Physical Address: 6534 Airport Road, Fort St. John, B.C. V1J 4M6

Mailing Address: BCER, Bag 2, Fort St. John, B.C. V1J 2B0

Chapter 9

Permit Management

9. Permit Management

Companies are responsible for ensuring all post-approval activities are carried out in accordance with the permit, ERAA, regulations and all applicable laws. Applicants and permit holders must understand the operational guidance and requirements for each activity and reporting requirements throughout the lifecycle of the energy resource and associated activity.

This chapter discusses in brief, permit amendments, terms and expiry and permit transfers. The Regulator provides activity related operational manuals and other forms and guidance documents in the Energy Professionals section of the Regulator's website.

9.1 Permit Notification; 15-day Waiting Period

Following a permit approval, the Regulator provides notice to the land owner(s) affected by the energy resource activity. The notice cites specific details about the location of the approved activity, and the land owners' right to appeal if applicable.

The permit holder must wait 15 days from the day the permit is issued before commencing any energy resource activity on private land, unless the land owner has consented to the permit holder in writing that the energy resource activity may commence. Written consent from a land owner is not provided to the Regulator; however the permit holder should retain records for auditing purposes.

The permit holder must submit a notice of construction start to the Regulator prior the start of operations. Minimum time requirements for submission of notice of construction start for various activities are outlined in the regulations and permit conditions specific to the activity.

Notices of Road Construction Post-approval

Energy resource road permit holders must notify the Regulator, affected land owners, affected rights holders and First Nations, at least 72 hours, and not more than 30 days, prior to beginning construction. Where construction must be carried out expeditiously to address an environmental or operational emergency, notice of construction start must be provided to the Regulator, affected land owners and rights holders as soon as practicable. Energy Resource Activity Operations Manual provides further information on notices of road construction.

9.2 Permit Term and Expiry

Energy resource operators are responsible for ensuring they hold a valid permit prior to beginning construction on any energy resource or associated activity.

Section 32 (1) of the Energy Resource Activities Act states that a permit, and any authorization issued to the permit holder for a related activity of an energy resource activity authorized by a permit, expire on the day after the prescribed period has elapsed, if the permit holder has not by that day begun an energy resource activity permitted by the permit. Section 8 of the OGAA General Regulation defines the prescribed period for the purposes of Section 32 (1) of the Act as two years.

If the Regulator has not received a Notice of Construction Start (NCS) or proceeded with a positive decision on an extension application for a permit prior to its expiration, the permit will be deemed expired.

The Regulator's receipt of a Notice of Construction Start for any activity on a permit will prevent expiry for all activities included in the permit. Information on the Regulator's Notice of Construction Start processes is available in Chapter 4 of the Energy Resource Activity Operations Manual.

Permit Extension Application Process

An applicant may apply for a permit extension prior to expiry. The Regulator may extend a permit and any associated authorizations by no more than one year and may add additional conditions to the current permit.

In order to extend the prescribed period for a permit, permit holders must submit an Extension application to the Regulator through the AMS. The Extension application must be submitted three months prior to expiry of the permit.

Extension applications are applicable to all permits and related authorizations issued by the Regulator except for stand-alone Changes In and About a Stream (CIAS) approvals, and Short Term Water Use (STWU) approvals under section 10 of the Water Sustainability Act (WSA), which cannot be extended beyond 24 months.

Where multiple activities have been authorized under one permit, the extension application will capture all activities under the same Application Determination (AD) number.

Consultation and Notification for Permit Extension Applications

Section 32 (3) of ERAA states that the Regulator may require the permit holder to carry out consultations or notifications with respect to the extension application as indicated in the Consultation and Notification Regulation. Further information on consultation and notification requirements for permit extension applications is available in Chapter 6.1.3 of this manual.

9.3 Amendment Applications

Permit holders must submit an amendment application to add, modify or change any existing energy resource activity and/or related activities in a permit. Permit holders must ensure engagement and/or, consultation and notification requirements are met where applicable.

Amendment applications can include multiple changes to the permit within the same amendment application. In the case of a multi-activity permit, an amendment application can include changes to one or more activities that were part of the original permit.

However, applicants may only submit one amendment at a time against a permit, as the approval of the amendment will update current data in Regulator information systems.

9.4 Permit Surrender and Cancellation

Permits, and all activity within that permit, can be cancelled or simply left to expire. Permit holders wishing to cancel a permit or an activity within the permit, must submit a cancellation request to the Permit Administration Branch.

Where a permit is considered valid because a NCS was submitted against one activity, the remaining activity(ies) can be cancelled through a cancellation request to the Permit Administration Branch. However, the Regulator's preference is to have permit holder identify which activity is to be cancelled (i.e.. never to be constructed) through the Post Construction Plan Process.

The cancellation request letter must clearly identify:

- Regulator file number.
- Legal description location.
- If surface disturbance has occurred.

A confirmation letter is sent to the permit holder upon cancellation of the permit and related land tenures. For quarries, aggregates / borrow pits and campsites, permit holders must state whether or not the area has been left safe and clean.

9.5 Permit Transfer

A permit holder may apply to the Regulator to transfer a permit under Section 29 of ERAA. For more information on the permit transfer process and transfer application requirements, refer to the Permit Operations and Administration Manual.

Chapter 10

Prescribed Transmission Lines

10. Prescribed Transmission Lines

This chapter includes an overview of the Regulator's regulatory authority with respect to transmission line related projects, guidance requirements, and application specific requirements. For detailed instructions on completing application data fields in AMS, the reader may need to refer to other chapters of this manual.

Please Note:

This manual is written as a whole and provided to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

10.1 Regulator's Approval Authorities

In accordance with Section 5, 6 and 7 of the Renewable Energy Projects (Streamlined Permitting) Act, for Level 2 Streamlined projects the Regulator is responsible for land-based authorizations associated with a project. These authorities do not include the power to issue an approval for the transmission line infrastructure itself; however, applications for authorizations including the transmission line right of way, road right of way, and ancillaries, including facilities, are submitted to the Regulator through AMS. For more information on which aspects of a prescribed transmission line the Regulator may regulate please refer to Transmission Lines | BC Energy Regulator (BCER).

The Regulator has authority to issue specific provincial approvals related to transmission lines regulated and/or related ancillary activities including:

- Land Act, Sections 11, 38, 39, 40 and 96;
- Forest Act, Sections 47.4 and 117;
- Heritage Conservation Act, Sections 12.4 to 12.8; and
- Water Sustainability Act, Sections 10, 11 and 24.

The Regulator also has delegated authority to issue authorizations under REPA for the Agricultural Land Commission Act Section 20 (1), 20.3 (1), 18(5), 19(2), and 21(1) and to issue authorizations via delegation for specific sections of the Wildlife Act and Mines Act.

10.2 Preparing, Planning & Application Requirements

As part of a transmission line or ancillary application, every applicant must:

- Prepare and submit construction plan(s), and additional maps and plans are required for the project as per Chapters 5.7 of this manual.
- Carry out Rights Holder Engagement (RHE) and submit the required RHE Line List in accordance with Chapter 6.2.
- Complete an Archaeological Information Form (AIF) as described in Chapter 5.5 of this Manual.
- Carry out First Nations Engagement as described in Chapter 7.3.7 Engaging First Nations.
- Include a First Nations Project Description Form and Cover Letter(s), found here.
- Other project specific requirements may also be defined via direction, guidance, or policy.

10.3 Environmental Protection and Management

Refer to the Environmental Protection and Management Guide (EPMG) for more information regarding how the Regulator considers the identified values.

If transmission line related activities cannot be carried out in accordance with the guidance recommendation in this chapter (and other applicable chapters) and the EPMG, then a rationale must be included in the application. The rationale must include specifics of the guidelines not followed, an explanation of why they cannot be followed, as well as outline any planning strategies or operations measures that have been or will be implemented to mitigate impacts on the associated value.

10.3.1 Rights Holder Engagement

The province makes every effort to ensure that resource management is coordinated and that energy resource activities will not adversely affect long-term rights holders' interests. Methods used to engage rights holders may vary depending on the nature and scope of the proposed related activity. If the proposed activity is within an area subject to the rights of the rights holder, and the applicant knows the ability of the rights holder to utilize their right will be directly and adversely affected, the Regulator expects the applicant to engage the rights holder before submitting an application. Chapter 6.2.1 includes a comprehensive list of rights holders.

Where the RHE process, described in Chapter 6.2 of this manual, is not practicable for a specific application, applicants may request permission to use alternate engagement practices or strategies. Variance requests must be made to the appropriate Authorizations Director prior to application. Written approval of alternate engagement practices or strategies must be included with the application.

10.3.2 Map Reserves and Notations of Interest

Provincial and Federal government agencies are not considered rights holders. Applicants are encouraged to advise the Regulator of any Land Act map reserves, Notations of Interest, or Resource Features (as defined in the EPMR) as early as possible, allowing the Regulator to consider and facilitate engagement with other agencies and to avoid delays in application processing.

10.3.3 Archaeology Related Authorizations

To allow the Regulator to consider impacts to archaeological resources, applicants are required to complete the Archaeology tab in AMS and submit an AIF as an attachment. Please refer to Chapter 5.5 of this manual for more information on Archaeology.

Applicants are responsible for ensuring that the appropriate archaeological assessment work is carried out prior to construction.

Where development activities or other ground-disturbing activities need to be conducted within the boundaries of a recorded archaeological site, a Site Alteration Permit under Section 12.4 of the HCA is required.

10.3.4 ALR Disturbance

A non-farm use approval may be required for use of agricultural reserve land for prescribed transmission lines. Applications for non-farm can be submitted in the Application Management System (AMS).

Reports for the Non-Farm Use application must be prepared by a Qualified Professional. The report must include a Professional Declaration and be signed by the Qualified Professional. Please see Chapter 1.7 of the document for further information on Professional Reliance.

10.3.5 Engaging First Nations

To support reconciliation and ensure the meaningful participation of Indigenous people in processes affecting them, the BCER requires proponents to engage affected First Nations prior to application submission (pre-engagement) when planning energy resource activities on private or non-private land.

The objective of pre-engagement is for proponents and First Nations to proactively share information, identify potential impacts to Aboriginal and Treaty Rights, and discuss measures to avoid/mitigate those potential impacts when planning energy resource activities. Determining the First Nations to be consulted on each proposed activity is the responsibility of the Regulator. However, in order to create application packages and conduct the required pre-engagement, applicants can obtain information on the First Nations in whose territory their activities are proposed by referring to the Consultative Areas Database (CAD) on GeoBC.

The Guidance for Pre-engaging with Indigenous Nations document provides information to support industry's pre-engagement with the First Nations as part of application and development planning process. The Regulator has a sample Engagement Log and a sample Pre-Engagement Record spreadsheet available on the website for use by industry, although if alternative formats capturing similar information area already in use, these can be used as well. These records should be included for each application submitted to the Regulator and can be uploaded as an attachment in the applicable First Nations consultation section under the First Nations tab in AMS.

These records will be considered in the application review and decision-making process, but they do not replace the First Nations consultations carried out by the Regulator.

10.4 Application Processes

Applicants must submit their complete transmission line right of way and related ancillary applications to the Regulator. Once all application documents have been prepared, the transmission line application may be submitted to the Regulator through the AMS. Applicants may prepare a multi-activity by selecting one or all of the activities required for the project. Multi-activity applications provide a complete picture of the project and the Regulator encourages applicants to consider applying for all activities in a single application. Please see Chapter 3 (Application Management System Submission Process) of this manual for detailed instructions on completing applications.

10.4.1 Transmission Line Right of Way

New transmission line right of way applications may be submitted to the Regulator for approval to occupy and use provincial Crown land under Section 39 of the Land Act. The Regulator does not issue an approval for the transmission line itself. Additional provincial approvals may be required to carry out construction of a transmission line, including:

- Occupation of Crown land under Section 39 of the Land Act for related ancillary activities (decking sites, workspaces, shooflies, etc.).
- Cutting permits under Section 47.4 of the Forest Act to harvest Crown timber, and approval under Section 117 for a road use permit to use forest service roads; and
- Approvals under Section 10 of the Water Sustainability Act to divert or use water for energy resource purposes and Section 11 for changes in and about a stream (e.g., crossings and maintenance activities).

Crown land for a transmission line and transmission line related ancillary activities (camps, workspaces, etc.) are issued a License of Occupation under Section 39 of the Land Act. After post-construction submission and survey requirements are met, the license may be replaced by a Land Act Section 40 Statutory Right of way (for transmission lines) or modified to match the post construction plan (for ancillaries). A License of Occupation conveys non-exclusive use for the purpose described and is not a registerable interest in the land. Government may authorize overlapping and layering of tenures.

Spatial requirements for transmission line applications are in the AMS Spatial Data Submission Standards Manual.

10.4.2 Transmission Line Related Road Right of Way

The Energy Resource Road Regulation (ERRR) do not apply to Level 2 Streamlining projects; therefore, any road permit that may be granted to transmission line permit holders are issued under Section 39 of the Land Act and apply to Crown land only. For all types of road applications (whether ERAA, CER related or transmission line related), the Regulator expects the same information to be provided, and transmission line related applicants should refer to the Energy Resource Road Regulation for a clear sense of the standards to which proposed transmission line related roads should be designed, built, maintained, and decommissioned. Transmission line related roads will be subject to permit conditions similar to provisions found in the ERAA and ERRR.

The Regulator does not issue transmission line related road permits on private land but may approve changes in and about a stream (e.g., stream crossings), under Section 11 of the Water Sustainability Act, associated with roads on private land.

For guidance on completing application fields for road applications in AMS, please see Chapter 4.5.5 (Road Activity Submission: Data Field Completion) of this manual. In addition, the applicant should refer to the AMS Spatial Data Submission Standards Manual for guidance on preparing spatial data for transmission line related road applications.

10.4.3 New Road Application

A road approval is required for any new road on Crown land to be constructed and operated, for a non-status road to be maintained or modified by a transmission line permit holder, or to acquire a road approval for a road currently regulated under another statutory authority (Transfer of Jurisdiction).

Roads can be applied for individually or with a transmission line right of way or ancillary as part of a multi-activity application. The system generates data input requirements for additional activities specified within the spatial data upload.

Road applications for new roads must include all the applications requirements outlined in Section 7.2 of this chapter.

Please Note:

A road permit is required prior to carrying out maintenance activities on non-status roads. Several non-status roads can be included in one road permit application by identifying each road as a separate segment in the application.

10.4.4 Road Amendment Application

A road amendment is required to carry out activities not approved by, or which are alterations to the original approval or to modify an approved road, except modifications allowed under the terms of the approval.

Road amendment applications may require RHE, depending on the nature of the amendment. If the applicant knows the ability of the rights holder to exercise their right will be directly and adversely affected, the Regulator expects the applicant to engage the rights holder before submitting an amendment application.

10.4.5 Transfer of Jurisdiction

Applications for a "Transfer of Jurisdiction" of an existing road authorized by the Ministry of Forests (MOF), must be submitted as a new road application. The Regulator will not transfer a road issued by MOF to a transmission line operator but will work with MOF to enable the issuance of a Land Act road approval.

To apply for a transmission line related road permit on an existing road authorized by MOF applicants should include the following additional attachments:

- Documentation indicating the current road tenure holders' willingness to relinquish the road in favour of the transmission line operator; and
- Confirmation from MOF of willingness to close the road permit upon the Regulator's approval of a Land Act road permit.

10.4.6 Transmission Line Related Ancillary Activities

This process may be used to obtain access to provincial Crown land for stand-alone requirements, such as those that may arise during planning or maintenance activities, including (but not limited

to) investigative use permits, temporary workspaces, and substations (facilities) associated with a transmission and located on Crown land.

Additional approvals that may be required with Transmission Line Related Ancillary applications may include Short-Term Water Use, Changes in and about a Stream, and new cut on Crown land.

Please Note:

The Regulator may approve land use to transmission line operators for the purposes of a camp; however, additional authorizations and permits may be required from other provincial agencies to construct and operate a campsite.

10.4.7 Water Sustainability Act Section 10 Application Process

Applicants must acquire authorization under the Water Sustainability Act to use or divert any Crown water resources, except as otherwise exempted under the Water Sustainability Regulation. The water use approvals process may be used to obtain provincial authorizations for short-term use of water.

Please see Chapter 4.7 (Completing Short-Term Water Use Activity Details) of the manual and the AMS Spatial Data Submission Standards Manual for guidance on completing Short-term Water Use applications.

10.4.8 Water Sustainability Act Section 11 Application Process

Applicants must acquire authorization under the Water Sustainability Act for any works proposed to occur within a stream. The watercourse crossings and works process may be used to obtain provincial authorizations for stand-alone activities, such as those that may arise during planning or maintenance activities.

Please see Chapter 4.8 (Changes in and About a Stream Activity Details) of this manual and the AMS Spatial Data Submission Standards Manual for guidance on completing Changes in and About a Stream applications.

10.4.9 Forest Act Section 47.4 Application Process

The Forest Act application can be used in scenarios where an applicant may require a single use (stand-alone) licence to cut on Crown land or within a MoTT right of way. If a new cutting permit or a renewal of a cutting permit is required, the application can be made in AMS Application through the Forest Act application.

10.4.10 Forest Act Section 117 Application Process

Forest Roads declared as Forest Service Roads (FSR) by the MOF are constructed, modified and generally maintained by forest companies. Section 117 of the Forest Act enables application for a Road Permit (RUP) for industrial use of a FSR that excludes forestry activities. The Regulator considers road use applications related to energy resource activities and renders decisions on RUP applications throughout the province.

Applications for RUP are outside of AMS and must be submitted electronically, via email to RoadUsePermits@bc-er.ca. There are no spatial requirements for RUP applications. Please see Chapter 4.5.4 of this manual for additional information regarding the application process.

10.5 Application Review & Determination

It is in the best interest of an applicant to submit their Regulator applications as soon as possible. Spatial data is a requirement of Regulator applications, and this spatial data will inform the Regulator's determination on any applications that may overlap the area planned for a transmission line right of way, road and/or related ancillary.

Please see Chapters 1.2.2 (Application Submission and Review) and 1.2.3 (Application Review) of this manual for details regarding the Regulator's application review processes.

Appendices

List of Appendices

Appendix A: Technical and Engineering Pipeline Assessment Requirement Clauses per CSA Z662

Appendix B: Detailed Engineering Application Requirements for Gas Plants

Appendix C: Facility Changes Requiring an Amendment

Appendix D: Facility Changes Where No Amendment or NOI is Needed

Appendix E: Worksite Borrow pit / Aggregate Operation Categorization Key

Appendix A: Technical and Engineering Pipeline Assessment Requirement Clauses per CSA Z662

Technical and engineering pipeline details are required for all known design specifications for the pipeline, and the start and end points of the pipeline. The start and end points are not just from lease to lease, but the exact start and end point of the pipeline. Requirements listed here reference Clauses, Tables and Figures in CSA Z662 available at the Canadian Standards Association website.

- Engineering assessment required by CSA Z662.
- Table 4.2: to support the use of a higher value being used for location factor on a gas pipeline.
- Clause 4.3.12.2 for pressure test design of components not listed in Z662-11.
- Clause 4.4.3 to determine spacing for isolating valves, unless spaced according to Table 4.7.
- Clause 5.1.3 for use of materials other than as specified in the standards.
- Clause 5.2.4/5.2.5.1 for use of materials other than Table 5.3.
- Clause 5.6.1 for reuse of materials in a different system than they were removed from.
- Clause 9.1.3 for exclusion of certain corrosion control practices.
- Clause 10.3.1.1 to confirm which sections are suitable for use where conditions which can lead to failure are discovered.
- Clause 10.3.1.2 to determine which portions may be susceptible to failure prior to operating at a higher pressure than the established operating pressure. This may include changes which are below MOP.
- Clause 10.3.7.1 prior to a change in service fluid. This is any change in service fluid.
- Clause 10.3.8 prior to upgrading to a higher MOP.
- Clause 10.3.9.1 prior to pressure testing existing piping to make sure the line will not be adversely affected and that the line can sustain the proposed pressure.
- Clause 10.7.1 where a change in class location occurs to allow for meeting anything other than the higher class location requirements.
- Clause 10.8.1 where an existing pipeline is crossed by a road or railway where not updating the design to accommodate.
- Clause 10.8.3 to confirm that a pipeline can sustain the anticipated surface load for any crossings other than road or rail.
- Clause 10.9.2.4 to return an above ground tank to service following a repair without a hydrostatic test.
- Clause 10.10.1.4 to determine suitable operating pressure where defects may make the pipeline unsuitable for normal operating pressure.

- Clause 10.10.2.1 to use a different maximum length and depth of corrosion limit than specified in Figure 10.1.
- Clause 10.10.2.7 to determine that a corroded area is acceptable which does not meet the criteria of other clauses in 10.10.2.
- Clause 10.10.4.2 to determine dents other than those listed are acceptable.
- Clause 10.10.5 to determine surface cracks to be acceptable.
- Clause 10.10.7 to determine weld defects to be acceptable.
- Clause 10.11.4.3 to support design and installation of repair sleeves.
- Clause 10.12.1.1 to support a temporary repair method (welding or non-welding).
- Clause 10.15.2.1 prior to reactivating a pipe.
- Clause 12.4.1.4 to support designs in gas distribution systems which use a weak link in the event of excessive pullout force.
- Clause 12.4.2.4 to determine the chemical factor for liquid hydrocarbons between 0.5 and 1 for polyethylene piping design pressure calculations.
- Clause 13.1.2.16 to demonstrate adequate corrosion resistance of some types of risers or couplings on composite lines for the life of the pipeline where cathodic protection will not be provided.
- Clause 13.2.2.12 to thermoplastically line previously in service pipes (unless a leak test is run).
- Clause 13.2.8.3 to support continued use of the pipeline following a liner breach on thermoplastically lined pipe.
- Clause 13.3.3.6 to demonstrate adequate corrosion resistance of some types of risers or couplings on Polyethylene lines for the life of the pipeline where cathodic protection will not be provided.
- Clause 16.8.7 for any sour lines where there is a possibility of a change in service fluid composition or operating conditions to determining whether the pipeline is suitable for the new conditions.
- Clause 16.10.3.2 for any gas pipelines being returned to service after an extended period of non-use prior to admission of sour fluids.
- Clause 17.4.7 for above ground installations on composite reinforced steel pipelines to ensure suitability.
- Clause 17.10.3 to determine that a corroded area is acceptable which does not meet the criteria of 10.10.2.
- Clause N.13.1 where inspection, testing, patrol or monitoring indicates conditions or imperfections which might lead to failure or damage incidents with significant consequences. To be performed to N.13.2.2.

Appendix B: Detailed Engineering Application Requirements for Gas Plants

The following checklists include details of submissions required to assist in the review of processing facility permit applications submitted to the BC Energy Regulator (Regulator) under the Oil and Gas Processing Facility Regulation (OGPFR). The applicant must submit an application in the electronic Application Management System for a facility permit.

Section 4.3 of this document provides details on the permit application preparation and submission details for all facility permit applications including gas processing plants.

A pre-application submission meeting with the Regulator is recommended for all new processing facility permits and significant amendments to assist in the timely and effective processing of the application.

Qualified Professional (QP) (as defined in the OGPFR) means a person who is authorized under the Engineers and Geoscientists Regulation to use the reserved title professional engineer or professional geoscientist."

A. Summaries and Descriptions

- Detailed project description of the plant (i.e. DBM) and the proposed processes, including total processing capacity and design flow rates (inlet, recovered products, fuel gas, emissions).
- Summary of codes and standards for engineering design, siting, construction, and operation in addition to those adopted under Section 2 of the OGPFR and prepared by a QP.
- Construction schedule.
- Design basis for flaring, venting and relief systems prepared by a QP.
- Design basis for the collection, storage, treatment and disposal systems for handling surface runoff and industrial waste-water prepared by a QP.
- Preliminary engineering design information, plot plans and process flow diagrams prepared by a QP.
- Description and construction plan for modular units constructed outside of BC.
- Reports that include findings and recommendations from the following studies and assessments that are prepared by a QP. Refer to Section 4 of the OGPFR.
    - Design and safety studies on the siting of the proposed processing facility and the equipment.
    - Hazard identification studies.
    - Assessments of environmental effects.
    - Preliminary consequence assessments.
    - Social and cultural effects assessment.

- Report prepared by third party or QP that verifies the quality assurance program for the processing facility, being the processes and procedures to ensure that the facility will be constructed to conform to all applicable requirements of Section 6 and 7 of the OGPFR. Refer to this document, Section 4.3 Completing Activity Details: Facility Activity.

Pre-engagement with local Indigenous nations report. Refer to Section 5 of the OGPFR.

- A plant material balance at design conditions.
- A gas processing plant proliferation review that includes the rationale for constructing the newly proposed plant after consideration of existing active plants and pipeline infrastructure feeding into active plants within a 50 km radius.
- If acid gas is to be discharged to a subsurface formation, a brief description of the proposal must be supplied along with a copy of the reservoir approval issued by the Regulator.
- Summary of site surface run-off water management, including the design and sizing criteria of any containment ponds.
- Summary of inlet separator/slug catcher capacity considerations.
- Summary of prime mover starter systems and associated pump drives, and if natural gas is utilized, confirm that the vented gas is connected to the flare/incineration system, or conserved.
- Summary of why pressure relief devices (i.e. PSV's) are not connected to the plant flare system, if applicable.
- Description of the provisions for facility security.
- List of hazardous materials that will be stored and a description of the storage method.
- Total kilowatt rating of all compressor prime movers, and the estimated compressor seal vent rate and confirmation if this is venting, tied to flare or conserved.
- Dehydrator Engineering & Operations Sheet (DEOS), if applicable.
- Total amount of H_2S and CO2 emissions from all sources at the facility in tonnes per day.
- Description of how the plant has been designed to process gas from in-line testing of wells with potential liquid slugs and CO2 spikes.
- Summary of plant supervision model including operator response time if not manned 24 hours per day.
- Plant shutdown and blowdown philosophy and how consideration has been made to ensure that high pressure gas is not trapped in the facility during an emergency event. Include a summary of fuel gas system blowdowns in an emergency event.

If the proposal includes a sulphur processing facility, include a written submission that:

- Describes the proposed control measures to limit the release of sulphur dust and entrained gases.
- Describes the proposed method to degasify produced liquid sulphur and to dispose of sulphur compounds and other vapours associated with such processes.
- Describes how sulphur volumes will be measured and reported.

If the proposal includes the following systems below, a brief summary of how the gas processing plant design addresses seismicity and, a summary of the safety and loss management systems at the gas processing plant including, but not limited to are required:

- Gas detection (LEL, propane) systems
- Fire prevention, detection and response systems
- Toxic gas (H_2S) detection systems

B. Drawings, Diagrams and Maps

Applicable drawings, diagrams and maps should include the following:

- Plot plan drawing
- If available, plant piping and instrumentation drawings (P&IDs)
- Process flow diagram (PFD) of the plant and set of plant PFDs
- Map(s) showing:

    1. Facility being applied for
    2. All other existing plants and sulphur handling facilities at the site or in the area (within 50 km)
    3. All occupied dwellings and surface improvements in the area (within 10 km)
    4. All lakes, streams, and other surface bodies of water in the area (within 10 km)
    5. All municipal boundaries, and settlements in the area (within 20 km)
    6. General land use (forested, farming, other) in the area (within 10 km)

- Metering block diagram (i.e. metering schematic) detailing:

    1. All meters in the plant (production accounting and non-production accounting).
    2. Meter types (e.g. orifice, turbine, ultrasonic, coriolis).
    3. All production accounting meters in the plan on a list or table on the metering schematic. This will typically be a subset of the plant meters. This list should be cross referenced to the meters shown on the metering schematic by meter number and/or meter description. Also, types of measuring devices used to determine levels and/or volumes in tanks or production vessels for production accounting purposes should be included, (e.g. level gauge, level transmitter, pressure transmitter inlet piping header to plant inlet separators).
    4. All stream (plant and inlet header) block valves and normal operational state (normally open or normally closed), that can cause a change in fluid flow that will impact the production accounting model.
    5. Fuel gas lines (plant and/or field).
    6. Pilot gas and dilution gas streams to plant flare stacks. Include tie in points in the plant.
    7. All plant piping that can impact the production accounting model.
    8. Fluid injection streams. e.g. water, acid gas.
    9. Flare stacks and incinerator stacks.

- Gathering block diagram (i.e.: gathering system schematic) detailing:

    1. Type of primary well production (oil or gas).
    2. Wellsite locations, indicated by the legal surface location.
    3. Wellsite configuration (three phase separation, two phase separation, wet meter). This may be typical if all wellsites are the same.
    4. All field meters and types. e.g. orifice meter, turbine, etc.
    5. All field process equipment. e.g. compressors, separators, tanks, etc.
    6. Gathering system offload streams that permit volumes to deliver to processing that is different from the plant applied for.

7. Gathering system onload streams that permit volumes to be received from other reporting facilities, gas plants or gathering systems.
8. Return fuel gas streams from a plant, facility or other processing equipment.

For larger facilities, an optional gas gathering schematic may be used to show battery/facility delineation.

C. Plans and Assessments (to be submitted with the permit application, if available)

• Noise Impact Assessment (NIA). Refer to the BC Noise Control Best Practices Guideline. Attach NIA report to application.

• Light Assessment - summary of how light pollution has been identified, considered and mitigated. The International Regulator on Illumination (CIE) 150 Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations can be used.

• Fracture sand management plan for the plant. Include the strategies incorporated to capture and monitor for fracture sand returns and associated erosion at the plant.

• Fugitive Emissions Management Plan for the proposed plant.

• Air monitoring plan, if applicable. This may include passive or real time plant/perimeter detection for H_2S and/or SO2, wind speed and direction monitoring.

• Storage tank secondary containment plans (production and non-production storage). Include location of truck loading lines and truck loading boxes. If hauling of fluids is proposed by truck, an estimate of how many trucks are expected per day at the facility.

- A summary for the following with regards to pressurized hydrocarbon storage bullets (if applicable):
    - How the bullets have been appropriately spaced to meet the intent of API 2510 when storing LPG and therefore not within the NFPA 30 Code.
    - When remote impoundment is being utilized as the means for secondary containment describe the flow direction of spilled product and the containment capacity.
    - Description of ground permissive systems at truck outs.
- A Perimeter Groundwater Monitoring Program acceptable to the Regulator as outlined in Appendix B1.

The following components of the permit application may be submitted after the initial application if not available, but at minimum a preliminary version is required prior to completion of the engineering review. In special cases the submission of final reports could be extended until the commencement of construction, or operations. The components include:

- Plant isolation and blowdown philosophy
- Noise impact assessment

- Light assessment
- Flare stack / incinerator dispersion model
- Fugitive emissions management plan

D. Flare/Incinerator/Vent Stack Details

This submission must include:

- Stack height and diameter.
- Predicted normal and maximum emissions of SO_2 /hr.
- Rate and calculated volume of potential H_2S releases.
- Results of gas/vapour dispersion modeling for lit and unlit conditions.
- Maximum expected rates for continuous flaring, and volumes/compositions of flared streams.
- Maximum stream velocity in metres per second at the flare metering point.
- Description of the flare metering configuration for the following scenario's taking into consideration the upper and lower limits of the manufacturers specifications, and the required published regulatory meter uncertainties: (1) purge gas volume determination during routine operations and, (2) during shutdown and depressurization events.
- Description of how plant processing will conserve gas volumes by avoiding tie-in to the flare and/or incinerator stack of recoverable streams (vapor recovery considerations).
- Description of how plant ESD procedures will limit emissions.
- Description of the flame-out detection system configuration for the flare stack/incinerator equipment, and if it is set up to alarm and/or shutdown process.
- Appropriate isopleths for the various levels of H_2S and SO_2, as applicable.
- Description of the design to prevent flashback of flame back into process (e.g.: positive pressure system, flame arrestor), including:

  - Description of how the design of the flare system will prevent black smoke and reduce flame size.
  - Description of flare pilot and / or auto ignition systems.
  - Description of how the facility complies to API Standard 521 and API 537, as applicable.

E. Other Requirements

The permitting requirements for design changes proposed while the plant permit application is in review, or after the plant permit is issued will be determined on a case-by-case basis by the Regulator. The Facilities Branch of the Regulator's Engineering Division can be contacted directly for more information.

Before construction of a processing facility begins the permit holder must develop a management system to anticipate and manage potential hazards throughout the life cycle of a processing facility. The management system does not need to be developed or submitted for the processing facility permit application. Once construction of a processing facility begins, the Regulator may request a copy of the management system to verify compliance at any time during the life of the facility.

Appendix B1: Technical Guidance for Perimeter Groundwater Monitoring Program for Processing Facilities

The Perimeter Groundwater Monitoring Program shall be prepared by a Qualified Professional (QP), registered with Engineers and Geoscientists of BC (EGBC). The QP shall have appropriate experience and expertise in the design and implementation of groundwater monitoring programs. The intent of the Perimeter Groundwater Monitoring Program is to provide monitoring well infrastructure at the perimeter of the processing facility and around significant fluid storage areas within the facility boundaries that permits groundwater sampling over the long term, providing data to (a) establish baseline groundwater level and chemistry conditions, and (b) demonstrate compliance with results-based regulations for groundwater protection during the life of the facility.

The implementation of a Perimeter Groundwater Monitoring Program does not preclude any future requirements for investigative groundwater monitoring should an incident occur, and is separate from any other on-site groundwater monitoring requirements associated with specific activities (e.g., for saline water containment ponds as described in the Regulator's Management of Saline Fluids for Hydraulic Fracturing Guideline.

The following provides technical guidance regarding the Regulator's expectations with respect to the Perimeter Groundwater Monitoring Program.

Timing of Monitoring Well Construction

To allow for an assessment of baseline groundwater conditions, where baseline groundwater conditions are established by groundwater level and groundwater quality data representing more than one sampling occasion, perimeter groundwater monitoring wells shall be constructed prior to facility operations.

A perimeter groundwater monitoring program may be required by the Regulator for processing facility amendments.

Considerations for Monitoring Well Locations

- Potential considerations for determining the number and locations of perimeter groundwater monitoring wells include but may not be limited to:
    - Coverage of all perimeter boundaries.
    - Locations and operational aspects of liquid storage and transfer infrastructure within the site boundaries.
    - Inferred or known groundwater flow direction.
    - Site grading and cut and fill alterations.
    - Surrounding receptor locations (e.g., water wells, surface water bodies, residential areas, environmentally sensitive areas).
    - Any other factors as determined by the QP.

Considerations for Monitoring Well Design

- Monitoring wells shall be designed and installed in accordance with the BC Groundwater Protection Regulation (gov.bc.ca), and using standard environmental investigation protocols such as those described in the B.C. Field Sampling Manual - Province of British Columbia (gov.bc.ca).
- Monitoring wells shall be installed and screened to permit the collection of representative groundwater samples from the shallowest "aquifer", where "aquifer" is defined in the Water Sustainability Act (WSA) as:
    a. a geological formation,
    b. a group of geological formations, or
    c. a part of one or more geological formations that is groundwater bearing and capable of storing, transmitting and yielding groundwater.
- The need for monitoring well installation within deeper aquifers may be considered based on site-specific circumstances.
- Unless deemed warranted by the QP, the maximum recommended depth for perimeter monitoring wells is 10 metres.
- If groundwater is not encountered during drilling, groundwater monitoring wells shall be installed for future groundwater monitoring purposes and/or for use as a vapour probe.

Considerations for Groundwater Sampling and Analysis

- Groundwater sampling shall be conducted using standard environmental sampling and quality assurance/quality control protocols such as those described in the B.C. Field Sampling Manual - Province of British Columbia (gov.bc.ca).
- The chemical analyses shall be selected by the QP to establish baseline conditions and with consideration of the Potential Contaminants of Concern (PCOCs) associated with the inventory of hazardous materials that will be stored and/or used at the site.
- Once baseline conditions are established by data representing more than one sampling occasion, sampling programs may consider the use of representative indicator parameters for ongoing monitoring, as determined by the QP.
- On-going groundwater sampling and analysis should be carried out at least once annually from all monitoring wells.
- Sample analysis must be conducted by an accredited laboratory.
- Consideration of the following analytical parameters is recommended:
    - Routine water quality parameters (e.g., Major Cations and Anions, Total Dissolved Solids (TDS), Alkalinity, pH, Electrical Conductivity, Dissolved Oxygen, Oxidation-Reduction Potential, Hardness).
    - Dissolved Metals.
    - Dissolved Gases (e.g., C1-C3).
    - Dissolved Hydrocarbons (e.g., Volatile Hydrocarbons (VHw6-10), Benzene, Ethylbenzene, Toluene, Xylenes (BETX), Volatile Petroleum Hydrocarbons (VPHw), Volatile Organic Compounds, Extractable Petroleum Hydrocarbons (EPHw10-19 and EPHw19-32), Light and Heavy Extractable Petroleum Hydrocarbons (LEPHw/HEPHw), Polycyclic Aromatic Hydrocarbons).
    - Amines, Glycols and Methanol.
    - Analyses relevant to all other PCOCs identified by the QP.

Reporting

Reports and data regarding the Perimeter Groundwater Sampling Program may be required by the Regulator at any time during the life of the facility or as specified in the permit conditions. If not required to be submitted, all information and data relevant to the Perimeter Groundwater Monitoring Program shall be retained by the permit holder to be submitted to the Regulator upon request.

Where relevant, submitted documentation should include:

- A description of methodologies used for monitoring well installation, water level measurements and groundwater sampling, including quality assurance and quality control protocols.
- Graphical well logs with stratigraphic observations and monitoring well construction details.
- A site plan showing locations of monitoring wells relative to site boundaries, on-site infrastructure, and relevant surrounding features.
- Water level measurements in monitoring wells.
- Analytical results in tabular form with comparison to appropriate criteria and standards.
- Laboratory analytical reports.
- Data analysis (statistics, trends) and interpretation, as applicable.
- Any other information or interpretation as deemed appropriate by the QP or required by the Regulator.

Monitoring Well Decommissioning

- Upon site closure, the monitoring wells shall be properly decommissioned in accordance with the BC Groundwater Protection Regulation (gov.bc.ca).

Appendix C: Facility Changes Requiring an Amendment

The following lists equipment and examples of facility changes requiring the submission of a facility permit amendment for the addition of temporary or permanent equipment on Crown or private land.

- Amine sweetening package - process gas
- Amine sweetening package - fuel gas
- Bullet - condensate storage
- Bullet - LPG storage
- Capacity - gas/liquids throughput permit increase
- Compressor
- Condensate stabilization unit
- Debutanizer unit
- Deethanizer unit
- Depropanizer unit
- Dehydrator - glycol (process & fuel gas)
- Dehydrator - molecular sieve
- Flare stack
- Generator - (gas/diesel) except for those where the facility remains classified under Section 4 of the Oil & Gas Waste Regulation
- Permitted H_2S increase
- Incinerator
- Pump (used to transport hydrocarbon liquid (oil, LPV or HPV) in a pipeline, or pump fresh water
- Pump jack (gas and electric)
- Process refrigeration unit
- Production Storage Tank
- Treater – Oil

Appendix D: Facility Changes Where No Amendment or NOI is Needed

The following list includes examples of facility changes that do not require a Notice of Intent or amendment. These changes can be made under the authority of the existing facility permit (if not requiring new land).

- Analyzer
- Blow case (without compressor)
- Coalescer
- Dehydrator - instrument air
- Electrical transformer & other power conversion equipment
- Field header
- Filter
- Generator - solar/fuel cell
- Generator – thermo electric
- Heater
- Instrument air compressor unit
- Line heater
- Meter
- Odourization pot
- Other/miscellaneous – minor
- Plunger lift
- Pump (except those referenced in Appendix C)
- Scrubber including H_2S Scavenger units
- Separator package (ie: test or group)

Appendix E: Aggregate Operation Application Process

