

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 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 oil and gas activity as defined in OGAA as:

Piping through which any of the following is conveyed:

- a) Petroleum or natural gas.
- b) Water produced in relation to the production of petroleum or natural gas or conveyed to or from a facility for disposal into a pool or storage reservoir.

- 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) Well head.
- h) Anything else prescribed.

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

- Water or steam used for geothermal activities or oil and gas activities.
- Carbon dioxide.
- Liquid hydrocarbons.

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.

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 OGAA 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 OGAA.

Temporary Above-ground 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 Commission as associated oil and gas activity and require an applicable authorization. Associated oil and gas activities are detailed in Section 4.6 of this manual.

National Energy Board Pipelines

In accordance with Sections 8 and 9 of OGAA, the Commission 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.

NEB related activities application guidance is under development. Contact the Authorizations Manager for the appropriate zone for assistance in preparing an NEB related activity application.

Preliminary Plans and Fixing the Site of a Proposed Pipeline Route

Under Section 23 of OGAA:

- 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 Commission 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 15 of the [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 23 (3) of OGAA and Section 15 of the 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 OGAA.
- 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 OGAA 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 oil and gas 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 are required if the permit holder plans to change the surface disturbance associated with the pipeline permit or the operating parameters of the pipeline. With respect to operating parameters, changes requiring an amendment to a pipeline permit include:

- Increase in maximum operating pressure.
- Splitting pipeline segments.
- A new pipeline segment to an existing pipeline permit.
- Modify pipeline, including installation of a liner within an existing pipe, installing a riser tree, altering the diameter of the pipe, and adding the following installations:
 1. Flare stack
 2. Generator
 3. Line heater
 4. Pump
 5. Regulator
 6. Riser
 7. Tank

8. Valve (pressure control or isolation)

- Repair and/or replace (not in-kind) is required if segments of pipeline are to be replaced with different pipe material. Changes in material are allowed up to one grade different and up to 10 per cent difference in wall thickness as long as the per cent stress at maximum operating pressure does not increase.
- 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. Common examples of change of service fluid include increase or decrease of H₂S content of the fluid, change of the fluid type, and adding multiple product types.

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.

- Pipeline flow reversal, or change to bi-directional flow. The amendments do not constitute a change of service, only flow direction change. Amendments to adjoined facilities or facilities linkage changes may be required. Section 4.3 of this manual and the [Oil and Gas Activity Operations Manual](#) provides more information.

Please Note:

Changes which would normally be submitted as Notices of Intent or as Administrative Changes may be included in the scope of the amendment to avoid multiple submissions; however, amendment scope may not be included in Notices of Intent nor as Administrative Changes. More than one change to the permit may be included within the same amendment.

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 Manager at the Commission 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 for pipelines approved before January 1st, 2007.

The historical pipeline submission is selected from the create “application type” menu as “historical submission”. It is often required when the pipeline is amended or when supporting documentation is required yet the details are either incomplete, absent or incorrect.

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 constructed prior to January 1, 2007 based on the applicant’s information including:

- Approval determination number.
- Legacy OGC 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.

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 oil and gas activity application. The standards and guidelines presented here form a substantial basis for assembling an application. The Commission 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 [Oil and Gas Activities Act](#) (OGAA), 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 oil and gas 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 OGAA 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 Oil and Gas Activity Application Manual and the CSA Z662 standard, pipeline activities should meet guidance recommendations in the following Commission documents:

- [Oil and Gas Activity Operations Manual](#).
- [Environmental Protection and Management Guideline](#).

If oil and gas 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 OGAA 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 Commission'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.

1. Engineering Assessment

Required engineering assessments outlined within CSA Z662 are detailed 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 by a professional engineer licenced in the province of British Columbia.

2. Piping and Instrumentation Diagram (P&ID)

P&ID must be legible and identify each segment of pipe, including new pipe being built in existing right-of-ways in the project description and piping and instrumentation diagram. 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 if known, otherwise by OGC number if known, future input or other regulator if currently no OGC number or project number).
- 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 H₂S 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.

Riser locations or installations directly supporting the pipeline are considered part of the pipeline and should be included in the pipeline and instrumentation design. 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

Anything directly supporting the pipeline is considered part of the pipeline. 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

Where 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 for hydraulic test plans must include the test medium, the minimum and maximum anticipated test pressure considering elevation differences, and the hold times. For pneumatic tests, this 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 as required by 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 Commission prior to commissioning the pipeline (Leave To Open), in accordance with Section 7 of the Emergency Management Regulation. Emergency planning zones are determined using H₂S 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 Commission 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.

4.2.6 Pipeline Activity Application Requirements: Data Field Completion

Table 4-C below provides detailed instructions for each of the data fields requiring input (not auto populated) within the Application Management System.

Table 4-C: Application Instruction Table for the Pipeline Tab

Label	Instructions
Is the activity within an existing construction corridor?	Indicate if the proposed activity falls within a previously assessed review corridor or previously assessed construction corridor.
Activity Description	(Optional) Provide a brief description of the project and any comments relevant to the pipeline application.
Piping and Instrumentation Diagram Attached	Upload Piping and Instrumentation Diagrams.

Pipeline Specifications Tab	
The pipeline meets all current applicable CSA Z662 standards	Indicate yes, if pipeline meets all CSA Z662 standards. If no, then upload engineering assessment.
Segment Details	
CSA Class Location	Select the highest class location as defined by CSA standards for this segment.
Physical Pipe Length (m)	The pipe length to be reported is the actual pipeline length (not the surface land length).
Proposed DLS Location: LSD	Enter Legal Subdivision (LSD) Value: 01 to 16.
Proposed DLS Location: Section	Enter Section Value: 01 to 36.
Proposed DLS Location: Township	Enter Township Value: 076 to 088.
Proposed DLS Location: Range	Enter Range Value: 13 to 26.
Proposed NTS Location: Quarter Unit	Enter Quadrant Unit Value: A to D.
Proposed NTS Location: Unit	Enter Map Unit Value: 001 to 100.
Proposed NTS Location: Block	Enter Map Block Value: A to L.
Proposed NTS Location: Map	Enter Mapsheet and Map Group Value in format XXX-X-XX. XXX = Mapsheet Value: 082, 083, 092, 093, 094, 095, 102, 103, 104, 114. X = Mapsheet Value: A to P. XX= Map Group Value: 01 to 16.
Pipeline Product	Information in regards to fluid types/pipeline product must be entered for each segment. Any line with a partial pressure of H ₂ S greater than 0.3kPa, must be listed as sour product.
H ₂ S (mol %) (highest)	Indicate anticipated H ₂ S content by mole per cent.
CO ₂ (mol %) (highest)	Indicate anticipated CO ₂ content by mole per cent.
Pipe Outer Diameter (mm)	Indicate the pipe outer diameter in millimetres.
Thinnest Wall Thickness	Indicate the thinnest wall thickness included in the pipeline design.
Material Type	Select the pipe material type included in the pipeline design.

Material Standard	Select the pipe material standard applicable to the pipeline design.
Material Grade	Select the pipe material grade included in the pipeline design.
Design Pressure (kPa)	Indicate the Design Pressure in kilopascals.
Minimum Cover Depth (m)	Indicate the Cover Depth in metres.
Maximum Operating Pressure	Indicate the maximum operating pressure in kilopascals.
Internal Coating	Select the type of internal pipeline coating used in the pipeline design.
Internal Coating Description	Provide any applicable description of the internal coating included in the pipeline design.
External Coating	Select the type of external pipeline coating used in the pipeline design.
External Coating Description	Provide any applicable description of the external coating included in the pipeline design.
Flow Direction	Indicate if the pipeline was designed for uni-directional flow or bi-directional flow.
Twinned Within Segment Indicator	Indicate if the segment is twinned; (Twinned for this purpose is defined as two onshore Class C pipelines of 50 kilometers or more in length being constructed at the same time and carrying the same type of fluid).
Segment Linkage Details: Input Linkage	
Facility ID	Enter the existing Facility ID to which the production from the well will be reporting to the Ministry of Finance.
Project Number	Enter the pipeline project number for the input linkage pipeline.
Segment Number	Enter the pipeline segment number for the input linkage pipeline segment.
Segment Linkage Details: Output Linkage	
Facility ID	Enter the existing Facility ID to which the production from the well will be reporting to the Ministry of Finance.
Project Number	Enter the pipeline project number for the output linkage pipeline.

Segment Number	Enter the pipeline segment number for the output linkage pipeline segment.
Line Heater	
Output (BTU)	Output Measurement = 1,000BTU/hr.
Pump	
Purpose/Use	Provide a description for the purpose of the pump.
Riser	
Vents Indicator	Indicate if the riser installation will include vents.
Pigging Indicator	Indicate if the riser installation will include pigging equipment.
Regulator	
Maximum Input Pressure (kPa)	Contact the Engineering Department in Kelowna if Maximum Input Pressure exceeds the number of digits allowable in AMS.
Maximum Output Pressure (kPa)	Contact the Engineering Department in Kelowna if Maximum Input Pressure exceeds the number of digits allowable in AMS.
Exemptions	
Exemption from Pipeline Regulation	Indicate if an exemption from the Pipeline Regulation is being requested.
Exemption from:	Enter the section of the Regulation that is the subject of the exemption request.
Exemption Explanation	Provide a detailed explanation / rationale for the regulatory exemption request. Include statements indicating why the regulation cannot be followed and proposed alternate strategies and mitigation.
Exemption from Liquefied Natural Gas Facility Regulation Indicator	Indicate if an exemption from the Liquefied Natural Gas Facility Regulation is being requested.
Exemption from:	Enter the section of the Regulation that is the subject of the exemption request.
Exemption Explanation	Provide a detailed explanation / rationale for the regulatory exemption request. Include statements indicating why the regulation cannot be followed, proposed alternate strategies and mitigation.