Manual **012**

Alberta Energy Regulator

Energy Development Applications

Procedures and Schedules

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Contents

Abbreviations

ABSA	Alberta Boiler Safety Association
AEPA	Alberta Environment and Protected Areas
AER	Alberta Energy Regulator
AOF	absolute open flow
ASME	American Society of Mechanical Engineers
BA	business associate
BMR	*Brine-Hosted Mineral Resource Development Rules*
CBM	coalbed methane
CCS	carbon capture and storage
CO_2	carbon dioxide
CSA	Canadian Standards Association (now CSA Group)
DSU	drilling spacing unit
EPEA	*Environmental Protection and Enhancement Act*
EPZ	emergency planning zone
ERP	emergency response plan
ESD	emergency shutdown
GRDA	*Geothermal Resource Development Act*
GRDR	*Geothermal Resource Development Rules*
H_2	hydrogen
H_2S	hydrogen sulphide
HVP	high vapour pressure
IRP	industry recommended practice
LPRT	Land and Property Rights Tribunal
MOP	maximum operating pressure
MRDA	*Mineral Resource Development Act*

NO_2	nitrogen dioxide
NO_x	nitrogen oxides
OGCR	*Oil and Gas Conservation Rules*
OSE	oil sands evaluation
PDF	portable document format
SIR	supplemental information request
SO_2	sulphur dioxide

1 Introduction

This manual provides information on how to file a licence application under *Directive 056: Energy Development Applications and Schedules* to construct or operate an energy development in Alberta that includes facilities, pipelines, or wells.

In addition to the requirements set out in *Directive 056*,

- applicants conducting an activity associated with brine-hosted mineral resources will have to meet the requirements set out in *Directive 090: Brine-Hosted Mineral Resource Development*, and
- applicants conducting an activity associated with geothermal resource development will have to meet the requirements of *Directive 089: Geothermal Resource Development*, which directs applicants to follow specific requirements in *Directive 056*.

To use this manual, you are expected to have an understanding of *Directive 056*, the AER's digital information submission systems (see the *Directive 056* landing page for a list), and all rules and acts relating to facilities, pipelines, or wells, including those relating to the extraction and management of geothermal and brine-hosted mineral resources. You should also be familiar with the application resources available on the AER's website.

This edition includes

- updated OneStop licence substance codes and internal protection codes,
- information and a figure on proper pipeline measurement, and
- a new appendix describing specific discontinuance, abandonment, and resumption scenarios.

2 Participant Involvement Procedures

The consultation and notification requirements for each activity are listed in tables 1 through 4 in *Directive 056*. The category type of a well, pipeline, or facility depends on one or more of the following: H_2S content, sulphur content, size, type, release rate, or proximity of an urban centre.

2.1 Personal Consultation and Confirmation of Nonobjection

Personal consultation is intended to inform parties of the nature and extent of the proposed application. Questions raised during the discussion of the proposed energy development should alert the applicant to potential concerns or objections. Through discussions, the applicant may be able to confirm nonobjection; if not, the applicant must disclose this in its application.

The refusal of an information package must be documented and retained on file, but the applicant does not need to disclose this in its application.

2.2 Notification

If the applicant is aware that an information package was not received by a required party, the applicant must disclose this in its application and demonstrate its efforts to contact the party.

2.3 Compensation

Matters of compensation are not within the AER's jurisdiction. If a surface rights agreement is unobtainable from the landowner solely due to compensation issues, the applicant may request that the AER issue the licence to allow the applicant to apply to the Land and Property Rights Tribunal (LPRT) for a right-of-entry order. Because the *Surface Rights Act* does not apply to geothermal resource development on private lands in Alberta, the applicant must obtain written consent for surface access as set out in section 2.3 of *Directive 089*.

Except for geothermal resource developments, the applicant must disclose in its application if the landowner confirms in writing that compensation is the only issue and there are no concerns or objections to the AER issuing a licence so that the parties may proceed to the LPRT.

If landowner confirmation as described above cannot be obtained, the applicant must disclose this in its application.

The applicant must disclose in its application if there are unresolved compensation issues identified by participants other than the surface landowner.

3 Energy Development Licence Applications Procedures

3.1 Prelicensing Approvals/Variances

When filing an application that has a prelicensing approval or variance for surface casing, the applicant must indicate this in its application and retain on file a copy of the approval or variance issued.

3.2 Incomplete Licence Applications

In the case of significant deficiencies, the AER will close and return the application to the applicant. The AER will also explain why the application is being returned.

4 Audit Documentation

The AER reserves the right to request additional information not listed below if it would assist in the application's review. If an application is proceeding to a hearing, the AER may require that the applicant submit the entire audit package for review.

4.1 Oil and Gas Development Audit Submissions

Tables 1, 2, and 3 summarize the information required for audits before or after licensing facilities, pipelines, or wells for oil and gas development. Submit facility, pipeline, and well audit submissions via email to the AER at Directive056AuditSubmissions@aer.ca.

4.2 Geothermal or Brine-Hosted Mineral Development Audit Submissions

For well licences under the *Geothermal Resource Development Rules* (*GRDR*) or *Brine-Hosted Mineral Resource Development Rules* (*BMR*), the applicant will provide audit information via OneStop using the "Additional Attachment" screen.

For pipeline or facility licences, the applicant will provide audit information, along with the application number, via email to the application mailbox GeothermalApplications@aer.ca for geothermal licences or MineralsApplications@aer.ca for brine-hosted mineral licences.

Table 1. Facility application audit checklist

D056 Section No.	Y	N	N/A	Audit Documents
4.7 Additional Audit Documentation for Facilities				
4.7.1 Participant Involvement Requirements				
4.7.1.1 Participant Involvement Map Requirements				
				Map
4.7.1.2 Industry Notification Requirements				
				Record of contact with other industry parties, including name, address, telephone number
				Copies of all correspondence between parties
				Minutes of meetings held, including • date of meeting • meeting notice and/or invitation • invitation list • name, address, and phone number of all meeting participants
				Copies of the project information presented at meetings or otherwise distributed
4.7.1.3 Personal Consultation and Notification Requirements				
				Participant Involvement Summary
4.7.1.4 Confirmation of Nonobjection				
				Freehold lease agreement
				Crown disposition
				Signed information document
				Documented verbal nonobjection
				Written agreement to proceed to LPRT
4.7.1.5 Information Packages				
				Applicant's project-specific information package
				List of all documents provided to participants

D056 Section No.	Y	N	N/A	Audit Documents
				Documented refusal of information packages
4.7.1.6	**Resolved Concerns and Objections**			
				A record and explanation of any concerns/objections received that were resolved
				Documentation demonstrating resolution of the concerns/objections received
4.7.1.7	**Sour Gas Planning and Proliferation**			
				For cases where there are residents located within the EPZ of the facility, the applicant must submit the assessment of existing infrastructure required by *Directive 056*, section 8.3.2
				The additional project-specific information package details identified in *Directive 056*, section 8.3.2
4.7.2	**Emergency Response Planning**			
				Statement confirming that a corporate or AER-approved plan will be in place before operation
4.7.3	**Application Category**			
				For category B facilities, a representative gas analysis
4.7.4	**Design Criteria**			
				Written description of the proposed process scheme at the facility
				Process flow diagram
				For custom treating facilities, an inlet analysis for oil, water, and solids
				Breakdown of the sources of NO_x and CO_2 emissions
				Manufacturer specifications to confirm NO_x and CO_2 emissions
				Diagrams to demonstrate that stack height requirements have been met
				List of all sources of continuous flaring, incineration, and venting
				The results of the ground-level radiant heat intensity calculation for the flare/incinerator
4.7.5	**Technical Information**			
4.7.5.1	**Equipment Spacing Requirements**			
				Site-specific plot plan
				Indication of whether ESD valves are automated or manual control
				For facilities handling heavy oil, a representative oil analysis
4.7.5.2	**Gas Conservation**			
				Economic evaluation of gas conservation and decision tree analysis or an explanation of why the evaluation cannot be completed until the well test is complete, and a description of the plans to complete the evaluation after well testing
				For gas processing plants with continuous flaring/incineration, documentation to confirm that the gas conservation requirements of *Directive 060*, section 5.1, have been met
4.7.5.3	**Noise Guidelines**			
				A copy of the noise impact assessment
4.7.5.4	**Storage Requirements**			
				List of materials stored and size and type of storage tanks proposed
				Description of design and construction, leak detection, secondary containment, and weather protection for each tank proposed
4.7.5.5	**Production Measurement Requirements**			
				A list and location of each meter proposed

D056 Section No.	Y	N	N/A	Audit Documents
				Documentation to confirm that the measurement/estimation procedures for flared, incinerated, and vented volumes meet the requirements of *Directive 060*
4.7.5.6 NO_x Emissions				
				For facilities where the NO_x emissions are less than 16 kg/hr, documentation or a schematic diagram for each source stack demonstrating that the stack height is 1.2 times the peak building height
				If modelling was conducted, documents that clearly show that dispersion modelling was conducted in accordance with the Alberta *Air Quality Model Guideline* • the source parameters, locations, elevations, and NO_x emission rates for all sources • predicted normal and maximum ground-level NO_x concentrations • the name of the dispersion model used • a description of meteorological data used • a terrain map of the study area
				A copy of the Alberta Environment and Protected Areas approval or registration number if available
				If approval or registration is not completed, • documents that clearly show that dispersion modelling was conducted in accordance with the *Alberta Air Quality Model Guideline* • the source parameters, locations, elevations, and NO_x emission rates for all sources • predicted normal and maximum ground-level NO_x concentrations • the name of the dispersion model used • a description of meteorological data used • a terrain map of the study area
4.7.5.7 *Historical Resources Act* Clearance (Freehold land only)				
				Alberta Culture approval dated before application
4.7.5.8 AER Environmental Requirements				
				All documentation outlined in *IL 93-09*, if applicable
4.7.6 Gas Plants				
				A plant material balance
				An explanation of any differences between design rates applied for and those from the material balance
				For new category C, D, and E plants, the results of the feasibility evaluation of existing plants that was conducted
4.7.7 H_2S Information				
4.7.7.1 Gas Treating and Processing Information				
				Description of the H_2S scavenger system proposed, nature of spent chemical, and its disposition
				Wellhead or inlet gas analysis representative of facility inlet
				Breakdown of all sources that contribute to the continuous sulphur emissions
				Explanation of how the facility meets the current sulphur recovery requirements
4.7.7.2 Setback Requirements				
				Input parameters used to calculate the potential H_2S release volume of the highest level of pipeline associated with the facility
				Pipeline map showing ESD and check valve locations

D056 Section No.	Y	N	N/A	Audit Documents
				Pipeline licence and line number for the pipeline that determined the required setback
4.7.7.3 Vapour Recovery				
				For facilities with H_2S >10 mol/kmol, a description of the method proposed to handle stock tank vapours so that proper combustion occurs
				For facilities with H_2S >0.01 mol/kmol, a description of how off-lease odours will be controlled during the transfer and transport of fluids containing H_2S
4.7.7.4 SO_2 Emissions and Stack Design				
				Schematic diagram or description of the flare/incinerator
				Documentation that demonstrates the Alberta ambient air quality objectives will be met for SO_2 emissions from continuous sources and from nonroutine events. The documentation must clearly show that dispersion modelling was conducted as per the Alberta *Air Quality Model Guideline* and *Directive 060*
				The source parameters, locations, elevations, and SO_2 emission rates for all sources
				Predicted maximum ground-level SO_2 concentrations
				Name of the dispersion model used
				Description of meteorological data used
				Terrain map of the study area
				For incinerators, the residence time and exit temperature
				For facilities with less than 10 mol/kmol H_2S, the heating value of the gas stream for the flare/incinerator
4.7.8 Compressors and Pumps				
				Manufacturer specifications to confirm emission ratings, type of driver, and size of compressor/pump

Table 2. Pipeline application audit checklist

D056 Section No.	Y	N	N/A	Audit Documents
4.8 Additional Audit Documentation Requirements for Pipelines				
4.8.1 Participant Involvement Requirements				
4.8.1.1 Participant Involvement Map Requirements				
				Map
4.8.1.2 Industry Notification Requirements				
				Record of contact with other parties, including name, address, telephone number
				Copies of all correspondence between parties
				Minutes of meetings held, including • date of meeting • meeting notice or invitation • invitation list • name, address, and phone number of all meeting participants
				Copies of the project information presented at meetings or otherwise distributed
4.8.1.3 Personal Consultation and Notification Requirements				
				Participant Involvement Summary
4.8.1.4 Confirmation of Nonobjection				

D056 Section No.	Y	N	N/A	Audit Documents
				Freehold lease agreement
				Crown disposition
				Signed information document
				Documented verbal nonobjection
				Written agreement to proceed to LPRT
4.8.1.5 Information Packages				
				Applicant's project-specific information package
				List of all documents provided to participants
				Documented refusal of information packages
4.8.1.6 Resolved Concerns and Objections				
				A record and explanation of any concerns/objections received
				Documentation demonstrating resolution of the concerns/objections received
4.8.1.7 Sour Gas Planning and Proliferation				
				The assessment of existing infrastructure required in *Directive 056*, section 8.3.2 if there are residents located within the sour gas EPZ of the pipeline
				The additional project-specific information package details identified in *Directive 056*, section 8.3.2
4.8.2 Emergency Response Planning				
				Statement confirming that a corporate or AER-approved plan will be in place before operation
4.8.3 Transportation and Utility Corridors				
				Documentation confirming that ministerial consent from Alberta Infrastructure has been obtained
4.8.4 Environmental Information				
				All documentation outlined in *IL 93-09*, if applicable
4.8.5 Pipeline Technical Information				
4.8.5.1 H_2S Content Requirements				
				A gas analysis
4.8.5.2 *CSA Z662*				
				A statement confirming the licensee has a Safety Loss Management System and Integrity Management Program in place
				Mill certificates, product specification documentation, or other documentation indicating the line pipe outside diameter, wall thickness, material, type, grade, and any applicable sour service rating
				Specifications for the valves, flanges, and fittings, including the components' nominal pressure rating and any applicable sour service rating
				A list of any AER-licensed pipelines that connect directly to the pipeline being audited, including the licence number, line number, substance, maximum H_2S content, and MOP
				A description of how the pressure control and overpressure protection meets *CSA Z662* and a diagram of the equipment configuration with pressure control and overpressure protection devices clearly identified and set points indicated
				An explanation of how the requirements of section 31(4) of the *Pipeline Rules* have been met
				A description or map showing any sectionalizing valve locations and spacing

D056 Section No.	Y	N	N/A	Audit Documents
4.8.5.3 Elevated-Temperature Pipelines				
				Documentation verifying that the pipeline design was registered with ABSA
4.8.5.4 H_2S Release Volume and Level Designations				
				The summary page from the pipeline's ERCBH2S model calculation (*Directive 071*)
				Representative tie-in schematics of ESD and check valves
				A system map showing ESD and check valve locations
				List of licence and line numbers of any other AER-licensed pipelines included in the pipeline's H_2S release volume calculation
4.8.5.5 Sour Natural Gas Injection				
				An explanation as to the affect the scheme operation will have on the pipeline material and operating parameters
4.8.5.6 Substance or H_2S Change				
				An engineering assessment demonstrating the pipeline is suitable for the intended use
4.8.5.7 MOP Change				
				For an MOP increase, an engineering assessment demonstrating the pipeline is suitable for the intended use
				For an MOP increase, pressure test charts
				For an MOP decrease, an explanation for the decrease
4.8.5.8 Internal Protection				
				Liner specifications indicating the liner type and grade
				Pressure test charts
4.8.5.9 Pipeline Discontinuance				
				Date (month, year) of the last active flow
				Production source (i.e., a well or facility) and the licence number
				Completion date (day, month, year) of the discontinuance activity
				Report demonstrating that the discontinuance was conducted in accordance with the *Pipeline Rules*
				Record of any medium left in the pipeline
				Description of how the pipeline was managed while not in active flowing service
				Documentation confirming it will maintain cathodic protection on the discontinued pipeline
4.8.5.10 Pipeline Abandonment				
				Start date (day, month, year) of the pipeline abandonment activity
				Completion date (day, month, year) of the pipeline abandonment activity
				A report demonstrating that the abandonment was conducted in accordance with the *Pipeline Rules*
				Record of any medium left in the pipeline
				Date (month, year) of the last active flow if the abandoned pipeline's previous status was "operating"
				Production source (i.e., a well or facility) and the licence number if the abandoned pipeline's previous status was "operating"
4.8.5.11 Pipeline Removal				
				The start date (day, month, year) of the pipeline removal activity
				The completion date (day, month, year) of the pipeline removal activity

D056 Section No.	Y	N	N/A	Audit Documents
				A report demonstrating that the removal was conducted in accordance with the *Pipeline Rules*
4.8.5.12 Pipeline Resumption				
				An engineering assessment demonstrating the pipeline is suitable for the intended use
				Pressure test charts for any pressure test completed to verify pipeline integrity
				Cathodic protection records from the past three years
				The date (month, year) of the last active flow before the pipeline was discontinued
				Production source (i.e., a well or facility) and the licence number
				Completion date (day, month, year) of the discontinuance activity
				Report demonstrating that the discontinuance was conducted in accordance with the *Pipeline Rules*
				Record of any medium left in the pipeline when the pipeline was discontinued
				Description of how the pipeline was managed while not in active flowing service before the pipeline was discontinued
4.8.6 Pipeline Installation Technical Information				
				Wellhead or inlet gas analysis
				Process flow diagram (PFD)
				Site-specific plot plan
				List of each type of meter proposed for each measurement point and their location
				For facilities where the NO_x emissions are less than 16 kg/hr, the licensee must submit documentation or a schematic diagram for each source stacks, demonstrating the stack height is 1.2 times the peak building height
				If modelling was conducted, the licensee must submit • documents that clearly show that dispersion modelling was conducted in accordance with the *Alberta Air Quality Model Guideline* • the source parameters, locations, elevations, and NO_x emission rates for all sources • predicted normal and maximum ground-level NO_x concentrations • the name of the dispersion model that was used • description of meteorological data used • terrain map of the study area
				Manufacturer specifications for the proposed unit that confirm emission ratings, unit size, and driver type
				A noise impact assessment
				A breakdown and total of all sources of NO_x emissions
				Documentation that storage requirements are met
				Documentation that the line heater is designed to *Safety Codes Act* requirements

Table 3. Well application audit checklist

D056 Section no.	Y	N	N/A	Audit documents
4.9 Additional Audit Documentation Requirements for Wells				
4.9.1 Participant Involvement Requirements				
4.9.1.1 Mapping Requirements				
				Map

D056 Section no.	Y	N	N/A	Audit documents
4.9.1.2 Personal Consultation and Notification Requirements				
				Participant Involvement Summary
4.9.1.3 Confirmation of Nonobjection				
				Freehold lease agreement
				Crown disposition
				Signed information document
				Documented verbal nonobjection
				Written agreement to proceed to LPRT
4.9.1.4 Information Packages				
				Applicant's project-specific information package
				List of all documents provided to participants
				Documented refusal of information packages
4.9.1.5 Resolved Concerns and Objections				
				A record and explanation of any concerns/objections received that were resolved
				Documentation demonstrating resolution of the concerns/objections received
4.9.1.6 Sour Gas Planning and Proliferation				
				For cases where there are residents located within the EPZ of the facility, the applicant must submit the assessment of existing infrastructure required by *Directive 056*, section 8.3.2
				The additional project-specific information package details identified in *Directive 056*, section 8.3.2
4.9.2 Emergency Response Planning				
				Statement confirming that a corporate plan exists or an AER-approved plan will be approved before operation
4.9.3 Well Purpose				
				For category B wells, a representative gas analysis for each prospective horizon
4.9.4 Minimum Casing Testing Requirements				
				Confirmation and/or documentation that all applicable minimum requirements in *Directive 056*, section 7.7.5 have been met
				A copy of the inspection log variance if one has been granted
4.9.5 Well Detail				
				Survey plan
				For CBM wells completed above the base of groundwater protection, survey plan or map that meets the requirements of appendix 6
4.9.6 Surface Casing Requirements				
				Completed *Directive 008* Surface Casing Depth Calculation form, pressure survey, and gradient documentation
				Supporting information for the surface casing reduction type selected
				Supporting information confirming that the applicable criteria will be met for deep surface casing or surface casing exemptions
				Documentation showing the base of groundwater from DDS

D056 Section no.	Y	N	N/A	Audit documents
				Description of the method proposed to protect the groundwater
				Confirmation that requirements in section 7.7.11 of *Directive 056* have been met
				Copy of variance granted by the AER
4.9.7 Well Classification				
				Copy of drill-cutting variance if granted by the AER before filing the well licence application
Minerals				
4.9.8 Rights for All Intended Purposes				
				Mineral rights lease number (Crown minerals)
				Documentation that authorization has been obtained from the mineral rights owner or lessee for injection or water source wells
				Documentation that an appropriate agreement or authorization has been obtained for the evaluation of Crown minerals for the activity applied for
				Documentation that authorization has been obtained for Freehold minerals
4.9.9 Rights for the Complete Drill Spacing Unit				
				Mineral rights lease numbers for leases covering the entire drill spacing unit (Crown minerals) or for the length of the entire wellbore for geothermal or brine-hosted mineral wells
				Documentation that demonstrates Freehold minerals have been acquired for the entire drill spacing unit or for the length of the entire wellbore for geothermal or brine-hosted mineral wells
Surface Impact				
4.9.10 Water Body Setback Requirements				
				Documentation outlining the steps that will be taken to ensure that the water body is protected and that all AER requirements are met
				Alberta Environment and Protected Areas *Water Act* approval
4.9.11 Other Setback Requirements				
				Documentation confirming that consent from the surface improvement owner was received before application
				Supporting information confirming that the applicable criteria will be met for coal mines
4.9.12 Environmental Requirements				
				Documentation outlining steps that will be taken to ensure the protection of the environment and that all AER requirements are met. Refer to section 7.7.14 of *Directive 056*
				All documentation outlined in *IL 93-09*, if applicable
4.9.13 CBM Wells				
				For CBM wells completed above the base of groundwater protection, the additional audit documents indicated in appendix 6
4.9.14 H_2S Release Rate				
				Map showing size and location of the search area
				A geological well prognosis and comprehensive geological discussion for all formations/zones
				Geological mapping for primary/secondary targets that may contain H_2S gas

D056 Section no.	Y	N	N/A	Audit documents
				An engineering discussion for each potentially productive zone that may contain H_2S gas
				Tabulated data that provides the results of H_2S concentration and AOF rate reviews
				If an H_2S release rate assessment presubmission was made, a letter issued by the AER
4.9.15 Intermediate Casing				
				Depth to which intermediate casing will be set
				Copy of casing variance (if applicable)
4.9.16 Drilling Critical Wells				
				A detailed drilling plan based on the requirements in *Directive 036* and IRP Volume 1, including a table of contents
				Variance/approval obtained from the AER

5 Facility Procedures

5.1 Overview

Depending on the project, the AER requires the submission of one Schedule 1, along with one or more of the following forms:

- Schedule 2: Facility Licence Application
- Schedule 2.1: Working Interest Participants – Facilities
- Schedule 2.2: Gas Plants – Facilities
- Schedule 2.3: H_2S Information – Facilities
- Schedule 2.4: Compressors/Pumps – Facilities

5.2 Licence Expiry or Extensions

The AER typically issues a facility licence for a one-year term. There are different ways an applicant/licensee can extend the term of its facility licence.

5.2.1 New Facility Licence Application

You may request a two-year term when applying for a new facility licence. Include a cover letter with your applications that includes

- a request for a two-year licence term and
- a statement confirming the associated participant involvement program will be updated before acting on the licence.

5.2.2 Licence Extension by Application Amendment

You may file a licence amendment application to extend the expiry date of a permanent or temporary facility licence for up to six additional months if the facility licence has not expired nor acted on. No cover letter is required for this amendment. See step 4: Application Type, of section 5.6.1 for further details regarding the extend expiry date amendment.

5.2.3 Licence Extension by Email

You may submit a licence extension request to ApplicationAssessment@aer.ca to extend the expiry date of a permanent facility licence for up to 12 additional months if the facility licence has not expired nor acted on. Requests for extensions will be considered on a case-by-case basis. The request must be submitted on company letterhead at least 30 days before the licence expires and include the following information:

- The licence number to be extended.
- The requested new expiry date. If no expiry date is identified, the licence will be extended for 12 months.
- A statement confirming that the associated participant involvement program will be updated before the licence is acted on.

5.3 Exemptions

5.3.1 Oil Sands Processing Plants

Surface facilities associated with approved in situ schemes require a *Directive 056* facility licence. Applications for in situ oil sands central processing units should be applied for using the category type "multiwell bitumen batteries."

5.3.2 Oilfield Waste Management Facilities

Oilfield waste management facilities are not licensed under *Directive 056*. See the AER website for information on approvals to construct and operate new facilities, modify existing facilities, and notifications of minor modifications to existing facilities.

If a facility currently licensed under *Directive 056* becomes a waste management facility, a *Directive 058* approval is required, and the previously issued *Directive 056* licence will be cancelled. Operators are reminded that the receipt of oilfield waste from outside of a facility's production system for consolidation and transfer or for on-site storage or management is not permitted unless the facility is approved as an oilfield waste management facility.

5.4 Licence Amendments

Only facilities that have an existing AER facility licence number can be amended. Licensees may use the licence amendment applications process based on the criteria in table 4.

Applicants may apply for multiple types of licence amendments on one Schedule 2; however, note that licence amendment types 10 and 11 cannot be done in combination with any other amendment type. Not all types of licence amendments are available for all category types (see table 5).

Table 4. Licence amendment types

Reference	Schedule 2 licence amendment type
LA1	Change category or type of facility
LA 2	Install and/or remove compression at existing licensed facilities (except standalone injection/disposal facilities)
LA 3	Change the maximum licensed inlet rates (design rates) of existing licensed facilities
LA 4	Change the licensed H_2S content of raw inlet gas at any existing licensed category C, D, or E facility
LA 5	Install and/or remove injection/disposal pumps at an existing licensed facility
LA 6	Change the types of products recovered and/or the rates of recovery at an existing licensed gas processing plant
LA 7	Add regenerative sweetening equipment to an existing licensed gas processing plant
LA 8	Add nonregenerative sweetening process to an existing licensed category C, D, or E facility
LA 9	Change the maximum continuous sulphur emissions rate at an existing licensed category C, D, or E facility satellites)
LA 10	Extend the expiry date of a temporary facility or permanent facility for up to an additional six months
LA 11	Change the status of a temporary facility to a permanent operation
LA 12	Add a new flare/incinerator stack (a new source of emissions) at an existing licensed facility
LA 13	Increase the sulphur recovery efficiency at an existing licensed sulphur recovery plant or acid gas injection facility
LA 14	Decrease the sulphur recovery efficiency at an existing licensed sulphur recovery plant or acid gas injection facility
LA 15	Change the method of acid gas disposal at an existing licensed category C, D, or E gas processing plant
LA 16	Degrandfather an existing licensed sulphur recovery plant in accordance with the sulphur recovery requirements of *ID 2001-03*

Table 5. Energy development category type amendment combinations

Category type	Licence amendment type															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
B010	x	x	x		x	x	x			x	x	x				
B011	x	x	x		x	x	x			x	x	x				
B020	x	x	x		x					x	x	x				
B030	x	x	x		x					x	x	x				
B031	x	x	x		x					x	x	x				
B040	x	x	x		x					x	x	x				
B070	x	x	x		x					x	x	x				
B071	x	x	x		x					x	x	x				
B080	x	x	x		x					x	x	x				
B090	x		x		x					x	x	x				
B091	x		x		x					x	x	x				
B200	x	x	x		x	x	x			x	x	x				
C300	x	x	x	x	x	x	x	x	x	x	x	x			x	
C301	x	x	x	x	x	x	x	x	x	x	x	x			x	
C302	x	x	x	x	x	x	x	x	x	x	x	x			x	
C310	x	x	x	x	x			x	x	x	x	x				
C311	x	x	x	x	x			x	x	x	x	x				
C320	x	x	x	x	x			x	x	x	x	x				
C321	x	x	x	x	x			x	x	x	x	x				
C330	x	x	x	x	x			x	x	x	x	x				
C331	x	x	x	x	x			x	x	x	x	x				
C340	x	x	x	x	x			x	x	x	x	x				
C350	x	x	x	x	x			x	x	x	x	x				
C351	x	x	x	x	x			x	x	x	x	x				

	Licence amendment type															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D400	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
D401	x	x	x	x	x	x	x	x	x	x	x	x			x	
D410	x	x	x	x	x			x	x	x	x	x				
D411	x	x	x	x	x			x	x	x	x	x				
D420	x	x	x	x	x			x	x	x	x	x				
D421	x	x	x	x	x			x	x	x	x	x				
D430	x	x	x	x	x			x	x	x	x	x				
D431	x	x	x	x	x			x	x	x	x	x				
D440	x	x	x	x	x			x	x	x	x	x				
D450	x	x	x	x	x			x	x	x	x	x				
D451	x	x	x	x	x			x	x	x	x	x				
E600	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Note: Only certain licence amendment types are acceptable based on the category type of the facility. Acceptable licence amendment types are indicated with an “x” in this table.

5.5 Technical Requirements

5.5.1 Facility Abandonment

Licensees of abandoned facilities can change the facility status to “abandoned” through the designated information submission system. This change is not made through *Directive 056*. Refer to section 7.1 of *Directive 011: Estimated Liability* for more information.

5.5.2 Sulphur Recovery

If the applicant believes a variance to the minimum sulphur recovery levels of *ID 2001-03* is warranted, the applicant must file a nonroutine application.

5.5.3 Total Continuous Emissions

Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators sets out requirements for the reduction of benzene emissions from glycol dehydrators. In the directive, licensees are required to submit to the AER an annual dehydrator benzene inventory list. This must be done using an Alternate Reference on Schedule 1 under the Applicant’s Reference section for all new and amended facilities that include glycol dehydrators in the design. Applicants are expected to fill out this reference with the code of GDEHY for all facility applications that include glycol dehydrators.

5.5.4 Plot Plans and Spacing Requirements

If the applicant cannot meet the AER spacing requirements, they must file a nonroutine application.

If the application is for a geothermal facility, provide a plot plan showing the following information:

- the geothermal lease boundary
- any geothermal facilities collocated with oil and gas facilities with clear identification of the geothermal equipment from the oil and gas equipment

5.5.5 Vapour Recovery and Odour Control

The applicant must file a nonroutine application and include an explanation of the proposed method of vapour control when the maximum inlet H_2S content of the gas is greater than 10 mol/kmol and a vapour recovery unit will not be installed.

5.5.6 Noise Requirements

If the noise impact assessment indicates that the permissible sound level will be exceeded, and if mitigative measures are not practical, the applicant must file a nonroutine licence application and explain why mitigative measures are not practical.

5.5.7 Alberta Culture

For proposed new facility licences or licence amendments that require a lease expansion on Freehold lands, the applicant must consult Alberta Culture's *Listing of Significant Historical Sites and Areas* to determine whether the proposed facility site will require Alberta *Historical Resources Act* clearance before filing a licence application.

If Alberta Culture has not granted clearance, submit a nonroutine licence application.

5.5.8 Working Interest Participants

It is not necessary to identify working interest participants for licence amendment applications. Once licensed, working interest participants are updated through the AER.

Table 6 summarizes the documents required for nonroutine application submission by step and question.

Table 6. Facility application nonroutine checklist

Section No.	Y	N	N/A	Nonroutine Submissions
Facility Licence Application				
Participant Involvement Requirements				
Personal consultation, confirmation of nonobjection, and notification requirements have been met: Public				
				The participant involvement summary of all personal consultation and notification that have been completed
				Name, address, telephone number, and legal land description of participants for which personal consultation and notification requirements have not been completed
				Detailed explanation of why all personal consultation and nonobjection requirements cannot be completed
				Detailed explanation of why all notification requirements cannot be completed
				An explanation of how you would like the AER to proceed with this application
Industry				
				Record of contact with industry parties conducted
				Copies of correspondence between parties
				Minutes of meetings held
				Copies of information distributed

Section No.	Y	N	N/A	Nonroutine Submissions
				A summary of parties for which industry notification has not occurred
				A detailed explanation of why all industry notification requirements were not completed
				An explanation of how you want the AER to proceed with your application
There are outstanding objection/concerns related to this application				
				Name, address, telephone number, and legal land description of participants with outstanding concerns or objections
				Approximate distance from the project to the land and residence, if applicable, of participants with outstanding concerns or objections
				Copy of the written concern or objection (or summary of issues if not available)
				A chronology of the participant involvement program conducted with the party
				A discussion of steps taken to mitigate the outstanding concerns or objections
				Copy of the applicant's project-specific information package
				List of other documents distributed
				Documentation in support of the Battle Lake application requirements (*Directive 056*, section 8)
				Explanation of how you want the AER to proceed with your application
				If there are residents within the EPZ, you must also attach • the assessment of existing infrastructure required by *Directive 056*, section 8.3.2 • the updated expanded project-specific information package, as described in *Directive 056*, section 8.3.2 • a copy of an area plan described in *Directive 056*, section 8.3.3 if it was completed
Technical Information				
Equipment spacing requirements will be met				
				Detailed explanation of what equipment will not meet the requirements and why
				Description of fluids involved and all sources of gaseous vapours
				Topographic map (if terrain is the cause)
				Description of how safety will not be compromised by a relaxation from the requirement, including safety assessment and response time for callout
The facility will meet all current and applicable engineering and safety standards				
				Detailed explanation of nonconformance with engineering and safety standard
If YES, gas flaring, incinerating, or venting will comply with the requirements of *Directive 060*				
				Description of exemption being proposed and a detailed explanation of reasons
				Explanation that includes plans to complete gas conservation evaluation (if not completed before application)
The facility meets AER noise control requirements (*Directive 038*)				
				A copy of the noise impact assessment
				An explanation of why the noise requirements will not be met
				Discussion of the mitigative measures proposed or a discussion of why mitigative measures are not practical
				Map showing proximity of residents
AER storage requirements will be met (*Directive 055*)				
				Explanation of why the storage requirements will not be met, and a description of alternative storage methods
				Discussion of how the environment will not be compromised by a relaxation of the requirements

Section No.	Y	N	N/A	Nonroutine Submissions
AER production measurement requirements will be met				
				Explanation of why measurement will not meet the AER's requirements and a discussion of the proposed alternative
NO_x air emissions meet the *Alberta Ambient Air Quality Objectives*				
				Explanation of why the *Alberta Ambient Air Quality Objectives* will not be met
				Documents confirming that dispersion modelling was conducted in accordance with the *Alberta Air Quality Model Guideline*, including • the source parameters, locations, elevations, and NO_x emission rates for all sources • predicted normal and maximum ground-level NO2 concentrations • the name of the dispersion model used • a description of meteorological data used • a terrain map of the study area
Clearance has been granted for the facility site				
				Explanation as to why Alberta Culture has not provided clearance
The proposed facility meets the AER's environmental requirements				
				A detailed explanation of why the facility does not meet AER environmental requirements and what measures will be in place to ensure the facility will not have a negative impact on the environment
Gas Plants				
Technical Information				
A sour gas proliferation review has been conducted in accordance with *ID 2001-03*				
				A detailed explanation as to why the requirements cannot be met
H_2S Information				
Gas Treating and Processing Information				
Acid gas disposal method: Other				
				Description of the proposed alternative acid gas disposal process and supporting technical documents/papers discussing the method
Sulphur recovery process: Other				
				Description of the proposed process, including a supporting process flow diagram and material balance
				Technical documents/papers discussing the process
				Explanation of how the proposed process will meet the sulphur recovery requirements
				Available correspondence from Alberta Environment and Protected Areas related to the process
				Results and description of the process in operation at another facility
Technical Information				
Question 1: Sour setback requirements have been met				
				Detailed explanation of why the setbacks cannot be met
A method to recover vapours will be implemented				
				Detailed explanation of why vapour recovery will not be installed
				Discussion of mitigative measures to ensure that off-lease odours do not occur
SO_2 air emissions meet the *Alberta Ambient Air Quality Objectives*				
				Schematic diagram or description of the flare/incinerator

Section No.	Y	N	N/A	Nonroutine Submissions
				The source parameters, locations, elevations, and SO_2 emission rates for all sources
				Predicted maximum ground-level SO_2 concentrations
				Name of the dispersion model used
				Description of meteorological data used
				Terrain map of the study area
				For facilities with less than 10 mol/kmol H_2S, the heating value of the gas stream for the flare/incinerator
				Description of the magnitude and frequency of potential SO_2 exceedance and information on situations leading to SO_2 exceedance (operational scenarios, meteorological conditions)

Directive 056: Schedule 2
Facility Licence Application

Alberta Energy Regulator

Submission date: _____ Applicant's reference: _____

1. Identification	
Applicant name:	Applicant BA code:

2. Participant Involvement Requirements

1. Personal consultation, confirmation of nonobjection, and notification requirements have been met. Public ☐ Yes ☐ No; Industry ☐ Yes ☐ No

2. There are outstanding objections or concerns related to this application. ☐ Yes ☐ No

3a. Distance to nearest surface development (km): _____ 3b. Distance to nearest residence (km): _____

3. Emergency Response Planning

1. The applicant will meet AER requirements for emergency response planning. ☐ Yes

2a. The facility requires a new emergency response plan. ☐ Yes ☐ No

2b. The facility requires an amendment to an existing emergency response plan. ☐ Yes ☐ No

4. Application Type

Category type: _____ Description: _____

☐ New licence ☐ Licence amendment ☐ Temporary facility

Maximum H_2S content of inlet gas: _____ ppm _____ mol/kmol _____ %

Licence amendment (LA) type:

☐ 1-Change category and/or type
☐ 2-Install/remove compression
☐ 3-Change maximum licensed inlet rates
☐ 4-Change H_2S content of inlet gas
☐ 5-Install/remove injection/disposal pumps
☐ 6-Change product/product recovery rates
☐ 7-Add regenerative sweetening
☐ 8-Add nonregenerative sweetening
☐ 9-Change maximum continuous sulphur emissions
☐ 10-Extend expiry date
☐ 11-Change status to permanent
☐ 12-Add new flare/incinerator stack
☐ 13-Increase sulphur recovery efficiency
☐ 14-Decrease sulphur recovery efficiency
☐ 15-Change acid gas disposal method
☐ 16-Degrandfather sulphur recovery facility

LSD: _____ Latitude (NAD 83): _____ Longitude (NAD 83): _____

Existing facility licence no.: _____ Linking facility licence no.: _____ Direct to sales ☐

Facility expiry: _____ AER-designated field or strike area: _____

5. Design Criteria

	Raw gas	Oil/Bitumen	Condensate	Water	Sulphur
Total inlet rates	____ 10^3 m^3/d	_____ m^3/d	_____ m^3/d	_____ m^3/d	_____ t/d

	NO_x	CO_2	Flaring/Incineration	Venting
Total continuous emissions rates	_____ kg/h	_____ t/d	____ 10^3 m^3/d	____ 10^3 m^3/d

6. Technical Information

1.	The proposed facility is part of an experimental, primary, or commercial crude bitumen scheme	☐ Yes	☐ No
1a.	If YES, provide scheme approval no.	_____	
2.	Equipment spacing requirements will be met	☐ Yes	☐ **No**
3.	The facility will meet all current and applicable engineering and safety standards	☐ Yes	☐ **No**
4.	Gas will be continuously flared, incinerated, or vented	☐ Yes	☐ No
4a.	If YES, the gas flaring, incinerating, or venting will comply with the requirements of *Directive 060*	☐ Yes	☐ **No**
5.	The facility meets the AER Noise Control requirements (*Directive 038*)	☐ Yes	☐ **No**
6.	AER storage requirements will be met (*Directive 055*)	☐ Yes	☐ **No**
7.	AER oilfield waste management requirements will be met (*Directive 058*)	☐ Yes	
8.	AER production measurement requirements will be met	☐ Yes	☐ **No**
9.	NO_x air emissions meet the Alberta Ambient Air Quality Objectives	☐ Yes	☐ **No**
10.	Approval from or registration with Alberta Environment and Parks is required	☐ Yes	☐ No
11.	Alberta Environment and Parks requires an environmental impact assessment	☐ Yes	☐ No
12.	The proposed facility will include compressors (new licence only). If Yes, attach completed Schedule 2.4.	☐ Yes	☐ No
13.	The proposed facility will include pumps (new licence only). If Yes, attach completed Schedule 2.4.	☐ Yes	☐ No
14.	The proposed facility site requires Historical Resources Act clearance (Freehold land only)	☐ Yes	☐ No
14a.	If YES, clearance has been granted for the facility site	☐ Yes	☐ **No**
15.	The licensee is the only working interest participant. If NO, attach a completed Schedule 2.1	☐ Yes	☐ No
16.	The facility meets the AER environmental requirements	☐ Yes	☐ **No**

5.6 How to Complete Facility Licence Application Schedules

5.6.1 How to Complete Schedule 2: Facility Licence Application

Date	Enter the date on which you will submit this schedule (e.g., 15 Jan 2011).
Applicant's Reference	Enter a file reference in the designated area (optional). For geothermal or brine-hosted mineral facilities, enter "Geothermal" or "Mineral" as part of the applicant's reference. The applicant can also add optional particulars in the reference.

Step 1: Identification

Applicant BA Code	Enter the four-digit business associate (BA) code issued to your company.
Applicant Name	Enter the full corporate name of the applicant assigned the BA code.

Step 2: Participant Involvement Requirements

*If you check a **BOLD** response, you must attach supporting information.*

1. Personal consultation, confirmation of nonobjection, and notification requirements have been met: Public	**YES** means that all applicable requirements as outlined in the participant involvement requirements of section 3 have been met before application submission. **NO** means that due to exceptional circumstances, all applicable requirements as cited above have not been met. This includes being unable to contact a party or receive confirmation of nonobjection, as required. If **NO**, you must attach • the participant involvement summary of all personal consultation and notification that has been completed; • the name, address, telephone number, and legal land description of participants for which personal consultation and notification requirements have not been completed; • a detailed explanation of why all personal consultation and nonobjection requirements cannot be completed; • a detailed explanation of why all notification requirements cannot be completed; and • an explanation of how you would like us to proceed with this

application.

We will review the circumstances and decide if an exemption is warranted.

Industry

YES means that all operators of similar facilities and all licensees of unconnected wells within your area of investigation have been notified in accordance with the participant involvement requirements of section 3 and the proliferation requirements of *Directive 056*, section 5.9.3 before application submission.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met.

If **NO**, you must attach

- a record of contact with industry parties conducted;
- copies of correspondence between parties;
- minutes of meetings held;
- copies of information distributed;
- a summary of parties for which industry notification has not occurred;
- a detailed explanation of why all industry notification requirements were not completed; and
- an explanation of how you would like us to proceed with this application.

We will review the circumstances and decide if an exemption is warranted.

2. There are outstanding concerns or objections related to this application

YES means that there are outstanding public or industry concerns or objections.

If **YES**, you must attach

- name, address, telephone number, and legal land description of the participant with outstanding concerns or objections;
- approximate distance from the project to the land and residence, if applicable, of the participants with outstanding concerns or objections;

- a copy of written concerns or objections received; if not available, a summary of issues;
- a chronology of the participant involvement program conducted with the party;
- steps taken to mitigate the outstanding concerns or objections;
- a copy of the project-specific information package provided;
- a list of other documents distributed; and
- a discussion of how you would like us to proceed with your application.

If there are residents within the EPZ, you must also attach

- the assessment of existing infrastructure required by *Directive 056*, section 8.3.2;
- the updated, expanded project-specific information package, as described in *Directive 056*, section 8.3.2; and
- a copy of an area plan described in *Directive 056*, section 8.3.3 if it was completed.

YES also means the proposed facility is located within the Tier 1 area of Battle Lake and the documentation required by *Directive 056*, section 8 is attached.

We will review only the concern or objection identified and decide if an exemption is warranted.

NO means there are no outstanding public or industry concerns or objections.

3a. Distance to nearest surface development

Enter the distance from the edge of the facility lease to the nearest surface development in kilometres (km) to two decimal places.

If there is no surface development within the EPZ, a distance to the nearest town, village, or urban centre may be used. Where there is no EPZ, a search should be done to at least 1.5 km; if there is no surface development within this distance, enter 1.5 km on the schedule.

3b. Distance to nearest residence

Enter the distance from the edge of the facility lease to the nearest residence in kilometres (km) to two decimal places.

	If there are no residences within the EPZ, a distance to the nearest town, village, or urban centre may be used. Where there is no EPZ, a search should be done to at least 1.5 km; if there are no residences within this distance, enter 1.5 km on the schedule.

Step 3: Emergency Response Planning

1. The applicant will meet AER requirements for emergency response planning	**YES** means that the corporate or specific emergency response plan will meet the requirements of *Directive 071*.
2a. The facility requires a new emergency response plan	**YES** means that a new emergency response plan is required. **NO** means that a new emergency response plan is not required. Do not complete this question for a category B facility.
2b. The facility requires an amendment to an existing emergency response plan	**YES** means that supplementary information will be submitted for an existing emergency response plan to include this facility. **NO** means that an existing emergency response plan will not be amended. Do not complete this question for a category B facility.

Step 4: Application Type

Category Type	For each Schedule 2 attached, enter the applicable category type from table 1 in *Directive 056*. For a geothermal facility, enter category type B091. For a brine-hosted mineral facility, enter the appropriate category B001, B030, C320, C321, D420, or D421 from table 1 in *Directive 056* based on the H_2S content in the inlet stream.
Description	The facility description from table 1 in *Directive 056* will display based on the category type selection. Table 1 in *Directive 056* includes available geothermal and brine-hosted mineral facility options. If approved, all geothermal or brine-hosted mineral facility licences will indicate the facility as “geothermal” or “brine-hosted mineral” and will be designated as such in the approval.

Temporary Facility	Check this box if you are applying for a facility that will operate for less than one year or if you are filing a licence amendment application to extend the licence expiry date of an existing temporary facility licence for up to an additional six months from the original licensed date.
Maximum H_2S Content of Inlet Gas	Enter the maximum H_2S content of the raw inlet gas in parts per million (ppm), moles per kilomole (mol/kmol) to three decimal places, or percentage (%) to four decimal places. For facilities with multiple inlet streams, record the H_2S value from the stream with the highest H_2S content. The highest H_2S content must be based either on pipelines entering the facility or on any well associated with the raw gas inlet. For a geothermal facility, enter "0.01" regardless of the actual H_2S concentration, select mol/kmol, and provide the actual facility H_2S content in a "miscellaneous" PDF attachment to the application.
Licence Amendment (LA) Type	Use this section if you are amending an existing AER-licensed facility. The LA types are listed below; you may check all that apply. However, only certain amendment combinations will be permitted on one Schedule 2 application. Table 5.3 describes the allowable licence amendment combinations. If there is not an LA type or permitted combination for changes to geothermal or brine-hosted mineral facilities, review the filing procedures in *Directive 089* or *Directive 090* for further direction. For the LA types listed below, full participant involvement requirements must be met; otherwise, submit the application as nonroutine. This includes those amendments described as being not mandatory. Compressors less than 75 kW that were installed previously as an exempt activity should be captured on Schedule 2.4 the next time an amendment application for the facility is required.
1. Change Category and/or Type	Check this box if you are applying to change the category or type of an existing licensed facility as described in table 1 in *Directive 056*. Depending on the amended category/type applied for, you may be required to complete one or more of schedules 2.2, 2.3, and 2.4.
2. Install/Remove Compression	Check this box if you are applying to install or remove compression at an existing licensed facility. The removal of compression is not a mandatory application but will be processed at the applicant's request. You must also

	complete Schedule 2.4. Compressors less than 75 kW that were installed previously as an exempt activity should be captured on Schedule 2.4 the next time an amendment application for the facility is required.
3. Change Maximum Licensed Inlet Rates	Check this box if you are applying to change the maximum licensed inlet rates of an existing licensed facility. The reduction of licensed inlet rates is not a mandatory application but will be processed at the applicant's request.
4. Change H_2S Content of Inlet Gas	Check this box if you are applying to change the maximum H_2S content of the inlet gas of an existing licensed category C, D, or E facility without a category or type change. You must also complete Schedule 2.3 for all category C, D, and E facilities. The reduction of licensed H_2S content is not a mandatory application but will be processed at the applicant's request.
5. Install/Remove Injection/Disposal Pumps	Check this box if you are applying to install or remove injection/disposal pumps at an existing licensed facility. The removal of injection/disposal pumps is not a mandatory application but will be processed at the applicant's request. You must also complete Schedule 2.4.
6. Change Product/Product Recovery Rates	Check this box if you are applying to change the product or product recovery rates of an existing licensed gas processing plant. You must also complete Schedule 2.2. The reduction of product recovery rates is not a mandatory application but will be processed at the applicant's request. Also, the increase in product recovery rates at a category B gas plant is not a mandatory application but will be processed at the applicant's request.
7. Add Regenerative Sweetening	Check this box if you are applying to add a regenerative sweetening system to an existing licensed gas processing plant where there is no change to category or type. You must also complete Schedule 2.2 for category B, C, D, and E gas processing plants and Schedule 2.3 for category C, D, and E gas processing plants.
8. Add Nonregenerative Sweetening	Check this box if you are applying to add a nonregenerative sweetening system to an existing licensed category C, D, or E facility. You must also complete Schedule 2.3.
9. Change Maximum	Check this box if you are applying to change the maximum continuous

Continuous Sulphur Emissions	sulphur emission rate of an existing licensed category C, D, or E facility. You must also complete Schedule 2.3. The reduction in sulphur emissions is not a mandatory application but will be processed at the applicant's request.
10. Extend Expiry Date	Check this box if you are applying to extend the expiration date of a temporary facility licence or a permanent facility licence where construction has not commenced. A licence amendment application to extend the expiry date may only be submitted once and may not be combined with other types of licence amendment applications.
11. Change Status to Permanent	Check this box if you are applying to change the status of an existing temporary facility licence to become a permanent licensed facility.
12. Add New Flare/Incinerator Stack	Check this box if you are applying to add a new flare/incinerator stack at an existing facility.
13. Increase Sulphur Recovery Efficiency	Check this box if you are applying to increase only the sulphur recovery efficiency at an existing sulphur recovery facility or acid gas injection facility. You must also complete Schedule 2.3.
14. Decrease Sulphur Recovery Efficiency	Check this box if you are applying to decrease the sulphur recovery efficiency at an existing sulphur recovery facility or acid gas injection facility. You must also complete Schedule 2.3.
15. Change Acid Gas Disposal Method	Check this box if you are applying to change the acid gas disposal method at an existing licensed category C, D, or E gas plant. You must also complete Schedule 2.3.
16. Degrandfather Sulphur Recovery Facility	Check this box if you are applying to degrandfather an existing licensed sulphur recovery facility to meet the requirements of *ID 2001-03: Sulphur Recovery Guidelines for the Province of Alberta*. You must also complete Schedule 2.3.
Location	Enter the surface location of the facility where construction will occur using the Dominion Land Survey system. If this is a licence amendment to a previously approved facility, enter the location exception assigned on the previous licence. Leave it blank for all new facility applications.
Latitude (NAD 83)	Enter the latitude in decimals of degrees to six decimal places, based on

	the North American Datum 1983 (NAD 83), for the location of the entrance to the facility.
Longitude (NAD 83)	Enter the longitude in decimals of degrees to six decimal places, based on NAD 83, for the location of the entrance to the facility.
Existing Facility Licence No.	Enter the existing AER facility licence number for the facility being amended. If you are changing a temporary facility to permanent status, enter the facility licence number issued for the temporary operation.
Linking Facility Licence No.	Enter the facility licence number for the facility that receives and reports the production from this nonreporting facility. This also applies to temporary nonreporting facilities. Do not indicate a linking facility number if this site is a reporting facility.
Direct to Sales	Check the "Direct to Sales" box if production from a category B or C compressor station is going directly into a sales gas pipeline.
Temporary/Extended Facility Expiry	Enter the date by which the temporary facility will be decommissioned. For new licence applications, this date must not be more than one year from the date of application. You may file a licence amendment application to extend the expiry date of a temporary licence or to extend the expiration of a permanent facility licence up to an additional six months.
AER-Designated Field or Strike Area	Enter the AER-designated field or strike area in which the facility is or will be located. If no field or strike area has been designated, leave this blank. Field and strike area information may be obtained on the AER website aer.ca.

Step 5: Design Criteria

For facility licence amendments, your answers should represent the total design rates associated with all on-site equipment for the location identified and not just the equipment associated with the licence amendment.

Total Inlet Rates	Enter the maximum daily design rates under normal operating conditions for the facility inlet to two decimal places for raw gas and sulphur inlets and one decimal place for oil/bitumen, condensate, and water inlets. The total sulphur inlet rate entered for category C, D, or E facilities must be greater than 0.00 tonnes per day (t/d). If an inlet product is not applicable, enter "0." For geothermal facilities only, enter the following as applicable: Water inlet: Enter the maximum daily design rate at 101.325 kilopascals (kPa) and 15 degrees Celsius (°C). Sulphur inlet: If the sulphur inlet rate is >0.00 t/d, enter "0.00" and attach a "miscellaneous" PDF with the actual facility sulphur inlet rate. If an inlet product is not applicable, enter "0."
Total Continuous Emissions Rates	Your answers should represent the total design amounts associated with all on-site equipment for the location identified.
NO_x	Enter the total amount of NO_x emissions from all sources at the facility site in kilograms per hour (kg/hr) to two decimal places. If less than 0.01 kg/hr, enter "0." This value should include NO_x from cogeneration, internal combustion reciprocating engines (gas or liquid fuelled), gas/liquid-fired turbines and combustion heaters, boilers and steam generating units (gas, liquid or solid fuelled), and sulphur recovery unit incinerator stacks. This value should not include NO_x from flare stacks.
CO_2	Enter the total amount of CO_2 emissions from all sources at the facility site in t/d to two decimal places. If less than 0.01 t/d, enter "0." For facilities operating a sweetening unit for the purpose of CO_2 removal, record the volume of CO_2 vented from that operation. This value should not include CO_2 from flare stacks.

Flaring/Incineration	Enter the maximum continuous flaring/incineration rate in thousands of cubic metres per day (10^3 m^3/d) to two decimal places, including all sources on site where gas is burned in a flare or incinerator. You must enter "0.00" for facilities with no continuous flaring. This value should include all sources of flash gas or tank vapour streams that are associated with continuous flaring/incineration during normal operations. This value should not include fuel gas used for header purge, flare combustion management, or pilot fuel, volumes attributed to emergency or maintenance flaring, or volumes associated with sulphur recovery tail gas flaring/incineration.
Venting	Enter the maximum continuous venting rate in 10^3 m^3/d to two decimal places, including that from all sources on site where gas is vented. You must enter "0.00" for facilities with no continuous venting. This value should not include volumes attributed to emergency or maintenance venting.
Sulphur Dioxide (SO_2)	For use in geothermal facilities only: A value cannot be entered in the system. For a geothermal facility with SO_2 emissions, provide a "miscellaneous" PDF with the maximum continuous sulphur emission rate on a sulphur-equivalent basis in t/d to two decimal places.

Step 6: Technical Information

*If you check a **BOLD** response, you must attach supporting information.*

1. The proposed facility is part of an experimental, primary, or commercial crude bitumen scheme	**YES** means that the proposed facility is part of an approved experimental, primary, or commercial crude bitumen scheme. **NO** means that the proposed facility is not part of an approved experimental, primary, or commercial crude bitumen scheme. Surface facilities associated with an experimental, primary, or commercial crude bitumen scheme must have a scheme approval before the *Directive 056* application.
1a. If **YES**, Scheme Approval No	Only complete this question if you answered **YES** to question 1 above. If **YES**, enter the scheme approval number required in the space provided.

2. Equipment spacing requirements will be met

YES means that the facility design and construction will meet the equipment spacing requirements detailed in the *Oil and Gas Conservation Rules* (*OGCR*), Part 8 (including proximity to a water body), and as required by *Directive 060*.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met in the facility design.

If **NO**, you must attach

- a detailed explanation of what equipment will not meet the requirements and why;
- a description of fluids involved and all sources of gaseous vapours;
- a topographic map (if terrain is the cause); and
- a description of how safety will not be compromised by a relaxation from the requirement, including a safety assessment and response time for callout.

If **NO** and the spacing issue is facility equipment within 100 m from a water body, you must attach

- a discussion of the preventive measures that will be employed at the facility to minimize the risk of a spill occurring, and in the event of a spill, the preventive measures for ensuring that the spill does not reach the water body;
- a description of the proposed equipment, tanks, and piping that will be located less than 100 m from the water body and the fluids involved;
- a description of the types of automatic controls that will be installed (these devices should also be identified on the process flow diagram required for submission with all facility applications);
- a detailed survey plan that clearly identifies the facility location and the distance to the associated water body; and either
  - the licensee's commitment to construct and maintain a berm around the perimeter of the equipment that will prevent any spill from reaching the water body. (This berm should not be confused with the secondary containment requirements set out in *Directive 055*.); or

	– a description of an alternative method or operating condition that would demonstrate how the water body is protected. Additionally, if the proposed facility site is located *within* a water body, the licensee must submit documentation confirming that Alberta Environment and Protected Areas (AEPA) has no concerns about the development of the site. We will review the circumstances and decide if an exemption is warranted.
3. The facility will meet all current and applicable engineering and safety standards	**YES** means that the facility is covered by the current engineering and safety standards and will meet all applicable CSA, ASME, and ABSA requirements. **NO** means that due to exceptional circumstances, all applicable engineering and safety requirements cited above have not been met in the facility design. If **NO**, you must attach a detailed explanation of nonconformance with safety and engineering standards. We will review the circumstances and decide if an exemption is warranted.
4. Gas will be continuously flared, incinerated, or vented	**YES** means that gas produced at the facility will be continuously flared, incinerated, or vented under normal operating conditions. **NO** means that the gas produced at the facility will be conserved or that this is a category E facility.
4a. If **YES**, the gas flaring, incinerating, or venting will comply with the requirements of *Directive 060*	Only complete this question if you answered **YES** to question 4 above. **YES** means that the applicant intends to comply with performance standards defined in *Directive 060*, sections 7 and 8, and has completed an economic evaluation of conserving the continuous flared, incinerated, or vented gas, as described in section 2 of *Directive 060*. **NO** means that you are requesting an exemption from *Directive 060* requirements or have not completed an economic evaluation of gas conservation. If **NO**, you must attach

- a description of the exemption being proposing and a detailed explanation of reasons and,
- if you have not completed an evaluation of gas conservation, an explanation that includes plans to complete the evaluation when sufficient information is available.

We will review the circumstances and decide if an exemption is warranted.

5. The facility meets the AER noise control requirements (*Directive 038*)

YES means that a noise impact assessment has been conducted and used in site selection and facility design, and it indicates that the facility will operate within the guidelines in *Directive 038* or that there is no significant noise-generating equipment at this facility.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met.

If **NO**, you must attach

- the noise impact assessment,
- an explanation of why the noise requirements will not be met,
- a discussion of mitigative measures proposed or a discussion of why mitigative measures are not practical, and
- a map showing proximity of residents.

We will review the circumstances and decide if an exemption is warranted.

6. AER storage requirements will be met (*Directive 055*)

YES means that the facility design and operation will meet the storage requirements in *IL 84-11* and *Directive 055*. This also applies to sulphur-forming, storage, and transportation facilities that are part of the facility. **YES** also means that materials will not be stored at this facility or that the materials stored are exempt from *Directive 055* requirements.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met.

If **NO**, you must attach

- a detailed explanation of why the storage requirements will not be met, a description of alternative storage methods and

- a discussion of how the environment will not be compromised by a relaxation of the requirements.

We will review the circumstances and decide if an exemption is warranted.

7. AER oilfield waste management requirements will be met (*Directive 058*)

YES means that an oilfield waste management plan will be developed and implemented to manage any wastes generated as a result of the facility's operations.

On-site waste management (one-time treatment or waste management component) is limited to first-party oilfield wastes generated inside the production system.

Facilities required for the disposal of class Ia/Ib fluids require approval under *Directive 058*.

Standalone surface facilities that dispose of class II fluids only but maintain a class Ia or Ib disposal scheme approval for the well require approval under *Directive 058*.

An oilfield waste management system requires approval as an oilfield waste management facility pursuant to the application requirements detailed in *Directive 058*.

The requirements for the management of oilfield waste are detailed in *Directive 058*.

8. AER production measurement requirements will be met

YES means that the facility design and operation will meet the production measurement standards detailed in *Directive 060* and section 5.6.13 and of *Directive 056*.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met.

If **NO**, you must attach a detailed explanation of why measurement will not meet AER requirements and a discussion of the proposed alternative.

We will review the circumstances and decide if an exemption is warranted.

9. NO_x air emissions meet the *Alberta Ambient Air*

YES means that NO_x emissions will be within the *Alberta Ambient Air Quality Objectives* issued by AEPA or that the facility has been registered

Quality Objectives	with or approved by AEPA. **NO** means that due to exceptional circumstances, NO_x emissions will not be within the *Alberta Ambient Air Quality Objectives*. If **NO**, you must attach • an explanation of why the *Alberta Ambient Air Quality Objectives* will not be met; • documentation that confirms dispersion modelling was conducted in accordance with the *Air Quality Model Guideline*; • the source parameters, locations, elevations, and NO_x emission rates for all sources; • predicted maximum ground-level NO_2 concentrations; • the name of the dispersion model that was used; • description of meteorological data used; and • terrain map of the study area. We will review the circumstances and decide if an exemption is warranted.
10. Approval from or registration with AEPA is required	**YES** means that the facility requires approval from or registration with AEPA under the *Environmental Protection and Enhancement Act* (*EPEA*) *Activities Designation Regulation* or the *Code of Practice for Compressor and Pumping Stations and Sweet Gas Processing Plants* and may require an application to AEPA, or the licence amendment application does not require a change to the existing AEPA approval or registration of the facility. **NO** means that the facility is not regulated under *EPEA*.
11. AEPA requires an environmental impact assessment	**YES** means that the facility requires an environmental impact assessment (EIA) under *EPEA*. **NO** means that the facility does not require an EIA under *EPEA*. This information will help us coordinate a joint notice, if required.
12. The proposed facility will include compressors	**YES** means that this application for a new facility licence includes gas compression. You must complete Schedule 2.4.

(new licence only)	A response is not required for licence amendment applications. **NO** means that this application for a new facility licence does not include gas compression.
13. The proposed facility will include pumps (new licence only)	**YES** means that this application for a new facility licence includes injection/disposal pumps. You must complete Schedule 2.4. A response is not required for licence amendment applications. **NO** means that this application for a new facility licence does not include injection/disposal pumps.
14. The proposed facility site requires *Historical Resources Act* clearance (Freehold land only)	**YES** means that the new facility lease or expanded facility lease (in the case of a licence amendment) requires clearance by Alberta Culture in accordance with the *Historical Resources Act*. **NO** means that the new facility lease or expanded facility lease (in the case of a licence amendment) does not require clearance by Alberta Culture or that the facility is located on Crown land.
14a. If **YES**, clearance has been granted for the facility site	Only complete this question if you have answered **YES** to question 14. **YES** means that Alberta Culture has granted clearance for the proposed facility site. **NO** means that Alberta Culture has not granted clearance for the proposed facility site. If **NO**, you must attach a detailed explanation as to why Alberta Culture has not provided clearance. We will review the circumstance and decide if an exemption is warranted.
15. The licensee is the only working interest participant (new licence only)	**YES** means that the licensee is the only working interest participant. A response is not required for licence amendment applications. **NO** means that the licensee is not the only working interest participant. If **NO**, you must complete Schedule 2.1, providing details on all working interest participants and the percentage ownership of each. For geothermal or brine-hosted mineral facilities, attach a “miscellaneous” PDF document with the expanded working interest participants contact

	information outlined in *Directive 089* and *Directive 090*.
16. The proposed facility meets the AER environmental requirements	**YES** means the proposed facility meets all applicable AER environmental requirements. **NO** means the facility does not meet all applicable AER environmental requirements. If **NO**, you must attach a detailed explanation of why the facility does not meet AER environmental requirements and what measures will be in place to ensure that the facility will not have a negative impact on the environment.

Directive 056: Schedule 2.1
Facilities – Working Interest Participants

Alberta Energy Regulator

Submission date: _____ Applicant's reference: _____

1. Identification	
Applicant name:	Applicant BA code:

2. Working Interest Participants (must total 100%)		
BA code	**Company name**	**Percentage**

March 2021

5.6.2 How to Complete Schedule 2.1: Working Interest Participants – Facilities

Schedule 2.1 must be completed for each new facility licence application submitted when you are not the only interest participant in the proposed facility.

Do not submit a Schedule 2.1 for licence amendment applications.

The applicant must be a working interest participant in the facility to apply for a facility licence.

Date	Enter the date on which you will submit this schedule (e.g., 15 Jan 2011).
Applicant's Reference	Enter a file reference in the designated area (optional). For geothermal or brine-hosted mineral facilities, enter "Geothermal" or "Mineral" as part of the applicant's reference. The applicant can also add optional particulars in the reference.

Step 1: Identification

Applicant BA Code	Enter the four-digit BA code issued to your company.
Applicant Name	Enter the full corporate name of the applicant.

Step 2: Working Interest Participants

BA Code	Enter the four-digit BA code issued to the working interest participant for each participating company, if available.
Company Name	Enter the full corporate name of each working interest participant, including the applicant's name. We will not accept "Partnerships" as a response. You must determine which company or companies within the partnership should be entered.
Percentage (%)	Enter each participant's percentage of participation in the facility development. Working interest participation percentage must total 100%. For geothermal and mineral wells, include a "miscellaneous" PDF attachment with the expanded working participant contact information outlined in *Directive 089* and *Directive 090*.

Directive 056: Schedule 2.2
Facilities – Gas Plants

Alberta Energy Regulator

Submission date: _____ Applicant's reference: _____

1. Identification	
Applicant name:	Applicant BA code:

2. Total Recovered Products											
Sales gas:	____	10^3 m^3/d	C_2:	_____	m^3/d	C_3:	_____	m^3/d	C_4s:	_____	m^3/d
C_5+:	____	m^3/d	C_2+:	_____	m^3/d	LPG mix:	_____	m^3/d			
Sulphur:	____	t/d	CO_2:	_____	10^3 m^3/d	C_2 component of C_2+ mix:	_____	m^3/d			

3. Technical Information		
1. A sour gas proliferation review has been conducted in accordance with *ID 2001-03*	☐ Yes	☐ **No**
2. The proposed facility is part of an approved acid gas injection scheme	☐ Yes	☐ No
2a. If YES, provide scheme approval number	_____	
3. The proposed facility will remove CO2 from the inlet gas stream using a regenerative system	☐ Yes	☐ No

5.6.3 How to Complete Schedule 2.2: Gas Plants – Facilities

A separate Schedule 2.2 must be completed for each Schedule 2 application for a category B, C, D, or E gas plant.

Date	Enter the date on which you will submit this schedule (e.g., 15 Jan 2011).
Applicant's Reference	Enter a file reference in the designated area (optional). For geothermal or brine-hosted mineral facilities, enter "Geothermal" or "Mineral" as part of the applicant's reference. The applicant can also add optional particulars in the reference.

Step 1: Identification

Applicant BA Code	Enter the four-digit BA code issued to your company.
Applicant Name	Enter the full corporate name of the applicant associated with the BA code.

Step 2: Total Recovered Products

Enter the maximum daily design rates for all applicable recovered and sales products to two decimal places.

Step 3: Technical Information

If you are applying for a category C, D, or E gas plant, answer questions 1 and 2.

If you are applying for a category B gas plant, answer question 3.

1. A sour gas proliferation review has been conducted in accordance with *ID 2001-03*	**YES** means that a sour gas proliferation review for a new category C, D, or E gas processing plant that meets the requirements of *ID 2001-03* was completed or that this is a licence amendment application. **NO** means that a sour gas proliferation review was not completed. If **NO**, you must attach a detailed explanation as to why the requirements cannot be met. We will review the circumstances and decide if an exemption is warranted.
2. The proposed facility is part of an approved acid gas injection scheme	**YES** means that this facility is a category C, D, or E gas processing plant that recovers an acid gas stream that is disposed to an approved underground formation. If **YES**, enter the scheme approval number required in question 2a.

	NO means that this facility is a category C, D, or E gas processing plant that does not recover an acid gas stream that is disposed through subsurface injection.
2a. If **YES**, Scheme Approval No.	Only complete this if you answer **Yes** to question 2.
3. The proposed facility will remove CO_2 from the inlet gas stream using a regenerative system	**YES** means that a regenerative sweetening process is in place exclusively to remove CO_2 from the gas stream. **NO** means that this facility is not removing CO_2 using a regenerative processing system.

Directive 056: Schedule 2.3
Facilities – H_2S Information

Alberta Energy Regulator

Submission date: _____ Applicant's reference: _____

1. Identification	
Applicant name:	Applicant BA code:

2. Gas Treating and Processing Information

Sweetening Process ☐ Regenerative ☐ Nonregenerative ☐ None ☐ Both

Acid Gas Disposal Method ☐ Subsurface Injection ☐ Sulphur Recovery ☐ Flaring/Incineration
☐ CO_2 Venting ☐ Other (specify)

Sulphur Recovery Process ☐ Claus ☐ CBA ☐ Superclaus
☐ Sulfreen ☐ MCRC ☐ SCOT
☐ FGD ☐ Lo-Cat ☐ Shell-Paques
☐ Selectox ☐ CrystaSulf ☐ Other (specify) _____

Acid gas volume: _____ 10^3 m^3/d H_2S content of acid gas: _____ mol/kmol

Maximum H_2S content of inlet gas: _____ mol/kmol Maximum continuous sulphur emission rate: _____ t/d

Sulphur recovery efficiency (quarterly-calendar): _____ %

3. Technical Information

1. Sour setback requirements have been met	☐ Yes	☐ **No**
2. A method to recover vapours will be implemented	☐ Yes	☐ **No**
3. SO2 air emissions meet the *Alberta Ambient Air Quality Objectives*	☐ Yes	☐ **No**
4a. Maximum calculated emergency planning zone	_____ km	
4b. Number of surface developments within the maximum calculated emergency planning zone	_____	

5.6.4 How to Complete Schedule 2.3: H_2S Information – Facilities

A separate Schedule 2.3 must be completed for each Schedule 2 application for a category C, D, or E facility.

Date	Enter the date on which you will submit this schedule (e.g., 15 Jan 2011).
Applicant's Reference	Enter a file reference in the designated area (optional). For geothermal or brine-hosted mineral facilities, enter "Geothermal" or "Mineral" as part of the applicant's reference. The applicant can also add optional particulars in the reference.

Step 1: Identification

Applicant BA Code	Enter the four-digit BA code issued to your company.
Applicant Name	Enter the full corporate name of the applicant associated with the BA code.

Step 2: Gas Treating and Processing Information

*If you check a **BOLD** response, you must attach supporting information.*

Sweetening Process	Check the appropriate box for the type of sweetening process used. Check "None" if you are not treating or processing the inlet gas for H_2S removal. Check "Both" if you are using both regenerative and nonregenerative sweetening processes at the facility. If you select "regenerative," you must complete Schedule 2.2.
Acid Gas Disposal Method	If the facility uses a regenerative sweetening process, check the appropriate boxes for all processes used. If you check "subsurface injection," you must answer questions 2 and 2a on Schedule 2.2. If you check "other," you must attach a description of the alternative process and supporting technical documents/papers discussing the method. We will review the circumstances and decide if an exemption is

	warranted.
Sulphur Recovery Process	For category E applications, check the appropriate boxes for all processes used. If you select "Other," you must attach • a description of the proposed process, including a supporting process flow diagram, and material balance; • technical documents/papers discussing the process; • an explanation of how the proposed process will meet the sulphur recovery requirements; • available correspondence from AEPA related to the process; and • the results/description of the process in operation at another facility. We will review the circumstances and decide if an exemption is warranted.
Acid Gas Volume (Regenerative sweetening only)	If the facility uses a regenerative sweetening process, enter the maximum daily design rate of acid gas (H_2S and CO_2) removed from the sour gas inlet stream in thousands of cubic metres per day ($10^3\ m^3/d$) to two decimal places.
H_2S Content of Acid Gas (Regenerative sweetening only)	If the facility uses a regenerative sweetening process, enter the H_2S content of the acid gas stream in moles per kilomole (mol/kmol) to two decimal places.
Maximum H_2S Content of Inlet Gas	For all category C, D, and E facility applications, enter the maximum H_2S content of the raw inlet gas in mol/kmol to two decimal places. For facilities with multiple inlet streams, enter the H_2S value from the inlet stream with the highest H_2S content. The highest H_2S content must be based either on pipelines entering the facility or on any well associated with the raw gas inlet.
Maximum Continuous Sulphur Emission Rate	Enter the maximum continuous sulphur emission rate on a sulphur-equivalent basis in tones per day (t/d) to two decimal places. This number should represent the sum of the sulphur content of the tail gas emission from a sulphur recovery process, continuous acid gas

	flaring/incineration, emissions from produced water tanks, and continuous or routine flaring/incineration of gas containing H_2S. This number does not include sulphur emissions from infrequent emergency or maintenance flaring/incineration.
Sulphur Recovery Efficiency (quarterly-calendar)	For all category E gas processing plants, enter the minimum sulphur recovery efficiency percentage (%) determined on a calendar quarter-year average basis to one decimal place. For all category D gas processing plants where subsurface injection has been selected in step 2, enter the equivalent sulphur recovery efficiency, consistent with the approved sulphur inlet and table 1 from *ID 2001-03*. The sulphur recovery efficiency must meet the requirements of *ID 2001-03*.

Step 3: Technical Information

1. Sour setback requirements have been met	**YES** means that this is a category C, D, or E facility and the setback requirements outlined in table 5 in *Directive 056* have been met. **YES** also means that there are no setbacks imposed by pipelines designated as sour level associated with this facility. **NO** means that the facility is a category C, D, or E facility but, due to exceptional circumstances, it does not meet the setback requirements. If **NO**, you must attach a detailed explanation as to why the requirements cannot be met. We will review the circumstances and decide if an exemption is warranted.
2. A method to recover vapours will be implemented	**YES** means that you will be implementing a method to recover stock tank vapours, as required by the *OGCR*, section 7.070, and that a method to contain vapours during the transfer and transport of fluids containing more than 0.01 mol/kmol H_2S will be implemented. **YES** may also mean that the facility does not require a vapour recovery system. For licence amendment applications, **YES** means that a vapour recovery

system already exists.

NO means that due to exceptional circumstances, all applicable requirements cited above have not been met.

If **NO**, you must attach a detailed explanation of why a vapour recovery unit will not be installed and a discussion of mitigative measures to ensure that off-lease odours do not occur.

We will review the circumstances and decide if an exemption is warranted.

3. SO_2 air emissions meet the *Alberta Ambient Air Quality Objectives*

YES means that SO_2 emissions will be within the *Alberta Ambient Air Quality Objectives* issued by AEPA, as predicted by dispersion modelling, or that the facility emissions have been approved by AEPA.

NO means that due to exceptional circumstances, SO_2 emissions will not be within the *Alberta Ambient Air Quality Objectives*.

If **NO**, for SO_2 exceedances, you must attach

- a schematic diagram or description of the flare stack;
- the source parameters, locations, elevations, and SO_2 emission rates for all sources;
- predicted maximum ground-level SO_2 concentrations;
- the name of the dispersion model used;
- a description of the meteorological data used;
- a terrain map of the study area;
- for facilities with less than 10 mol/kmol H_2S, the heating value of the gas stream for the flare/incinerator; and
- a description of the magnitude and frequency of potential SO_2 exceedances and information on situations leading to SO_2 exceedances (e.g., operational scenarios, meteorological conditions).

We will review the circumstances and decide if an exemption is warranted.

4a. Maximum calculated emergency planning zone	Enter the maximum calculated emergency planning zone radius in kilometres (km) to two decimal places, as determined by the requirements of *Directive 071*.
4b. Number of surface developments within the maximum calculated emergency planning zone	Enter the total number of surface developments located within the maximum calculated emergency planning zone.

Directive 056: Schedule 2.4
Facilities – Compressors/Pumps

Alberta Energy Regulator

Submission date: _____ Applicant's reference: _____

1. Identification

Applicant name: Applicant BA code:

2. Compressors

Install (I) Remove (R)	Compressor Rating	Compressor Driver Power Source		NO_x Emission Rating
		Gas	Electric	
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh

Total number of gas compressors on site: _____ Total number of electric compressors on site: _____

Total on-site compressor wattage: _____

3. Pumps

Install (I) Remove (R)	Pump Rating	Pump Driver Power Source		No_x Emission Rating
		Gas	Electric	
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh
	_____ kW	☐	☐	_____ g/kWh

Total number of gas pumps on site: _____ Total number of electric pumps on site: _____

Total on-site pump wattage: _____ kW

4. Technical Information

1a. Night-time permissible sound level (PSL) at the nearest or most impacted residence _____ dBa

1b. Predicted overall sound level at the nearest or most impacted residence _____ dBa

5.6.5 How to Complete Schedule 2.4: Compressors/Pumps – Facilities

You are not required to complete Schedule 2.4 unless your facility application includes the installation or removal of compressors or pumps. Compressors less than 75 kW that were installed previously as an exempt activity should be captured on Schedule 2.4 the next time an amendment application for the facility is required.

Date	Enter the date on which you will submit this schedule (e.g., 15 Jan 2011).
Applicant's Reference	Enter a file reference in the designated area (optional). For geothermal or brine-hosted mineral facilities, enter "Geothermal" or "Mineral" as part of the applicant's reference. The applicant can also add optional particulars in the reference.

Step 1: Identification

Applicant BA Code	Enter the four-digit BA code issued to your company.
Applicant Name	Enter the full corporate name of the applicant associated with the BA code.

Step 2: Compressors

Complete this step if you are installing or removing upstream compression at a new or existing site. The removal of compression is not a mandatory application submission but will be processed at the applicant's request.

Install/Remove	Enter "I" if you are applying to install a compressor. Enter "R" if you are applying to remove a compressor. Include any compressors less than 75 kW that may have been installed previously as an exempt activity.
Compressor Rating	Enter the kilowatt (kW) rating of each unit proposed for installation or removal at this facility.
Compressor Driver Power Source	Check the appropriate driver source for each unit proposed for installation or removal at this facility.
NO_x Emission Rating	Enter the manufacturer's rating for NO_x emissions in grams of NO_x per kilowatt hour (g/kWh) for each natural gas compressor unit proposed for installation or removal at this facility.

	Enter "0" for electricity-driven compressors.
Total Number of Gas Compressors on Site	Enter the total number of natural gas-driven compressors located at the facility, including any new units being added by this application.
Total Number of Electric Compressors on Site	Enter the total number of electricity-driven compressors located at the facility, including any new units being added by this application.
Total on-Site Compressor Wattage	Enter the sum of the compressor wattage for the entire facility operations in kilowatts (kW). The total must include any new units being added by this application.

Step 3: Pumps

Complete this step if you are installing or removing upstream disposal/injection pumps at a new or existing site. The removal of injection/disposal pumps is not a mandatory application submission but will be processed at the applicant's request.

Install/Remove	Enter "I" if you are applying to install an injection/disposal pump. Enter "R" if you are applying to remove an injection/disposal pump.
Pump Rating	Enter the kilowatt (kW) rating of each unit proposed for installation and/or removal at this facility.
Pump Driver Power Source	Check the appropriate driver source for each unit proposed for installation or removal at this facility.
NO_x Emission Rating	Enter the manufacturer's rating for NO_x emissions in grams of NO_x per kilowatt hour (g/kWh) for each natural gas injection/disposal pump proposed for installation or removal at this facility. Enter "0" for electricity-driven pumps.
Total Number of Gas Pumps on Site	Enter the total number of natural gas-driven injection/disposal pumps located at the facility, including any new units being added by this application.
Total Number of Electric Pumps on Site	Enter the total number of electricity-driven injection/disposal pumps located at the facility, including any new units being added by this application.

Total on-Site Pump Wattage	Enter the sum of the pump wattage for the entire facility operations in kilowatts (kW). The total must include any new units being added by this application.

Step 4: Technical Information

Provide the following information based on the noise impact assessment, required by *Directive 038*, conducted for this facility.

1a. Nighttime permissible sound level (PSL) at the nearest or most impacted residence (*Directive 038*)	Enter the nighttime permissible sound level (PSL) at the nearest or most impacted residence in decibels absolute (dBa) to two decimal places. For remote locations, a distance of 1500 m may be used to determine the facility PSL if there are no residences within that radius.
1b. Predicted overall sound level at the nearest or most impacted residence (*Directive 038*)	Enter the predicted overall sound level at the nearest or most impacted residence in dBa to two decimal places. This value may be based on distance of 1500 m if there are no residences within that radius.

6 Pipelines Procedures

6.1 Overview

Pipeline applications submitted under *Directive 056* must be filed using OneStop. New construction applications and licence amendment applications must be submitted separately.

On the Application Information Screen, for pipelines carrying fluids associated with geothermal or brine-hosted mineral projects, enter “Geothermal” or “Mineral” as part of the Project Name. The applicant can add optional particulars in the name.

In this section, a number of tables are provided to assist the applicant with inputting and interpreting pipeline data.

6.2 Licence Expiry or Extensions

The AER typically issues a pipeline licence for a one-year term. The pipeline status automatically changes from “permitted” to “operating” typically one year from the date the licence was issued, except where an extended licence expiry was requested at the time of application. There are different ways an applicant/licensee can extend the term of its pipeline licence.

6.2.1 New Pipeline Licence Application

You may request a two-year term when applying for a new pipeline licence by selecting **Yes** to the "Request for 2 year licence expiry" question in the General Application screen. You will be required to commit to updating and completing participant involvement notifications before starting construction.

6.2.2 Licence Extension by Email

You may submit a licence extension request to ApplicationAssessment@aer.ca to extend the expiry date of a permanent pipeline licence for up to 12 additional months if the pipeline licence has not expired nor acted on. Requests for extensions will be considered on a case-by-case basis. The request must be submitted on company letterhead at least 30 days before the licence expires and include the following information:

- The licence number to be extended and the pipeline number.
- The requested new expiry date. If no expiry date is identified, the licence will be extended for 12 months.
- A statement confirming that the associated participant involvement program will be updated before the licence is acted on.

6.3 Participant Involvement

The following are questions that you may be asked or information that you may be requested to provide for pipeline or pipeline installation applications.

6.3.1 Outstanding Concerns Related to This Application

If members of the public or industry have outstanding concerns or objections, you must attach

- name, address, telephone number, and legal land description of the party that has outstanding concerns or objections;
- approximate distance from the project to the land and residence, if applicable, of the participant with outstanding concerns or objections;
- a copy of written concerns or objections received, if available;
- a chronology of the participant involvement program conducted with the party;
- a discussion of how you would like the AER to proceed with your application;
- steps taken to mitigate the outstanding concerns or objections;
- copy of the project-specific information package provided; and
- a list of other documents distributed.

If there are residents within the EPZ, you must also attach

- the assessment of existing infrastructure required under *Directive 056*, section 8.3.2;
- the updated expanded project-specific information package described in *Directive 056*, section 8.3.2; and
- a copy of an area plan described in *Directive 056*, section 8.3.3, if it was completed.

6.3.2 Participant Involvement Requirements Not Met

If any *public* participant involvement requirements have not been met, you must attach

- the participant involvement summary of all personal consultation and notification that has been completed;
- the name, address, telephone number, and legal land description of participants for which personal consultation and notification requirements have not been completed;
- a detailed explanation of why all personal consultation and nonobjection requirements cannot be completed;
- a detailed explanation of why all notification requirements cannot be completed; and
- an explanation of how you would like the AER to proceed with this application.

If any *industry* participant involvement requirements have not been met, you must attach

- a record of contact with industry parties,
- copies of correspondence between parties,
- minutes of meetings held,
- copies of information distributed,
- a summary of parties for which industry notification has not occurred,
- a detailed explanation of why all industry notification requirements were not completed, and
- an explanation of how you would like the AER to proceed with this application.

6.3.3 Distance to the Nearest Residence

Specify the distance from the edge of the pipeline right-of-way for any pipeline being applied for to the nearest residence in kilometres (km) or the distance from the edge of the pipeline installation lease for any pipeline installation being applied for to the nearest residence in kilometres.

If there are no residences within the emergency planning zone (EPZ), the distance to the nearest town, village, or urban centre may be used. Where there is no EPZ, a search should be done to at least 1.5 km; if

there are no residences within this distance, 1.5 km may be entered. For pipeline installations, this distance should not be less than the distance to the nearest surface development.

6.3.4 Distance to Nearest Surface Development

For pipeline installations, the distance from the edge of the pipeline installation lease to the nearest surface development in kilometres.

If there is no surface development within the EPZ, a distance to the nearest town, village, or urban centre may be used. Where there is no EPZ, a search should be done to at least 1.5 km; if there is no surface development within this distance, 1.5 km may be entered.

6.4 Spatial Data

6.4.1 Shapefiles

A shapefile is required for all

- new pipeline construction applications,
- unlicensed existing pipeline applications,
- new pipeline installation construction applications, and
- unlicensed pipeline installation applications.

For amendment applications, a shapefile is also required if any of the following are true:

- The spatial data has changed.
- The application is for a line split, a route change, or for some reinstatements.
- The application is for a change to the mapping of a pipeline installation.

A mapped pipeline must reflect its end-to-end length and not just the length of the pipeline in the right-of-way. If a pipeline extends past its right-of-way into a facility surface lease, map the pipeline length from the starting to the ending points of connection within the originating and receiving facility surface leases. These ending connection points will typically be pipeline risers. Figure 1 provides examples of proper and improper measurement.

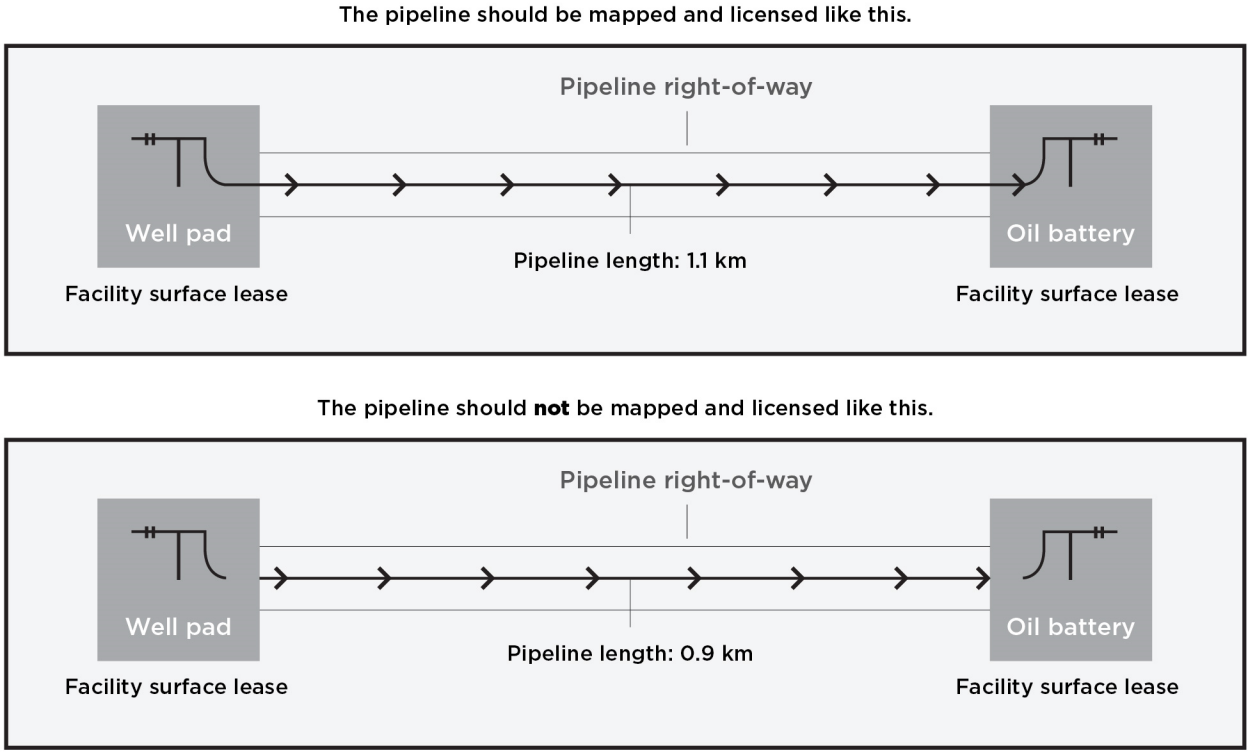


Figure 1. Pipeline mapping examples (top acceptable, bottom unacceptable)

6.4.2 Right-of-Way Plan

A pipeline right-of-way plan must show the route of the pipeline in its entirety, and the pipeline's right-of-way must be distinguishable from other pipeline rights-of-way on the plan. Licence numbers of any pipelines that are adjacent to or are being crossed by the proposed pipeline should be indicated on the right-of-way plan. These plans can be represented as either individual ownership plans or as a plan of the entire route. Use of a scale smaller than 1:25 000 might not adequately represent topographic or watercourse crossing details in certain circumstances.

6.4.3 Pipeline Location PDF

A pipeline location PDF is a PDF version of the spatial information included in a shapefile. The pipelines should be clearly discernible, and the appropriate Dominion Land Survey grid and labels must be included to allow the reader to understand the location of the pipeline.

6.4.4 Pipeline Installation Location PDF

A pipeline installation location PDF is a PDF version of the spatial information included in a shapefile. The pipeline installation should be clearly discernible, and the appropriate Dominion Land Survey grid and labels must be included to allow the reader to understand the location of the pipeline installation.

6.5 Pipeline Applications

6.5.1 Pipeline Licences

Multiple licences can be applied for in a single application, and each licence will be displayed as a separate activity.

6.5.2 Unlicensed Pipelines

If you select "Unlicensed pipeline: addition to existing licence number," you are applying to license an existing unlicensed pipeline under an existing licence number. The unlicensed pipeline must transport the same substance, have the same licensed H_2S content, and be part of the same system as the licence it is being added to.

OR you are applying to reinstate a line that was deleted in error before June 26, 2010.

For lines deleted after June 26, 2010, submit a licence amendment application to reinstate the line.

6.5.3 Temporary Surface Pipelines

Temporary pipeline licences expire after one year; at that time, you must either remove the pipeline or submit a new application for a buried pipeline.

Temporary surface pipelines for well testing or bypass and temporary surface pipelines for water conveyance are approved under *Directive 077* and not *Directive 056*. See sections 7 and 8 of *Directive 077* for information.

6.5.4 Licence Details

A licence can have up to three substances associated with it; however, the substances selected must be transported by all pipelines on the licence being applied for. The following table lists the substances given in OneStop and their associated codes.

Substance	Substance category	Code	Priority code
Natural gas with >10 mol/kmol of H_2S content	Sour natural gas	SG	1
Butane, ethylene, propane, pentanes, liquid ethane	HVP products	HV	2
Condensate, diesel fuel, gasoline, heating oil, hydrocarbon diluents, kerosene, solvents	LVP products	LV	3
Blended crude bitumen, crude oil, synthetic crude oil	Crude oil	CO	4
Multiphase fluids	Oil well effluent	OE	5
Methane, natural gas with ≤10 mol/kmol of H_2S content	Natural gas	NG	6
Fuel gas	Fuel gas	FG	7
Produced water	Salt water	SW	8
Ammonia, caustic, glycol, methanol, polymer, sulphur	Miscellaneous liquids	ML	9
Air, ammonia, ethane, helium, nitrogen, steam	Miscellaneous gases	MG	10
H2 >95%, H2 blend ≤20%, H2 blend >20% H2 ≤ 95%	Hydrogen	H2	11

CO_2 gaseous phase, CO_2 liquid phase, CO_2 dense phase	Carbon dioxide	CO2	12
Potable water, surface water	Fresh water	FW	13

For pipelines carrying fluids associated with geothermal or brine-hosted mineral projects: Select Miscellaneous Fluids (ML); enter "Formation Water" or whatever description is appropriate. Do **not** select from any items in the drop-down list.

H_2S content: This is the maximum H_2S content in moles per kilomole (mol/kmol) at the pipeline's licensed maximum operating pressure (MOP) for pipelines that contain gas or at the bubble point pressure for pipelines that contain liquids.

H_2 >95%: Predominantly hydrogen, regardless of the phase.

H_2 blend ≤20%: A hydrogen and methane blend that contains 20% hydrogen or less.

H_2 blend >20% and H_2 ≤95%: A hydrogen and methane blend that contains more than 20% hydrogen but no more than 95%.

CO_2 gaseous phase: Predominantly CO_2 in a gaseous or vapour phase at normal operating conditions.

CO_2 liquid phase: Predominantly CO_2 in a liquid phase at normal operating conditions.

CO_2 dense phase: Predominantly CO_2 in a dense phase at normal operating conditions.

6.5.5 Pipe Specification

OD: The outside diameter of the pipeline in millimetres (mm) to one decimal place.

WT: The pipe nominal wall thickness in mm to two decimal places.

Material: The following table lists the materials given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Pipe material
A	Aluminum
F	Fibreglass
G	Composite
I	Stainless Steel
P	Polyethylene
S	Steel
V	Polyvinyl chloride

Type, **Grade**, **Internal Protection Type**, and **Internal Protection Grade**: The following table gives examples of common materials and their associated type and grade codes. If the combination of material, type, and grade you need is not accepted by the OneStop system, please contact the Customer Contact Centre for further direction.

OneStop now permits thin-film manufacturer (Internal Protection Type) and product name (Internal Protection Grade) information to be added to the licence. To request the addition of a thin-film type or grade not listed in OneStop, email application.assessment@aer.ca and include the following information:

- How the thin film is applied (applied in the factory or in situ).
- Specification documentation for the thin film that indicates the manufacturer and product name.

The AER will review the specifications and, if appropriate, add them to the list in OneStop.

Material	Type	Grade
Aluminum (If cladded, add "C" at the end of grade code)		
6063 T1A	6063	T1A
6063 T1B	6063	T1B
Composite		
FlexPipe Linepipe ANSI 300	FPLP	301
FlexPipe Linepipe ANSI 600	FPLP	601
FlexCord Linepipe ANSI 900	FCLP	901
FlexPipe Linepipe High Temperature ANSI 600	FPHT	601
FlexFlow Linepipe ANSI 300	FFLP	301
FlexSteel Pipe 600 ASME B16.5 Flange Class	WSLP	600
FlexSteel Pipe 1500 ASME B16.5 Flange Class	WSLP	1500
Fiberspar Line Pipe Series 750	FSLP	750
Fiberspar Line Pipe Series 2250	FSLP	2250
Fiberspar 28 Series 750	FS28	750
Fiberspar 29 Series1500	FS29	1500
Fiberspar 30 Series1500	FS30	1500
Fiberspar 32 Series1500	FS32	1500
Fiberspar 32 Series 2250	FS32	2250
Fibreglass		
Hanwei Energy API (Amine) 1500	HEAA	1500
Hanwei Energy API (Anhydride) 1500	HEAP	1500
Hanwei Energy API (Anhydride) 2000	HEAP	2000
Hanwei Energy Rex-Bond (Amine) 290	HERB	290
Hanwei Energy Rex-Lock (Anhydride) 725	HERL	725
Star Fibreglass 1000	STAR	1000
Centron 1500	CEN	1500
YellowBox 1250 API	YBAPI	1250
YellowBox 3500 STD	YBSTD	3500
Polyethylene		
PE 2406 SDR 11	2406	11
PE 3408 SDR 9	3408	9
PE 3608 SDR 7.3	3608	7.3
PE 4710 SDR 9	4710	9
P100	P100	6.3
Steel		
API 5L Grade A	5L	A
API 5L Grade B	5L	B
API 5L Grade X42	5L	X42

API 5L Grade X60	5L	X60
ASTM A53 Grade B	A53	B
ASTM A106 Grade B	A106	B
ASTM A333 Grade 6	A333	6
CSA Z245.1 Grade 241 Category I	Z245.1	2411
CSA Z245.1 Grade 290 Category I	Z245.1	2901
CSA Z245.1 Grade 290 Category II	Z245.1	2902
CSA Z245.1 Grade 359 Category II	Z245.1	3592
CSA Z245.1 Grade 359 Category III	Z245.1	3593
CSA Z245.1 Grade 448 Category II	Z245.1	4482

Note: If cladded aluminum, add "C" at the end of Grade code (e.g., T1AC).

Maximum Operating Pressure (MOP): The MOP of the pipeline rounded to the nearest 10 kPa.

Stress Level: The stress in the wall of the pipe that is produced by the pressure of the fluids in the pipeline and calculated as a percentage. This is automatically calculated for steel, aluminum, and thermoplastic pipelines. Stress level is calculated as a percentage using the following formulas:

Steel or aluminum pipe material

$$\frac{MOP\ kPa \times outside\ diameter\ mm}{(20\ \times pipe\ specified\ minimum\ yield\ strength\ MPa) \times (wall\ thickness\ mm)}$$

Thermoplastic pipe material

$$\frac{MOP\ kPa \times (outside\ diameter\ mm - wall\ thickness\ mm)}{20\ \times HDB\ \times wall\ thickness\ mm}$$

Where: HDB is 11 MPa for all ASTM high-density polyethylene (HDPE) (e.g., 3708, 4710) or HDB (referred to as minimum required strength; MRS) for ISO HDPE is 10 MPa (e.g., PE80, PE100)

Joints: The following table lists the joint types given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Joint
A	Thru-Kote Welded
B	Butt Fusion
C	Bonded
E	Twin Lock
F	Flanged
G	Solvent Welded
H	High Energy Welded
K	Crimp Kote
L	Sure Lok
M	Mechanical Coupling
P	Pronto Lock
R	Triple Seal
S	Socket Fusion
T	Threaded
W	Welded
Y	Electrofusion

Z	Zap-Lok

Internal Protection (IP): The following table lists the internal protection types given in OneStop. The "code" is what appeared in older systems and is listed here for reference. Only "Active" IPs can be selected in OneStop. You cannot select "Inactive" IPs for new construction, internal protection installation, or specification change applications. "Inactive" IPs are for legacy use only.

Code	Active/inactive	Internal protection
C	Active	Cement
E	Inactive	Expanded Polyethylene
EP	Active	Expanded Tight-Fit Liner – HDPE
EX	Active	Expanded Tight-Fit Liner – PEX
ET	Active	Expanded Tight-Fit Liner – Other Thermoplastic
L	Inactive	Freestanding
LG	Active	Freestanding Liner – Composite
LF	Active	Freestanding Liner – Fibreglass
LP	Active	Freestanding Liner – HDPE
LX	Active	Freestanding Liner – PEX
LL	Active	Freestanding – Other
P	Inactive	Polyvinyl Chloride
T	Inactive	Thin Film
TS	Active	Thin Film Coating – In-situ-applied
TF	Active	Thin Film Coating – Plant-applied
U	Active	Uncoated
Y	Inactive	Yes (liner is present but type is unspecified)

Cement (C): A thin cement coating applied to the pipe's internal surface before it is installed.

Expanded Tight-Fit Liner (EP, EX): A tubular product that is inserted into a pipeline to form a corrosion-resistant barrier. The AER permits HDPE and cross-linked polyethylene (PEX) expanded liner materials.

Expanded Tight-Fit Liner – Other Thermoplastic (ET): If selected, the application will be routed for additional review.

Freestanding Liner (LG, LF, LP, LX): A separate freestanding pressure-containing pipe inserted into a pipeline. The AER permits composite, fibreglass, HDPE, and PEX freestanding liner materials.

Freestanding – Other (LL): If selected, the application will be routed for additional review.

Thin Film – In-situ applied (TS): A thin-film polymer coating applied to the pipe's internal surface after it is installed. There is no specification of the film's thickness.

Thin Film – Plant-applied (TF): A thin-film polymer coating applied to the pipe's internal surface before it is installed. There is no specification of the film's thickness.

Uncoated (U): No internal protection on the internal surface of the pipe.

External Protection (EP): The following table lists the external protection types given in OneStop.

Fusion Bonded Epoxy
Polyethylene
Insulated w/ corrosion barrier coating
Insulated w/o corrosion barrier coating
Other
Unknown
None

Fusion Bonded Epoxy: A fusion-bonded epoxy coating applied to the external surface of the pipe.

Polyethylene: A polyethylene coating applied to the external surface of the pipe.

Insulated with corrosion barrier coating: A corrosion barrier coating applied to the external surface of the pipe and then covered by an insulation system. See section 2 of *Directive 077* for information.

Insulated without corrosion barrier coating: The pipeline is covered by an insulation system but does not have a corrosion barrier coating applied to the external surface of the pipe. See section 2 of *Directive 077* for information.

Other: The pipeline's external protection type is not an option listed in OneStop.

Unknown: The pipeline's external protection type is not known.

None: The pipeline does not have external protection.

Partial Pressure: OneStop will calculate the H_2S partial pressure for pipelines containing a gas phase. If you are using an effective partial pressure for oil effluent or crude oil, the calculated H_2S partial pressure can be overwritten. For any other substances, partial pressure or effective partial pressure is not calculated by OneStop.

6.5.6 Pipe Location and Status

From Location FC and To Location FC: The following table lists the facility types given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Facility (FC)
B	Battery
BE	Blind End
CK	Creek
CO	Consumer
CP	Chemical Plant
CS	Compressor Station
ES	Experimental Station
GP	Gas Processing Plant
IP	Injection/Disposal Facility
LA	Lake
LH	Line Heater
LR	Oil Loading and Unloading Terminal
MR	Meter/Regulation Station
MS	Meter Station
PL	Pipeline
PP	Petrochemical Plant
PS	Pump Station
PT	Pipeline Terminal
RE	Reservoir
RF	Refinery
RI	River
RS	Regulator Station
S	Satellite
SC	Storage Cavern
ST	Storage Tank
TF	Tank Farm
WE	Well
	Emergency Shutdown Valve

For pipelines associated with geothermal development, always select injection/disposal/geothermal facility (IP code B091). For pipelines used in brine-hosted mineral development, use battery codes as noted in table 1 of *Directive 056*.

Length (km): The end-to-end length of the pipeline in kilometres to two decimal places (see figure 1).

Status: If this is new construction, the status must be "To Be Constructed (Permitted)." If an amendment is made to a pipeline licence with a "permitted" status, the expiry date remains unchanged.

Apply for a new spare line with a status of "discontinued," facility code of "blind end to blind end," and MOP and stress level set to zero.

The following table lists the pipeline statuses in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Pipeline status
A	Abandoned
D	Discontinued
N	Not Constructed
O	Operating

P	To Be Constructed (Permitted)
R	Removed

Environment (Env): The pipeline crosses a creek, lake, or river that appears on the current 1:1 000 000 provincial base map. The following table lists the crossing types given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Crossing
CC	Creek
LC	Lake
RC	River

HDD/Bored: The pipeline crosses a watercourse that appears on the OneStop map viewer, and construction at that watercourse crossing will use horizontal directional drilling or boring methods.

Release Volume (m^3): The H_2S release volume in cubic metres (m^3) for sour natural gas or oil effluent pipeline segments that are licensed for greater than 10 mol/kmol H_2S and are in "permitted," "operating," or "discontinued" status.

Level: The following table lists the levels given in OneStop and the H_2S release volumes associated with them.

Level	H_2S release volume (m^3)
Level 1	<300
Level 2	>300 to <2000
Level 3	>2000 to <6000
Level 4	>6000

CSA Class Location: The following table lists the location classes given in OneStop.

Class location
Class 1
Class 2
Class 3
Class 4

Bidirectional: The pipeline will be permanently operated with bidirectional flow.

Surface Line: The pipeline will be aboveground. The following table lists the options given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Surface line
OC	Overhead
SC	Surface
OS	Both

6.5.7 Pipeline Amendments

Multiple amendment types can be applied for in a single activity with the exception of "H_2S/Substance Change – Select Lines," which must be applied for as a separate application and not in combination with any other licence amendment type.

H_2S/Substance Change – Entire Licence: You are applying to change the substance or H_2S content of an entire licence.

H_2S/Substance Change – Select Lines: This box will be automatically selected by OneStop if you apply to change the substance or H_2S content on specific lines. No other amendment option can be selected.

Abandonment: You are advising the AER that a pipeline has been abandoned.

Bidirectional Flow: You are applying for permanent bidirectional flow of a pipeline.

Discontinuance: You are advising the AER that operation of a pipeline has been discontinued.

Facility Change: You are applying to change the facility type at the starting point or the end point of a pipeline.

Flow Reversal: You are applying to reverse the flow of a pipeline.

Line Split: You are advising the AER a line segment has been split into multiple line segments. A shapefile is required. For information on shapefiles and attaching a shapefile in OneStop, see the AER's webpage.

For a line split where there is an environment code (e.g., "CC"), you must determine which pipeline segments should have the environment code. To remove an environment code, you must also select the "Other" amendment.

Internal Protection Installation: You are applying to install a liner (freestanding liner or expanded) or a thin-film coating applied in situ in a pipeline.

If a freestanding liner is being installed, you must indicate the type and grade in the IP Type and IP Grade columns. The outside diameter, wall thickness, material, type, grade, and joining method will be that of the conduit pipe; the MOP will be that of the liner; and the Stress Level will be blank.

If an expanded liner is being installed, you must indicate the type in the IP Type column.

If a thin-film coating is being applied in situ, you have the option to indicate the manufacturer and product in the IP Type and IP Grade columns. See "Type, Grade, Internal Protection Type, and Internal Protection Grade" for more information on how to add thin-film coating specifications to OneStop.

If an installed liner is being replaced and the liner replacement does not meet the conditions in section 7(3) of the *Pipeline Rules*, you must submit an internal protection installation amendment. Where the replacement liner and the existing liner have the same specifications, you must still submit an internal protection installation amendment to obtain *Directive 056* approval before removing the existing liner and installing the new liner.

You must submit a specification change amendment where a liner is removed and not replaced.

MOP Decrease: You are applying to decrease the maximum operating pressure of a pipeline.

MOP Increase: You are applying to increase the maximum operating pressure of a pipeline.

Not Constructed: You are advising the AER that a licensed pipeline was not constructed.

Other: You are applying to correct any of the following data on AER records:

- location of a pipeline or pipeline installation licensed before OneStop (June 26, 2017); if a location change results in the locations not matching AER spatial records, you will be prompted to submit a route change amendment instead
- length of pipeline
- environment code
- HDD/Bored indicator
- H_2S release volume
- H_2S release volume level
- CSA class location
- surface line indicator
- partial pressure

Reinstatement: You are applying to add a pipeline with a status of "removed," "not constructed," or "deleted" that was deleted in error after June 26, 2010.

You may be asked to provide additional information, such as the following:

- a shapefile
- a pipeline right-of-way plan
- a pipeline location PDF

For lines deleted in error before June 26, 2010, submit an application for an unlicensed pipeline rather than a reinstatement.

Removal: You are advising the AER that a pipeline has been removed. If only a part of a pipeline is being removed, the applicant must also submit a line split amendment identifying the sections for removal and those remaining in place.

Resumption: You are applying to resume operation of a pipeline or part of a pipeline that

- has been discontinued or abandoned,
- has not been in active flowing service within the last 24 months, or
- has been transferred to a new licensee by the direction of the AER under section 18(7) of the *Pipeline Act*.

Route Change: You are applying to correct the AER's records regarding the mapping of an existing pipeline.

You are applying to change the routing of a permitted pipeline.

You are applying for a location change on a pipeline that was licensed using the OneStop system (licensed after June 26, 2017).

A shapefile is required for a route change. You must attach a pipeline right-of-way plan or a pipeline location PDF for a route change. Attaching both is acceptable.

Specification Change: You are applying to correct the AER's records regarding the outside diameter, wall thickness, material, type, grade, joining method, or external protection type of an existing pipeline.

You are applying to change the outside diameter, wall thickness, material, type, grade, joining method, or external protection type of a permitted pipeline.

You are applying to correct or change the internal protection type of a permitted or existing pipeline, including

- removing and not replacing a liner or
- notifying the AER of an installed liner or thin-film coating applied in situ that was completed without AER approval.

6.5.8 Pipeline Technical Considerations

Depending on the type of pipeline application being submitted, you may be asked the following questions (as reflected by the section titles) or requested to provide information.

6.5.8.1 Administrative Oversight

If the application is for the reinstatement of a pipeline, or for certain administrative changes or corrections to the operating status of a pipeline, you may be requested to attach an explanation of the proposed amendment.

6.5.8.2 Maximum Calculated Emergency Planning Zone

Enter the maximum calculated EPZ radius in kilometres (km) as determined by the requirements of *Directive 071*.

The maximum calculated EPZ should represent the largest EPZ of any portion of the pipeline included in the activity. If there are numerous line segments included in an activity, the largest EPZ of any of those segments should be indicated. If there is no EPZ associated with any of the segments, enter "0."

6.5.8.3 Number of Surface Developments in the Emergency Planning Zone

Enter the total number of surface developments in the maximum calculated EPZ.

The number of surface developments in the EPZ should represent the surface developments for all line segments being applied for.

If there is no EPZ associated with any of the segments, enter "0."

6.5.8.4 AER Areas of Focus

If the application is for a new pipeline within the Battle Lake Tier 1 Area, you must attach the documentation required by section 8.2 of *Directive 056*.

If the application is for a new pipeline or an amendment for a pipeline within the Sage Grouse Federal Emergency Protection Order prohibition area, you must attach a description of the fieldwork to be conducted and how it will meet the emergency protection order requirements.

6.5.8.5 *Alberta Land Stewardship Act* Compliance

If the application is for a new pipeline within the boundary of an approved regional plan and within a

- designated conservation area,
- provincial park,
- provincial recreation area,
- public lands area for recreation and tourism, or
- any subregional plan approved under the *Alberta Land Stewardship Act*,

you will be asked to attach the documentation outlined in section 8.5 of *Directive 056*.

6.5.8.6 Proposed Pipeline or Pipeline Installation Is Located Within the Calgary or Edmonton Transportation and Utility Corridors

You must answer **Yes** if any portion of the pipeline is located within the Calgary or Edmonton transportation and utility corridors and indicate if the pipeline has ministerial consent from Alberta Infrastructure.

If the proposed pipeline is located within the Calgary or Edmonton transportation and utility corridor and ministerial consent has **not** been obtained from Alberta Infrastructure, you must answer **No** and attach a detailed explanation of why ministerial consent has not been received.

6.5.8.7 Watercourse Crossings

If a pipeline has an environment code and either the "Overhead" or "Both" surface line indicator, further information may be requested through a supplemental information request (SIR).

6.5.8.8 The Pipeline Meets All Current Applicable *CSA Z662* Standards

If the pipelines in this activity do not meet the material, design, or operational *CSA Z662* standards or are not covered by *CSA Z662***,** you must attach

- a detailed explanation of what *CSA Z662* standards are not being met and why and
- an engineering assessment demonstrating that this pipeline is suitable for use.

6.5.8.9 This Application Triggers the Need to Meet Sour Service Requirements as Defined in *CSA Z662*

If the introduction or increase of H_2S, or an increase in MOP, causes the H_2S partial pressure to increase, resulting in the need to meet *CSA Z662* sour service standards, you must attach evidence that the pipeline will comply with those requirements, including

- details of any required material testing or documentation confirming material and component suitability for sour service,
- evidence that weld procedures are suitable for service conditions,
- evidence that weld testing requirements have been satisfied,
- evidence that hydrostatic testing requirements have been satisfied,
- a detailed explanation of the compatibility with connecting pipelines, and
- an engineering assessment demonstrating compliance with the sour service requirements of *CSA Z662*.

If the H_2S increases to more than 10 mol/kmol and the substance is sour natural gas, you must meet additional requirements under the *Pipeline Rules*. You must answer **Yes** to this question and attach

- an engineering assessment that follows the additional criteria for sour service conversions involving gas with an H_2S content greater than 10 mol/kmol and that demonstrates pipeline integrity;
- evidence demonstrating that hydrostatic testing requirements have been satisfied; and
- a detailed explanation of the compatibility with connecting pipelines.

Select **No** to this question if one or more of the following conditions are true:

- The previous and proposed pipeline conditions are not sour service (non-sour service to non-sour service).
- The previous and proposed pipeline conditions are sour service, except when the substance changes to sour natural gas (sour service to sour service).
- The previous pipeline conditions were sour service, but the proposed conditions are not (sour service to non-sour service).

6.5.8.10 Legacy Pipe Material

If you select any of the following steel type and grade combinations for a new pipeline, you will be asked to provide further information regarding the selection.

Type	Grade
A106	A
A106	B
A333	6
A53	A
A53	B
5L	A
5L	A25
5L	B
5L	X70
5L	X80
5LCP	551

6.5.8.11 Pipe Specifications

Certain combinations of material, substance, H_2S content, or MOP are restricted by *CSA Z662* and the *Pipeline Rules*. Further information may be requested through an SIR if the pipeline being applied for contains such combinations.

If the application is for a new stainless steel pipeline, you must attach an engineering assessment demonstrating how stainless steel is appropriate for the intended purpose and describing the construction, operational, and ongoing monitoring and maintenance practices that would be used.

6.5.8.12 Does This Pipeline Require ABSA Registration

See section 9 of *Directive 077* for information regarding elevated-temperature pipelines.

You must answer **Yes** if the pipeline requires ABSA registration.

You must answer **No** if the pipeline does not require ABSA registration.

6.5.8.13 The Design of This Pipeline Is Registered With ABSA

If you answer

- **Yes** to "This pipeline requires ABSA registration" (section 6.5.8.12) or
- select "Insulated without corrosion barrier coating" for the pipeline external coating (section 6.5.5),

you will be asked to confirm the ABSA registration.

If you answered **Yes** to "This pipeline requires ABSA registration" and **No** to "The design of this pipeline is registered with ABSA," you must attach an explanation of why the pipeline has not been registered with ABSA.

If you select "Insulated without corrosion barrier coating" for the pipeline external coating and **No** to "The design of this pipeline is registered with ABSA," you will be prompted to respond to whether "An exemption has been obtained in accordance with section 2 of *Directive 077*."

6.5.8.14 An Exemption Has Been Obtained in Accordance With Section 2 of *Directive 077*

See section 2 of *Directive 077* for information regarding external corrosion prevention for insulated pipelines.

You must answer **Yes** if the AER has granted an exemption in accordance with section 2 of *Directive 077* and attach the approved exemption.

You must answer **No** if the AER has not granted an exemption in accordance with section 2 of *Directive 077* and attach the following:

- An engineering assessment that demonstrates to the satisfaction of the AER that the insulation and the alternative corrosion prevention system will provide effective long-term corrosion control.
- A description of the methods and actions in the Integrity Management Program to monitor for corrosion or cracking under insulation and respond to any concerns. The program must include measures for monitoring potential stress-corrosion cracking that may occur under wet insulation.

6.5.8.15 Higher-Risk Substances

If the pipeline will transport any of the following, you must attach documentation confirming it meets *CSA Z662* design standards:

- any combination of substances other than HVP products, LVP products, and crude oil
- a substance change where the new substance is steam
- hydrogen (H_2 >95%, H_2 blend ≤20%, H_2 blend >20% and H_2 ≤95%)
- carbon dioxide (CO_2 gaseous phase, CO_2 liquid phase, CO_2 dense phase)
- any substance not in the Substance drop-down list

If the application is to change the substance to HVP products, you must also attach an engineering assessment that provides evidence of the following:

- conformance with the requirements for HVP pipeline design, operation, and change of service as contained in *CSA Z662*, the *Pipeline Act*, and the *Pipeline Rules*
- pipeline integrity verification

If the application is for a change of substance to steam, you must also attach

- documentation confirming only steam at temperatures ≤120°C will be distributed or
- documentation confirming the pipeline was registered with ABSA.

If the pipeline is associated with a geothermal project, you must also attach the following:

- documentation confirming it meets current *CSA Z662* standards and *Pipeline Rules* requirements
- analysis of any formation water and additives that comprise the working fluids
- any supporting documentation concerning higher-risk substances in a PDF

If the pipeline will transport hydrogen (H_2 >95%, H_2 blend ≤20%, H_2 blend >20% and H_2 ≤95%), you must also attach a comprehensive engineering assessment considering all pipeline design, materials, and operating factors necessary for the pipeline operating conditions. Refer to clause 17 and table 17.1 of *CSA Z662*.

If the pipeline will transport a CO_2 gaseous phase, you must also attach a phase diagram. This pipeline would be considered a gas pipeline under *CSA Z662*.

If the pipeline will transport a CO_2 liquid phase or CO_2 dense phases, you must also attach the following:

- supporting information detailing the CO_2 phase behaviour for the pipeline operating conditions, including a phase diagram

- a comprehensive engineering assessment considering all pipeline design, materials, and operating factors necessary for the pipeline operating conditions. Refer to clause 3.4 of *CSA Z662*.
- emergency response plan (ERP) and dispersion modelling considerations
- any special considerations to accommodate pipeline blowdown or emergency response

6.5.8.16 Bidirectional Suitability

If you are applying for permanent bidirectional flow of an existing pipeline with an outside diameter of 219.1 mm or greater, you must attach a description of

- the pipeline design and configuration,
- the internal and external condition,
- the suitability of the pipeline for the difference in pressure gradient to operate in both directions, and
- the suitability of the corrosion control for the bidirectional flow operation.

6.5.8.17 Provide the Licence and Line Number of Any Connecting Pipelines Not Included in This Application

If one or more facility codes in OneStop's Pipeline Location and Status section is "pipeline," then provide the licence and line number of the AER-licensed pipelines tied into.

- **Incompatible MOP**: If the pipeline connects with another AER-licensed pipeline and the difference between the licensed MOPs is greater than 5% of the lowest-licensed MOP, you must attach documentation to demonstrate compliance with section 31 of the *Pipeline Rules*.

  If you propose to use pressure control and overpressure protection, attach

  - a description of how the pressure control and overpressure protection meet *CSA Z662* standards and
  - a diagram of the equipment configuration with pressure control and overpressure protection devices clearly identified and set points indicated.

  Where pressure control and overpressure protection are not required as permitted by section 31(4) of the *Pipeline Rules*, you must attach an explanation of how the requirements of section 31(4) have been met.

- **Incompatible H_2S Content, Substance, or Status**: If the pipeline connects to another AER-licensed pipeline and the licensed substances, H_2S contents, or statuses are incompatible, you must attach a detailed explanation regarding the controls that will be in place to mitigate incompatible H_2S contents, substances, or pipeline statuses.

6.5.8.18 This Application Changes the Level Designation of This Pipeline or a Connecting Pipeline

See section 6.5.2 of *Directive 056* for more information on level designations and setback requirements.

You must answer **Yes** if the application involves changing the pipeline's H_2S release volume level designation.

If the application changes result in a level designation **Increase**, you must attach

- the summary page from the pipeline's ERCBH2S model calculation (*Directive 071*);
- representative tie-in schematics clearly showing the emergency shutdown and check valves;
- if applicable, the licence and line numbers of any other AER-licensed pipelines included in the pipeline's H_2S release volume calculation;
- a map showing
  - emergency shutdown and check valve locations,
  - the levels for the pipeline system and the segments that are being revised, and
  - all residences and other developments within the notification distances; and
- documentation verifying that personal consultation, nonobjection, and notification requirements have been met for all affected pipeline segments and that a revised ERP, if required, has been submitted.

If the application changes result in a level designation **Decrease**, no documentation is required.

6.5.8.19 Natural Gas Streams with Different H_2S Contents Will Be Blended

You must answer **Yes** if natural gas streams (fuel gas, natural gas, sour natural gas) will be blended to maintain a lower H_2S content in the final blended stream so that the gas may be transported within the licensed service conditions of the receiving pipeline. If you answer **Yes**, attach an explanation of how section 24 of the *Pipeline Rules* has been met and include the following:

- A detailed description of two independent techniques to ensure that the licensed H_2S content in the receiving pipeline is not exceeded, including
  - a detailed description of the design for flow ratio control with or without automatic shutdown and
  - a detailed description of H_2S monitoring (or flow ratio control) with automatic shutdown.
- A detailed description of how the control systems will be inspected.

6.5.8.20 The Pipeline Will Inject Natural Gas Containing H_2S into a Producing Reservoir

You must enter the enhanced recovery scheme approval number if the pipeline will inject sour natural gas into a producing oil or gas reservoir.

6.5.8.21 The MOP Decrease Is the Result of a Change in CSA Class Location

If you are applying for an MOP decrease to comply with the changed CSA class location requirements, you must attach a detailed explanation to support compliance with the changed CSA class location requirements.

6.5.8.22 Increase in *CSA Z662* Class Location

If the amendment type "Other" has been selected to increase the CSA class location designation, you must attach evidence demonstrating that the pipeline meets the higher *CSA Z662* class location standard.

6.5.8.23 The Proposed Internal Protection Meets All Current Applicable *Pipeline Rules* and *CSA Z662* Standards

You must answer **Yes** to this question if the internal protection installation will meet all *Pipeline Rules* requirements and *CSA Z662* standards.

You must answer **No** to this question if the internal protection installation will not meet the *Pipeline Rules* requirements and *CSA Z662* standards and attach the following:

- a detailed explanation of what *Pipeline Rules* requirements or *CSA Z662* standards are not being met and why
- an engineering assessment demonstrating that the internal protection is suitable for use

6.5.8.24 The Pipelines Are Part of the Discontinuance of an Entire Pipeline System With Underground Tie-ins in Place

If you are discontinuing multiple AER-licensed pipeline segments connected by underground tie-ins not being removed, you are completing a system discontinuance. In your application, if the underground connection is at a pipeline's licensed "To" or "From Location," select the "Pipeline" facility code. If the pipeline is isolated at the licensed location, select the "Blind End" facility code. See appendix 7 for examples of system abandonment, discontinuance, and resumption. The AER recommends system discontinuance applications only include one system and only pipelines related to that one system.

You must answer **Yes** to this question if the pipeline system was discontinued without removing underground tie-ins. Attach a cover letter that explains the scope and circumstances of the system discontinuance and lists

- all licences and lines involved with the system discontinuance (include licences and lines for each licensee where there is more than one licensee), and
- the locations where the pipeline system is isolated.

You must answer **No** to this question if the discontinued pipelines were not discontinued as a pipeline system.

6.5.8.25 The Pipeline System Was Isolated or Disconnected from All Possible Pressure Sources and Contains Only Discontinued Pipelines That Belong to the Licensee

You must answer **Yes** to this question if the discontinued pipeline system

- has been isolated or disconnected from every well, facility, or pipeline that could be a pressure source, and
- it includes only discontinued pipelines, all belonging to the licensee.

You must answer **No** to this question if any of these requirements have been not met and select all applicable reasons:

- **Not isolated from all possible pressure sources**: You are indicating the discontinued pipeline system has not been isolated or disconnected from every well, facility, or pipeline that could be a pressure source. Your cover letter must explain why the discontinued pipeline system has not been isolated or disconnected from every well, facility, or pipeline that could be a pressure source.
- **Includes pipelines that are not discontinued**: You are indicating the discontinued pipeline system has not been isolated or disconnected from an abandoned, operating, or permitted pipeline. Your cover letter must explain why the discontinued pipeline system has not been isolated or disconnected from the abandoned, operating, or permitted pipeline.
- **Includes pipelines belonging to another licensee**: You are indicating the discontinued pipeline system has not been isolated or disconnected from another licensee's pipeline. You must enter the other licensee's pipeline licence and line numbers in OneStop. Your cover letter must explain why the discontinued pipeline system has not been isolated or disconnected from the other licensee's pipelines and the measures in place to prevent repressurizing the other licensee's pipelines.

6.5.8.26 The Pipeline Was Discontinued in Accordance With the 2023 *Pipeline Rules*

See appendix 8 for the application workflow to discontinue a pipeline in accordance with the 2023 edition of the *Pipeline Rules* (2023 *Pipeline Rules*). See appendix 9 for specific discontinuance scenarios.

You must answer **Yes** to this question if the pipeline was discontinued in accordance with the 2023 *Pipeline Rules*, including cases where pipeline discontinuance work was completed in the field before the 2023 *Pipeline Rules* came into force but which meets all the requirements of the 2023 edition.

You must answer **No** to this question if the pipeline was not discontinued in accordance with the 2023 *Pipeline Rules*, including cases where pipeline discontinuance work was completed in the field before the 2023 *Pipeline Rules* came into force and does not meet the requirements of the 2023 edition. (Licensees are required to meet the requirements that were in effect at the time of pipeline discontinuance. Selecting **No** does not necessarily indicate noncompliance.) If **No** is selected, you must select all the applicable reasons:

- **More than 24 months since last active flowing service**: You are indicating the pipeline discontinuance work was not completed within 24 months of the pipeline's last active flowing service. No additional information is required for the discontinuance application; however, you must provide an engineering assessment demonstrating the pipeline is fit for the intended service if resuming the pipeline.
- **Pipeline not managed in accordance with the licensee's Integrity Management Program while not in active flowing service**: You are indicating that while not in active flowing service, the pipeline was not managed according to the specific instructions set out for it in the licensee's Integrity Management Program. If this reason is selected, you must answer the question whether or not you completed pipeline discontinuance work in the field within 12 months of the pipeline's last active flowing service and before the 2023 *Pipeline Rules* came into force.
  - If you answer **Yes** to this question, you are indicating the pipeline was discontinued in accordance with the 2005 edition of the *Pipeline Rules*. No additional information is required for the discontinuance application.
  - If you answer **No** to this question, you are indicating the pipeline was not discontinued in accordance with either the 2005 or 2023 editions of the *Pipeline Rules*. No additional information is required for the discontinuance application; however, you must provide an engineering assessment demonstrating the pipeline is fit for the intended service if resuming the pipeline.
- **Application not submitted within 90 days of completed discontinuance work**: You are indicating the discontinuance application was not submitted within 90 days of the discontinuance work being completed in the field. No additional information is required for the discontinuance application.
- **Integrity of failed pipeline has not been verified**: You are indicating the integrity of the failed pipeline has not been verified. No additional information is required for the discontinuance application; however, you must provide an engineering assessment demonstrating the pipeline is fit for the intended service if resuming the pipeline.
- **Other discontinuance requirements not met**: You are indicating at least one of the discontinuance requirements of the 2023 *Pipeline Rules* has not been met and is not addressed by the other selectable reasons. You must attach
  - an explanation of why the pipeline was not discontinued in accordance with the *Pipeline Rules* and
  - the pipeline's field discontinuance report.

  The "Not isolated" reason has been removed from OneStop. You must select the "Other discontinuance requirements not met" reason for a pipeline not isolated in accordance with section 75(d) of the 2023 *Pipeline Rules* and not part of a system discontinuance (section 6.5.8.24).

6.5.8.27 The Pipelines Are Part of the Abandonment of an Entire Pipeline System With Underground Tie-ins in Place

If you are abandoning multiple AER-licensed pipeline segments connected by underground tie-ins not being removed, you are completing a system abandonment. In your application, if the underground connection is at a pipeline's licensed "To" or "From Location," select the "Pipeline" facility code. If the pipeline is isolated at the licensed location, select the "Blind End" facility code. See appendix 7 for examples of system abandonment, discontinuance, and resumption. The AER recommends system abandonment applications only include one system and only pipelines related to that one system.

You must answer **Yes** to this question if you abandoned a pipeline system without removing the underground tie-ins. Attach a cover letter that explains the scope and circumstances of the system abandonment and lists

- all licences and lines involved with the system abandonment (include licences and lines for each licensee where there is more than one licensee), and
- the locations where the pipeline system is isolated.

You must answer **No** to this question if the abandoned pipelines were not abandoned as a pipeline system.

6.5.8.28 The Pipeline System Was Isolated or Disconnected from All Possible Pressure Sources and Contains Only Abandoned Pipelines That Belong to the Licensee

You must answer **Yes** to this question if the abandoned pipeline system

- has been isolated or disconnected from every well, facility, or pipeline that could be a pressure source, and
- it includes only abandoned pipelines, all belonging to the licensee.

You must answer **No** to this question if any of these requirements have not been met and select all applicable reasons:

- **Not isolated from all possible pressure sources**: You are indicating the abandoned pipeline system has not been isolated or disconnected from every well, facility, or pipeline that could be a pressure source. Your cover letter must explain why the abandoned pipeline system has not been isolated or disconnected from every well, facility, or pipeline that could be a pressure source.
- **Includes pipelines that are not abandoned**: You are indicating the abandoned pipeline system has not been isolated or disconnected from a discontinued, operating, or permitted pipeline. Your cover letter must explain why the abandoned pipeline system has not been isolated or disconnected from the discontinued, operating, or permitted pipeline.
- **Includes pipelines belonging to another licensee**: You are indicating the abandoned pipeline system has not been isolated or disconnected from another licensee's pipeline. You must enter the other

licensee's pipeline licence and line numbers in OneStop. Your cover letter must explain why the abandoned pipeline system has not been isolated or disconnected from the other licensee's pipelines and the measures in place to prevent repressurizing the other licensee's pipelines.

6.5.8.29 The Pipeline Was Abandoned in Accordance With the 2023 *Pipeline Rules*

See appendix 8 for the application workflow to abandon a pipeline in accordance with the 2023 *Pipeline Rules*. See appendix 9 for specific abandonment scenarios.

All abandoned pipelines require additional review upon resumption. See section 6.5.8.36 for more information.

You must answer **Yes** to this question if the pipeline was abandoned in accordance with the 2023 *Pipeline Rules*, including cases where the pipeline abandonment work was completed in the field before the 2023 *Pipeline Rules* came into force but which meets all the requirements of the 2023 edition.

You must answer **No** to this question if the pipeline was not abandoned in accordance with the 2023 *Pipeline Rules*, including cases where pipeline abandonment work was completed in the field before the 2023 *Pipeline Rules* came into force and does not meet the requirements of the 2023 edition. (Licensees are required to meet the requirements that were in effect at the time of pipeline abandonment. Selecting **No** does not necessarily indicate noncompliance.) If **No** is selected, you must select all applicable reasons:

- **More than 24 months since last active flowing service**: You are indicating the pipeline abandonment work was not completed within 24 months of the pipeline's last active flowing service. This reason only applies if the pipeline's status changes from "operating" to "abandoned." No additional information is required for the application.
- **Pipeline not managed in accordance with the licensee's Integrity Management Program while not in active flowing service**: You are indicating that while not in active flowing service, the pipeline was not managed according to the specific instructions set out for it in the licensee's Integrity Management Program. This reason only applies if the pipeline's status changes from "operating" to "abandoned." If this reason is selected, you must answer whether or not you completed pipeline abandonment work in the field within 12 months of the pipeline's last active flowing service and before the 2023 *Pipeline Rules* came into force.
  - If you answer **Yes** to this question, you are indicating the pipeline was abandoned in accordance with the 2005 edition of the *Pipeline Rules*. No additional information is required for the abandonment application.
  - If you answer **No** to this question, you are indicating the pipeline was not abandoned in accordance with either the 2005 or 2023 editions of the *Pipeline Rules*. No additional information is required for the abandonment application.

- **Application not submitted within 90 days of completed abandonment work**: You are indicating the abandonment application was not submitted within 90 days of the abandonment work being completed in the field. No additional information is required for the abandonment application.
- **Other abandonment requirements not met**: You are indicating at least one of the abandonment requirements of the *Pipeline Rules* has not been met and is not addressed by the other selectable reasons. You must attach
  - an explanation of why the pipeline was not abandoned in accordance with the *Pipeline Rules* and
  - the pipeline's field abandonment report.

  The "Not isolated" reason has been removed from OneStop. You must select the "Other abandonment requirements not met" reason for a pipeline not isolated in accordance with section 76(b) of the 2023 *Pipeline Rules* and not part of a system abandonment (section 6.5.8.27).

6.5.8.30 The Pipeline Was Removed in Accordance With the *Pipeline Rules*

You must answer **Yes** to this question if the pipeline was removed in accordance with the *Pipeline Rules*. A completed removal includes removing pipe and equipment from the affected pipeline right-of-way.

You must answer **No** to this question if the pipeline was not removed in accordance with the *Pipeline Rules* and select all applicable reasons:

- **The remaining discontinued pipeline was not isolated because the removed portion will be replaced**: You are indicating the remaining discontinued pipeline was not capped or plugged in accordance with the *Pipeline Rules* because the removal activity is related to a pipeline replacement. No additional information is required if this reason is selected.
- **Application not submitted within 90 days of completed removal work**: You are indicating the pipeline removal application was not submitted within 90 days of the removal work being completed. No additional information is required if this reason is selected.
- **Other removal requirements not met**: You are indicating at least one of the removal requirements of the *Pipeline Rules* has not been met and is not addressed by the other selectable reasons. You must attach
  - an explanation of why the pipeline was not removed in accordance with the *Pipeline Rules* and
  - the pipeline's field removal report.

6.5.8.31 The Pipeline That Is Being Resumed Was Included in a Regulator-Directed Transfer

You must answer **Yes** to this question if the resumed pipeline has been transferred to a new licensee by the direction of the AER under section 18(7) of the *Pipeline Act*. You must attach an engineering assessment demonstrating the pipeline is fit for service.

You must answer **No** to this question if the pipeline being resumed is not related to an AER directed transfer.

6.5.8.32 The Resumed Pipeline Is Part of a Previously Discontinued or Abandoned Pipeline System

If you are resuming a discontinued or abandoned system with multiple AER-licensed pipeline segments connected by underground tie-ins (see section 6.5.8.24 and 6.5.8.27), you are completing a system resumption. See appendix 7 for examples of system abandonment, discontinuance, and resumption.

You must answer **Yes** to this question if the resumed pipelines were previously discontinued or abandoned as a pipeline system.

You must answer **No** if the resumption is not related to a previous system discontinuance or abandonment.

6.5.8.33 The Entire System Is Being Resumed and Only Includes One Licensee

You must answer **Yes** to this question if the entire discontinued or abandoned pipeline system being resumed is for a single licensee.

You must answer **No** to this question if any of these requirements have not been met and select all applicable reasons:

- **A portion of the original system is being resumed. The portion being resumed is isolated from the remaining abandoned or discontinued system**: You are indicating that only a portion of the original system is being resumed and is isolated from the abandoned or discontinued portions of the pipeline system. No additional information is required if this reason is selected.
- **A portion of the original system is being resumed. The portion being resumed is not currently isolated from the remaining abandoned or discontinued system**: You are indicating that a portion of a previously abandoned or discontinued pipeline system is being resumed and is currently not isolated from the abandoned or discontinued portions of the pipeline system. You must attach a cover letter that explains the scope and circumstances of the resumption and lists all licences and lines involved with the resumption (include licences and lines for each licensee where there is more than one licensee). If the application is approved, you must isolate the system to be resumed from the existing abandoned or discontinued pipeline system before operations may resume.
- **The pipeline system being resumed involves multiple licensees**: The applicant is indicating the resumption involves pipelines belonging to licensee. You must attach a cover letter that explains the scope and circumstances of the resumption and lists all licences and lines involved with the resumption (include licences and lines for each licensee).

6.5.8.34 The Pipeline That Is Being Resumed Was Discontinued in Accordance With the 2023 *Pipeline Rules*

See appendix 8 for the application workflow to resume a pipeline in accordance with the 2023 *Pipeline Rules*. See appendix 9 for specific resumption from discontinued scenarios.

You must answer **Yes** to this question if the discontinued pipeline being resumed was discontinued in accordance with the 2023 *Pipeline Rules*, including cases where the pipeline discontinuance work was completed in the field before the 2023 *Pipeline Rules* came into force but which meets all the requirements of the 2023 edition.

You must answer **No** to this question if the discontinued pipeline being resumed was not discontinued in accordance with the 2023 *Pipeline Rules*, including cases where pipeline discontinuance was completed in the field before the 2023 *Pipeline Rules* came into force and does not meet the requirements of the 2023 edition. (Licensees are required to meet the requirements that were in effect at the time of pipeline discontinuance. Selecting **No** does not necessarily indicate noncompliance.) If **No** is selected, you must select all applicable reasons:

- **More than 24 months since last active flowing service**: You are indicating the pipeline discontinuance work was not completed within 24 months of the pipeline's last active flowing service. You must attach an engineering assessment demonstrating the pipeline is fit for the intended service.
- **Pipeline not managed in accordance with the licensee's Integrity Management Program while not in active flowing service**: You are indicating that while not in active flowing service, the pipeline was not managed according to the specific instructions set out for it in the licensee's Integrity Management Program. If this reason is selected, you must answer whether or not you completed pipeline discontinuance work in the field within 12 months of the pipeline's last active flowing service and before the 2023 *Pipeline Rules* came into force.
  - If you answer **Yes** to this question, you are indicating the pipeline was discontinued in accordance with the 2005 edition of the *Pipeline Rules*. No additional information is required for the resumption application.
  - If you answer **No** to this question, you are indicating the pipeline was not discontinued in accordance with either the 2005 or 2023 editions of the *Pipeline Rules*. You must attach an engineering assessment demonstrating the pipeline is fit for the intended service.
- **Application not submitted within 90 days of completed discontinuance work**: You are indicating the discontinuance application for the resumed pipeline was not submitted within 90 days of the discontinuance work being completed in the field. No additional information is required.

- **Integrity of failed pipeline has not been verified**: You are indicating the integrity of the failed pipeline was not verified before it was discontinued. You must attach an engineering assessment demonstrating the pipeline is fit for the indented service.
- **Other discontinuance requirements not met**: You are indicating at least one of the discontinuance requirements of the *Pipeline Rules* has not been met and is not addressed by the other selectable reasons. You must attach an engineering assessment demonstrating the pipeline is fit for the intended service.

6.5.8.35 Resumption of Operation from "Abandoned" Status

If the pipeline is being resumed from "abandoned" status, you must attach

- participant involvement audit documentation (see *Directive 056*, section 4.8.1),
- an engineering assessment, and
- pressure test or other pipeline integrity testing results.

If a pipeline status was inadvertently amended to "abandoned" when it should have been "discontinued" or "operating," you must attach documentation that verifies the proposed status change.

If changing the status to "discontinued," attach a discontinuance report and evidence that cathodic protection remains in place.

If changing the status to "operating," attach production records demonstrating the pipeline has been operating continuously.

6.5.8.36 Resumption of a Line in "Operating" Status

If the application is for the resumption of a pipeline in "operating" status, you must select all applicable reasons that describe the current state of the pipeline in the field.

- **Abandoned in the field**: You are indicating the pipeline being resumed is abandoned in the field, but the pipeline's licensed status is "operating." If this reason is selected, you will be required to answer the "Resumption of Operation from Abandoned Status" question. See section 6.5.8.35 for information.
- **Discontinued in the field**: You are indicating the pipeline being resumed is discontinued in the field, but the pipeline's licensed status is "operating." If this reason is selected, you will be required to answer the "The pipeline that is being resumed was discontinued in accordance with the 2023 *Pipeline Rules*" question. See section 6.5.8.34 for information.
- **Not been in active flowing service for more than 24 months**: You are indicating the pipeline being resumed has not been in active flowing service for more than 24 months. The applicant must attach an engineering assessment demonstrating the pipeline is fit for service.

Other: You are indicating the pipeline is being resumed but none of other reasons are applicable. You must attach a cover letter explaining the circumstances of the resumption.

6.5.8.37 Fit for Service

You must attach an engineering assessment demonstrating the pipeline is fit for service when applying to resume an abandoned or discontinued pipeline where the service conditions of the licence changed while it was discontinued or abandoned.

6.5.8.38 The Integrity of the Pipeline Has Been Verified

You must answer **Yes** to this question if the integrity of the resumed pipeline was verified before the resumption application submission.

The applicant must answer **No** to this question if the integrity of the resumed pipeline was not verified before the resumption application submission. If the integrity was not verified, you must explain why the necessary work to verify the integrity of the resumed pipeline has not been undertaken.

6.6 Pipeline Installation Applications

6.6.1 Pipeline Installation Status

For new pipeline installation construction licences, the pipeline installation status automatically changes from “permitted” to “operating” typically one year from the date the licence was issued, except where an extended licence expiry was requested at the time of application.

6.6.2 Pipeline Installation Licences

Multiple licences can be applied for in a single application, and each licence will be displayed as a separate activity.

6.6.3 Unlicensed Pipeline Installations

If you select “Unlicensed pipeline installation: addition to existing licence number,” you are applying to license an existing unlicensed pipeline installation under an existing licence. The unlicensed installation must handle the same substance, have the same licensed H_2S content, and be part of the same system as the licence it is being added to.

Or you are applying to reinstate a pipeline installation that was deleted in error before June 26, 2010.

For pipeline installations deleted after June 26, 2010, submit a licence amendment application to reinstate the installation.

6.6.4 Licensing – Line/Installation Detail

A licence can have up to three substances associated with it; however, the substances selected must be common to all pipeline installations on the licence being applied for.

6.6.5 Installation Specification

Inst Type: The following table lists the installation types given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Installation types
CS	Compressor Station
LH	Line Heater
LR	Oil Loading and Unloading Terminal
PS	Pump Station
TF	Tank Farm

Comp/Pump Rating (kW): The kilowatt (kW) rating.

Power source: The following table lists the power sources given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Power source
E	Electric
N	Natural Gas
	None

Status: If this is new construction, the status must be "To Be Constructed (Permitted)." The following table lists the installation statuses given in OneStop. The "code" is what appeared in older systems and is given here for reference.

Code	Installation status
A	Abandoned
D	Discontinued
N	Not constructed
O	Operating
P	To Be Constructed (Permitted)
R	Removed

6.6.6 Technical Diagrams

Process flow diagrams

Process flow diagrams must meet the requirements of *Directive 056*.

Plot plans

Plot plans must meet the requirements of *Directive 056*.

6.6.7 Pipeline Installation Amendments

Changes to an installation's location, installation type, compressor/pump rating, power source, and status can be made through a pipeline installation amendment application. Multiple amendment types can be applied for in a single activity.

If you are applying to change the substance or H_2S content of only specific installations on a licence, you must apply in a separate application and not in combination with any other licence amendment type.

If you are applying to change the substance or H_2S content of an entire licence and the licence also includes pipeline segments, this change must be made through a pipeline amendment application.

6.6.8 Pipeline Installation Technical Considerations

Depending on the type of pipeline installation application being submitted, you may be asked the following questions or requested to provide information.

6.6.8.1 Maximum Calculated Emergency Planning Zone

Enter the maximum calculated EPZ radius in kilometres (km) as determined by the requirements of *Directive 071*.

The maximum calculated EPZ should represent the largest EPZ of any pipeline entering or leaving the installation measured outward in all directions from the installation lease boundary. If there are numerous installations included in an activity, the largest EPZ of any of those installations should be indicated. If there is no EPZ associated with any of the installations, enter "0."

6.6.8.2 Number of Surface Developments in the Emergency Planning Zone

Enter the total number of surface developments in the maximum calculated EPZ.

The number of surface developments in the EPZ should represent the surface developments for all installations being applied for.

If there is no EPZ associated with any of the installations, enter "0."

6.6.8.3 AER Areas of Focus

If the application is for a new pipeline installation within the Battle Lake Tier 1 Area, you must attach the documentation required by section 8.2 of *Directive 056*.

If the application is for a new pipeline installation or an amendment for a pipeline installation within the Sage Grouse Federal Emergency Protection Order prohibition area, you must attach a description of the fieldwork to be conducted and how it will meet the emergency protection order requirements.

6.6.8.4 *Alberta Land Stewardship Act* Compliance

If the application is for a new pipeline installation within the boundary of an approved regional plan and within a

- designated conservation area,
- provincial park,

- provincial recreation area,
- public lands area for recreation and tourism, or
- any subregional plan approved under the *Alberta Land Stewardship Act*,

you will be asked to attach the documentation outlined in section 8.5 of *Directive 056*.

6.6.8.5 The Proposed Pipeline or Pipeline Installation is Located Within the Calgary or Edmonton Transportation and Utility Corridors

You must answer **Yes** if any portion of the pipeline installation is located within the Calgary or Edmonton transportation and utility corridors. If **Yes** is selected, you must indicate if the pipeline installation has ministerial consent from Alberta Infrastructure.

If the proposed pipeline installation is within the Calgary or Edmonton transportation and utility corridors and ministerial consent has **not** been obtained from Alberta Infrastructure, you must answer **No** and attach a detailed explanation of why ministerial consent has not been received.

6.6.8.6 The Pipeline Installation Meets All Applicable Noise Requirements

If the applicable noise requirements of *Directive 038* have not been met, you must attach

- a list of noise requirements not being met and why and
- a noise impact assessment.

If the applicable noise requirements of *Directive 038* have not been met and this is an amendment application, you must also attach a site-specific plot plan and process flow diagram.

6.6.8.7 The Pipeline Installation Meets All Applicable Storage Requirements

If all applicable storage requirements as defined in *Directive 055* have not been met**,** you must list what storage requirements are not being met and explain why.

If all applicable storage requirements as defined in *Directive 055* have not been met and this is an amendment application, you must also attach a site-specific plot plan and process flow diagram.

6.6.8.8 The Pipeline Installation Meets All Applicable Spacing Requirements

If all applicable spacing requirements in section 8 of the *OGCR* have not been met and this is an amendment application, you must attach a site-specific plot plan and process flow diagram.

If all applicable spacing requirements related to a waterbody, you must also attach

- a mitigation letter which includes a discussion of the preventive measure that will be employed to minimize the risk of a spill occurring and, in the event of a spill, the preventive measures for ensuring that the spill does not reach the water body;

- a description of the automatic controls that will be installed; and
- a statement committing to constructing and maintaining a berm around the perimeter of the equipment that will prevent any spill from reaching the water body.

If **No**, and the spacing issue is not related to a water body, you must also attach

- a mitigation letter which includes a description of the fluids involved and all sources of gaseous vapours and
- a description of how safety will not be compromised by a relaxation of the spacing requirements, including a safety assessment and the response time for callout.

6.6.8.9 Total NO_x Emissions Will Be Less Than 16 kg/hr

If NO_x emissions will be equal to or greater than 16 kg/hr**,** you must attach a statement confirming that the applicant will register with AEPA before operation.

7 Well Procedures

7.1 Overview

Well licence applications, amendments, and information updates under *Directive 056* are submitted using OneStop.

You may apply for multiple new wells in one application if the following conditions apply to all wells:

- The surface location of all wells will be the same legal subdivision or adjoining legal subdivision.
- The wells are all the same type (e.g., injection, production).
- The wells are to be licensed under the same section of the *OGCR*.

Wells licensed under the *GRDR* or *BMR* are not eligible to be submitted in a multiwell application due to the additional data submission requirements.

Multiple wells that are part of an oil sands evaluation (OSE) program may also be submitted in one application if

- the wells are part of the same project and
- the producing and terminating formations are the same for all wells applied for.

A separate application must be submitted for each well licence if the activity is to resume, re-enter, or amend a well licence or if you are submitting an information update.

7.2 Licence Expiry, Extensions, and Cancellations

Selection of a licence term for new well applications, extensions to the expiry date of an approved well licence, and cancellation of a well licence are submitted using OneStop.

At time of application for a new well licence, you may select either a one- or two-year term.

An extension to a licence term before the expiry date can be applied for by completing an "Other" well amendment type. A one- or two-year extension can be selected. If a statement of concern was registered against the original application for the licence, this application may be subject to additional review.

You may cancel multiple well licences in one application. In order for a well licence to be cancelled through OneStop, the well cannot

- have a submitted activity pending in OneStop,
- be spudded,
- have a non-zero event, or
- have a status of anything other than issued or amended.

Select the reason each licence is being cancelled:

- activity not initiated
- duplicate licence
- expired licence

If a well licence is cancelled, the unique well identifier (UWI) will remain with the historical record of the well licence. If you reapply, the new well will be given the next available UWI.

7.3 Licence Amendments and Transfers

Specific licence attributes can be amended on wells before drilling by submitting an "Authorization Amendment" in OneStop under the following amendment types:

- Surface
- Subsurface
- Well/production type
- H_2S information
- Other
- OSE conversion
- Regulatory conversion

Table 7 lists the attributes that may be changed and under what process.

7.3.1 Conversion of a Well Licence

Use the "OSE Conversion" amendment type to convert an OSE well licensed and drilled under section 2.030(1) of the *OGCR* to a conventional producing or observation well reauthorized under section 2.020 of the *OGCR*. Application for OSE conversion may only occur after drilling the OSE well.

Use the "Regulatory Conversion" amendment type to convert a well licensed and drilled under one regulatory framework to a well licensed under another (i.e., reauthorization among the *OGCR*, *GRDR,* or *BMR*). Only the current licensee can apply for a regulatory conversion. See section 3.4.6 of *Directive 089* or section 3.6 of *Directive 090* for information about transferring a well licence from the current licensee for a conversion. Application for regulatory conversion may only occur after drilling the well.

If the well has not been drilled, cancel the licence in accordance with section 7.5 of *Directive 056*. Submit a new application under the appropriate governing legislation.

Multiple amendment types may be applied for in a single application except for Other, OSE Conversion, and Regulatory Conversion, which require separate applications, and not in combination with another type.

Applicants filing OSE and Regulatory Conversion types may see other basic data in the existing licence record being updated as a consequence of the shapefile upload. If this information is incorrect, the applicant can resolve this by uploading a new shapefile or filing an Information Update as described below after the conversion is approved.

7.3.2 Transfer of a Well Licence

Applications to transfer geothermal wells or brine-hosted mineral wells must include all application requirements set out in section 6 of *Directive 089* or *Directive 090*. A transfer application will trigger a holistic licensee assessment of both the transferor and transferee as described in *Directive 089* or *Directive 090*. This assessment may include the information submitted with the transfer application, among other factors.

7.4 Information Updates

Specific licence attributes can be updated on drilled wells by submitting a "Well Licence Information Update" in OneStop under the following information update types:

- Surface
- Subsurface

Both types may be updated in a single submission. Only one event (UWI) on a licence can be updated per submission. Table 7 lists the attributes that may be changed and under what process.

Table 7. Well licence attributes that can be changed and the process under which it can be done

Type	Licence attribute	Amendment (before drilling)	Amendment (deepening while on hole)	Amendment (after drilling)	Information Update (after drilling)
Surface	Surface location	X			X
	Surface coordinates	X			X
	Latitude/Longitude				X
	Ground elevation	X			X
	Surface rights owner	X			X
	Distance to nearest surface development	X			
	Distance to nearest urban centre	X			
Subsurface	Bottomhole location	X	X		X
	Well name	X	X		X
	Road allowance indicator	X	X		X
	Total depth	X	X		
	True vertical depth	X	X		
	Mineral rights	X	X		X
	Terminating formation	X	X		
	Type of drilling operation	X	X		X
	Drill-cutting information	X	X		
	Surface casing depth	X			X
Well/Production Type	Well type	X			
	Substance name	X			
	Formation name	X			
	AER classification	X	X		
	Confidential status	X	X		
	Drill-cutting information	X	X		
H_2S Information	All data fields related to H_2S	X	X		
Other	Well name change	X			
	Scheme approval number	X			
	Surface casing depth	X			
	Extension to licence term	X			
OSE Conversion	Well name			X	
	Well type			X	
	Substance name			X	
	Formation name			X	
	AER classification			X	
	Confidential status			X	

Regulatory conversion	Well name	X
	Well type	X
	Substance name	X
	Formation name	X
	AER classification	X
	Confidential status	X

7.5 Re-entry, Resumption, and Deepening

Re-entries and resumptions are applied for as new applications in OneStop. Provide the previously issued well licence number of the well to be re-entered or resumed. Include all zeros in the seven-digit well licence number.

Geothermal wells and brine-hosted mineral wells are ineligible for re-entries. Applicants looking to enter an existing abandoned well must either be the current licensee or acquire the licence through a transfer as set out in *Directive 089* or *Directive 090*. A regulatory conversion amendment would need to be filed and approved to authorize the change in activity.

A deepening of an existing well, while the rig is on hole, can be applied for as a subsurface amendment, an H_2S amendment, or both, depending on what attributes are being changed. If a deepening of an existing well will change the AER classification or confidential status, a well/production type amendment can be applied for as part of the same application.

7.6 Spatial Data

7.6.1 Shapefiles

Attach a well point shapefile for all

- new well licence applications,
- well surface amendments,
- OSE conversion amendments,
- regulatory conversion amendments, and
- surface information updates to well licences issued on or after November 7, 2019.

For surface information updates to well licences issued before November 7, 2019, you may either attach a well point shapefile and a lease boundary shapefile (when applicable) or manually enter the well point surface information from the survey plan.

Attach a lease boundary shapefile when the well is located on Freehold land.

For re-entries and resumptions, if the proposed surface location as indicated in the well point shapefile is more than five metres (m) from the surface location of the original well licence, the application may be subject to additional review to ensure ongoing data integrity.

For multiwell applications, all well points must be contained in one shapefile.

For new single wells, resumptions, re-entries, amendments, and information updates, a single well point shapefile must be submitted.

If the application is for a domestic water well, a shapefile is not required.

The attributes that are included in the shapefile will be populated to the user interface by OneStop.

7.6.2 Spatial Analysis

The AER uses the spatial data received in well licence applications to determine if the well intersects any areas that require the submission of additional documentation or where the proposed activities could pose additional risks that the applicant should examine.

7.6.2.1 AER Areas of Focus

If the proposed well will be located within the Battle Lake Tier 1 Area, provide documentation required by section 8.2 of *Directive 056*.

If the proposed well will be within the Sage Grouse Federal Emergency Protection Order prohibition area, provide a description of the fieldwork that will be conducted and how it will meet the emergency protection order requirements during the construction and operation of the proposed activity.

If the proposed well will be located within the southern portion of the Eastern Slopes, provide

- the documentation that is outlined in *Informational Letter (IL) 93-09* and
- confirmation that the expectations outlined in *IL 93-09* will be adhered to.

Refer to section 7.7.14(45) and (46) of *Directive 056* for more details.

7.6.2.2 Activities Within the Boundary of a Regional Plan (*Alberta Land Stewardship Act* Compliance)

If the application is for a new well within the boundary of an approved regional plan and within a

- designated conservation area,
- provincial park,
- provincial recreation area,
- public lands area for recreation and tourism, or
- any subregional plan approved under the *Alberta Land Stewardship Act*,

you will be asked to attach the documentation outlined in section 8.5 of *Directive 056*.

7.6.3 Surface Rights

The surface rights owner, either Alberta Crown or Freehold, is automatically generated through the spatial analysis of the shapefile.

If the well is located on Alberta Crown land and there is an existing public land disposition or application number, the information will be populated. You may also search for the public land disposition or application number.

If there is no related public land authorization or application, indicate whether

- the public land disposition application has been submitted as part of this application or
- the proposed wells are part of an OSE program.

If an application for the related public land authorization has not been applied for or obtained, select "None of the above" and indicate that participant involvement requirements have not been met.

7.6.4 Survey Plans

Attach a valid survey plan in PDF format and indicate the date of the survey for

- new well licences,
- re-entries,
- resumptions,
- OSE conversion amendments,
- regulatory conversion amendments,
- surface amendments, and
- surface information updates.

Refer to section 7.7.1 of *Directive 056* for details on survey plan requirements.

If the application is for OSE wells, attach the OSE program map.

7.7 Participant Involvement

The following is the information you may be requested to provide for new well licence, re-entry, resumption, and amendment applications.

There are outstanding concerns related to this application

If members of the public or industry have outstanding concerns or objections, attach the following:

- the name, address, telephone number, and legal land description of the party with outstanding concerns or objections
- approximate distance from the project to the land and residence, if applicable, of the participants with outstanding concerns or objections
- a copy of written concerns or objections received, if available
- a chronology of the participant involvement program conducted with the party
- a discussion of steps taken to mitigate the outstanding concerns or objections
- a copy of the project-specific information package provided
- a list of other documents distributed
- an explanation of how you would like the AER to proceed with your application

If there are residents within the EPZ, also attach the following:

- the assessment of existing infrastructure required by *Directive 056*, section 8.3.2
- the updated expanded project-specific information package, as described in *Directive 056*, section 8.3.2
- a copy of an area plan, as described in *Directive 056*, section 8.3.3, if it was completed

Participant involvement requirements have been met

If any *public* participant involvement requirements as outlined in table 4 in *Directive 056* and any of the participant involvement requirements of section 3 have not been met before submitting the application, including being unable to contact a party or receive confirmation of nonobjection, attach the following:

- the participant involvement summary of all personal consultation and notification that has been completed
- the name, address, telephone number, and legal land description of participants for which personal consultation and notification requirements have not been completed
- a detailed explanation of why all personal consultation and nonobjection requirements cannot be completed
- a detailed explanation of why all notification requirements cannot be completed
- an explanation of how you would like the AER to proceed with this application

If any *industry* participant involvement requirements have not been met, attach the following:

- a record of contact with industry parties
- copies of correspondence between parties
- minutes of meetings held
- copies of information distributed
- a summary of parties for which industry notification has not occurred
- a detailed explanation of why all industry notification requirements were not completed
- an explanation of how you would like the AER to proceed with this application

Distance to nearest surface development

The distance is measured from the well centre.

If there is no surface development within the EPZ, a distance to the nearest town, village, or urban centre may be used. Where there is no EPZ, a search should be done to at least 1.5 km; if there is no surface development within this distance, 1.5 km may be entered.

If zero is entered for the distance to nearest surface development, the application may be subject to additional review.

7.8 Technical Information

Depending on the application type being applied for, the following is the information that you may be requested to provide for new well licence, re-entry, resumption, and amendment applications.

You may also be asked to provide this information for information updates, depending on the data that is being updated.

7.8.1 Well Details

If you are submitting an application for a multiwell pad, enter well details for each well in the application.

Type of drilling operation	Select the type of drilling operation being conducted.
Bottomhole location	Enter the bottomhole location of the wellbore using the Dominion Land Survey system.
Proposed bottomhole location is within a road allowance	If **Yes**, select which direction the terminating point is from the bottomhole location that has been entered.
Well name	Well names are created by OneStop to be consistent with section 13.020 of the *OGCR*. You can add discretionary information to a maximum of 36 characters to distinguish the proposed well. For geothermal wells, add "GT" or "MIM" for brine-hosted mineral wells at the start of the discretionary portion of the name. You may add any other particulars to the well name.
Surface latitude and longitude	If the distance between the submitted latitude/longitude and the calculated latitude/longitude is more than 20 m, the application may be subject to additional review.
Surface casing depth	Enter the total depth of the surface casing to the nearest metre.
Projected total depth	Enter the projected total depth to the nearest metre. This depth must include the 15 m overhole interval.
True vertical depth	Enter the true vertical depth to the nearest metre if the well is expected to deviate from vertical. This depth must include the 15 m overhole interval.

Mineral rights	Select the mineral rights owner. For the purpose of the application, the AER considers federal Crown mineral rights as Freehold.
Terminating formation name	Select the name of the deepest formation in which the well will terminate and where you are entitled to the right to produce. Do not record any formation within the 15 m overhole interval as the terminating formation unless you hold the mineral rights to it.

7.8.2 Licence Details

If you are submitting an application for a multiwell pad, the licence details information must apply to all wells in the application. Applications for multiwell pads are not valid for geothermal wells or brine-hosted mineral wells due to the additional supporting documents included for these well types. See section 7.8.5.5.

7.8.2.1 Well Purpose

Once the well type and substance are selected, OneStop will populate the section of the *OGCR*, *GRDR*, or *BMR* that the well licence application will be submitted under.

Well type	Select the well type.
Substance	Select the substance.
Formation	Select the formation. Formation names are available at aer.ca.
The proposed well is part of an experimental, primary, or commercial crude bitumen scheme	If the proposed well is part of an approved experimental, primary, or commercial crude bitumen scheme, enter the scheme approval number. If the proposed well is part of a confidential scheme, the expiry date will be populated by OneStop.
Commercial or source water wells	If the well type is Production, and the substance is Water under the *OGCR*, indicate if all wells included in the activity are commercial or source water wells.

Table 8 lists the well types and corresponding substances, classifications, and confidentiality options that can be applied for under sections 2.020, 2.030, and 2.040 of the *OGCR*, section 7 of the *GRDR*, or section 8 of the *BMR*. The "code" is what appears in other systems and is given here for reference.

Table 8. Rule, well type, and substance used during well licensing

Well type	Code	Substance name	Code	Classification options	Confidential options
***OGCR*, section 2.020**					
Evaluation	02	Miscellaneous	98	OTH	NC
		None		OTH	NC
Injection	04	Gas	02	DSW	C, NC
		Water	06	DSW	C, NC
		LPG	16	DSW	C, NC
		Carbon dioxide	13	DSW	NC
Disposal	12	Water	06	OTH	NC
		Brine	07	OTH	NC
		Waste	08	OTH	NC
		Carbon dioxide	13	OTH	NC
Disposal (CCS)	28	Carbon dioxide	13	OTH	C, NC
Observation	05	Crude oil	01	DSW	C, NC
		Gas	02	DSW	C, NC
		None		DSW	C, NC
Production	07	Crude oil	01	XPL	C
				DEV	C, NC
		Gas	02	XPL	C
				DEV	C, NC
		Brine	07	OTH	NC
		Crude bitumen	17	DEV	NC
		Coalbed methane	22	XPL	C
				DEV	C, NC
Production (Scheme)	08	Crude bitumen	17	DEV	NC
Storage	09	Gas	02	OTH	NC
		LPG	16	OTH	NC
Training	11	None		OTH	NC
***OGCR*, section 2.030**					
Experimental	03	None		EX	C
Oil Sands Evaluation	06	Crude bitumen	17	OV	C
Test	10	None		TH	C
***OGCR*, section 2.040**					
Domestic	01	Water	06	OTH	NC
Observation	05	Water	06	OTH	NC
Production	07	Water	06	OTH	NC
***GRDR*, section 7**					
Geothermal Open-Loop Production	15	Brine	07	XPL	C
		Water	06	DEV	
Geothermal Open-Loop Injection	16	Brine	07	DSW	C
		Water	06		
Geothermal Closed-Loop single	17	Working Fluid	67	XPL	C
				DEV	
Geothermal Closed-Loop in – multi	18	Working Fluid	67	XPL	C
				DEV	
Geothermal Closed-Loop out – multi	19	Working Fluid	67	XPL	C
				DEV	
Geothermal Other	20	Miscellaneous	98	OTH	C
		None			
Geothermal Observation	21	Miscellaneous	98	DSW	C

		None			
***BMR*, section 8**					
Minerals Production	22	Brine Hosted	68	DEV	C
Minerals Injection	23	Brine	07	DSW	C
Minerals Observation	25	Brine Hosted	68	DSW	C
Minerals Evaluation	26	Brine Hosted	68	DEV	C

7.8.2.2 AER Classification

Table 9 lists the full names of the AER classification types that are available. The corresponding "code" is what appears in other systems and is given here for reference.

Table 9. AER classification

Code	Type	Code	Type
00	Development	40	Exploratory
01	Development Service Well	03	Re-entry
09	Other	10	Experimental
11	Oil Sands Evaluation	12	Test Hole

AER classification	Select the AER classification for the proposed well.
Confidential status	Select the confidential status of the proposed well. Where only one confidential status is available for a well type and classification, the value will be automatically populated.

Table 10 lists the confidentiality statuses than are available. The corresponding "code" is what appears on the well licence and in other systems and is given here for reference.

Table 10. Confidential status applied at time of licensing

Code	Status
C	Confidential
NC	Nonconfidential

7.8.2.3 Drill-Cutting Samples

Drill-cutting sample requirements are outlined in section 7.7.9 of *Directive 056* and section 11.010 of the *OGCR*. Requirements for drill-cutting samples for geothermal wells are set out in section 3.2.1 of *Directive 089* and in section 3.2 of *Directive 090* for brine-hosted mineral wells. All other processes outlined below are to be followed.

Drill-cutting samples are required to be taken	If the well type is Disposal or the AER classification is Exploratory, and you have indicated that drill-cutting samples are not required, attach an explanation of why.
Samples will be collected and submitted as required	If drill-cutting samples are required but you want to apply for a variance as part of this application because samples will not be collected and

submitted as required, attach the following:

- a list of control wells with sample coverage over the producing interval
- the reason for a drill-cutting sample variance

Indicate if you are requesting that

- no drill-cutting samples be required (full exemption) or
- a variance to the drill cuttings or the sampling interval be granted (a request to start or stop at different formations or requesting to vary the standard 5 m capture interval to some other interval).

If a variance has already been obtained, indicate whether it is for

- drill-cutting samples to not be required (full exemption), or
- a variance to the drill cutting or sampling interval.

OneStop will request the following drill-cutting sample information:

Interval	Enter the requested capture interval if it will vary from the standard 5 m.
From formation	Select the name of the formation 30 m above where sample collection and submission begins, or select “Surface (Top Hole)” if that is where sample collection and submission begins.
From depth	Enter the proposed depth to the nearest metre where sample collection and submission begins.
To formation	Select the name of the “To” formation that is 30 m below where sample collection and submission ends, or select “Total Depth,” if that is where sample collection and submission ends.
To depth	Enter the proposed depth to the nearest metre where sample collection and submission ends.

If drill-cutting sample collection and submission are ended and then resumed deeper in the well, repeat the procedure above for the next, deeper interval in the second row provided.

7.8.2.4 Mineral Rights (Right to Evaluate, Produce, or Operate)

There are two types of mineral ownership in Alberta: Freehold and Alberta Crown. It is the applicant's responsibility to ensure that it has reviewed the mineral ownership for the entire drilling spacing unit (DSU) for hydrocarbon resources under the *OGCR* and acquire the necessary mineral rights before application. Because DSUs have not been established yet for wells targeting geothermal or brine-hosted mineral energy resources, the applicant must acquire the appropriate rights as set out in section 7.7.12(c) and (e) of *Directive 056*. For the purpose of well licence applications, federal Crown minerals are treated as Freehold.

Water source and injection/disposal wells do not require the acquisition of a complete DSU. A letter from the mineral rights owner or lessee authorizing the activity or a valid Crown authorization from Alberta Energy is sufficient to operate the well.

Licensees who only hold a brine-hosted metallic and industrial minerals licence under the *Metallic and Industrial Minerals Tenure Regulation* may only perform the limited evaluation activities permitted by that licence.

For wells drilled under the *OGCR* for the sequestration of captured carbon dioxide, there are two licensing options depending on the type of tenure or carbon sequestration agreement held:

- A well under a carbon sequestration evaluation agreement (where geological or geophysical properties of the deep subsurface reservoirs are assessed for suitability for sequestering captured carbon dioxide) is licensed as disposal (CCS)/carbon dioxide/nonconfidential or confidential.
- A well under a carbon sequestration agreement licensed for active sequestration of captured carbon dioxide is licensed as disposal/carbon dioxide/nonconfidential.

An applicant must hold the appropriate rights to licence the wells for the intended purpose.

Licensees must ensure that they maintain the right to produce or operate the well for its intended purpose from application through to the commencement of drilling and ultimately throughout the life of the well. Depending on the situation, loss of mineral rights, consent, or Crown authorization at any point after application submission and before the commencement of drilling may result in licence cancellation.

The issuance of a well licence or the results of an AER audit are not to be relied upon by the licensee or third parties as a legal determination or confirmation of mineral entitlement or of the right to produce hydrocarbons or to conduct other activities on lands covered by the licence.

If you do not have all mineral rights for the entire DSU and you are awaiting other AER approvals (e.g., reduced spacing application), your application may be premature. In these instances, you should not submit your well licence application unless you can meet current spacing requirements.

The applicant has the rights for all intended purposes of the proposed well	If you have not acquired the right to produce from the intended formations or the right to drill and operate the well, as stated in the well purpose for the complete DSU or targeted well type, then as required for Freehold lands by the Alberta Department of Energy *Mines and Minerals Act* (sections 53 and 54), attach a detailed explanation of why the mineral rights have not been acquired.
The applicant has the rights to a complete DSU	The acquisition of a complete DSU is not required for injection/disposal wells, observation wells, water source wells, geothermal wells, and brine-hosted mineral wells. You are considered to have secured the rights to a complete DSU if you have authorization from the mineral rights owner or lessee for the stated purpose or, in the case of a geothermal well or brine-hosted mineral well, at the bottomhole location or along the horizontal length of a wellbore. If you have not secured the rights to a complete DSU, attach a detailed explanation of why the complete DSU rights have not been acquired.

7.8.2.5 Surface Impact

The AER water body setback requirements have been met	If the requirements stated in *Directive 056* section 7.7.13.1 cannot be met, and alternative mitigative measures are proposed instead, attach information that explains the following: • why water body setback requirements cannot be met • the proposed measures to protect the water body from contamination during drilling and future production operations • the proposed measures to mitigate the consequence of a spill
All other AER setback requirements have been met	**Surface Improvements** If the requirements in *Directive 056*, sections 7.7.13.2 through 7.7.13.4 have not been met, and consent from the surface improvement owner cannot be obtained, attach an explanation of why consents have not been obtained. **Coal Mines** If the proposed well meets any of the following criteria, and the requirements of sections 6.140 to 6.190 of the *OGCR* cannot be met, indicate that AER setbacks have not been met and that consent has not

been obtained and attach an explanation of the reason requirements cannot be met:

- The proposed well is within 3 km of a working mine or within 400 m of an abandoned mine.
- The proposed well is within 15 m of a coal mine shaft.

The proposed well site and access road will meet the AER environmental requirements

If the applicable environmental requirements stated in *Directive 056* section 7.7.14 cannot be met, or if alternative mitigative measures will be proposed, attach the following:

- an explanation of why requirements cannot be met
- what alternative mitigative measures are proposed to protect the environment

7.8.2.6 Surface Casing

Surface casing meets the requirements of *Directive 008*

If the proposed surface casing will not meet the requirements of *Directive 008* and a surface casing variance is being requested as part of this application, attach the following:

- an explanation of why requirements will not be met
- all information and data listed in *Directive 056*, section 7.7.11

7.8.2.7 Additional Information – Re-entries and Resumptions

Rights to the existing wellbore

If a well is being re-entered or resumed, attach one of the following:

- proof of wellbore rights
- an explanation of why wellbore rights were not obtained

As applicable, the documentation must demonstrate that

- the rights to the existing abandoned wellbore have been obtained from the previous licensee, or
- the rights have been obtained from the Crown if the minerals have expired and the abandoned wellbore has reverted to the Crown.

The well casing will be pressure tested to meet the minimum requirements

To request a variance to the pressure test parameters or from the required casing inspection logs for a re-entry or resumption of a well, attach confirmation that the well

- is not a category E well,
- is not expected to encounter any new pools,
- will not be deepened or drilled as a whipstock or directional well,
- is not located within or in proximity to enhanced recovery schemes,
- has not been re-entered or undergone resumption of drilling operations before,
- has surface casing or production or intermediate casing that is cemented and isolated to the base of groundwater protection and there are no known hydrocarbons remaining open in any uncemented intervals,
- does not have a surface casing vent flow or have gas migration problems,
- is not located in an area that has high incidents of casing corrosion, and
- was not originally drilled as a directional or horizontal well.

7.8.2.8 Operational Disclosure

If the drilling operation will be underbalanced, refer to the requirements described in *Directive 010*, as well as in IRP Volume 6 if the well is a category E.

Notify the nearest field centre if the specialized drilling operation selected changes after issuance of the licence.

Specialized drilling operations will be conducted)	Indicate the type of specialized drilling, if applicable (as defined in IRP Volume 22): • Managed pressure drilling • Returns management drilling • Underbalanced
The well will encounter reservoirs that will be subject to enhanced recovery or acid gas injection schemes, or to CO_2 greater than 1% in the	Indicate whether the well will encounter at least one reservoir subject to any of the following: • an enhanced recovery scheme • an acid gas injection or disposal scheme • an unusual or atypical reservoir scenario that may impact the H_2S

producing formation	release rate assessment for the well • CO_2 gas present in a volume greater that 1% in the producing formation

7.8.3 Working Interest Participants (WIP)

Provide working interest participant information, including each participant's percentage of participation in the proposed well if the applicant is not the only one. Working interest participation must total 100%.

An entry of "Partnership" will not be accepted; instead, determine which company or companies within the partnership should be entered as working interest participants.

7.8.4 H_2S Release Rate Assessments

An applicant may file an H_2S release rate assessment with the AER before submitting a well licence application. The AER strongly encourages companies to file "presubmission" H_2S release rate assessment packages. This presubmission allows the applicant to

- obtain feedback on methodology and H_2S release rate assessments,
- verify personal consultation and notification radiuses applicable to the well project, and
- minimize the well licence application processing time.

After reviewing an applicant's presubmission, we will identify any deficiencies and advise the applicant. We may close and return the presubmission if the H_2S release rate assessment does not conform to the requirements in *Directive 056*.

7.8.5 H_2S Information

Provide H_2S information for each category C, D, and E single well or multiwell licence application.

For multiwell licence applications, choose the maximum cumulative H_2S release rate assessment values for the entire pad. You may choose to file separate well or well pad licence applications if you do not wish to accept the maximum cumulative H_2S release assessment rate value for the entire multiwell pad.

Based on the H_2S information entered, the well category will be automatically populated. Ensure it aligns with the well category used for consultation and notification purposes.

7.8.5.1 Potential H_2S Release Rate by Formation

Address the H_2S potential of all formations encountered by the well. If your analysis has determined that there is no potential to encounter H_2S in a formation, demonstrate that the formation has been considered in your evaluation by entering "0" for the release rate information. Enter H_2S release rates values in cubic metres per second (m^3/s) to four decimal places.

For the purpose of the H_2S evaluation, consider the formation encountered at total depth when completing the drilling case (i.e., evaluate all formations included in the 15 m overhole interval).

Formation name	Select the formation name for each formation considered in your H_2S evaluation.
Drilling case	Enter the drilling case H_2S release rate for each formation considered in your H_2S evaluation. Include the formation encountered at total depth when completing the drilling case rate.
Completion/servicing case	Enter the completion/service case H_2S release rate for each formation considered in your H_2S evaluation.
Suspended/producing case	Enter the suspended/production case H_2S release rate for each formation you plan to produce that was considered in your H_2S evaluation.

7.8.5.2 Cumulative H_2S Release Rate

Enter the maximum cumulative H_2S release rate in m^3/s to four decimal places.

Drilling case	Enter the maximum drilling case cumulative H_2S release rate as determined by your H_2S release rate assessment.
Completion/servicing case	Enter the maximum completion/servicing cumulative H_2S release rate as determined by your H_2S release rate assessment for the completion/servicing formations.
Suspended/producing case	Enter the maximum suspended/producing H_2S release rate as determined by your cumulative H_2S release rate assessment for the producing formations.
Intermediate casing will be set	If intermediate casing will not be set, the maximum cumulative H_2S release rate should reflect the total potential flow from the well.
Maximum H_2S concentration encountered in well	Enter the maximum potential H_2S concentration that you anticipate encountering in the well in parts per million (ppm), moles per kilomole (mol/kmol), or percentage (%).

Anticipated suspended/ producing level	This field is automatically populated. N/A means that in accordance with table 10 in *Directive 056*, the producing horizon suspended/producing H_2S release rate is less than 0.01 m^3/s.

7.8.5.3 Emergency Planning

Maximum calculated emergency planning zone	Enter the EPZ in kilometres (km), rounded to the nearest 0.01 km for all release rate scenarios.
Number of occupied dwellings, public facilities, and places of business inside the calculated emergency planning zone	Enter for all release rate scenarios.
Distance to nearest urban centre	Enter the distance, in kilometres to two decimal places, to the nearest urban centre.
A site-specific emergency response plan is required	Indicate if a site-specific emergency response plan is required.
The emergency response plan has been submitted to the AER	If so, indicate if the required plan has been submitted to the AER.

For category E wells, the AER may review the well licence application and the ERP concurrently so that the well licence and the ERP approval are issued together.

7.8.5.4 Critical and Proximity Critical Wells

If the proposed well meets the requirements of a critical or proximity critical (category E) well, attach the following:

- all applicable audit documentation
- a drilling plan
- any prelicensing approvals or variances as described in section 2.2.2 of *Directive 056*

7.8.6 Additional Attachments for Geothermal Wells and Brine-Hosted Mineral Wells

Directive 089 and *Directive 090* each require supplementary information to be submitted for well licence applications. A OneStop page with document upload capability is available to capture the supplementary information. The relevant titles for file uploads are as follows:

- Working Interest Participant Detail (mandatory attachment):
  - Provide email and telephone contact information for all working interest participants
- Risk Assessments, Risk Controls, Response Plans, and Subsurface Setbacks:
  - See section 3.3 and 3.4.1 of *Directive 089*
  - See sections 3.3 and 8 of *Directive 090*
- *GRDA* Well Type change:
  - See section 3.4.5 of *Directive 089*
- Support Information for Well Conversion:
  - See section 3.4.6 of *Directive 089*
  - See section 3.6 of *Directive 090*
- Copy of Mineral Lease
- Copy of Freehold Surface Lease
- *Directive 056* Audit material:
  - Section 4.7 – 4.9 of *Directive 056*
- Financial and Reserves Information/Reports:
  - Provide copies of Financial and Reserve Information Reports. See section 94 of the *GRDR* and section 102 of the *BMR*.
- Liability Assessment:
  - Liability estimate
  - Site-Specific Liability Assessment
- Miscellaneous
  - Use this category to provide additional, necessary information in support of the application.

8 Interim Geothermal and Brine-Hosted Minerals Application Procedures

8.1 Overview

The Government of Alberta has designated the AER as the regulator for geothermal resource development and as the regulator for brine-hosted mineral development. The *Geothermal Resource Development Act* (*GRDA*) and the associated regulations and rules (*Geothermal Resource Development Rules* [*GRDR*], which includes *Directive 089: Geothermal Resource Development*), form the framework for regulating geothermal resource development in Alberta. The *Mineral Resource Development Act* (*MRDA*) and the associated regulations and rules (*Brine-Hosted Mineral Resource Development Rules* [*BMR*], which includes *Directive 090: Brine-Hosted Mineral Resource Development* form the framework for regulating brine-hosted mineral development in Alberta.

Eventually, some of the content in this section will reside in other regulatory documents. However, the content is provided in this manual because it is needed for the authorizations process.

The AER uses two different electronic systems to collect application data:

- Use OneStop for geothermal well licence, brine-hosted mineral well licence, and pipeline applications.
- Use the Digital Data Submission (DDS) system for geothermal facility and brine-hosted mineral facility applications.

Where no suitable in-application question exists to upload information for a geothermal or brine-hosted mineral facility or pipeline, the applicant may submit that information to GeothermalApplications@aer.ca or MineralsApplications@aer.ca within 24 hours and identify the application number. Applications for licences for geothermal wells and brine-hosted mineral wells now include an in-application "additional attachment" screen for the upload of supplementary information. The uploading of documentation critical to the AER's review of an application will assist in distinguishing between an oil and gas application, a geothermal application, or a brine-hosted mineral application.

Applicants must follow all applicable requirements as set out in *Directive 089*, *Directive 090*, and *Directive 056*, including the applicable participant involvement program set out in this manual and in section 3 of *Directive 056*.

8.2 Public Lands Act Dispositions, Land Use Plans, and Private Land Agreements

8.2.1 Public Land

New purpose and activity codes to accommodate geothermal and updated codes to include brine-hosted mineral activities on public land will not be added to OneStop until an expanded information technology solution is in place. Until then, applicants must discuss any new project with the AER land use team. Direction will be provided on a case-by-case basis, including the appropriate codes and process to use and the required disposition types to accommodate geothermal and brine-hosted mineral applications on public land.

We expect that initially most projects will involve the addition of geothermal or brine-hosted mineral activities to existing hydrocarbon extraction activities. In these cases, there will be little to no change to existing dispositions. If additional approval is required, we will direct the proponent to the appropriate process. This may include a temporary field authorization to allow an additional activity on the disposition.

When the geothermal or brine-hosted mineral activity involves a new development or a repurposing of an existing disposition, we will work with the applicant to select the most appropriate existing disposition type and purpose/activity code that would support the application.

When a public lands application to support geothermal or brine-hosted mineral activity is made using OneStop, the applicant will need to identify that the application is for geothermal or brine-hosted mineral purposes. Although the actual approach has not yet been finalized, this could entail a project name that includes the word “geothermal” or “mineral” or adding “geothermal” or “mineral” to a text box on the application screen.

Once the new and updated purpose/activity codes are added to OneStop, we will establish a process to update the dispositions, allowing for the use of the applicable coding.

8.2.2 Land Use Plans

In addition to legislation and policies, activities on public lands are guided by land use plans, including Integrated Resource Plans and plans approved under the *Alberta Land Stewardship Act*. These plans provide direction and guidance on managing activities on public lands. Therefore, proponents would be required to understand and identify whether the proposed activity falls within a designated plan area. Where a proposed development is within a designated plan area, the proponent is expected to complete assessments to determine if the proposed activity complies with the plans, including any triggers and limits. Depending on the plan requirements, the assessment would be a component of the *Public Lands Act* disposition application process. A review of the documentation outlined in *Bulletin 2016-27: Application Requirements for Activities within the Boundary of a Regional Plan* should also be reviewed in this context.

8.2.3 Private Land Agreements

As the *Surface Rights Act* does not apply to geothermal resources development in Alberta, the applicant must obtain written consent (a lease) granting surface access from the landowner on whose property the geothermal development will be situated and from all landowners whose properties the applicant will have to cross to access the geothermal development regardless of whether access roads are needed.

8.3 Holistic Licensee Assessment for Geothermal and Brine-Hosted Mineral Developments

The development of geothermal and brine-hosted resources are new resource sectors in Alberta, and as such, limited information is available on finances, operational practices, and industry behaviour. As with every operational activity the AER regulates, monitoring will ensure that the outcomes align with regulatory expectations. As these resource sectors continue to evolve, the AER may add, remove, or recalibrate factors and processes where appropriate, and any such revisions will be noted in this manual.

As outlined in *Directive 089* (geothermal) and *Directive 090* (brine-hosted minerals), the holistic assessment uses a multifactor approach to assess the capabilities of licensees to meet their regulatory and liability obligations throughout the geothermal development life cycle. Section 2.9 of *Directive 089*, section 2.1 of *Directive 090*, and section 4.5 of *Directive 067: Eligibility Requirements for Acquiring and Holding Energy Licences and Approvals* list the factors used to determine if a licensee poses an unreasonable risk. The factors are discussed in the subsections below.

The AER will consider information provided by the licensee throughout the life cycle, including applications, amendments, reports, and other submissions.

As more information from the development of these resource sectors becomes available, including the financial health of licensees, operational considerations, and the behaviour of licensees within the sector, the AER may be able to use more discretion in its approach to liability management.

8.3.1 Financial Health

Financial health is determined by analyzing the financial information required annually or as directed by the AER through *Directive 067*. Widely accepted financial ratios (parameters) were selected to evaluate licensees. The selected ratios measure a company's profitability over time, their liquidity and ability to meet obligations as they come due, and the level of debt used to finance the business. Ratios are calculated using information submitted directly to the AER, as required, via schedule 3 of *Directive 067*. Instructions on how to fill out Schedule 3 can be found on the AER website.

Financial information provided to the AER will be kept confidential for five years as outlined in section 94(2) of the *GRDR* and section 102 of the *BMR*.

Table 11. Financial health considerations

Parameter	Definition
Net profit margin (three-year average)	Ratio of net profit over revenues, or the percentage of income kept as profit. This is averaged over three years to smooth unusual gains/losses in a single year.
Current ratio	Ratio of current assets over current liabilities to measure whether a company can pay their obligations as they come due.
Debt to equity	A ratio of debt over equity to measure financial leverage, indicating the degree to which a company has financed its operations with borrowed money versus wholly owned funds.
Interest coverage ratio	A ratio of earnings over interest expense, used to determine how easily a company can pay interest on its outstanding debt.
Cash flow from operations to debt	A ratio of cash flows from operations over debt, which indicates how easily a company can repay its debt.

8.3.2 Magnitude of Liability

A licensee's magnitude of liability is based on a combination of

- estimated site-specific liabilities (as determined using *Directive 001: Requirements for Site-Specific Liability Assessments*) and
- the licensee's assessment of the estimated cost of providing reasonable care and measures and to permanently end operations, which includes abandoning, remediating, and reclaiming the site.

See section 8.4 for more details regarding liability estimates.

8.3.3 Remaining Lifespan

8.3.3.1 Geothermal Developments

Geothermal resources are renewable. This factor evaluates the expected longevity of a licensee's infrastructure and inventory. Table 12 lists the lifespan considerations applicable to geothermal developments.

Table 12. Remaining lifespan considerations for geothermal developments

Parameters	Description
Inactive well ratio	Ratio of inactive wells to wells that have not been abandoned (both active and inactive)
Inactive facility ratio	Ratio of inactive facilities to facilities that have not been abandoned (both active and inactive)
Well casing integrity	The number of well licences with current or historic wellbore integrity issues (grouped by open loop vs closed loop and design/structure)

8.3.3.2 Brine-Hosted Mineral Developments

This factor evaluates the expected longevity of a licensee's brine-hosted mineral resources and related infrastructure, as well as the ability of current operations to fund required closure activities. Table 13 lists the considerations applicable to brine-hosted mineral developments.

Table 13. Remaining lifespan considerations for brine-hosted mineral developments

Parameters	Description
Production trend	Average rate of change of production over the previous three years
Inactive well ratio	Ratio of inactive wells to wells that have not been abandoned (both active and inactive)
Inactive facility ratio	Ratio of inactive facilities to facilities that have not been abandoned (both active and inactive)
Well casing integrity	The number of well licences with current or historic wellbore integrity issues

8.3.4 Management and Maintenance

This factor evaluates a licensee's management and maintenance of the regulated infrastructure and sites for safe and responsible operations. Currently, it is measured in terms of operational oversight, such as recent incidents (e.g., spills and releases).

Table 14. Operational considerations

Parameter	Description
Pipeline incident rate	Average number of pipeline incidents per 10 km of operating pipeline
Facility release & spill rate	Average ratio of release incidents at facilities
Well release & spill rate	Average ratio of release incidents at wells

8.3.5 Rate of Closure

This factor looks at recent closure activities and spends, including the pace of the licensee's inactive liability growth.

Table 15. Closure considerations

Parameters	Description
Closure spend rate	Ratio of AER closure spend estimates to AER inactive liability for the previous year. Estimates are based on *Directive 011* and site-specific liability assessments
Inactive liability trend	Average rate of change of inactive liability over the previous three years
Well abandonment rate	Average ratio of abandoned wells to inactive wells
Well reclamation rate	Average ratio of reclaimed wells to abandoned wells
Facility abandonment rate	Average ratio of abandoned facilities to inactive facilities
Facility reclamation rate	Average ratio of reclaimed facilities to abandoned facilities
Pipeline abandonment rate	Average ratio of pipeline segment abandonments to total pipelines

8.3.6 Compliance With Administrative Regulatory Requirements

This factor considers a licensee's compliance, including the management of debts and AER fees and levies.

Table 16. Administrative considerations

Parameters	Description
Administration fees compliance	Payment status of invoices: • no balance outstanding • balance outstanding
Security deposit compliance	Payment status of security deposits: • all deposits paid in full • deposits outstanding
Administrative penalties	Payment status of administrative penalties not paid

8.4 Liability Procedures for Geothermal and Brine-Hosted Mineral Developments

8.4.1 Liability Estimates

As outlined in section 2.11 of *Directive 089* and Section 2.3 of *Directive 090*, a licensee is to provide an estimate of their total liabilities at the time of application (including new applications, amendments, transfers, and conversions) and when requested by the AER. This includes the breakdown of liability for the individual licences included within any application submitted to the AER.

Liability estimate information can be summarized in the Liability Estimate for Geothermal and Brine-Hosted Mineral Resource Wells and Facilities form (liability estimate form; F102) located on the liability management forms webpage. This form should be included with the submission of each application. The AER may request additional information or assessment.

The AER may also direct the licensee to complete a site-specific liability assessment, which is the most comprehensive approach to estimating total liability. The licensee or approval holder will conduct the liability assessment to estimate the costs to suspend, abandon, remediate, and reclaim a site and provide reasonable care and meausres from the shutdown of operations to site reclamation. As outlined in section 2.11 of *Directive 089* and section 2.3 of *Directive 090*, site-specific liability assessments are to be completed in accordance with *Directive 001*.

As the AER collects more information on the costs to close geothermal and brine-hosted mineral assets and the financial capability of the operators and behaviour of licensees within each resource sector, the AER may be able to refine its approach to liability estimation.

8.4.2 Well Liability Estimates

The AER recognizes there are similarities among geothermal, brine-hosted mineral, and oil and gas wells, and there may be some circumstances where the approach to estimating liability outlined in *Directive 011* could be a starting point for determining an estimate of liability for wells.

It is expected that the liability estimate form is completed and submitted with all well applications. The form contains many fields related to the location of the development and the construction of the well based on *Directive 011* parameters. The form also includes the ability for licensees to account for costs that may not be considered in *Directive 011*, including well depth, well integrity issues, construction details, reasonable care and measures, and remediation and reclamation challenges.

Deviations from the approach used to determine reclamation liability may be warranted based on a well's intended purpose (see 8.4.2.1 and 8.4.2.2).

8.4.2.1 New Well Applications

For wells drilled for geothermal or brine-hosted mineral resources, licensees can use the approach outlined in section 5.1.1 of *Directive 011* as a basis to estimate well abandonment liabilities and section 5.1.2 of *Directive 011* to estimate reclamation liabilities. This approach may be used for new well licence applications, amendment applications, and transfers of wells solely for the development of geothermal or brine-hosted mineral resources.

8.4.2.2 Converting Well Licences From Different Resource Sectors

When converting a well licence from one resource sector to another (e.g., an oil or gas well to geothermal), section 5.1.1 of *Directive 011* can be referenced as a basis to estimate well abandonment liability.

To assess reclamation and remediation liabilities, the AER will be using a risk-based approach. A licensee may be required to conduct a site-specific liability assessment as per section 2.11 of *Directive 089* and section 2.3 of *Directive 090*. However, should a licensee demonstrate through the submission of an up-to-date Phase 1 environmental site assessment that there are no contaminant or similar environmental issues warranting further investigation, it may be acceptable for the licensee to use section 5.1.2 of *Directive 011* to estimate reclamation liabilities. Should the Phase 1 environmental site assessment indicate further investigation is required, a site-specific liability assessment in accordance with *Directive 001* may be necessary.

The Phase 1 environmental site assessment should be submitted with the well application. The site-specific liability assessment should also be submitted with the application if required based on the results of the Phase 1 environmental assessment.

8.4.3 Facility Liability Estimates

The AER will evaluate the liability associated with a facility. It is generally expected that for geothermal and brine-hosted mineral facilities, a site-specific liability assessment will be conducted in accordance with *Directive 001* and submitted with the facility application.

If the facility application does not include a site-specific liability assessment, the AER would likely request it be conducted as per section 2.11of *Directive 089* or section 2.3 of *Directive 090*. This request may delay the processing of the application.

8.5 Security

As the AER works to implement the *GRDA* and *MRDA*, the security collection framework for these resource sectors will be updated in phases. With the absence of a financial backstop for these resource sectors, the first phase of the security framework needs to mitigate liability risks via collecting security for all geothermal and brine-hosted mineral licensees based on their total magnitude of liability.

In future phases, a broader security framework may replace this approach. As the AER collects more data on the financial capability, operations, and behaviour of licensees within theses resource sectors, the AER may be able to refine its approach to security collection. Furthermore, the development of a financial backstop for the sector would alter the security process.

Under section 11 of the *GRDR* and section 13 of the *BMR*, the AER has broad authority to require security deposits across the development life cycle, including before granting approval of any application type for geothermal development and brine-hosted mineral development.

As per section 2.9 of *Directive 089* and section 2.1 of *Directive 090*, all applications will trigger a holistic assessment of the licensees. Initially, the AER will assess the total magnitude of estimated liability that is included in the application, amendment, or transfer. The amount may be any combination of the following:

- value of liability estimates using *Directive 011* as the basis
- value of *Directive 001* site-specific liability assessment
- any other amount that AER considers appropriate in the circumstance

At a minimum, a security deposit equal to 50% up to a maximum of 100% of the total liability estimate could be a condition of approval of the new licence applications, amendment, conversion, or transfer to mitigate risks. Following the initial security deposit, the AER will collect the remaining security at a regular interval based on a holistic licensee assessment following the initial application as defined in the terms and conditions of the approval. The assessment will include an evaluation of the total amount of estimated liability a licensee holds and the remaining security required. Any event occurring throughout the life cycle may trigger further assessment from the AER, which may result in additional security

deposits at an earlier interval to mitigate the associated risks. Examples of such events include a spill, a well integrity issue, results of a holistic licensee assessment, etc.

Directive 068 outlines the forms of security that are acceptable to the AER.

8.6 Transfers

8.6.1 Applications

There are two types of licence transfer applications that can be submitted to the AER:

- Applications to transfer licences between licensees are submitted by both parties through the Digital Data Submission (DDS) system.
- Applications to transfer licences that are part of an insolvency proceeding or a company that is under the care of the Orphan Well Association are facilitated by the AER in a process referred to as a regulator-directed transfer (RDT). Contact Directive088Transfers@aer.ca to initiate an RDT application.

Licence statuses that are eligible to be included in a licence transfer application are provided in *Directive 089* and *Directive 090*. Previously, reclamation-certified and reclamation-exempt licences could not be part of a transfer application. This has now changed, and the AER may require licensees to include the transfer of reclamation-certified and reclamation-exempt licences that are part of an insolvency proceeding, corporate clean out, or white map sales transaction, for example. The AER encourages licensees to contact the AER to discuss their specific circumstances with concerning reclamation-certified and reclamation-exempt licences.

Once registered in the designated information submission system, a licence transfer application is posted on the Public Notice of Application tool. A decision on the application will not be issued until the period for filing a statement of concern, as specified in the public notice of application, has lapsed.

8.6.2 Holistic Licensee Assessment for Transfer Applications

A holistic licensee assessment will be performed on the licensees involved in a transfer application, as outlined in this manual and as per section 2.9 of *Directive 089* or section 2.1 of *Directive 090*.

The AER encourages licensees to consider their situation as a result of the holistic licensee assessment both pre- and post-transfer application of the transferor and transferee so they understand how the application will be assessed. When required to understand the unique circumstances of their situation, the AER will contact the transferor and transferee if clarification is required as a result of the holistic licensee assessment.

The following factors may trigger further scrutiny of the licensees and application:

- the results of the holistic licensee assessment as per section 2.9 of *Directive 089* or section 2.1 of *Directive 090*
- licensee is new to holding eligibility as per *Directive 067* and there is no financial or operational history to support the holistic assessment of the licensee
- other factors as determined by the AER where further scrutiny of the licensee's post-transfer holistic assessment identifies a significant risk, including, for example, the following:
  - compliance performance of each licensee
  - site-specific risks
  - administrative sanctions, as outlined in section 6.5 of *Manual 013*
  - statements of concern submitted on a transfer application
  - multiple transfer applications or multiple parties involved in the transfer
  - repeated transfer of licences
  - repeated transfer applications between the same or related parties
  - compliance under the *Public Lands Administration Regulation*
  - new licensees or licensees with limited history/data
  - new applications or resubmission related to previous transfer decisions
  - submission of a new application related to previous application
  - transfer of reclamation-certified and reclamation-exempt licences
  - transfer of designated problem sites or site-specific liability
  - overall scope and scale of transaction (e.g., large inventory change)

After reviewing the above-listed factors, the AER will decide whether the application is approved, approved with conditions, or denied. Conditions of approval may include a security deposit.

8.6.3 Supplemental Information Requests

Applicants may be prompted to provide additional information in support of the transfer application review and decision as outlined in *Directive 089* and *Directive 090*. These requests may include information like the following:

- transferee corporate history
- director and officer information

- operational plans and strategies for the asset and synergies with existing assets
- up-to-date information to support the estimate of total liabilities as per section 8.4
- progress, if any, on contaminated site with locations and details
- updated financial statements under *Directive 067*
- additional financial information, which may include items such as transaction purchase price and source of financing
- working interest participant information as per *Directive 089* and *Directive 090*

Failure to provide supplemental information as requested may cause the application to be considered incomplete and closed as a result.

8.6.4 Application Decision

Application decision timelines are provided on the AER Estimated Application Processing Timelines document found on the AER's website. Applicants can use the integrated application registry (IAR) query tool to check on the status of applications registered with the AER, including licence transfers (see table 17).

Table 17. IAR codes for transfer application status

IAR Status Code	Definition
Lic_Trans_Deficient	Application flagged for additional review
Awtg_Business_Apprvl	Application review completed, pending AER system approval
Disposition_Issued	Application approved and disposition of approval letter has been sent by AER's system
Application_Denied	Application has been closed/denied
Closed_Withdrawn	Application processed as withdrawn in AER's system

A licence transfer application may be closed as incomplete, approved, approved with conditions, or denied. For applications approved with conditions, conditions may include the following:

- submission of financial statements at specified intervals
- commitment to reactivate/convert wells within specified timeframe
- commitment to improve compliance performance
- security deposits
- additional oversight and reporting
- other specific application conditions as determined appropriate by the AER

For approvals with a condition of security, security deposits may be requested from either or both transferor and transferee. For more details refer to section 2.12 of *Directive 089* and section 2.4 of *Directive 090*.

8.6.5 Ceased Operations

The purpose of this section is to remind licensees and their directors and officers of the AER's requirements and expectations for their actions when ceasing operations because of insolvency or for any other reason.

Regardless of the reason for ceasing operations, licensees remain responsible for ensuring compliance with all AER requirements. These regulatory requirements include the following:

- providing continued reasonable care and measures of all AER-licensed properties in alignment with section 13 of the *GRDA*, section 17 of the *MRDA*, and section 22.1 of the *Pipeline Act*
- ensuring that an emergency number remains posted and active for all AER-licensed properties and initiating an immediate response when called, in accordance with section 2 of *Directive 071*
- maintaining insurance for all AER-licensed properties in accordance with section 4.2 of *Directive 067* and notifying the AER immediately of any reduction or cancellation of insurance in accordance with section 5 of *Directive 067*
- ensuring all AER-licensed properties are rendered in a safe state acceptable to the AER by the time the company will cease operations by properly suspending the licences in accordance with *Directive 013*, including ensuring all wells and facilities are shut in, sealed, locked, and chained and depressurizing, removing, and properly disposing of fluids from any equipment and containment devices
- maintaining an official email address that is frequently monitored for regular communications with the AER on regulatory matters and updating the AER's records for corporate and emergency contact information in accordance with section 5 of *Directive 067*
- notifying the AER immediately of any insolvency proceedings as per section 5 of *Directive 067*
- maintaining registration in and responding to inquiries from Utility Safety Partners (formerly Alberta One-Call) in accordance with section 59 of the *Pipeline Rules*
- maintaining records of AER-licensed properties in accordance with AER requirements either
  - obtaining approval from the AER to transfer licences, approvals, and permits to an eligible party in accordance with *Directive 067*, the *Pipeline Rules,* and either *Directive 089* and the *GRDA* or *Directive 090* and the *MRDA*, or

  - completing abandonment in accordance with *Directive 020* and either section 14 of the *GRDA* or section 14 of the *MRDA* or section 23 of the *Pipeline Act*, and completing reclamation of all sites in accordance with section 137 of *EPEA*

- posting applicable security upon request in accordance with *Directive 068* and either *Directive 089* or *Directive 090* for liabilities remaining on AER-licensed properties that have not been transferred to eligible parties and have not achieved reclamation certification

Failure to comply with AER requirements may result in an investigation and the AER pursuing available enforcement against the licensee and its directors and officers. This may include naming individual directors and officers of AER licensees under section 25 of the *GRDA* or section 24 of the *MRDA*.

No licensee or its creditors may remove equipment from a site for any purpose without the AER's consent, including during the conduct of abandonment or reclamation work.

Should a licensee be indebted to the AER for any cost, fee, penalty, security, or other amount, the AER has a lien in respect of the licensee's debt on the licensee's interest in any wells, facilities and pipelines, and land or interests in land, including mines and minerals, equipment, and petroleum substances. The AER's lien has priority over all other liens, charges, rights of set-off, mortgages, and other security interests pursuant to section 23 of the *GRDA* or section 23 of the *MRDA*.

The AER expects licensees who are ceasing operations to take responsible actions to facilitate an orderly wind-down of operations, including the following:

- updating its working interest participants records for all AER-licensed properties in anticipation of potential closure actions, which would require working interest participant records to be updated
- retaining and preparing well files, landowner contact files, and other records to share, upon request, should there be parties assigned responsibilities and require such records to safely conduct reasonable care and measures and closure activities

The AER encourages any licensee considering ceasing operations or entering into insolvency proceedings to contact the AER's Compliance & Liability Management group at orphaninginsolvency@aer.ca and to engage their working interest participants in their plans for ceasing operations. The decision to cease operations may trigger obligations for working interest participants, including the obligation to provide reasonable care and measures and pay their proportionate share of suspension, abandonment, and reclamation costs.

9 Additional Application Requirements Procedures

If proposed oil and gas facilities are located in the designated Battle Lake Tier 1 Area, provide documentation required by section 8.2 of *Directive 056*.

If there are residents located in the calculated EPZ and unresolved concerns or objections exist, indicate in the application that there are outstanding concerns and attach documentation to demonstrate that the requirements of section 8.3.2 in *Directive 056* were met.

For facility applications in the Peace River area, enter "0" on Schedule 2 to confirm that there is no total continuous venting, and record details on Schedule 2.4 on any compressor associated with the vapour recovery unit, regardless of its size.

Appendix 1 Sample Participant Involvement Summary Form

for

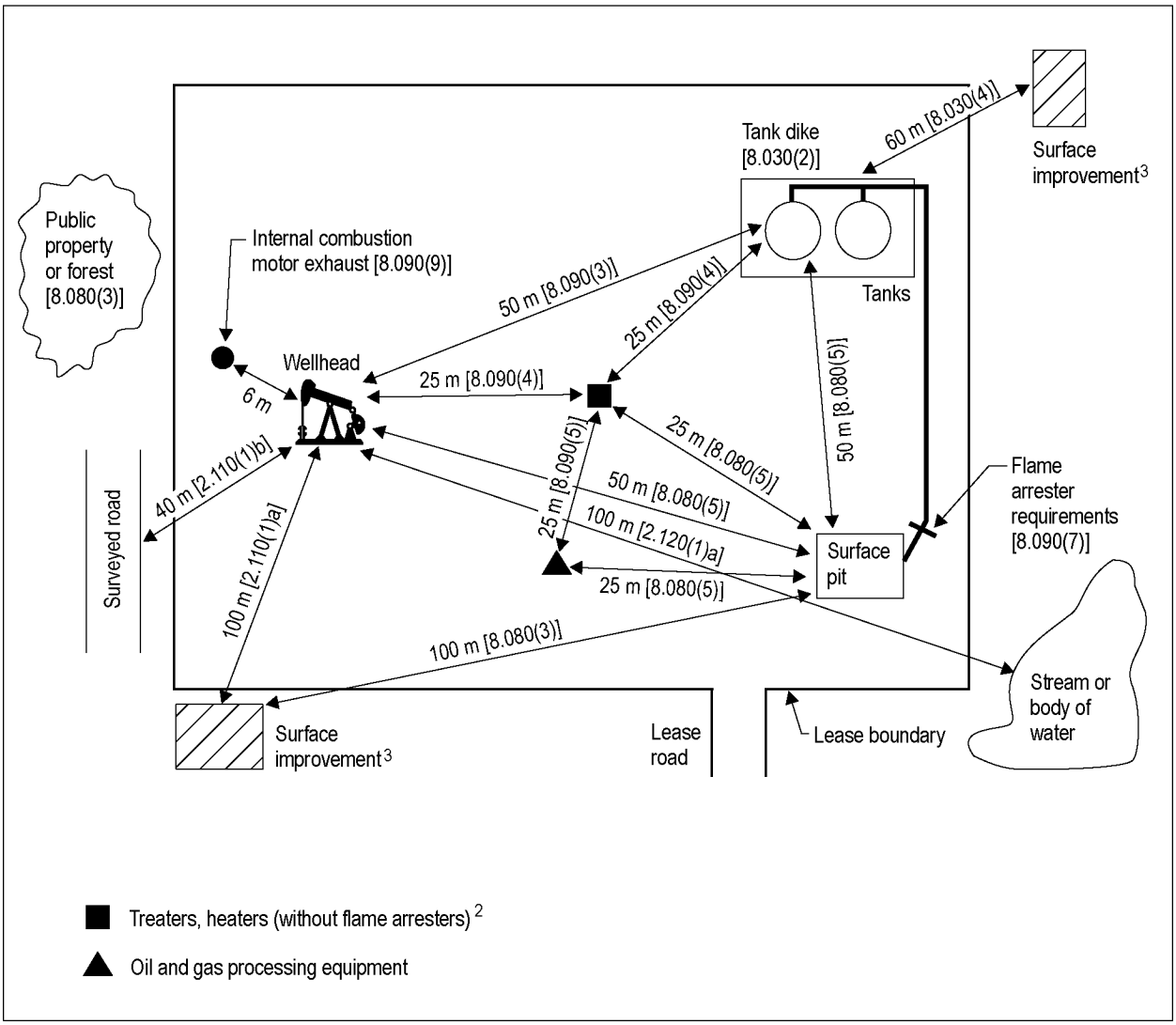
(C350) Oil satellite @ 13-4-51-16W6M

(Enter type of application here)

Land location (Qtr-Section-Township-Range-Meridian)	**Land interest** (e.g., landowner, occupant, resident, local authority)	**Name**	**Date of personal consultation**	**Date of confirmation of nonobjection**	**Consultation by phone or meeting**	**Notification by fax or registered or regular mail**	**Documents distributed and date of distribution**	**Date additional EnerFAQs distributed**	**Comments (see note)**
NW 1/4-4-51-16W6M	Landowner	John Doe	Jan. 1, 2011	Jan. 17, 2011	Meeting	Hand delivered	AER letter; project description Jan. 1, 2011	None requested	Declined copies of EnerFAQs No. 7 and AER brochure
NW 1/4-4-51-16W6M	Crown Disposition Holder TPA #0000	Trapper	Jan. 1, 2011		Phone	Regular mail	AER letter; project description; EnerFAQs No. 7; AER brochure	None requested	Wait a min. of 14 days before submitting application

Note: The comments contained in the participant involvement summary submitted to the AER with respect to an application must not contain any information gathered for purposes other than the submission of the application. The comments should assist AER staff to verify compliance with participant involvement requirements and to determine where unresolved issues exist. Inclusion of information such as an individual's health issues, opinions of others, and personal information gathered to assist in emergency evacuation should not be included, since this document may become part of the public record.

Appendix 2 Spacing Diagram



[1] The spacing requirements illustrated here are as specified in the *OGCR* sections indicated within square brackets alongside or underneath each measurement.
"No person shall smoke within 25 m of a well, separator, oil storage tank or other unprotected source of ignitable vapour or on a rig or derrick at a well site" [section 8.120(1)].

[2] No flame type equipment shall be placed or operated within 25 metres of any process vessels unless, where such is applicable, the flame type equipment is fitted with an adequate flame arrester [8.090(5)]. No flame type equipment shall be located in the same building as any process vessel or other source of ignitable vapour, unless (a) the air intakes and flues of all burners are located outside the building, (b) relief valves, safety heads, and other sources of ignitable vapours are vented outside the building and discharged above roof level, and (c) the building is adequately cross ventilated [8.090(6)a,b,c].

[3] "Surface improvement" means a railway, pipeline, or other right-of-way, road allowance, surveyed roadway, dwelling, industrial plant, aircraft runway or taxiway, building used for military purposes, permanent farm building, school, or church [1.020(1)28].

Compressors (electrically or engine driven) that are permanent and housed in a building must be located 25 m from wells, oil storage tanks, or unprotected sources of ignitable vapours. Compressors that are nonpermanent (on wheels or skid mounted) must be placed such that the air intakes and exhaust must be no closer than 6 m from a well. Nonpermanent electrically driven compressors must comply with the current edition of *Code for Electrical Installations at Oil and Gas Facilities*, Safety Codes Council (Alberta).

Appendix 3 Generic H_2S Release Rate Assessment (Case Study)

The following example is presented to clarify the requirements and does not represent a specific location.

Geological Discussion

Proposed Well

A well prognosis must be provided but has been omitted for the purposes of this generic example. The proposed exploratory well will be drilled to test a Leduc Formation anomaly in the Edmonton area. The well is located on a Paleozoic high with 10 metres (m) of structural relief relative to the surrounding wells. The applicant believes the well will have secondary Ellerslie Member potential and expects both zones will contain oil.

As the proposed well will penetrate intervals deeper than the top of the Mannville Group and will terminate in the Leduc Formation, a comprehensive geological discussion of all intervals deeper than the top of the Mannville Group to the Leduc Formation is required (*Directive 056*, section 7.7.15.1). In this example, a discussion of reservoir and hydrocarbon potential would be required for the Ellerslie Member and the Wabamun, Nisku, and Leduc Formations.

In this example, the release rate will be based on the potential of encountering 10 m of gas in the Ellerslie Member, gas in the Nisku Formation, and 20 m of gas cap gas in the Leduc Formation. The formation thicknesses of the Ellerslie and Leduc have been determined from the data presented below and meet the requirement to adjust the H_2S release rate to reflect the maximum potential thickness encountered.

Geological Impact on the Release Rate

Ellerslie Member

The Ellerslie Member is a mixed sequence of sand and shale with potential for encountering hydrocarbon. The well in the adjoining section contains 20 m of wet sands. Since the well is anticipated to encounter the Ellerslie 10 m structurally higher, there is potential for encountering 10 m of hydrocarbon. The oil pools in the area have associated gas caps.

Wabamun Formation

Based on the available information (production, well logs, perforation recoveries, and drillstem tests), the Wabamun Formation is a productive gas reservoir 3 km updip of the proposed well location. Recovery information from intervening wells updip and downdip of the proposed location indicate that the Wabamun Formation is wet. Therefore, it would be reasonable to conclude that this interval would be wet.

Nisku Formation

The applicant does not identify the Nisku in the Well Purpose section of the application. Within 5 km of the proposed well there are two Leduc Formation producers in the area that are overlain by the Nisku intervals that tested gas. Therefore, Nisku Formation potential must be considered. To obtain five reliable data points, the search area required expansion to 10 km.

Leduc Formation

Existing Leduc Formation production in the area indicates that some oil pools have associated gas caps. The potential for encountering a gas-bearing interval must be considered. Based on available well structure information, the maximum anticipated gas cap thickness is 20 m.

Geological Mapping

As per the requirements detailed in *Directive 056* (section 7.7.15.2), a geological map must be provided for all formations that the applicant has identified or will identify in the Well Purpose section of the application as its primary and secondary zones that may contain H_2S gas. Maps are not provided in this case study. The following map descriptions are intended to illustrate examples of the annotated maps and are not intended to be inclusive. An applicant may provide any additional information considered appropriate to substantiate its interpretation. In this example, the annotated maps must illustrate the following.

For the Ellerslie Member:

- productive Ellerslie pools in the area relative to the proposed well location
- the geological interpretation of the expected reservoir thickness at this location and the interpreted thickness of the reservoir within productive pools
- reservoir thickness of the offset well used as an analogue containing the 20 m of wet sandstone
- structure elevation of the proposed location illustrating the 10 m relative difference in elevation between the offset well and proposed location

For the Leduc Formation:

- productive Leduc pools in the area relative to the proposed well location; the map should illustrate the geological interpretation of the expected reservoir thickness at this location and the interpreted thickness of the reservoir within productive pools

Engineering Discussion

Ellerslie Member

The Ellerslie produces both gas and oil from pools with concentrations of H_2S ranging from 0.0 to 2.0%. Some wells located within the pools have encountered associated gas caps that range from 2 to 6 m in thickness. Engineering information indicates that AOFs range from 10 to 30 10^3 m^3/day. The maximum AOF was measured at a well with 5 m of net pay. The AOFs are extrapolated from drillstem tests (DSTs) conducted over the gas portion of the pool. Adjusting the highest AOF for the anticipated pay in the proposed well results in an AOF of 60 10^3 m^3/d. The highest H_2S concentrations were reviewed and determined to be from wells that were oil producers when sampled and were therefore discounted. The next highest H_2S concentration is 0.07%. This was sampled from an oil well that has a DST over the gas zone. The H_2S concentration of 0.07% was used, along with the AOF of 60 10^3 m^3/d to arrive at a release rate of 0.005 m^3/s.

Nisku Formation

The Nisku tested gas in some wells that are producing from the Leduc pools. Engineering information indicates that the H_2S concentration ranges from 5 to 6.5% and that the AOFs range from 10 to 50 10^3 m^3/d. An AOF of 50 10^3 m^3/d and an H_2S concentration of 6.5% were used to estimate a release rate of 0.04 m^3/s. Although the analogue well was stimulated before testing, a skin of 0.0 was reported and therefore no correction for skin was required.

Leduc Formation

Producing Leduc pools have encountered associated gas caps containing H_2S. Total reservoir thickness of the Leduc ranges from 10 to 20 m. Engineering information indicates that the H_2S concentration ranges from 8 to 10% and that AOFs range from 70 to 170 10^3 m^3/d. The maximum AOF was measured at a well with 15 m of net pay. Adjusting the AOF of 170 10^3 m^3/d from 15 m of pay to 20 m of pay resulted in an AOF of 227 10^3 m^3/d. The highest H_2S concentration was from a gas sample listed with a sample point of "other." A review of the hard copy indicates that the sample point was a metre run; therefore, it will be used. Combining the AOF and the H_2S concentration results in an H_2S release rate of 0.26 m^3/s. Since the analogue well used was stimulated (fractured) before testing, the AOF test data were reviewed to determine the reported skin. Using the skin of −4 resulted in a prestimulation AOF and an H_2S release rate of 126 10^3 m^3/d and 0.15 m^3/s respectively.

Cumulative Release Rate

Based on the review done for each formation, the drilling release rate for the well is 0.20 m^3/s and the completion/servicing release rate is 0.26 m^3/s. In this case, it is assumed that the correction for flow to surface up tubing is minimal, and the suspended/producing release rate is 0.26 m^3/s. In some cases, an applicant may choose to make a correction for flow to surface up tubing. If the adjustment for stimulation

was not done for the Leduc Formation, the drilling, completion/servicing, and suspended/producing release rates would have been reported as 0.31 m^3/s.

Tabulated Data

Tabulated data must be submitted to the AER with the complete documentation package prepared for each well licence application but are not shown here.

Appendix 4 Stepped Approach to Licensing Gas Batteries

Gas Battery Licensing Matrix

The table on the next page provides scenarios to assist companies in determining if the equipment proposed for installation requires the submission of a *Directive 056* facility licence application. When using this table, please note the following:

- Production scenarios are applicable to gas production facilities only.
- Single-well scenarios are defined as one wellbore with a single producing zone or multiple zones producing commingled within one wellbore.
- Multiwell scenarios will continue to be based on the production scenarios outlined in *Directive 056*:
  - multiple zones are producing from one wellbore, but the production remains segregated (i.e., not commingled in the wellbore);
  - production from a second well is pipelined to an existing single-well facility; or
  - multiple single-well facilities are operating within one lease.
- Scenarios for which a *Directive 056* application is not required must meet all measurement, accounting, and reporting requirements set out in the *Oil and Gas Conservation Act* and *Oil and Gas Conservation Rules* and all applicable guides and directives published by the AER.
- All applications will continue to be required for compressors regardless of kW rating if the H_2S content of the inlet gas is >10 ppm.

Case	Surface equipment	Single gas well H_2S content <0.01 mol/kmol	Single gas well H_2S content >0.01 mol/kmol	Multiwell gas H_2S content <0.01 mol/kmol	Multiwell gas H_2S content >0.01 mol/kmol
1	**Any combination of** • ESD • Measurement • Emergency flare system • Line heater • H_2S scavenger • Chemical injection • Separation • Dehydration	No requirement for a facility licence application	No requirement for a facility licence application	No requirement for a facility licence application	No requirement for a facility licence application
2	**Any combination of** • ESD • Measurement • Emergency flare system • Line heater • H_2S scavenger • Chemical injection • Separation • Dehydration **AND** Compressor <75 kW	No requirement for a facility licence application	*Directive 056* facility licence required for C340 (compressor station <1 t/d sulphur inlet) or D440 (compressor station >1 t/d sulphur inlet)	No requirement for a facility licence application	*Directive 056* facility licence required for C340 (compressor station <1 t/d sulphur inlet) or D440 (compressor station >1 t/d sulphur inlet)

Case	Surface equipment	Single gas well H_2S content <0.01 mol/kmol	Single gas well H_2S content >0.01 mol/kmol	Multiwell gas H_2S content <0.01 mol/kmol	Multiwell gas H_2S content >0.01 mol/kmol
3	**Any combination of** • ESD • Measurement • Emergency flare system • Line heater • H_2S scavenger • Chemical injection • Separation • Dehydration **AND** Compressor >75 kW	*Directive 056* facility licence required for B040 (compressor station <0.01 mol/kmol H_2S)	*Directive 056* facility licence required for C340 (compressor station <1 t/d sulphur inlet) or D440 (compressor station >1 t/d sulphur inlet)	*Directive 056* facility licence required for B040 (compressor station <0.01 mol/kmol H_2S)	*Directive 056* facility licence required for C340 (compressor station <1 t/d sulphur inlet) or D440 (compressor station >1 t/d sulphur inlet)
4	Any combination of • ESD • Measurement • Emergency flare system • Line heater • H_2S scavenger • Chemical injection • Separation • Dehydration • Compressor <75 kW **AND** Liquid hydrocarbon or produced water tanks	No requirement for a facility licence application	*Directive 056* facility licence required for C310 (single well <1 t/d sulphur inlet) or D410 (single well >1 t/d sulphur inlet)	*Directive 056* facility licence required for B020 (multiwell <0.01 mol/kmol H_2S)	*Directive 056* facility licence required for C311 (multiwell <1 t/d sulphur inlet) or D411 (multiwell >1 t/d sulphur inlet)
5	Any combination of • ESD • Measurement • Emergency flare system • Line heater • H_2S scavenger • Chemical injection • Separation • Dehydration • Compressor >75 kW **AND** Liquid hydrocarbon or produced water tanks	*Directive 056* facility licence required for B040 (compressor station <0.01 mol/kmol H_2S) when compressor >75 kW is included	*Directive 056* facility licence required for C310 (single well <1 t/d sulphur inlet) or D410 (single well >1 t/d sulphur inlet)	*Directive 056* facility licence required for B020 (multiwell <0.01 mol/kmol H_2S)	*Directive 056* facility licence required for C311 (multiwell <1 t/d sulphur inlet) or D411 (multiwell >1 t/d sulphur inlet)

Appendix 5 Surface Equipment Scenarios

On-site surface equipment determines facility licence requirements. To assist applicants in determining when an application is required, surface equipment scenarios are given below.

Case 1

A new facility will comprise a free-water knockout, a separator, and a water disposal well. The inlet feed consists of oil (731 m^3/d), water (1169 m^3/d), and gas (66 10^3 m^3/d), and the H_2S content of the gas stream is 25 mol/kmol. Oil and gas are recombined and pipelined to another battery, while the water is measured and disposed of at the facility site.

Action: Application is required for a licence as a sour satellite with an injection/disposal component. The primary purpose of the facility is to handle oil production and test individual well production; the process description (recombining after measurement and pipelined elsewhere) matches as the current definition of a satellite, and it is operationally acceptable to have a water disposal component associated with a satellite.

Case 2

An existing licensed compressor station with 0.0 mol/kmol H_2S is experiencing hydrocarbon dew point problems. A desiccant system is needed to produce pipeline spec gas. Condensate recovery will be less than 2 m^3/d. No other changes will occur (e.g., emissions, category, or type).

Action: No application is required to install the dew point control system. It will remain a compressor station. The dew point control system is not recovering condensate volumes greater than 2 m^3/d (threshold volume as per the "gas processing plant" definition in *Directive 056*, so no change to the current category type will occur).

Case 3

A Joules-Thomson (JT) unit is being installed for hydrocarbon dew point control.

Action: Provided the liquids recovery remains less than 2 m^3/d and no additional emissions sources are generated, the facility would not be licensed as a processing plant. This applies to all desiccant and JT units.

Case 4

A new 50 kW compressor is added to an existing licensed facility with greater than 0.01 mol/kmol H_2S.

Action: No application is required for the installation of one compressor less than 75 kW provided that the landowner has been notified and the facility continues to meet all applicable requirements.

Case 5

Production from a single gas well (with 20 mol/kmol of H_2S) is routed through an inlet separator where gas and liquids are measured. The gas enters the gathering system, while the liquids are stored in a tank until trucked out. Tank vapours are tied to a flare system.

Action: A single-well gas battery (category C or D) application is required. An application is not required if the H_2S content is less than 0.01 mol/kmol.

Case 6

An existing tank farm requires reconfiguration where one tank will be discontinued, a liner will be installed in the dike area, and the tank farm perimeter will be decreased.

Action: No application is required; however, the facility must continue to meet the storage requirements of *Directive 055*.

Case 7

A water/EOR injection/disposal component is being added to an existing licensed facility or well site.

Action: An application is required. If added to an existing licensed facility, its original category and type are retained. If operating as a standalone process at a well site, it should be licensed as an injection/disposal facility.

Case 8

Dehydration is being installed at an "exempt activity" facility where the H_2S content is less than 0.01 mol/kmol and no compression or gas processing is occurring.

Action: No application is required.

Case 9

A new facility with 0 mol/kmol of H_2S is being constructed and will include the installation of an amine unit for CO_2 removal.

Action: Application required for category B gas processing plant.

Case 10

New flare or incinerator points are being added to an existing category C, D, or E facility.

Action: Application required to amend an existing facility.

Case 11

Replacing existing flare or incinerator points with stacks of equal or greater height (or dispersion characteristics).

Action: No application required since there will be no change to the category type or no increase in emissions.

Case 12

Surface equipment includes ESD, meter run, and line heater where the inlet gas H_2S is less than 0.01 mol/kmol (10 ppm).

Action: No application required.

Case 13

A line heater is added to an existing category C facility, and as a result, the total NO_x emissions increase but the category type remains the same.

Action: Licence amendment application required.

Case 14

A temporary electric compressor is required while the gas unit is under repair.

Action: No application required provided that the landowner has been notified and has no concerns.

Case 15

A single oil well battery with 0.0 mol/kmol of H_2S is being modified to accommodate the increase in the H_2S content to 1.0 mol/kmol, and a flare system will be added.

Action: Application required for a category C or D single oil well battery.

Case 16

An existing single-stage compressor is reconfigured to two-stage compression.

Action: No application required. The company must advise the local AER field centre of the activity.

Case 17

An applicant intends to test an oil well (where the H_2S content of the solution gas is 25 mol/kmol) for a three-month period.

Action: Application for a temporary **c**ategory C or D facility is required, and a licence must be obtained before well testing may commence (see *Directive 060*).

Case 18

An additional glycol pump is required at an existing category C facility.

Action: No application required to install process pumps; only the installation of injection/disposal pumps will require licensing.

Case 19

A free-water knockout (FWKO) is required at a satellite location.

Action: No application required to install the FWKO; however, if there is an injection/disposal component associated with the FWKO, an application is required.

Case 20

The solution gas volumes at a category C oil battery warrant conservation at this time. The operator proposes to conserve the solution gas by using it to generate electric power for the oil battery operations.

Action: The operator must receive approval from the Alberta Utilities Commission (AUC) for the installation of the equipment for the power generation portion of the project. The remaining equipment remains licensed under *Directive 056*, and the licence should include emissions from all sources on site, including power generation equipment. If selected for audit review, a copy of the AUC approval will be required.

Case 21

The solution gas volumes at an existing licensed oil facility warrant conservation at this time. The licensee proposes to conserve the solution gas by processing the solution gas stream and recovering liquids.

Action: The primary purpose of the facility is to handle oil production; it is the increase in solution gas volumes that warrants the addition of gas processing equipment. The licensee must amend its existing oil battery licence to reflect that conservation is now occurring and file a separate application (new) for the gas processing portion of the operation. In rare instances such as these, the AER will issue two separate licences for one surface location.

Case 22

A 56 kW water injection pump and water tank are being added to an existing facility.

Action: Application required to add the injection component.

Case 23

An applicant intends to construct a new multiwell oil battery that will require a nonregenerative sweetening process. The facility inlet is less than 0.1 t/d of sulphur.

Action: An application is required for a category C multiwell oil battery.

Case 24

A long-term flare test (more than 21 days) is being conducted on a CBM well (H_2S content is 0.0 mol/kmol). Temporary facilities at the well site include a separator, measurement equipment, water storage tanks, and a flare or incinerator. Typical of CBM gas, there is no measurable H_2S content.

Action: No application is required. However, the licensee should disclose its intention to conduct longer-term testing as part of the well application consultation process. It must complete public notification as described in *Directive 060*, section 3, before test flaring. If any concerns/objections to the longer-term test or test facilities are received, the AER may require an application.

Case 25

An operator intends to install a nonregenerative sweetening process at an upstream oil or gas facility to treat gas with less than 0.1 t/d sulphur inlet. Additional equipment includes storage tanks and separators.

Action: The surface equipment as described requires a licence as a category C oil or gas battery.

Case 26

A single well is producing oil (<0.01 mol/kmol H_2S) from one formation and is completed for dry gas (<0.01 mol/kmol H_2S) from another formation. Production for the oil zone comes to surface segregated from the gas where there is equipment for separation and measurement, including a storage tank. The gas zone is effluent measured (no separation) and combined with the solution gas from the oil well.

Action: This facility should be licensed as a multiwell oil battery (B030). If there were more significant gas production equipment (e.g., compression, dehydration), the site could be licensed as a multiwell gas battery (B020).

Case 27

A series of gas gathering lines (<0.01 mol/kmol H_2S) are brought to a single lease where gas is combined into a header system and into a 400 kW compressor. In the compressor design, there are suction scrubbers located ahead of the inlet to each stage of compression. The scrubbers drain into a drain tank on lease.

Action: This facility should be licensed as a compressor station (B040). The scrubbers take out any residual water of condensation that may form in the upstream pipeline before compression. If a separator were to be located upstream of the compressor, the facility would need to be licensed as a gas battery –

multiwell. If the only inlet to the compressor were an on-site single-well gas battery (<0.01 mol/kmol H_2S) that included storage of produced water, the facility would still be a compressor station, as the single-well battery would be exempt from licensing.

Case 28

A new sweet single-well gas battery is being added to the same site as an existing sour single-well oil battery.

Action: The existing sour single-well oil battery should have a facility licence already. If the same licensee is adding a sweet single-well gas battery to the same lease, it should amend the existing sour single-well oil battery licence to include the gas well by filing a licence amendment application for a multiwell sour oil battery.

Case 29

An effluent meter for a sweet gas well at location A is being added to the inlet of an existing exempt gas battery (no licence required) at location B. Gas from well A will be tied into an existing pipeline at location B and no surface equipment will be located at A.

Action: Site B should be licensed as a sweet multiwell gas battery since it will be receiving and treating the production from two wells (A and B).

Case 30

A flare stack for emergency maintenance flaring is being added to an existing well site where the on-site equipment does not require a facility licence.

Action: No application is required. However, if the site is an existing licensed facility, the installation of a new flare stack would require an amendment to the existing facility licence.

Case 31

An existing licensed compressor is being replaced with a compressor that has the same wattage and compressor drive power source.

Action: No application is required if the compressor is being replaced with a similar or smaller unit and the total NO_x emissions will not increase. However, if the existing compressor is being replaced by more than one compressor with the combined total wattage remaining the same, an application is required due to the potential change in overall noise levels.

Case 32

A single-well battery with separation and water storage is being installed at a gas well with greater than 10 ppm H_2S. A chemical that bonds with the H_2S molecules will be injected into the gas stream in the

wellbore and captured in the water tank after separation. The water with the chemical will be disposed of in an approved disposal well.

Action: A facility licence for a single-well category C or D gas battery is required based on the H_2S content of the raw gas as determined by a gas analysis. The use of an "add and capture" process to remove the H_2S from the gas stream before disposition into a sweet natural gas pipeline does not change the categorization of the facility. Although the H_2S will be entrained with the chemical, the product will still be received by the facility and needs to be appropriately managed.

Appendix 6 Baseline Water Well Testing Requirements for CBM Wells Completed Above the Base of Groundwater Protection

Survey Plans/Maps for Coalbed Methane (CBM) Wells

In addition to the survey plan requirements indicated in *Directive 056*, applicants must indicate on the submitted survey plan or retain on file, a separate survey plan or map that shows

- any active water well or water observation well within a 600 m radius of the proposed CBM well or, if none is identified within a 600 m radius, the nearest water well or observation well within a 600 to 800 m radius, and
- latitude and longitude coordinates (NAD 83) of active water wells and observation wells.

When identifying active water wells and observation wells, take into consideration all sources of information, including government data/information, ground truthing, and contacting landowners and occupants.

Environmental Requirements

In addition to the requirements indicated in *Directive 056*, applicants must

- before applying, offer to test all active water wells and observation wells within the radiuses referred to above and
- document the following:
  - offers to test water and observation wells made before application, identifying the landowner or occupant and the date of offers;
  - the corresponding acceptances and refusals;
  - in lieu of testing, any water well test result provided by the landowner that complies with the AEPA standard; and
  - if a landowner or occupant refuses to have their water well tested, written confirmation from the landowner that testing is not required; if unable to obtain written confirmation, the applicant must diarize the refusal, provide them with a copy of a notice describing this protocol, and retain a copy.

If the water well has been tested within two years and the landowner or occupant provides a copy of the test showing that it conformed to the protocols of the AEPA standard, testing is not required unless requested by the landowner.

If these environmental requirements cannot be met, indicate in the application that the proposed well site or access road will not meet the AER environmental requirements and attach an explanation.

Water Well and Observation Well Testing

When conducting water well testing, applicants must

- test water and observation wells in accordance with the AEPA standard before drilling the well and
- if the wells have not been tested in the past two months, confirm that the water well testing data and analysis have been submitted to AEPA and the landowner or occupant. If delays occur, confirm that the applicant provided an explanation to AEPA and the landowner or occupant and give the revised timeline for testing the water wells that the applicant has committed to.

Audit Documentation—Additional Requirements

In addition to the requirements indicated in *Directive 056*, applicants must meet the following requirement:

- If CBM above the base of groundwater protection information is not on the survey plan, the applicant must submit a separate survey plan or map showing the locations of all the active water wells and observation wells within the radius referred to above. Latitude and longitude coordinates (NAD 83) of active water wells and observation wells are required on maps.

In addition to the requirements indicated in *Directive 056*, applicants must

- submit documentation demonstrating that all the requirements for the implementation of the AEPA standard have been completed before application. If water well testing was completed before applying, provide information confirming that those tests were completed in accordance with the AEPA standard and that results were submitted accordingly.

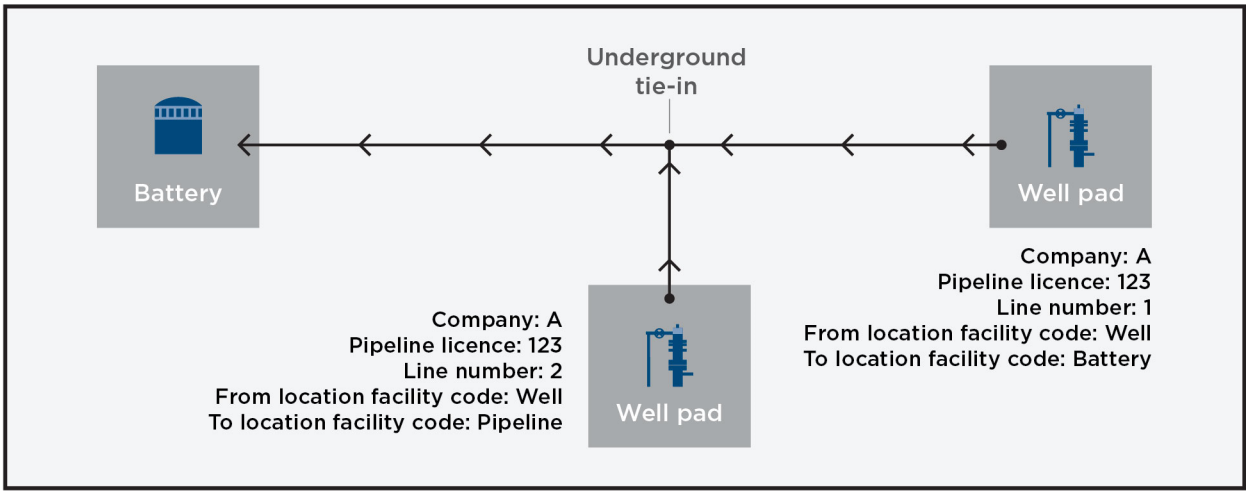
Compliance Assurance

Audits may be conducted to ensure that applicants have met the requirements of both *Directive 056* and *Directive 035* and the AEPA standard.

Appendix 7 System Discontinuance, Abandonment, and Resumption

The following are examples of how system discontinuance, abandonment, and resumption applications should be submitted in OneStop.

Example 1: Pipeline system (trunk line with single lateral) – single licence and licensee



Discontinue the Pipeline System

As shown above, company A operates a pipeline system under pipeline licence 123 where line 2 ties into line 1 underground.

Company A decides to discontinue the pipeline system and does not remove the underground tie-in. After the pipeline system is properly discontinued in the field, company A submits a discontinuance application via OneStop.

Company A enters the discontinued line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below) to indicate where the pipelines are isolated and where the underground tie-in remains:

- pipeline licence 123, line 1 From Location: **Blind End**
- pipeline licence 123, line 1 To Location: **Blind End**
- pipeline licence 123, line 2 From Location: **Blind End**
- pipeline licence 123, line 2 To Location: Pipeline

Company A selects **Yes** to the "The pipelines are part of the discontinuance of an entire pipeline system with underground tie-ins in place" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **Yes** to the "The pipeline system was isolated or disconnected from all possible pressure sources and contains only discontinued pipelines that belong to the licensee" question.

Abandon the Pipeline System

When abandoning an entire pipeline system without removing underground tie-ins, follow the steps taken for discontinuance.

Resume the Entire Pipeline System From "Discontinued" Status

Company A resumes the entire pipeline system under pipeline licence 123 from "discontinued" status. Company A submits a resumption application via OneStop.

Company A enters the resumed line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below):

- pipeline licence 123, line 1 From Location: **Well**
- pipeline licence 123, line 1 To Location: **Pipeline**
- pipeline licence 123, line 2 From Location: **Well**
- pipeline licence 123, line 2 To Location: Pipeline

Company A selects **Yes** to the "The resumed pipeline is part of a previously discontinued or abandoned pipeline system" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **Yes** to the "The entire system is being resumed and only includes one licensee" question.

Resume the Entire Pipeline System From "Abandoned" Status

When resuming an entire pipeline system that was previously abandoned without removing underground tie-ins, follow the steps taken for resumption from discontinuance.

Resume a Portion of the Pipeline System From "Discontinued" Status

Company A resumes line 1 of the pipeline system under pipeline licence 123. After isolating line 2 from line 1, company A submits a resumption application via OneStop.

Company A enters the resumed line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below):

- pipeline licence 123, line 1 From Location: **Well**
- pipeline licence 123, line 1 To Location: **Pipeline**

Company A selects **Yes** to the "The resumed pipeline is part of a previously discontinued or abandoned pipeline system" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **No** to the "The entire system is being resumed and only includes one licensee" question.

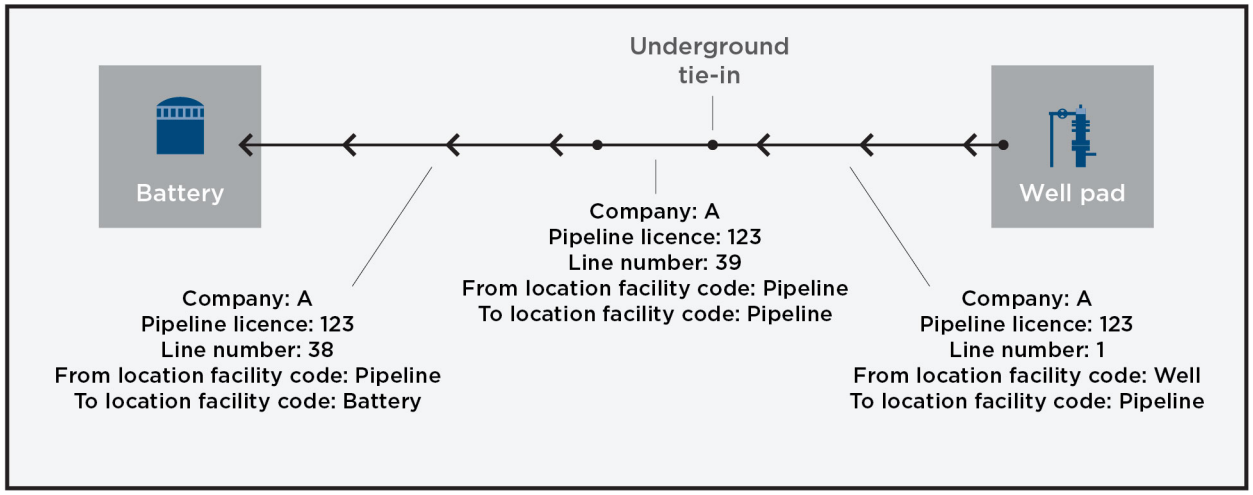
Company A selects the "A portion of the original system is being resumed. The portion being resumed is isolated from the remaining abandoned or discontinued system" reason.

Company A must submit an amendment application for line 2 of pipeline licence 123. The type of amendment depends on whether company A discontinues or abandons line 2.

Resume a Portion of the Pipeline System From "Abandoned" Status

When resuming a portion of an entire pipeline system that was previously abandoned without removing underground tie-ins, follow the steps taken for resumption from discontinuance.

Example 2: Pipeline system with multiple lines (no laterals) – single licence and licensee



Discontinue the Pipeline System

Company A completed a pipeline replacement and now has a pipeline system comprising three lines (1, 38, and 39), all under pipeline licence 123. All lines tie in underground (see above).

Company A decides to discontinue the pipeline system and does not remove the underground tie-ins. After the pipeline system is properly discontinued in the field, company A submits a discontinuance application via OneStop.

Company A enters all the discontinued line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below) to indicate where the pipelines are isolated and where the underground tie-ins remain:

- pipeline licence 123, line 1 From Location: **Blind End**
- pipeline licence 123, line 1 To Location: Pipeline
- pipeline licence 123, line 39 From Location: Pipeline
- pipeline licence 123, line 39 To Location: Pipeline
- pipeline licence 123, line 38 From Location: Pipeline
- pipeline licence 123, line 38 To Location: **Blind End**

Company A selects **Yes** to the "The pipelines are part of the discontinuance of an entire pipeline system with underground tie-ins in place" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **Yes** to the "The pipeline system was isolated or disconnected from all possible pressure sources and contains only discontinued pipelines that belong to the licensee" question.

Abandon the Pipeline System

When abandoning an entire pipeline system without removing underground tie-ins, follow the steps taken for discontinuance.

Resume the Entire Pipeline System From “Discontinued” Status

Company A resumes the entire pipeline system under pipeline licence 123 from “discontinued” status. Company A submits a resumption application via OneStop.

Company A enters all the resumed line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below):

- pipeline licence 123, line 1 From Location: **Well**
- pipeline licence 123, line 1 To Location: Pipeline
- pipeline licence 123, line 39 From Location: Pipeline
- pipeline licence 123, line 39 To Location: Pipeline
- pipeline licence 123, line 38 From Location: Pipeline
- pipeline licence 123, line 38 To Location: **Battery**

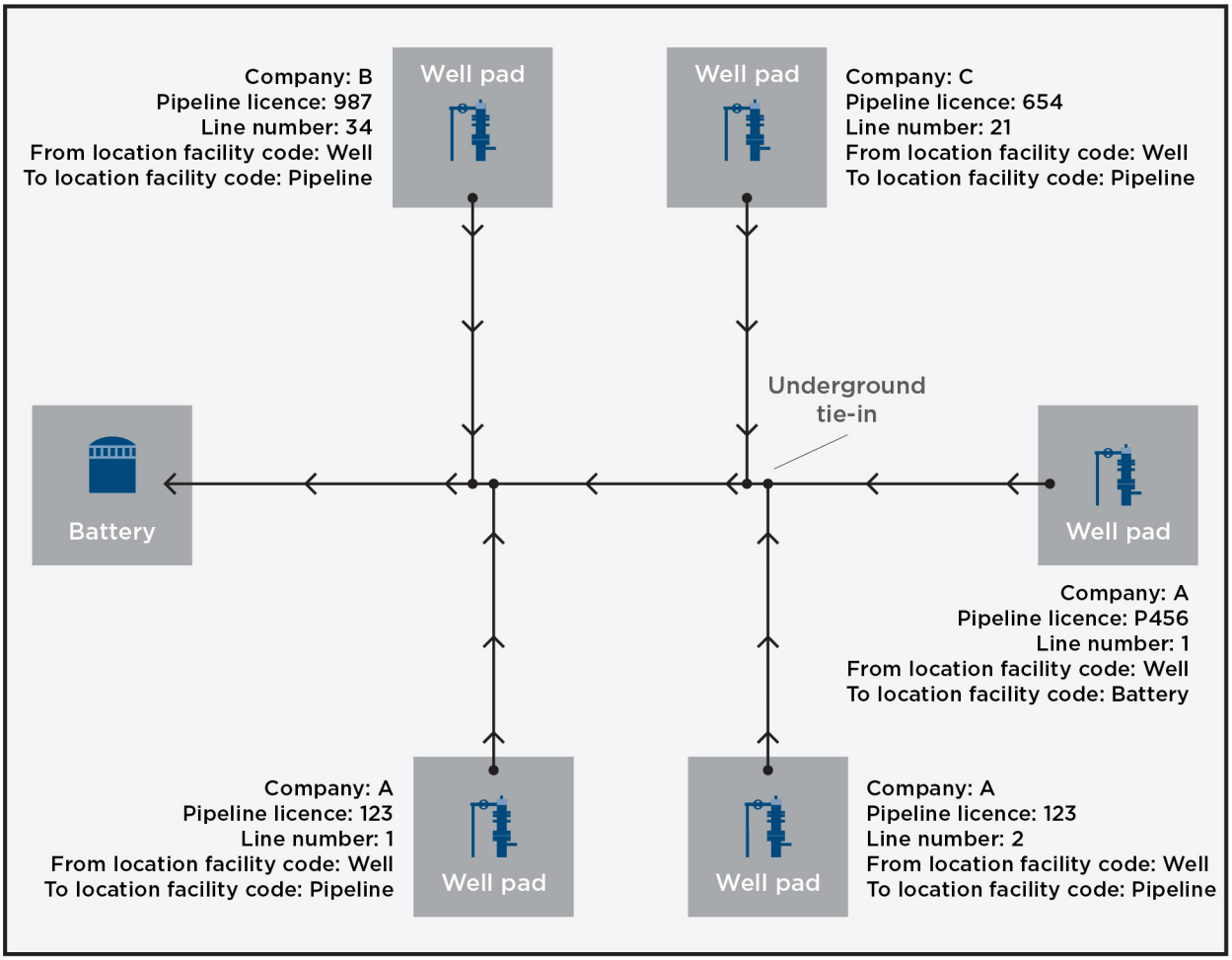
Company A selects **Yes** to the “The resumed pipeline is part of a previously discontinued or abandoned pipeline system” question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **Yes** to the “The entire system is being resumed and only includes one licensee” question.

Resume the Entire Pipeline System From “Abandoned” Status

When resuming an entire pipeline system that was previously abandoned without removing underground tie-ins, follow the steps taken for resumption from discontinuance.

Example 3: Pipeline system (trunk line with multiple laterals) – multiple licences and licensees



Discontinue the Pipeline System

Companies A, B, and C share a pipeline gathering system (see above). The companies decide to discontinue the gathering system without removing the underground tie-ins. After the pipeline gathering system is properly discontinued in the field, each company submits a discontinuance application via OneStop (company A: pipeline licence 123 and licence 456; company B: licence 987; company C: licence 654).

Because company A has two licences associated with this pipeline gathering system (licence 123 and 456), it must create an Activity ID in OneStop for each licence.

Companies B and C will submit discontinuance applications for their pipeline licences, inputting and providing the relevant information in OneStop.

Activity ID #1 (company A; licence 123)
Company A enters all the discontinued line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below) to indicate where the pipeline is isolated and where the underground tie-in remains:

- pipeline licence 123, line 1 From Location: **Blind End**
- pipeline licence 123, line 1 To Location: Pipeline
- pipeline licence 123, line 2 From Location: **Blind End**
- pipeline licence 123, line 2 To Location: Pipeline

Company A selects **Yes** to the "The pipelines are part of the discontinuance of an entire pipeline system with underground tie-ins in place" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **No** to the "The pipeline system was isolated or disconnected from all possible pressure sources and contains only discontinued pipelines that belong to the licensee" question.

Company A selects the "Includes pipelines belonging to another licensee" reason and enters licences and line numbers for companies B and C. Company A attaches the required documentation outlined in *Manual 012*.

Activity ID #2 (company A; licence 456)
Company A enters all the discontinued line numbers for pipeline licence 456 in the Pipe Location and Status row and updates the facility codes (see bold below) to indicate where the pipeline is isolated and where the underground tie-in remains:

- pipeline licence 456, line 1 From Location: **Blind End**
- pipeline licence 456, line 1 To Location: **Blind End**

Company A selects **Yes** to the "The pipelines are part of the discontinuance of an entire pipeline system with underground tie-ins in place" question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **No** to the "The pipeline system was isolated or disconnected from all possible pressure sources and contains only discontinued pipelines that belong to the licensee" question.

Company A selects the "Includes pipelines belonging to another licensee" reason and enters licences and line numbers for companies B and C. Company A attaches the required documentation outlined in *Manual 012*.

Abandon the Pipeline System

When abandoning an entire pipeline system without removing underground tie-ins, follow the steps taken for discontinuance.

Resume the Entire Pipeline System From “Discontinued” Status

Companies A, B, and C resume a shared pipeline gathering system involving several pipeline licences from “discontinued” status. The gathering system was discontinued without removing the underground tie-ins. Each company submits a resumption application via OneStop.

Because company A has two different licences associated with this pipeline gathering system (licence 123 and 456), it must create an Activity ID in OneStop for each licence.

Companies B and C will submit resumption applications for their pipeline licences, inputting and providing the relevant information in OneStop.

Activity ID #1 (company A; licence 123)
Company A enters all the resumed line numbers for pipeline licence 123 in the Pipe Location and Status row and updates the facility codes (see bold below):

- pipeline licence 123, line 1 From Location: **Well**
- pipeline licence 123, line 1 To Location: Pipeline
- pipeline licence 123, line 2 From Location: **Well**
- pipeline licence 123, line 2 To Location: Pipeline

Company A selects **Yes** to the “The resumed pipeline is part of a previously discontinued or abandoned pipeline system” question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **No** to the “The entire system is being resumed and only includes one licensee” question.

Company A selects the “The pipeline system being resumed involves multiple licensees” reason and attaches the required documentation outlined in *Manual 012*.

Activity ID #2 (company A; licence 456)
Company A enters the resumed line numbers for pipeline licence 456 in the Pipe Location and Status row and updates the facility codes (see bold below):

- pipeline licence 456, line 1 From Location: **Well**
- pipeline licence 456, line 1 To Location: **Battery**

Company A selects **Yes** to the “The resumed pipeline is part of a previously discontinued or abandoned pipeline system” question. Company A attaches the required documentation outlined in *Manual 012*.

Company A selects **No** to the “The entire system is being resumed and only includes one licensee” question.

Company A selects the “The pipeline system being resumed involves multiple licensees” reason and attaches the required documentation outlined in *Manual 012*.

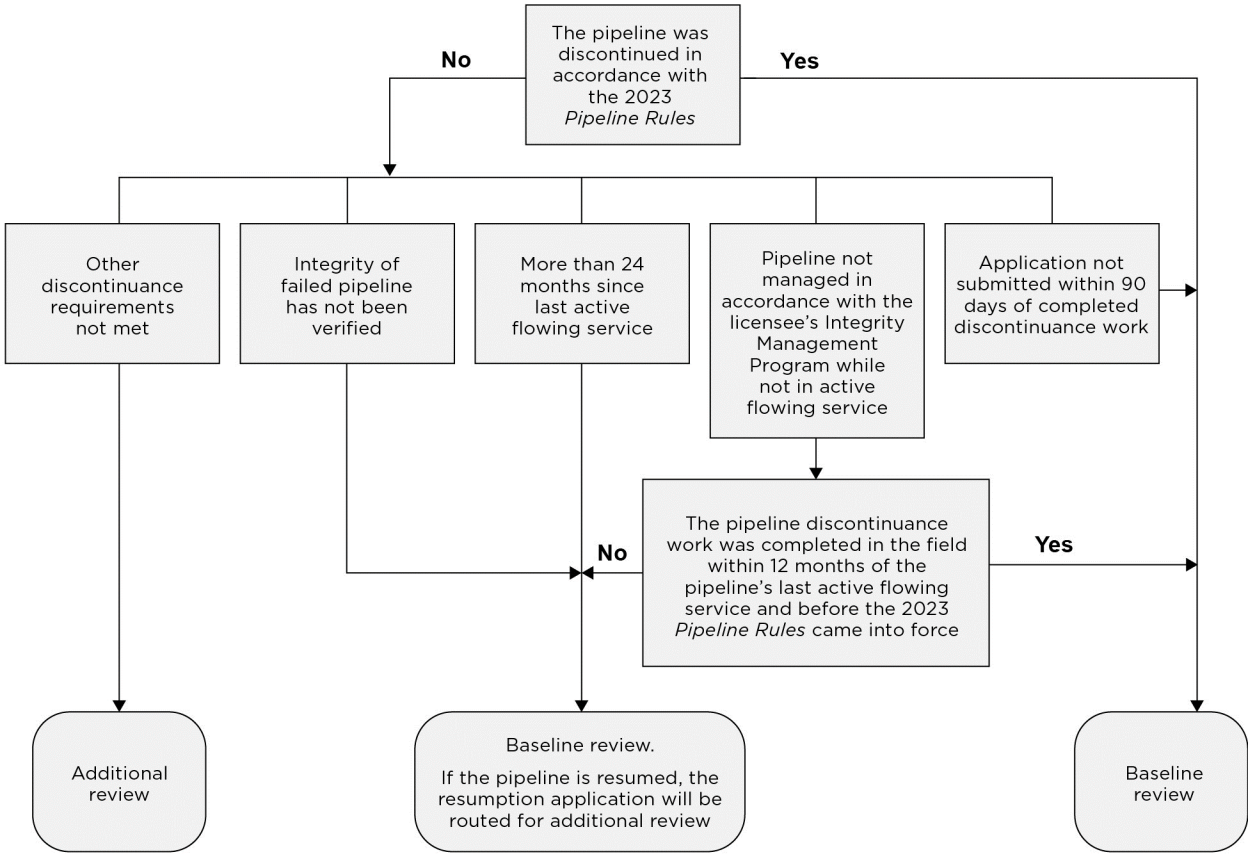
Resume the Entire Pipeline System From “Abandoned” Status

When resuming the entire pipeline system that was previously abandoned without removing underground tie-ins, follow the steps taken for resumption from discontinuance.

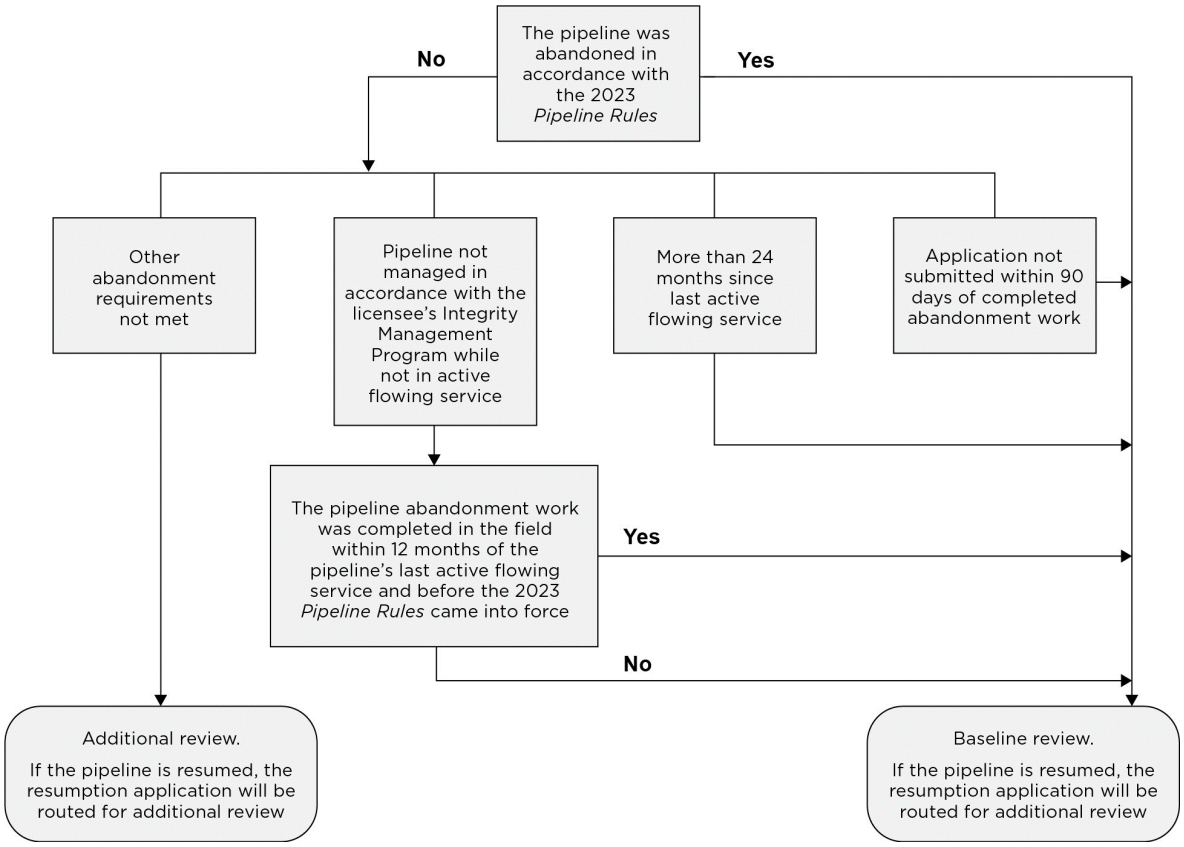
Appendix 8 Workflows

The following figures show the workflows for discontinuance (section 6.5.8.26), abandonment (section 6.5.8.29), and resumption (section 6.5.8.34) applications in relation to the 2023 edition of the *Pipeline Rules*. See appendix 9 for specific discontinuance, abandonment, and resumption from discontinued scenarios.

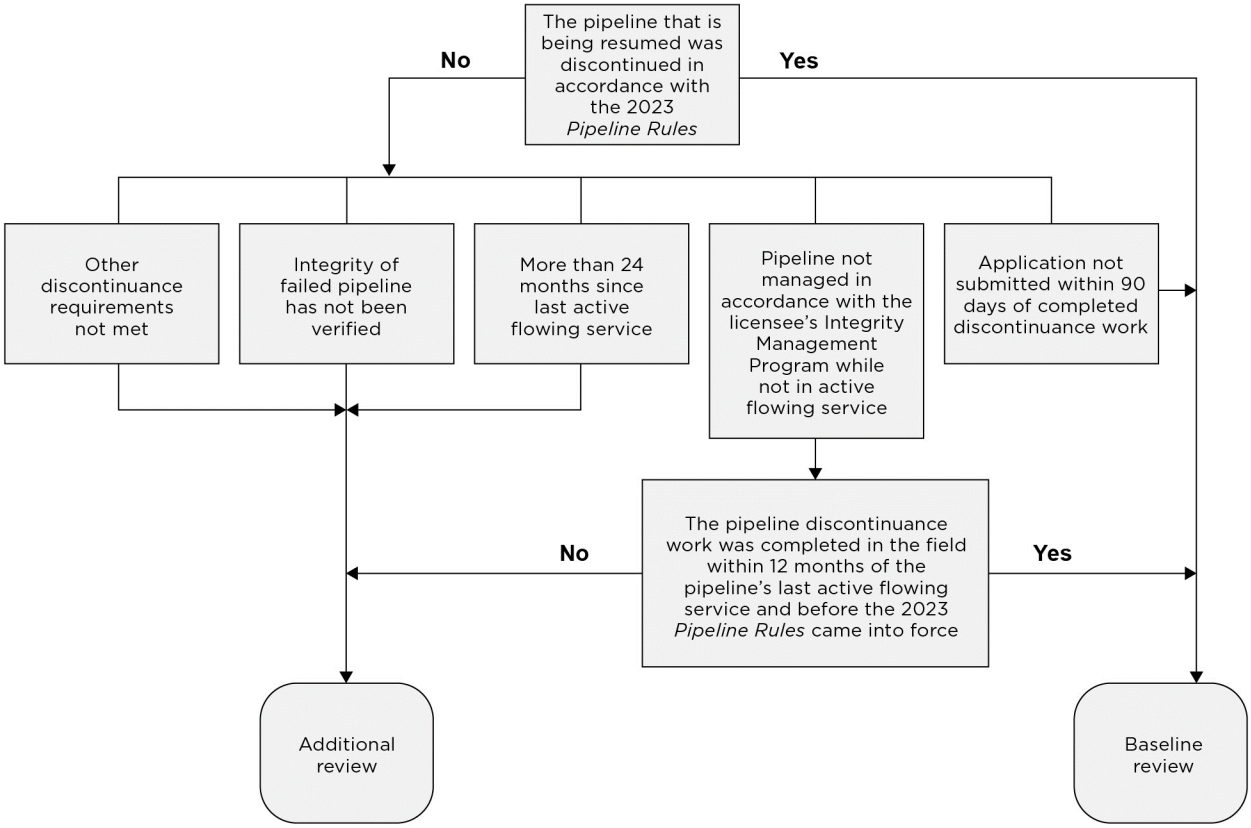
Discontinuance



Abandonment



Resumption from Discontinued



Appendix 9 Specific Discontinuance, Abandonment, and Resumption Scenarios

Most application scenarios are straightforward, and applicants can follow the regulatory workflow shown in appendix 8. However, some possible scenarios require further explanation. This appendix includes specific scenarios an applicant could encounter and how to apply using OneStop. The following scenarios clarify how applicants should apply for pipeline discontinuance (section 6.5.8.26), abandonment (section 6.5.8.29), or resumption from discontinued status (section 6.5.8.34).

Scenario 1: Discontinuance and Resumption

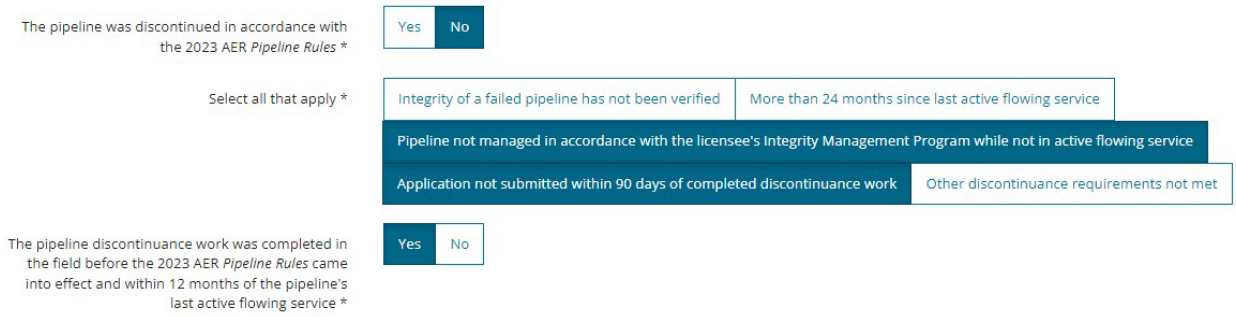
Discontinuance

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field discontinuation: June 24, 2021
- Date of discontinuance application: March 25, 2024.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it discontinued the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules*, and the discontinuance application was not submitted in accordance with section 73(1) of the 2023 *Pipeline Rules*. Consequently, the discontinuance application is routed for baseline approval, but a condition is not added to the licence.

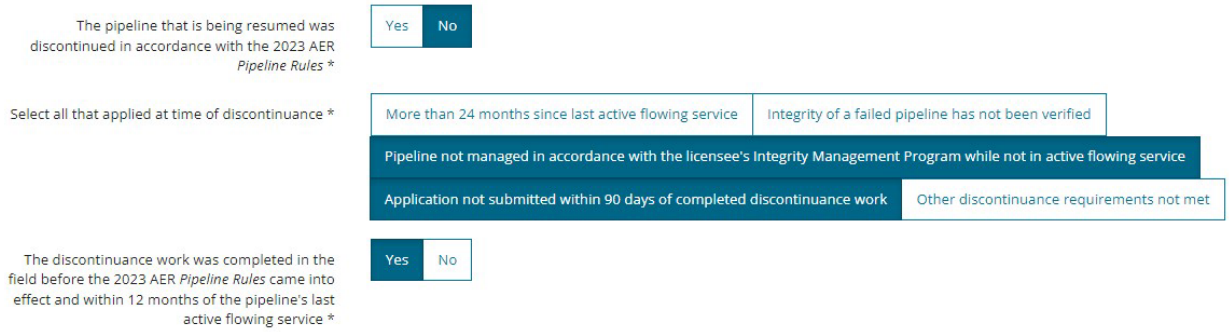
Resumption From Discontinued

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023. The licensee wants to resume the scenario 1 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2026

When answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it discontinued the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules* but not in accordance with section 73(1) of the 2023 *Pipeline Rules*. Consequently, the resumption application is routed for baseline approval.

Scenario 2: Discontinuance and Resumption

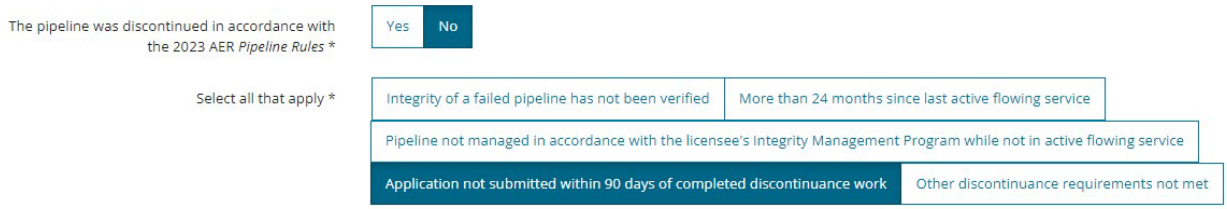
Discontinuance

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: Yes
- Date of field discontinuation: April 5, 2022
- Date of discontinuance application: March 25, 2024.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not submit the discontinuance application in accordance with section 73(1) of the 2023 *Pipeline Rules*. Furthermore, the applicant has indicated that it discontinued the pipeline in accordance with sections 71(1) and (2) of the 2023 *Pipeline Rules* by not selecting: "Pipeline not managed in accordance with the licensee's Integrity Management Program while not in active flowing service." Even though the pipeline was not discontinued in accordance with section 82(1) of the 2005 *Pipeline Rules* and was discontinued in the field before the 2023 *Pipeline Rules* took effect, the pipeline discontinuance meets the requirements of the 2023 *Pipeline Rules*. Consequently, the discontinuance application is routed for baseline approval, but a condition is not added to the licence.

Because the licensee has indicated that it managed the pipeline per its Integrity Management Plan while not in active flowing service, the AER may select the discontinuance application for audit. In this case, the licensee must demonstrate that it managed the pipeline in accordance with its Integrity Management Program.

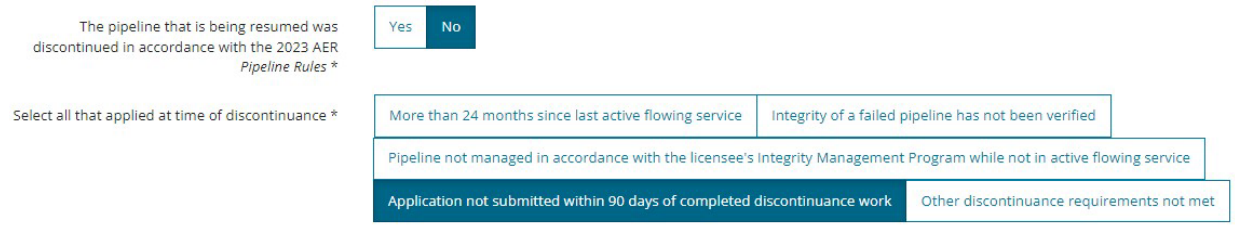
Resumption From Discontinued

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023. The licensee wants to resume the scenario 2 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2026

When answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not submit the discontinuance application in accordance with section 73(1) of the 2023 *Pipeline Rules*. Consequently, the resumption application is routed for baseline approval.

The resumption application may be selected for audit. In this case, the licensee must demonstrate that it managed the pipeline in accordance with its Integrity Management Program while the pipeline was not in active flowing service.

Scenario 3: Discontinuance and Resumption

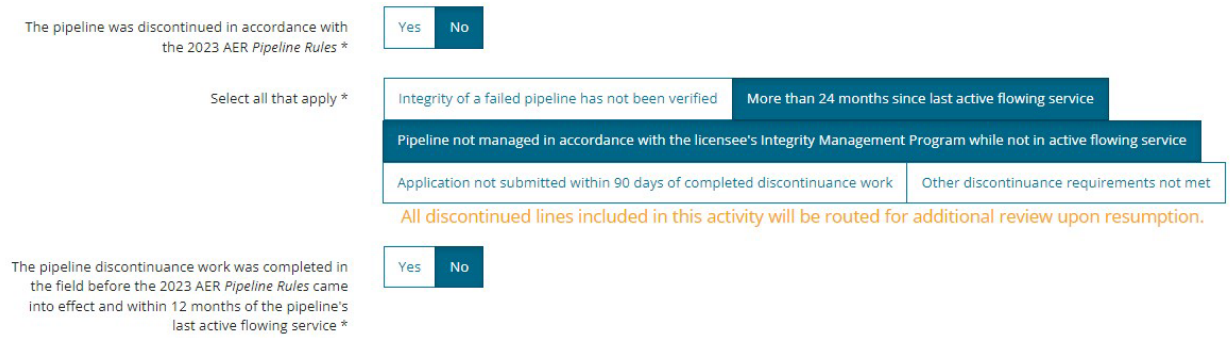
Discontinuance

The pipeline was discontinued after the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2019)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field discontinuation: June 24, 2025
- Date of discontinuance application: July 16, 2025.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not discontinue the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules* or sections 71(1) and (2) of the 2023 *Pipeline Rules*. The 2005 rules apply as the pipeline ceased active flowing service while they were in effect. Consequently, the discontinuance application is routed for baseline approval, and a "review on resumption" condition is added to the licence. If the discontinued pipeline is resumed, the resumption application will be routed for additional review.

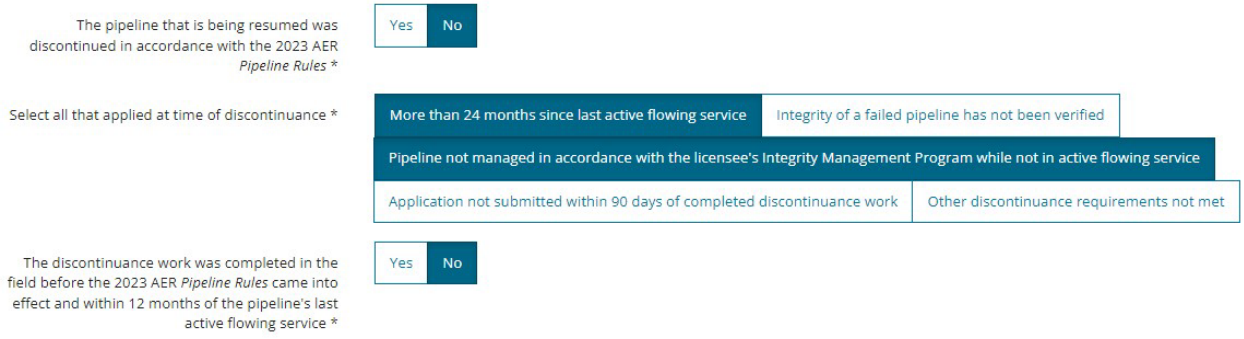
Resumption From Discontinued

The pipeline was discontinued after the 2023 *Pipeline Rules* took effect on November 15, 2023.The licensee wants to resume the scenario 3 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2027

When answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not discontinue the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules* or sections 71(1) and (2) of the 2023 *Pipeline Rules*. The applicant must attach its engineering assessment to the resumption application; the resumption application will be routed for additional review.

Scenario 4: Discontinuance and Resumption

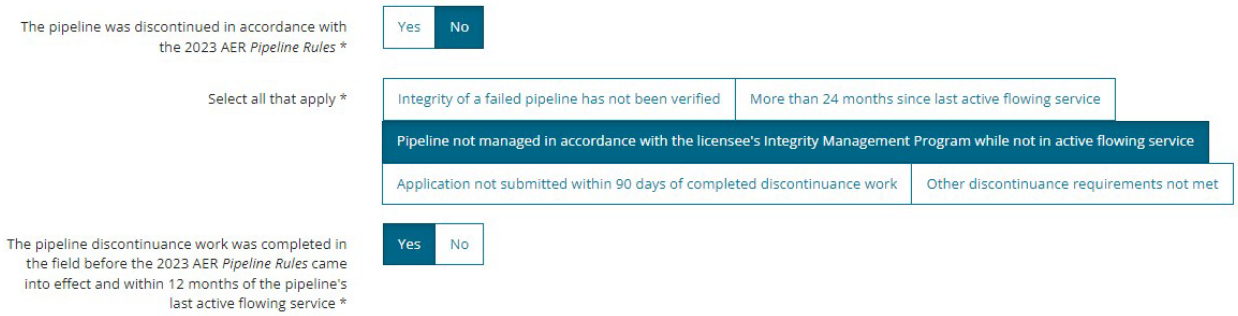
Discontinuance

The pipeline was discontinued after the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on June 1, 2023)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field discontinuation: February 22, 2024
- Date of discontinuance application: April 5, 2024.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



In this scenario, the AER would consider the pipeline discontinued in accordance with the 2005 *Pipeline Rules* but not in accordance with section 71(2) of the 2023 *Pipeline Rules*. Since the pipeline ceased active flowing service before the 2023 *Pipeline Rules* came into effect, the AER will permit the applicant to indicate the pipeline was discontinued in accordance with section 82(1) of the 2005 *Pipeline Rules*. This scenario applies only to pipelines that ceased active flowing service within the year before December 2023 (i.e., ceased active flowing service from December 1, 2022, to November 30, 2023).

Resumption From Discontinued

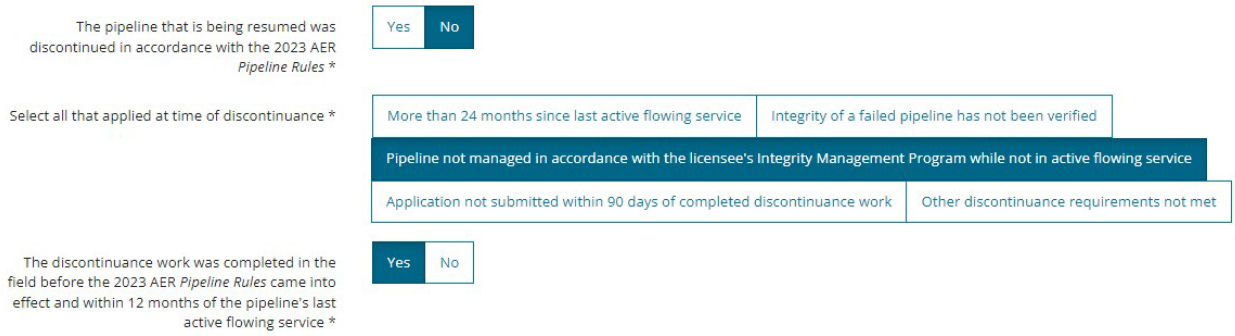
The pipeline was discontinued after the 2023 *Pipeline Rules* took effect on November 15, 2023. The licensee wants to resume the scenario 4 discontinued pipeline.

Scenario conditions:

- Status: Discontinued

- Date of resumption application: March 24, 2026

When answering the question “The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*,” the applicant selects the following options in OneStop:



The applicant has indicated that it did not discontinue the pipeline in accordance with the 2023 *Pipeline Rules*. However, the AER has allowed the discontinuance in accordance with the 2005 *Pipeline Rules* because of the timing of the last active flowing service. The resumption application will be routed to baseline review.

Scenario 5: Discontinuance and Resumption

Discontinuance

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed before the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field discontinuation: June 24, 2021
- Date of discontinuance application: July 15, 2021.

Based on the preceding conditions, when answering the question "The pipeline was discontinued in accordance with the AER *Pipeline Rules*," the applicant selected the following option in OneStop:

By selecting this option, the applicant has indicated that it discontinued the pipeline in accordance with the 2005 *Pipeline Rules*; the AER approved the discontinuance application under the 2005 rules. Consequently, a "review on resumption" condition is not added to the licence.

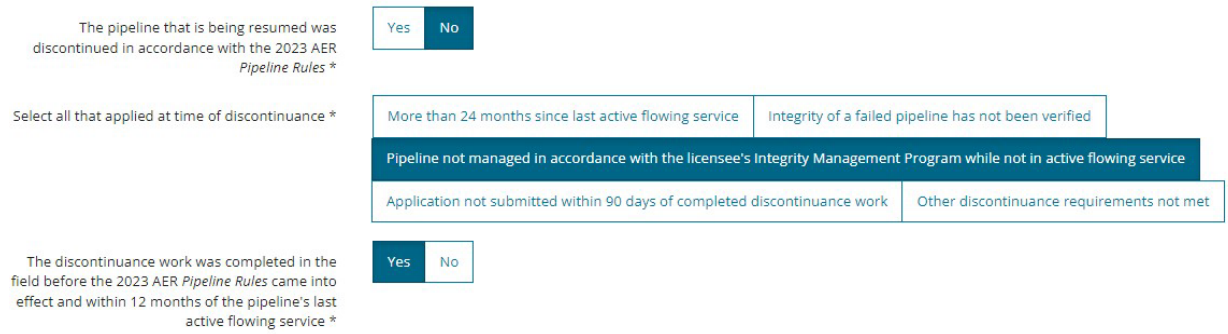
Resumption From Discontinued

The AER approved the discontinuance application without conditions under the 2005 *Pipeline Rules*. The licensee wants to resume the scenario 5 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2024

When answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it discontinued the pipeline before the 2023 *Pipeline Rules* came into effect and in accordance with section 82(1) of the 2005 *Pipeline Rules*. The resumption application is routed for baseline approval.

Scenario 6: Discontinuance and Resumption

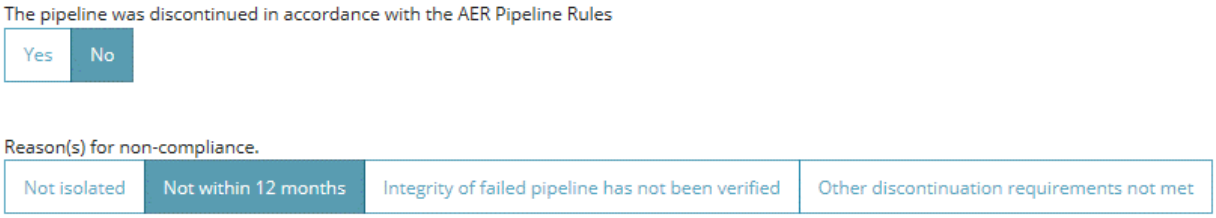
Discontinuance

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed before the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field discontinuation: April 5, 2022
- Date of discontinuance application: May 12, 2022.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it failed to discontinue the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules*. Consequently, the discontinuance application is routed for baseline approval and a "review on resumption" condition is added to the licence.

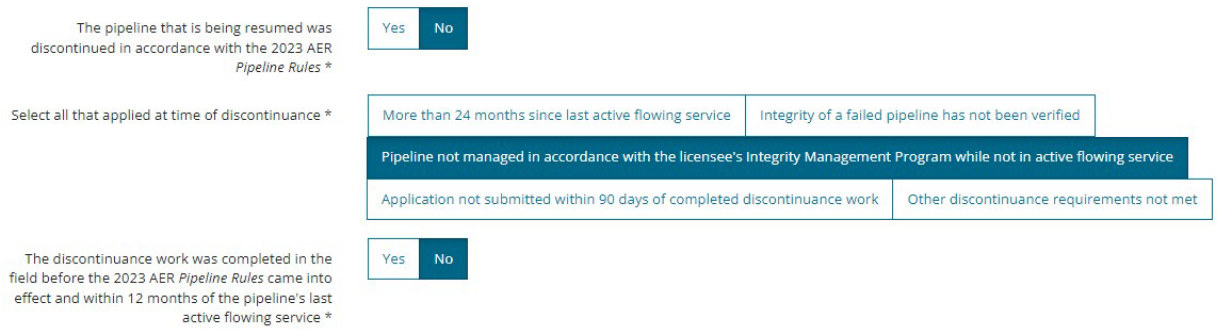
Resumption From Discontinued

The AER approved the discontinuance application with conditions under the 2005 *Pipeline Rules*. The licensee wants to resume the scenario 6 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2024

Based on the preceding conditions, when answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not discontinue the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules* or section 71(2) of the 2023 *Pipeline Rules*. The applicant must attach its engineering assessment to the resumption application; the resumption application is routed for additional review.

Scenario 7: Discontinuance and Resumption

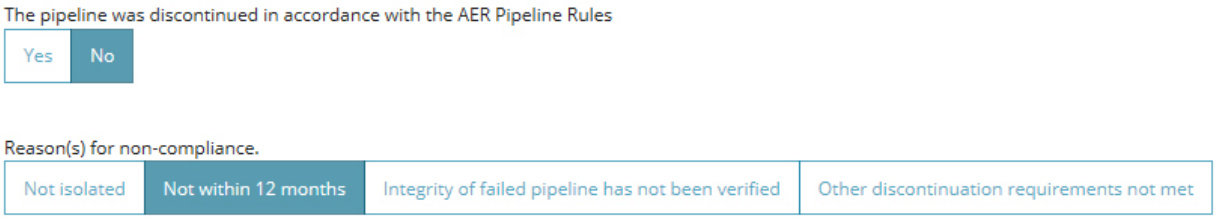
Discontinuance

The pipeline was discontinued before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the discontinuance application was filed before the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: Yes
- Date of field discontinuation: April 5, 2022
- Date of discontinuance application: May 12, 2022.

Based on the preceding conditions, when answering the question, "The pipeline was discontinued in accordance with the AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it failed to discontinue the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules*. Consequently, the discontinuance application is routed for baseline approval and a "review on resumption" condition is added to the licence.

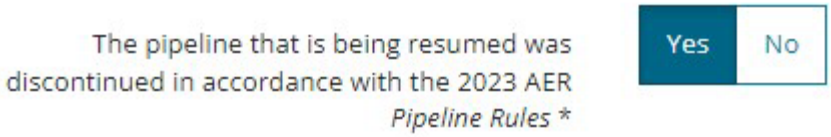
Resumption

The AER approved the discontinuance application with conditions under the 2005 *Pipeline Rules*. The licensee wants to resume the scenario 7 discontinued pipeline.

Scenario conditions:

- Status: Discontinued
- Date of resumption application: March 24, 2024

When answering the question "The pipeline that is being resumed was discontinued in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting this option, the applicant has indicated that it discontinued the pipeline in accordance with the 2023 *Pipeline Rules*. Even though the pipeline was not discontinued in accordance with section 82(1) of the 2005 *Pipeline Rules* and was discontinued in the field before the 2023 *Pipeline Rules* came into effect, the pipeline discontinuance meets the requirements of sections 71(1) and (2) of the 2023 *Pipeline Rules*. Consequently, the "review on resumption" condition does not apply, and the resumption application is routed for baseline approval.

The resumption application may be selected for audit. In this case, the licensee must demonstrate that it managed the pipeline in accordance with its Integrity Management Program while the pipeline was not in active flowing service.

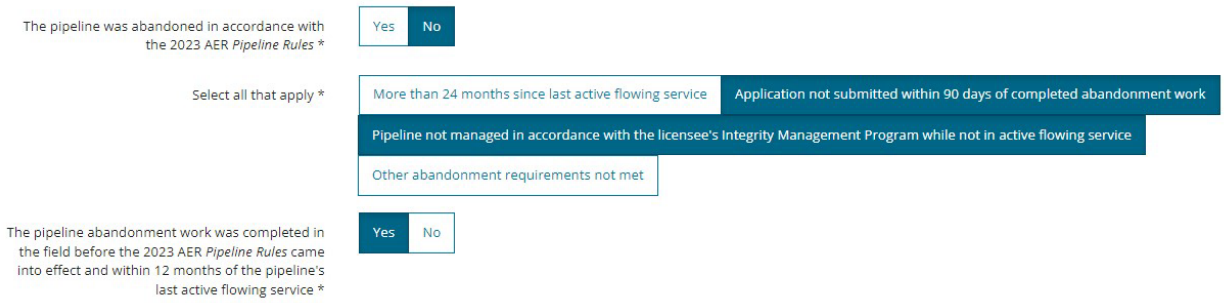
Scenario 8: Abandonment

The pipeline was abandoned before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the abandonment application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field abandonment: June 24, 2021
- Date of abandonment application: March 25, 2024.

Based on the preceding conditions, when answering the question, "The pipeline was abandoned in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it abandoned the pipeline in accordance with section 82(1) of the 2005 *Pipeline Rules*, and it did not submit the abandonment application in accordance with section 73(1) of the 2023 *Pipeline Rules*. Consequently, the abandonment application is routed for baseline approval.

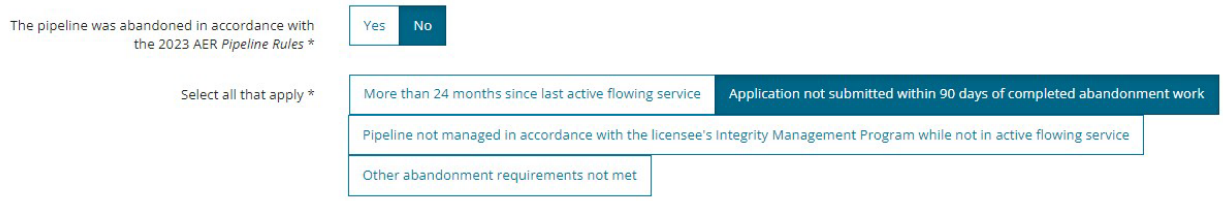
Scenario 9: Abandonment

The pipeline was abandoned before the 2023 *Pipeline Rules* took effect on November 15, 2023, and the abandonment application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2021)
- Pipeline managed per Integrity Management Program while not in active flowing service: Yes
- Date of field abandonment: April 5, 2022
- Date of abandonment application: March 25, 2024.

Based on the preceding conditions, When answering the question, "The pipeline was abandoned in accordance with the 2023 *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not submit the abandonment application in accordance with section 73(1) of the 2023 *Pipeline Rules*. However, because the applicant managed the pipeline in accordance with its Integrity Management Program while not in active flowing service, the applicant has indicated that it abandoned the pipeline in accordance with sections 71(1) and (2) of the 2023 *Pipeline Rules*. Even though the pipeline was not abandoned in accordance with section 82(1) of the 2005 *Pipeline Rules* and was abandoned in the field before the 2023 *Pipeline Rules* came into effect, the pipeline abandonment meets the requirements of the 2023 *Pipeline Rules*. The abandonment application is routed for baseline approval.

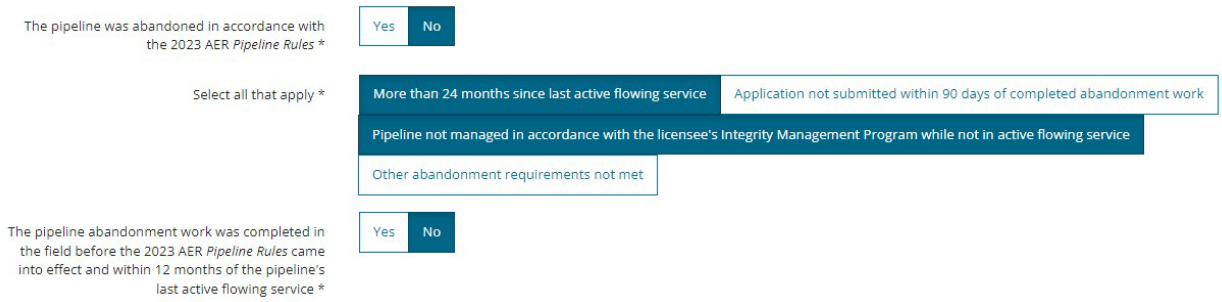
Scenario 10: Abandonment

The pipeline was abandoned after the 2023 *Pipeline Rules* took effect on November 15, 2023, and the abandonment application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on February 1, 2019)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field abandonment: June 24, 2025
- Date of abandonment application: July 16, 2025.

Based on the preceding conditions, When answering the question, "The pipeline was abandoned in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting these options, the applicant has indicated that it did not abandon the pipeline in accordance with either section 82(1) of the 2005 *Pipeline Rules* or sections 71(1) and (2) of the 2023 *Pipeline Rules*. The abandonment application is routed for baseline approval.

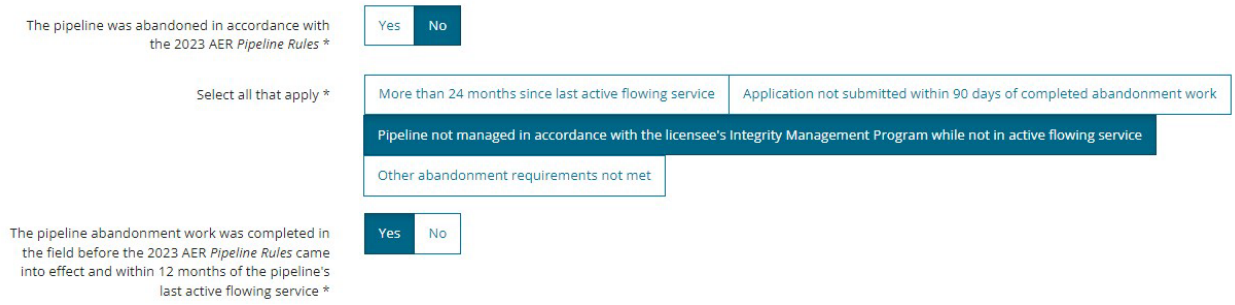
Scenario 11: Abandonment

The pipeline was abandoned after the 2023 *Pipeline Rules* took effect on November 15, 2023, and the abandonment application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Operating
- Active flowing service: No (last active flow on June 1, 2023)
- Pipeline managed per Integrity Management Program while not in active flowing service: No
- Date of field abandonment: February 22, 2024
- Date of abandonment application: April 5, 2024.

Based on the preceding conditions, When answering the question, "The pipeline was abandoned in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



In this scenario, the AER would consider the pipeline abandoned in accordance with the 2005 *Pipeline Rules* but not the 2023 *Pipeline Rules*. Since the pipeline ceased active flowing service before the 2023 *Pipeline Rules* came into effect, the AER will permit the applicant to indicate the pipeline was abandoned in accordance with section 82(1) of the 2005 *Pipeline Rules*. This scenario applies only to pipelines that ceased active flowing service within the year before December 2023 (i.e., ceased active flowing service from December 1, 2022, to November 30, 2023).

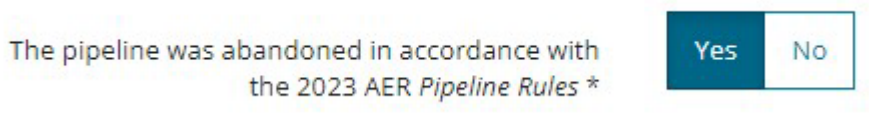
Scenario 12: Abandonment

The pipeline was abandoned after the 2023 *Pipeline Rules* took effect on November 15, 2023, and the abandonment application was filed after the 2023 rules took effect.

Scenario conditions:

- Status: Discontinued
- Active flowing service: Not applicable in this scenario
- Date of field abandonment: February 22, 2024
- Date of abandonment application: April 5, 2024

Based on the preceding conditions, When answering the question, "The pipeline was abandoned in accordance with the 2023 AER *Pipeline Rules*," the applicant selects the following options in OneStop:



By selecting this option, the applicant has indicated that it did abandon the pipeline in accordance with the 2023 *Pipeline Rules*. The abandonment application is routed for baseline approval.

Because a discontinued pipeline is in a state of preservation where internal corrosion is prevented, the active flowing service condition does not apply. Hence, section 71(2) of the 2023 *Pipeline Rules* does not apply. When a pipeline has a "Discontinued" status and is being abandoned, sections 71(1) and (2) of the 2023 *Pipeline Rules* do not apply.