



Oil and Gas Processing Facility Regulation Guideline

Version 1.0 March 2022

About the Commission

The BC Oil and Gas Commission (Commission) is the single-window regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

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



Vision

Safe and responsible energy resource development for British Columbia.

Mission

We provide British Columbia with regulatory excellence in responsible energy resource development by:

- Protecting public safety,
- Safeguarding the environment, and
- Respecting those individuals and communities who are affected.

Values

- **Transparency**
Is our commitment to be open and provide clear information on decisions, operations and actions.
- **Innovation**
Is our commitment to learn, adapt, act and grow.
- **Integrity**
Is our commitment to the principles of fairness, trust and accountability.
- **Respect**
Is our commitment to listen, accept and value diverse perspectives.
- **Responsiveness**
Is our commitment to listening and timely and meaningful action.



Preface

About This Guideline

The Oil & Gas Processing Facility Regulation Guideline (the guideline) is intended to provide a reference document for applicants that wish to construct and operate an oil & gas processing facility (processing facility) in British Columbia, as regulated by the Oil & Gas Processing Facility Regulation (OGPFR).

Under the regulation, gas processing plant means a facility for the extraction from natural gas of hydrogen sulphide, carbon dioxide, helium, natural gas liquids or other substances, but does not include a facility that:

- (a) uses, for the exclusive purpose of processing low-volume fuel gas,
 - i. a regenerative system for the removal of hydrogen sulphide or carbon dioxide and emits less than 2 tonnes/day of sulphur, or
 - ii. a liquid extraction process such as refrigeration to extract hydrocarbon liquids from a gas stream, or
- (b) uses a non-regenerative system for the removal of hydrogen sulphide or carbon dioxide.

For applicants, the guideline provides an overview of the requirements and procedures for applying for and obtaining a permit to construct and operate a processing facility. The guideline provides an overview of the key regulatory milestones and requirements for the design, construction, operations, suspension, and decommissioning, during the facility's regulatory lifecycle.

The guideline has been prepared to be as comprehensive as possible; however it is not all encompassing and may not cover all situations. Where circumstances or scenarios arise and are not covered by the guideline, contact the Commission for assistance.

Guideline Structure

Beginning with pre-application requirements, this document guides the user through application preparation, the Commission's review and determination process for a processing facility permit, and the processing facility construction, operations, site suspension and decommissioning.

Guideline Scope

The guideline is limited in scope to the Commission's application processes and the authorities and requirements established within the [Oil and Gas Activities Act](#) (OGAA), the OGPFR, and applicable sections of the Drilling and Production Regulation (see section 4.2.7). Applicants and permit holders may require additional approvals from other regulators or have obligations under other statutes. For convenience the guideline attempts to identify other relevant agencies and regulatory processes; however, this listing is not exclusive, and it is the applicant/permit holder's responsibility to know and uphold all of their legal obligations.

Additional Guidance

As with all Commission documents, this guideline does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Commission staff for clarification. Some activities may have additional requirements and necessary approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities.

Compliance and Enforcement

This document does not replace legislation or affect legislative requirements. All permit holders are ultimately responsible for ensuring they understand and meet all requirements of OGAA and their permits. Should a person not comply with OGAA, the Commission may take compliance and enforcement actions.

For more information regarding the Commission's Compliance and Enforcement processes, please refer to the [Compliance and Enforcement Manual](#).

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

- [Glossary and acronym listing](#).
- [Documentation and guidelines](#).
- [Frequently asked questions](#).
- [Advisories, bulletins, reports and directives](#).
- [Regulations and Acts](#).

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Guideline Revisions

The Commission is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the [Documentation Section](#) of the Commission’s website. Stakeholders are invited to provide input or feedback on Commission documentation to OGC.Systems@bcogc.ca or contact us using the [contact form](#).

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
1.0	March 2022	March 2022	Various	This is a new document. Users are encouraged to review in full.

1. Oil & Gas Processing Facility Regulation Overview

The OGPFR regulates oil & gas processing facilities within British Columbia. The Regulation is designed to be flexible enough to cover any processing facility, as defined in the OGPFR, constructed entirely in British Columbia, or where modules of the facility are constructed and assembled outside of British Columbia and transported to the project site. The OGPFR regulates the application process, engineering design, construction process, pre-operation testing and operations, suspension, and decommissioning at the end of facility life.

1.1 How to Submit an Application for a Processing Facility Permit

Companies proposing to build a processing facility on Crown or private land must submit a completed facility application through the Commission's Application Management System (AMS). Applicants should refer to the [Oil and Gas Activity Application Manual](#) and the [AMS User Manual and additional AMS guidance documentation](#) for further information on how to submit an application through the AMS.

In addition to the processing facility permit, other authorizations and permits will be required by the Commission to construct and operate a processing facility. Commission staff are available to meet with applicants to identify what additional authorizations and permits are required.

Some of these requirements are identified in the sections below.

1.2 Consultation and Notification

The *Oil and Gas Activities Act* and the Requirement for Consultation and Notification Regulation (RCNR) require oil and gas applicants to conduct formal consultation and/or notification with recipients prior to submitting an application for an activity. The required consultation and notification vary based on the planned activity and location of activity.

For additional guidance on the consultation and notification requirements applicants should refer to the Commission's [Requirements for Consultation and Notification Regulation](#) and the [Oil and Gas Activity Application Manual](#).

1.3 Indigenous Nations Consultation

The Commission, as an agent of the Crown, will fulfill the Crown's obligation to consult with Indigenous nations about any potential adverse impacts of oil and gas activities on Indigenous nations' treaty or Indigenous rights. Refer to section 6.3 of the [Oil and Gas Activity Application Manual](#) for further details and application submission requirements.

Application materials will be used during consultation with Indigenous nations. For processing facilities, it is recommended that applicants provide the Commission with a short, annotated table of contents explaining the different materials submitted under sections 3 and 4 of the OGPFR for consultation purposes.

A pre-engagement report is required under section 4 of the OGPFR. More information can be found in section 2.2.7 of this guideline. Only those portions relating to a specific Indigenous nation may be shared during consultation with that nation, in accordance with the *Freedom of Information and Protection of Privacy Act* (FOIPPA).

When making a decision on a processing facility, the Commission will rely, to the degree that it is able, on relevant engagement and consultation undertaken as part of the environmental assessment or other processes by the applicant, or by other provincial or federal agencies. A summary of previous engagement with Indigenous nations relevant to the application under review can be submitted as part of the pre-engagement report.

Post-approval submissions for construction and/or notice of operation are not considered to be new applications or amendments, so Indigenous nation consultation is not required. However, notification to nations may be required through permit conditions.

Reference documents regarding the Indigenous nation consultation process and the applicant's role are available on the Commission's [website](#). Applicants may also refer to the Ministry of Indigenous Relations and Reconciliation's [Building Relationships with First Nations: Respecting Rights and Doing Good Business](#) and [Guide to Involving Proponents When Consulting First Nations](#) (2014).

1.4 Related Elements of the Regulatory Environment Regarding Processing Facilities

This document provides guidance on the OGPFR and the Commission's legislative authorities regarding the design, construction, operation, suspension and decommissioning of a processing facility. The Commission's responsibilities, however, only form a part of a regulatory framework that may apply to the construction and operation of a processing facility.

While the guideline highlights linkages to some relevant agencies and regulatory processes, these areas may be outside of the Commission's regulatory responsibilities. Other elements of the regulatory framework which an applicant should be aware of include the following as listed below.

1.4.1 Freedom of Information and Protection of Privacy Act

Applicants/permit holders may be submitting sensitive information to the Commission as part of the approval processes under the OGPFR. As a public body, the Commission is subject to the [Freedom of Information and Protection of Privacy Act](#) (FOIPPA), which makes public bodies accountable by providing the public with a legislated right of access to government records. Under FOIPPA, an organization or member of the public can make a request for access to information possessed by public bodies.

The legislation contains a number of exemptions to requests for disclosure. Under section 21 of FOIPPA, government agencies must withhold from public disclosure commercial or financial information of outside businesses if releasing the information would cause harm to the business. This section of FOIPPA applies if:

- the information would reveal third party trade secrets, or, the commercial, financial, labour relations, scientific or technical information of a third party, or about a third party;
- the information was supplied in confidence; and,
- disclosure of the information could result in one or more specified harms.

With respect to whether a particular record was supplied, implicitly or explicitly, in confidence, each case will be evaluated on its facts and in light of regulatory provisions guiding the Commission's handling of records. It is recommended that applicants/permit holders consider issues of confidentiality up front. To initiate such consideration, applicants/permit holders may label information that is considered to be confidential. For more information on the application of FOIPPA refer to the [Ministry of Citizens' Services' FOIPP Act Policy and Procedures Manual](#) .

1.4.2 Environmental Assessment Processes

The process regarding the submission and review of the Processing Facility Permit Application varies depending on the size of the project and whether or not it is reviewable under the BC *Environmental Assessment Act* and/or the Canadian *Impact Assessment Act, 2019*. If a potential project doesn't trigger either a Provincial or Federal environmental assessment process, the Commission will undertake the environmental assessment as per its regulatory structure under the OGPFR.

The information determining whether a project is reviewable under the BC *Environmental Assessment Act* and/or the Canadian *Impact Assessment Act, 2019* is below:

- BC Environmental Assessment – The BC [Environmental Assessment Act](#) establishes three different ways that a project may become reviewable:
 - i. The criteria of the [Reviewable Projects Regulation](#) (RPR) is met;
 - ii. A request is made by an Indigenous nation or members of the public to designate a project as reviewable and, after considering required factors, the Minister decides to designate the project reviewable (s.11); or,
 - iii. When a proponent requests that a project, not automatically reviewable under the RPR, be designated reviewable on the basis there is potential for adverse effects, and the Chief Executive Assessment Officer decides to grant this request (s12).

If a provincial environmental assessment is required, an approved Environmental Assessment Certificate is a pre-requisite for the Commission to make a decision on a Processing Facility Permit Application. However, a Processing Facility Permit Application may be submitted and review commenced while the environmental assessment is underway. Before and during the environmental assessment process there should be dialogue between the applicant and the Commission (organized by the Commission's Major Projects Branch) to ensure the applicant is following the appropriate process.

For more information visit on the provincial environmental assessment process visit the [BC Environmental Assessment](#) webpage.

- Federal Environmental Assessment – The Regulation Designating Physical Activities establishes thresholds as to whether or not projects are reviewable by the Government of Canada under the [Impact Assessment Act](#). The *Impact Assessment Act* contains provisions that can reduce overlap between federal and provincial governments' environmental assessment processes, including co-ordinating, substituting, or jointly reviewing projects. For more information refer to the 2019 [Memorandum of Understanding](#) between the BC Environmental Assessment Office and the Impact Assessment Agency of Canada. A Processing Facility Permit Application may be submitted and review commenced while a federal environmental assessment is underway but the Commission will not normally make a decision on the application until a federal certificate is issued.

1.4.3 Provincial Crown Land Site Investigation

The Commission is responsible for authorizing investigative activities on Crown land that provide information to support an environmental assessment and/or a facility permit application.

1.4.4 Marine and Marine Foreshore Authorizations

The authority of the Commission applies to the construction of a near shore floating processing facility, or a processing facility (whether private or Crown) and extends through to the loading arm that will transfer the product to a ship for marine transport. The Commission will review the engineering design and make a permitting decision on the construction and operation of the marine structures that support oil and gas activities. Applicants/permit holders should note that the construction of portions of a processing facility that requires access to the seabed (for example, pilings for a loading dock) may require additional approvals from a number of agencies, for example:

- for federally regulated areas, approvals from a Port Authority or other federal agencies;
- approvals from the Department of Fisheries and Oceans for activities that fall under the *Fisheries Act*;
- approvals from Environment Canada for the disposal of dredged material at sea (*Canadian Environmental Protection Act*); and,
- approvals from Transport Canada for the regulation of ocean-going vessels or works that may impact marine navigation (*Shipping Act, 2001* and *Navigation Protection Act*).

1.4.5 Other Oil and Gas Commission Authorizations

In addition to a processing facility permit, an applicant may need other permissions and/or authorizations from the Commission. For instance, the proposed facility may require an OGAA road permit, forestry authorizations for timber harvesting, authorizations for water allocation, stream crossings, waste discharge permits, an access to Crown land disposition and additional permits for impacts to archaeological sites. These other authorizations may be included with the facility permit application or submitted separately.

The Commission authorizes and regulates water use for oil and gas activities, under the [Water Sustainability Act](#). Applicants/permit holders should refer to the [Oil and Gas Activity Application Manual](#) and the [Water Licence Application Manual](#) for further information. If a change in and about a stream is proposed there should be a dialogue between the applicant and the Commission to ensure that the applicant is following the appropriate process.

The [Environmental Management Act](#) regulates the introduction of waste into the environment in British Columbia. The Waste Discharge Regulation identifies the industries, trades, businesses operations and activities that require authorization. Where discharges to the environment are not regulated under the [Oil and Gas Waste Regulation](#), the Commission has the statutory authority to issue Waste Discharge Permits (including air emissions, effluent discharges, and refuse disposal) under the *Environmental Management Act* for oil and gas activities. These requirements apply to all stages of the project beginning with the approval of an OGAA permit and include waste from site run-off or other similar effects during construction to emissions and discharges during operation.

1.4.6 Additional Regulatory Authorities

Other legislation, regulations and/or agencies that can apply to the construction and operation of a processing facility in B.C. include:

- *Local Government Act* – Requirements for building safety are described in the *British Columbia Building Code*. Structures within a processing facility must comply with the referenced Canadian design and construction standards in the *British Columbia Building Code*.
- *Safety Standards Act* – Some aspects of the construction and operation of a processing facility will need to be permitted under the *Safety Standards Act*, which is administered by Technical Safety BC.
- Occupational Health and Safety Regulation – While the OGPFRR describes a number of public and worker safety standards, worker safety is subject to the Occupational Health and Safety Regulation, which is administered by WorkSafe BC.
- Local Governments and other agencies – Processing facilities may be subject to the regulations or zoning requirements of local governments or other agencies (e.g. federal government, port authorities and Indigenous nations' governments). Applicants should work closely with land administrators to ensure they are meeting all requirements.

1.5 Area-based Analysis Planning and Design

This guidance does not apply to elements of a processing facility that have undergone an environmental assessment. Applicants are expected to utilize the Commission's Area-based Analysis (ABA) approach when planning for oil and gas activity on Crown land to minimize cumulative impacts on the landscape, minimize footprint of activities, and reduce restoration / reclamation timeframes on environmental values.

Additional information on the [ABA approach](#) is available.

1.6 Processing Facility Regulatory Lifecycle

The following graphic illustrates the stages in regulatory lifecycle covered in the OGPFR that include: application process, engineering design, construction process, pre-operations testing and operations, suspension, and end of facility life - decommissioning. These stages are further expanded upon in subsequent sections of this guideline.



Figure 1-1: Processing Facility Regulatory Lifecycle

1.7 Processing Facility Risk Management

The Commission's approach to decisions regarding the management of risk to the public, the environment, and the processing facility, is to require that the design, construction, and operation of the facility be conducted in a manner consistent with recognized and generally accepted good engineering practice and result in risks that are **as low as reasonably practicable** (ALARP).

In practice recognized and generally accepted good engineering practice means that the design, construction, and operation is consistent with published codes, standards, and best practices under a professional reliance model.

The concept of ALARP defines how the Commission measures risk mitigation and gives a goal to the risk management process. Demonstrating ALARP is a critical element to satisfying the Commission that all safety and environmental risks have been appropriately managed. A design that can demonstrate ALARP will have reduced the risk until the incremental sacrifice (in terms of time, effort, cost, or other expenditure of resources) is grossly disproportionate to the value of incremental risk reduction achieved.

In order to demonstrate ALARP, a systematic analysis of each risk, safety benefits resulting from a mitigation measure and evaluation of the reasonable practicability of the identified mitigation measure should occur. Using accepted codes and standards and good engineering practice during design, construction, and operation will assist with demonstrating the facility's risks are ALARP.

2. Application for Processing Permit

Under Part 2 of the OGPFR, applicants must apply for a permit to construct and operate a processing facility. The submission of the application must meet the requirements described in Part 2. The applicant must provide engineering information on the proposed processing facility to the level of detail required by the Commission in order to make a decision on the processing facility permit application. In addition to the information outlined in Part 2, there are other requirements for a facility application. These requirements are described in the [Oil and Gas Activity Application Manual](#) and include the following:

- consultation and notification requirements;
- Indigenous nation information and engagement log;
- mapping requirements;
- archaeology information;
- environmental information; and
- spatial data.

2.1 Application Requirements for a Processing Facility

When applying for a processing facility permit, under section 3 [*Application for processing facility permit*] of the OGPFR, the applicant should submit to the Commission the information as described in the subsections below.

2.1.1 Project Description

The project description should include a synopsis of the project scope from construction to operation, and provide enough detail to assist the Commission in understanding the intended facility design and function. Information in the project description may be used by the Commission for communication to the public.

Any future facility expansion that the applicant would like approved under the permit should be captured in the project description and be consistent with any environmental assessment approval conditions. The project description should include all of the proposed phases of construction, accompanied with necessary drawings, supporting information, and pictorial representations. The project description should clearly identify:

- if there will be a phased construction approach as it relates to the overall project; and,
- how each phase of construction relates to other phases of construction.

2.1.2 Construction Schedule

The Commission recognizes that the processing facility construction may occur over an extended period of time, meaning that construction and assembly schedules may need to be periodically updated. As a result, only a preliminary construction schedule is required to apply for a processing facility permit.

The preliminary schedule should be sufficiently detailed to inform the Commission the timing of major milestones in the project, including submission dates. This will allow the Commission to coordinate its activities (for example, submission reviews) based on the applicant's proposed schedule and minimize potential delays to the project.

The schedule should clearly demonstrate periods of time where significant construction is simultaneously occurring with the operation of live processing units. If simultaneous operations and construction is proposed, the Commission will need to understand how the safety of the facility is being addressed.

For example, typically a Level 1 construction schedule supplemented by the following information would be acceptable in the permit application:

- desired date for permit decision;
- environmental assessment timeline (if applicable);
- desired Leave-to-Construct timeline and phasing strategy;
- simultaneous operations and construction safety monitoring plan (if applicable);
- post-construction site restoration timeline; and,
- desired Leave-to-Operate timeline.

Proponents who wish to supplement their applications may also provide timelines for other related permits and authorizations where they are relevant to the overall assessment of social and cultural impacts of the proposal (e.g., BC Safety Authority; Department of Fisheries and Oceans; Transport Canada; Ministry of Forests; Ministry of Transportation and Infrastructure, Ministry of Land, Water and Resource Stewardship; ; Port Authorities; Indigenous nations).

2.1.3 Codes and Standards

The applicant must provide a summary of all codes and standards used for the processing facility engineering design, siting, construction, and operation, prepared by a qualified professional, that are intended to be adopted in addition to those adopted under the section 2 [*Adopted codes and standards*].

2.1.4 Engineering Designs, Plot Plans, and Process Flow Diagrams

The applicant must submit the preliminary engineering design, prepared by a qualified professional. The preliminary design must be consistent with the design requirements in the OGPFR sections 7 [*Engineering design and siting*] and 8 [*Storage system*], and other appropriate codes and standards.

The applicant's submission should include preliminary plot plans which will be used by the Commission to understand the general layout of the processing facility. The preliminary plot plan is a diagram that identifies the surface area, and the positioning of facility related equipment, utilities and buildings. Updated front end engineering design (FEED) plot plans may be requested by the Commission before construction. The applicant's preliminary plot plan should include:

- the area of land use under the control of the applicant including, for example, water lot or foreshore use;
- a list of major equipment;
- equipment and building layout;
- flare thermal radiation flux radius and blackened area;
- proposed access roads;
- pipelines entering and leaving the site;
- fencing and other access control measures;
- site contours, elevations, and drainages;
- adjacent facilities to the site that are not affiliated with the processing facility;
- key processing facilities and their hazard planning zone; and,
- impoundment areas with safety separation distances and preliminary design dimensions.

All dimensions should be shown in International System of Units (SI) and at sufficient scale to allow for clear location of all major components of the project. Examples of key facilities that could be included in the preliminary plot plan are:

- process buildings and storage tanks;
- separator pressure vessels and heaters;
- gas treatment equipment and refrigeration equipment;
- pumps and compressors;
- refrigerant storage;
- hazardous material storage;
- flare and vent stacks;

- raw gas pipeline connections to the plant;
- berths and materials/module offloading; and,
- construction and operations facilities/camps.

The applicant should submit a process flow diagram (PFD) prepared by a qualified professional (QP) that shows the main interconnections between the processing facility system components. The PFDs should accurately reflect how the oil, natural gas, and process fluids move through the processing facility, from the inlets to outlets, including loading and export facilities, utilities, discharges to the environment, and storage units. PFDs form the basis for subsequent information requirements. These diagrams are considered preliminary, and should include at a minimum:

- all major equipment;
- storage tanks and other vessels;
- compressors;
- heat exchangers; and,
- main interconnecting piping (process, fuel, flare and vent).

A preliminary heat and material balance diagram, including flowrates, pressure, temperature and composition should accompany the PFDs. The applicant may submit the P&ID's if they are available at the application stage, but this is not mandatory. The Commission may request a specific set of P&ID's for a process area at any time during the permit application review process.

2.1.5 Design Basis for Flaring, Venting, and Relief Systems

The applicant should submit a summary of the preliminary flaring, incinerating, venting, and relief system design basis and philosophy prepared by a qualified professional. The summary should provide sufficient information for the Commission to understand:

- the best practices, standards, and guidelines for flaring and venting the applicant will apply to the design of the project;
- the alternatives considered to minimize flaring, incinerating, and venting, with particular emphasis on normal operations, planned shutdowns, maintenance, and start-ups; and,
- the design elements required to meet measurement and reporting requirements.

The following are standards related to relief systems:

- API Standard 520, Sizing, Selection, and Installation of Pressure-relieving Devices;
- API Standard 521, Pressure-relieving and Depressuring Systems;
- API Standard 526, Flanged Steel Pressure-relief Valves;
- API Standard 527, Seat Tightness of Pressure Relief Valves;

- API Standard 537, Flare Details for Petroleum, Petrochemical, and Natural Gas Industries; and,
- API Standard 2000, Venting Atmospheric and Low-pressure Storage Tanks;

The Commission recognizes that the complete design basis for venting or relief systems is not determined until the detailed design phase. The Commission's [Flaring and Venting Reduction Guideline](#) is available for further guidance. The guideline relies on an objective hierarchy and framework for the management of gas flaring, incinerating, and venting. Applicants can also refer to The Canadian Association of Petroleum Producers (CAPP) [Best Management Practices for Facility Flare Reduction](#). Applicants should consider public and environmental concerns, economic alternatives and health impacts when evaluating the opportunity to eliminate or minimize waste gas emissions at a facility.

2.1.6 Design Basis for Collection, Storage, Treatment, and Disposal Systems for Handling Surface Runoff and Industrial Waste Water.

The applicant should include the surface runoff design basis and the industrial waste water design basis. Surface runoff refers to all precipitation that falls on or traverses the processing facility. The surface runoff design basis should provide rationale for the sizing of the system that collects, stores, treats, and disposes of surface runoff from the processing facility. Industrial waste water refers to the composition of liquid wastes and water-carried wastes, any portion of which results from any industrial process at the processing facility. The industrial waste water design basis should include information to describe the parts of the processing facility that collect, store, treat, and dispose of industrial waste water.

The information in the design should be sufficient for the Commission to understand the best practices, standards, and guidelines that the applicant will be applying to protect soil, surface water, and ground water from contamination.

2.1.7 Modular Units Built Outside of British Columbia

The applicant may wish to construct certain modules of the processing facility (referred to as modular units) outside of British Columbia. As the regulatory reach of the Commission is limited to British Columbia, the Commission will ensure that modular units brought into British Columbia are designed and built to the appropriate codes and standards under a professional reliance model. Under section 3 (1)(f) [*Application for processing facility permit*] of the OGPFR, an applicant must notify the Commission as part of the permit application if modules of the processing facility are intended to be built outside of British Columbia. A description of the scope of the module and the construction plan should be submitted.

This submission should demonstrate that the applicant understands the requirements related to compliance verification under section 12 [*Modular units*]. The Commission recognizes that modular unit construction plans may not be finalized until a project is approved, therefore high-level information is acceptable in the application stage (e.g. scope of module, country of construction, plan to achieve testing against management system).

2.2 Required Reports for a Processing Facility Permit

Under section 4 (4) [*Required reports*] of the OGPFR, the applicant must provide to the Commission the reports that include findings and recommendations of each of the studies and assessments detailed in the subsections below when applying for a processing facility permit. The required reports must be prepared by a qualified professional [OGPFR *Part 1- DEFINITIONS AND ADOPTED CODES AND STANDARDS - Definitions*] unless otherwise specified in the subsections below.

2.2.1 Design and Safety Studies

Facility siting is the process of managing risk to people, the environment and property from major accident hazards (e.g. explosions, fires, and hazardous material releases) through equipment and occupied building location and layout. The Commission expects applicants to have completed comprehensive design and safety studies when determining siting for the processing facility and all proposed equipment. These studies can include relevant drawings or graphics that illustrate issues to be addressed in the facility design and safety (for example: plot plans showing risk contours; or setbacks defined in regulation, applicable codes, or standards).

The design and safety studies should be used to evaluate and manage all risks by:

- identifying hazards that can affect process area buildings and equipment;
- evaluating potential consequences of those hazards; and,
- developing means to manage the risks that those hazards initiate.

The facility siting study should consider, but is not limited to, risks associated with:

- forces of nature, including severe weather patterns, and flooding events;
- adjacent activities that could be impacted by a facility emergency or could impact the facility;
- flashing; aerosol formation;
- liquid jetting;
- pool formation and flow;
- dispersion of vapours;
- jet fires;
- flash fires;
- explosions;
- fireballs; pool fires;
- boiling liquid expanding vapour explosion (BLEVE);
- liquid/water interaction effects;
- radiant heat;
- overpressure; and,
- toxic spills.

2.2.2 Hazard Identification Studies

The Hazard Identification Studies (HAZIDs) will identify both process and natural hazards that will be factored into the engineering design. The summary report should identify:

- hazards and recommendations in the studies;
- the methodology used in each study; and,
- the participants and their roles in each study.

Section 10 (3) [*Reports respecting changes and updates*] of the OGPFR requires the permit holder to complete an updated HAZID prior to construction if the engineering design is updated, and to submit a report to the Commission that includes the findings and recommendations of the revised HAZID and of the updated HAZOP/SIL, if one was completed. The Commission will review the recommendations identified in the HAZID for resolution prior to construction and may conduct a further review and follow-up prior to operation.

2.2.3 Assessment of Environmental Effects

The assessment of environmental effects should be based on:

- If on Crown land, the [Environmental Protection and Management Regulation](#) and associated [Environmental Protection and Management Guideline](#);
- Requirements of the *Environmental Management Act* that are anticipated to apply to the facility;
- Requirements of the Oil and Gas Processing Facility Regulation; and,
- Assessment of other effects relevant to the facility that are not covered in the above.

These assessments should apply the best available science and if applicable incorporate Indigenous knowledge. An environmental assessment under the *Environmental Assessment Act* (if applicable) will normally satisfy this requirement unless additional information is required subsequent to completion of the assessment. Applicants should contact the Commission for further guidance.

2.2.3.1 Scope of the Environmental Effects Assessment Report

The assessment of environmental effects should evaluate the impacts of construction and operational phases to environmental values as outlined above. The assessed construction and operational impacts should include site preparation, construction of the processing facility and any access roads, operational discharges, and associated noise and light emissions.

The assessment of environmental effects could include:

- identification of potential impacts to environmental values and where appropriate include a plan for addressing impacts, including air, surface water, groundwater, soil, wildlife/ecology, and other potential receptors
- identification of potential contaminants and include a plan for addressing contaminants of concern;

- where relevant to an assessment of values identified in 2.2.3, a baseline of existing conditions;
- air dispersion modelling for flare stack and incinerator design if sour criteria is met;
- a preliminary proposal for an environmental monitoring program;
- summary of environmental effects caused by the siting of the facility and a rationale for how impacts on identified values could not be avoided; and,
- steps taken to minimize environmental impacts such as mitigation to reduce impacts caused by construction and operations (e.g., noise and light).

The Commission has issued guidance for applicants and permit holders regarding control of noise in the [British Columbia Noise Control Best Practices Guideline](#) and control of light emissions in the [BC Light Control Best Practices Guideline](#).

2.2.4 Preliminary Consequence Assessments

The applicant must perform preliminary consequence assessments of the potential adverse effects of a spill or leak of gas or liquids at the processing facility. The preliminary consequence assessment (PCA) should be based on the hazards identified during the HAZID. The PCA must quantify the potential impacts to both public safety and the environment from the effects of a spill or leak of gas (e.g. from pressure piping failure, etc.), or liquids (e.g. from a piping or storage tank release related to physical impact, truck loading error, lightning strike, etc.) at the proposed facility. The applicant should note that the Emergency Management Regulation requires the definition of hazard planning zones for all hazards. These planning zones are based on consequence assessments (section 7 of the Emergency Management Regulation) and must be shared with “a person who occupies land that is located within the emergency planning zone” (section 13 of the Emergency Management Regulation). At the application stage, an applicant must provide consequence assessments for the hazards associated with the proposed facility that are sufficiently conservative.

2.2.5 Assessments of Social and Cultural Effects

The construction and operation of a processing facility may have social and cultural effects on Indigenous and non-Indigenous people and communities in the area. Section 4 of the *Oil and Gas Activities Act* requires that the Commission regulate oil and gas activities in a manner that fosters social well-being, ensures applications that are approved are in the public interest having regard to social effects, and encourages the participation of Indigenous peoples in processes affecting them. Several UNDRIP articles address the need to consider the social and cultural effects of natural resource development on Indigenous peoples, and the Commission has constitutional obligations in relation to section 35 aboriginal and treaty rights.

The assessment of social and cultural effects should be based on the best available science, Indigenous knowledge, and local knowledge. The report submitted under section 4(4)(a) of the OGPFR should describe the assessment findings in sufficient detail to support its recommendations for mitigation of and management approaches for the identified effects.

The assessment of social and cultural effects required under the OGPFR is different in scale and scope from the assessment required under the *Environmental Assessment Act* for a reviewable project. See New Section (below) for further information on the scale and scope of assessments under the OGPFR.

2.2.5.1 What are Social and Cultural Effects?

Under the OGPFR, social and cultural effects are a project's effect on human well-being. These types of effects can be directly attributable to a project or can arise indirectly from a project's activities; they can also be driven by project-related changes in the natural or biophysical environment. They can be positive or negative.

Examples of specific social or cultural effects that may be associated with a processing facility (in addition to any effects associated with environmental changes such as species habitat, population, the health of ecosystems) could include:

- loss of an area with specific cultural or recreational value through conversion to a plant site and/or loss of access;
- alteration or loss of site-specific Indigenous land use (e.g., occupation sites, ceremony sites);
- significantly increased hunting or fishing pressure caused by new road access leading to reduced wildlife populations;
- noise, light, vibration, odor that affect adjacent lands, including parks and recreation areas, that are valued by the public for peaceful enjoyment;
- alteration (e.g., avoidance, displacement) of Indigenous harvesting activities, such as hunting, fishing, gathering, and trapping and/or changes in availability and utility of preferred harvested species and occupation sites;
- alteration/removal of archaeological/cultural heritage sites, sacred sites, trails and culturally/spiritually important sites and culturally modified trees;
- increased traffic that significantly affects other road users;
- visual impacts that are likely to appreciably alter the character of the visual landscape as seen from significant public viewpoints; and,
- impacts associated proposed worker accommodation and their location in relation to communities or Indigenous, environmental, cultural or recreational values including potential impacts on existing water, liquid waste and solid waste systems.

2.2.5.2 Scale and Scope of Social and Cultural assessments under the OGPFR

The OGPFR requires applicants of processing facility permits to ensure that the social and cultural effects of the proposed facility are assessed, considering the sources of best available science, Indigenous knowledge and, if all or part of the facility site is within the boundaries of a municipality or regional district, local knowledge and consideration of landowners and rights holders. An applicant is then required to submit a report that includes the findings and resultant recommendations of these assessments upon permit application.

Decision makers for authorizations requested of agencies of the province are increasingly concerned with impacts upon healthy environment and social well-being. Similar to the requirement for assessment of social and cultural effects under the OGPFR, the *Environmental Assessment Act* also requires assessments, although these are different in scale and scope.

Assessing social and cultural effects is not a one-size-fits-all process and each assessment should be proportionate and tailored to suit each project and local setting.

The understanding of proponents, the Commission and communities regarding the process and contents of social and cultural effects continues to evolve. Commission staff are available to be consulted at any time to obtain current and locally specific understanding of process and content expectations for these assessments.

2.2.5.3 Social and Cultural Effects Assessment Resources

Direct engagement between applicants and local Indigenous and non-Indigenous communities will provide valuable information that can support the identification, evaluation, mitigation, and management of social and cultural effects over the life of a proposed project. If a nation does not agree to share its Indigenous knowledge, the proponent is not required to use that nation's Indigenous knowledge in the assessment. Similarly, if local knowledge is not available after reasonable efforts to work with local communities, a proponent is not required to use it in the assessment.

The Commission maintains a set of supplemental resources that will be available for public access. These resources are not intended to be comprehensive and are offered to proponents in conjunction with other information they may have to support the process.

2.2.6 Indigenous Knowledge

Federal, provincial and territorial governments have recognized, and legislated, the importance of integrating Indigenous Knowledge into planning, decision and policy-making processes in the pursuit of effective natural resource management, reconciliation with Indigenous peoples, and meeting the commitments of the United Nations Declaration of Indigenous Rights (UNDRIP).

Under Section 4 of the OGPFR, applicants are required to submit assessments of environmental effects, based on the best available science and, if available, Indigenous Knowledge. Section 5 of the OGPFR requires applicants to describe, in a pre-engagement report, whether local Indigenous Knowledge was sought during engagement, and if provided, how it was incorporated into the environmental, social and cultural assessments.

2.2.6.1 What is Indigenous Knowledge?

Indigenous Knowledge (IK) is a unique way of knowing, held by Indigenous knowledge holders, which includes information around community practices, language, teachings, laws, and relationships between the natural environment and people. The knowledge of Indigenous peoples may take many forms and dimensions. Often, the knowledge held by Indigenous nations is broad, holistic, place based, relational, intergenerational, and can be embodied through tangible or less tangible forms. Indigenous Knowledge may include specific, direct observations, experiences about the biophysical world that can be complementary to scientific data (e.g., fisheries data collected over many years) and is not limited to traditional ecological knowledge. It may be embedded in a governance context including information around

community practices, language, teachings, laws, relationships, and rituals. Each Indigenous nation will define Indigenous Knowledge for themselves and how it is to be applied when working with external groups, such as industrial proponents and government agencies.

2.2.6.2 Incorporating Indigenous Knowledge into Project Assessment and Design

Indigenous Knowledge can inform the planning and development of oil and gas activities by identifying:

- the values and preferences of Indigenous peoples regarding what they consider important or values regarding the environment;
- what Indigenous peoples believe is the “significance” of impacts on those values, including social, spirituality and cultural values; and
- any required mitigations, management and monitoring plans.

Further, seeking to incorporate Indigenous Knowledge into the planning and design of oil and gas activities during pre-engagement, may allow proponents to address concerns by mitigating or avoiding impacts to Indigenous interests (see the Pre-engagement section for details).

The Commission will look for evidence that Indigenous Knowledge was sought, managed appropriately, and incorporated, including an explanation of how Indigenous Knowledge is addressed in the proposal, or if not, why not. Indigenous nations are not obligated to share knowledge; if and where this occurs, the applicant needs to clearly state in reporting to the Commission that the Indigenous nation did not share Indigenous Knowledge.

2.2.6.3 Protecting Indigenous Knowledge

Indigenous Knowledge should be protected and used with appropriate permission and according to the governance, laws, policies and practices of the Indigenous nation. Many Indigenous nations in BC maintain in-house datasets or records of Indigenous Knowledge or have knowledge holders who hold knowledge regarding a particular subject or area. Applicants and Indigenous nations should discuss how to best handle and maintain the confidentiality of Indigenous Knowledge during pre-engagement (see pre-engagement section). Information sharing agreements between the proponent and Indigenous nation may be required, and proponents should utilize existing community protocols with respect to Indigenous Knowledge.

The First Nations Information Governance Centre through the First Nations Principles of ownership, control, access and permission ([OCAP](#)) provides guidance on how to protect Indigenous Knowledge.

In British Columbia, the *Freedom of Information and Protection of Privacy Act* (FOIPPA) provides discretionary protection from disclosure in freedom of information requests for several reasons, including if public disclosure of the information could reasonably be expected to:

- harm the conduct by the Province of relations between the Province and Indigenous governments (FOIPPA Section 16). This protection is valid for 15 years from the time of disclosure;
- result in damage to or interfere with the conservation of:
 - natural sites or sites that have an anthropological or heritage value;
 - an endangered, threatened or vulnerable species or subspecies; or
 - any other rare or endangered living resource (FOIPPA, Section 18).

2.2.7 Pre-engagement with local Indigenous nations

Pre-engagement is the process of proactive information sharing and dialogue between applicants and Indigenous nations during the planning of oil and gas activities.

The objective of pre-engagement is for applicants and Indigenous nations to share information, identify potential impacts to Indigenous interests¹, and discuss measures to avoid and/or mitigate potential impacts, prior to submitting applications to the Commission. Pre-engagement is most effective when initiated early during project planning, when proponents have the greatest flexibility to avoid and/or mitigate impacts.

This guideline provides general information on pre-engagement with Indigenous nations. However, applicants should consider the diversity of the Indigenous peoples in British Columbia, particularly their distinct cultures, customs, practices, rights, legal traditions, institutions, governance structures, relationships to territories and knowledge systems. With this in mind, applicants are encouraged to discuss any specific preferences for pre-engagement with each Indigenous nation.

2.2.7.1 Identifying Local Indigenous Nations:

In relation to a facility site, “**local Indigenous nation**”, means an Indigenous nation that is identified for the facility site in a manner specified by the Commission. Applicants and permit holders can use the Province’s [First Nation Consultation Areas Public Map](#) to identify the local Indigenous nations within the area queried.

2.2.7.2 Information Requirements:

Sharing detailed and accurate information with Indigenous nations is essential for effective pre-engagement. When initiating pre-engagement, applicants are encouraged to provide an information package that can be shared with the Indigenous nation’s Lands Office staff, Chief & Council and community members. This information is preferably shared in a printable format (e.g. PDF), including maps at a scale which can be printed by a consumer printer.

For example, a pre-engagement information package could include:

¹ The term “Indigenous interests” will be used generally to refer to claimed or proven aboriginal rights (including title) and treaty rights.

- applicant contact name, phone number, and email address;
- the project description;
- project location description and area covered;
- reasoning for site location and design;
- GIS compatible spatial data, (i.e., shapefiles, KMZ files, or other comparable GIS data format files);
- accurate map(s) at a scale sufficient to indicate the location and details of the proposed project;
- a summary of how the project may fit into the larger context of current and future activities in the area;
- a summary of relevant supporting documentation (e.g., environmental assessments); and,
- an impact assessment of potential adverse project impacts at scale relevant to the interests of the Indigenous Nation.

The impact assessment shared with Indigenous nations should describe in plain language the:

- permanence of impact on the land and resources;
- anticipated impacts on the land and resources, including water and air quality, fish and wildlife and their habitat;
- potential for interfering with a known sensitive area or place of special cultural or ecological value
- potential for interfering with Indigenous People's uses of the land or natural environment, including any hazards which may pose threats to Indigenous access to and use of lands;
- degree to which the Indigenous nation(s) will continue to have the ability to use the affected land or resources in their preferred manner; and
- extent of existing development in the area.

2.2.7.3 Pre-engagement and Consultation

The Commission, as an agent of the Crown, has a duty to consult and where required, accommodate affected Indigenous nations whenever a decision or activity may impact their Indigenous interests. This duty stems from Canadian common law as expressed in court decisions.

While the duty to consult and accommodate, where appropriate, rests with the Commission, proponents can assist the Commission in meeting this obligation by considering ways to address concerns by mitigating or avoiding impacts to Indigenous nation's interests. Subsequently, applications submitted to the Commission for adjudication can and should reflect pre-engagement discussions and relevant commitments made between local Indigenous nations and a proponent.

Below are some example measures, which the Commission may consider in its assessment of whether there has been accommodation in the circumstances:

- avoiding adverse impact(s) to an identified Indigenous nation's interest;

- modifying the proposal to mitigate potential impacts to an Indigenous nation's interests (e.g., altering the footprint or location of the proposed activity);
- changing the timing of proposed activities;
- committing to requirements for impact or environmental monitoring; and,
- other mitigation strategies.

2.2.7.4 Pre-engagement Report

Under Section 4 (4) (b) of the OGPFR, proponents are required to include a local Indigenous nations pre-engagement report with their application. Section 5 (2) of the OGPFR describes the requirements in the pre-engagement report. The report must be made in the form and manner required by the Commission, and include any additional information and records required by the Commission. The report should provide a detailed description of the process used to pre-engage, any objections or concerns raised from local Indigenous nations and the outcomes of pre-engagement. This includes but is not limited to:

- a summary of all engagement activities, including all attempts to engage, with Indigenous nations affected by the project;
- detailed records of pre-engagement for each local Indigenous nation engaged, outlining any objections or concerns raised during engagement, and the manner in which the application addresses them;
- whether local Indigenous Knowledge (see section 2.2.7 Indigenous Knowledge) was sought during engagement; and if provided, how it was incorporated into the environmental, social and cultural assessments; and
- whether local Indigenous Knowledge was not shared.

Detailed records of pre-engagement are best tracked in a [Pre-engagement Record](#) for each local Indigenous nation.

2.2.8 Quality Assurance Program and Validation Report

The Quality Assurance Program (QAP) must contain processes and procedures to ensure the processing facility will be constructed and conform to all applicable requirements of sections 6 [Development of management system] and 7 [Engineering design and siting] of the OGPFR. A report verifying that the QAP is in place and meets the applicable requirements must be submitted with the proposed processing facility application. The QAP Verification Report may be prepared by either a qualified professional or a third party acceptable to the Commission. All firms and sole practitioners that provide engineering services in BC, such as the preparation of the subject QAP verification report if deemed as engineering work, are required to have a Permit to Practice and abide by regulatory requirements established by Engineers and Geoscientists BC. under Engineers and Geoscientist Regulation or Professional Governance Act.

The scope of validation should confirm that the QAP:

- ensures compliance with the codes and standards (defined as meaning all of the following that apply in the context: the codes and standards adopted under section 2 [Adopted codes and standards]; and the codes and standards referred to in section 3 (1) (c) [Application for processing facility permit]);
- meets the documented and applicable scope of work;
- consists of quality planning, control, assurance, and continuous improvement processes;
- describes fully how the quality objectives will be managed for the duration of the construction including those for the subcontractors and/or the suppliers; and,
- covers the project quality policy and objectives, quality organization, resource management, information management, codes, standards, and specifications, management of change, control of deviations and concessions, and regulatory legislation compliance.

For components that will be constructed or assembled within British Columbia, the report validating that the QAP can be signed off by a qualified professional licensed under the British Columbia [Engineers and Geoscientists Regulation](#).

2.3 Processing Facility Application Review

Applications for activities subject to the OGPFR may also include applications for other oil and gas activities or related activities in the same application. Once an application is successfully submitted by the applicant, the Commission begins its review. Only submitted applications are reviewed by the Commission. The Application Management System (AMS) application process requires applicants to provide mandatory information; however, Commission staff will also review the application in comparison with the OGPFR and other relevant requirements to determine whether sufficient detail and content has been provided. The Commission recommends that potential applicants contact us if they are unclear regarding what will be required content of the application.

The requirements that may apply to site preparation for construction are dependent on title of the land where the project is being built. For example, if the landowner is not the Province of British Columbia, then the applicant may or may not require Commission authorization to begin site preparation. Applicants should clarify any requirements with the land title holder, and contact the Commission if they require further guidance.

For Crown land, once the processing facility permit and any required authorizations have been approved, the permit holder may begin to prepare the site for construction.

Permit holders must adhere to any applicable conditions in the processing facility permit and any relevant environmental assessment approvals before site preparation, construction or operation.

2.4 Processing Facility Permit Amendments

A permit amendment will be required where there is a proposed change to a permission or condition specified in the permit, or a change or potential change to the facility footprint or to watercourse crossings.

Permit amendments are authorized in accordance with section 31 of OGAA and may be subject to Indigenous nations consultation and/or to the [Consultation and Notification Regulation](#). Permit holders should be aware that permit amendments may also trigger requirements for other regulatory approvals, such as an Environmental Assessment Certificate under the [Environmental Assessment Act](#). Applicants should submit amendment applications through the AMS. For further guidance on amendment applications, please refer to the [Oil and Gas Activity Application Manual](#).

2.5 Processing Facility Regulatory Overview

Figure 2-1 Processing Facility Regulatory Overview will be added at a later date

3. Design and Construction of a Processing Facility

3.1 Development of Management System

Under section 6 (1) [*Development of management system*] of the OGPFR, before the construction of a processing facility the permit holder must develop a Management System to anticipate, manage, and mitigate the effects of all potential hazards throughout the life cycle of the processing facility. The management system must take into account the findings and recommendations of the reports referred to in section 4(4). This may require specific management programs in relation to social and cultural effects over the life of the project.

The Management System must conform to all requirements of CSA Z767 Process safety management, except clause 7.4 (Emergency management planning). The Emergency Management Regulation addresses the emergency management planning requirements for a processing facility.

An applicant permit is not required to submit the Management System as part of the facility application review process, or at any time during the life of the facility, unless specifically requested by the Commission as part of an audit, or review. The only exception is the security management program which should be submitted immediately before the start-up of the processing facility.

The Commission will require confirmation that the permit holder is complying with the requirements of the management system prior to construction and commissioning, and during operations. The programs under the management system must address the requirements outlined above and must detail the required processes and procedures. In addition to the other programs required under the processing facilities management systems, under section 6 (2) the Management System must include:

- a Security Management Program (SMP) to protect the processing facility from external human factors;
- an Environmental Management Program (EMP) to minimize the effects the processing facility will have on the environment over the life cycle of the facility;
- an Integrity Management Program (IMP) to maintain structures and equipment of the processing facility to avoid failure; and,
- a Management of Change Program (MOCP) to identify and manage any change that could adversely affect safety, security, or environmental protection.

3.1.1 Security Management Program

The SMP provides a performance-based approach for use by the permit holder to establish governance, conduct planning, implement and improve both physical and cyber security operations (including detection and mitigation practices), and refine the SMP through change management and audit processes. Operators should make use of resources, information sharing, and best practices available through government and industry associations across the energy sector in order to effectively manage the security of their energy

infrastructure. The SMP should complement existing programs and should consider the risks and criticality of the assets being protected.

The SMP shall align with the management system requirements in CSA Z767, Process Safety Management, and should align with CSA Z246.2, Emergency preparedness and response for the petroleum and natural gas industry systems, to both support a continual improvement process and to develop sound risk-based management processes. Additionally, permit holders should consider the following in their SMP: security legislation, safety legislation, best practices, policies, standards, and applicable codes

The SMP for petroleum and natural gas industry systems ensures security hazards are identified and managed. Mitigation and response processes and procedures prevent and minimize the impact of security incidents that could adversely affect people, the environment, assets, and economic stability.

3.1.2 Environmental Management Program

The Environmental Management Program (EMP) details the processes and procedures to minimize the adverse effect that the processing facility could have on the environment over its life cycle and is to be used in combination with site specific Environmental Protection Plans (EPPs). The EMP shall align with the management system requirements in CSA Z767, Process Safety Management. In the unlikely event that works cannot be undertaken in a manner that is consistent with the EMP, the EMP should be updated with the appropriate information. If works do not provide appropriate environmental management it should be reported to the Commission.

The contents of the EMP shall:

- be prepared by a qualified professional (QP);
- identify roles and responsibilities of the environmental management team;
- identify monitoring and reporting requirements;
- be expanded and updated throughout the lifecycle of the processing facility to reflect changes in scheduling, site conditions, and weather-dependent contingency measures; and,
- include Environmental Protection Plans (EPPs).

EPPs are plans within the project EMP that address the specific hazards identified in the Assessment of Environmental Impacts.

Some examples of EPPs that are applicable to processing facilities are the following:

- Leak Detection Plan ([Fugitive Emissions Management Guideline](#)) ([Drilling and Production Regulation](#) sections 41.1 and Division 2- Natural Gas Emissions);
- Flaring and Venting Plan ([Flaring and Venting Reduction Guideline](#));
- Industrial Waste Water Control System Plan;
- Industrial Runoff Control System Plan;
- Ground Water Management Plan ([Appendix 1- Processing Facility Groundwater Management Plan](#)); and,
- Soil Monitoring Plan.

3.1.2.1 Scope of the EMP and EPPs

The EMP should be proportionate to the project scope and specific hazards identified in the Assessment of Environmental Impacts. The project specific EMP should include a means to identify and comply with all relevant legislation, environmental risks identified in the Assessment of Environmental Impacts, required protection measures, and environmental commitments.

The EMP must outline all EPPs implemented to eliminate or reduce environmental impacts. The EMP will guide the development of site-specific EPPs for construction, commissioning, and operational activities, and include sub-plans that describe worker (employee and contractor) responsibilities, expectations and methodologies. Both the EMP and EPPs shall include the written procedures, specifications, and controls that ensure effective environmental protection during the projects life cycle and comply with all of the project-specific environmental obligations and assurances, including, without limitation, those set forth in the application approval.

3.1.3 Integrity Management Program

Processing facility permit holders under the Commission's jurisdiction are required to have an asset based Integrity Management Program (IMP) to avoid failure of structures and equipment, for anticipating, preventing and mitigating hazards and risks of and around their permitted facilities so as not to affect safety and the environment adversely. The IMP is a preventive documented framework consisting of a systematic, comprehensive, and proactive set of interrelated processes, which enables effective management of asset integrity associated with activities throughout the life cycle of the asset. The Commission has developed the [Compliance Assurance Protocol Integrity Management Program for Facilities](#) to provide guidance for the framework of the IMP.

The processing facility permit holders' IMP should include policies, processes and procedures to:

- set relevant company policies and performance objectives;
- proactively identify hazards associated with various types of equipment, controls and components of the facility, and evaluate risks to people, environment, and the asset;
- manage the asset risk, through identification and implementation of risk mitigation measures, including conducting inspection, maintenance, and monitoring activities;

- establish clear responsibilities and accountabilities;
- have trained and competent personnel; and,
- manage documentation, reporting, evaluation and continual improvement.

3.1.4 Management of Change Program (MOCP)

The MOCP shall be developed and implemented as part of the IMP. The scope of MOCP processes shall be clearly defined. The primary focus of MOCP should be to manage risks related to design changes and modifications to equipment and process. The permit holders' MOCP should have appropriate change control processes, such as a Management of Change (MOC), to manage safety, security or environmental protection.

MOCP processes shall conform to all the requirements of in CSA Z767, *Process Safety Management*, and address and document the:

- identification process for anticipated and actual changes;
- change as temporary or permanent, and what falls under replacement in kind, which is not subject to MOC;
- reasons for the change;
- responsibilities and authorities for approving and implementing a change;
- implications of the change;
- impact and risk of the change;
- communication method, associated records, and documents;
- timing of changes (approval and implementation); and,
- findings and recommendations of required reports.

For a change to be a “replacement in kind” it should meet the original technical specifications of the system or equipment.

3.2 Engineering Design and Siting

The permit holder must ensure that the engineering design and siting of a processing facility is consistent with the information and records submitted in the application under section 3 [*Application for processing facility permit*] of the OGPFR. The engineering design and siting must conform to codes and standards (defined as meaning all of the following that apply in the context: the codes and standards adopted under section 2 [*Adopted codes and standards*]; and the codes and standards referred to in section 3 (1) (c) [*Application for processing facility permit*]); and be consistent with the findings and recommendations of the reports referred to in section 4 (3) [*Required reports*]. The reports can include relevant drawings or graphics that illustrate issues to be addressed in the facility design and safety plan (for example, plot plans showing risk contours).

The permit holder is required to evaluate and manage all risks by:

- identifying process and natural hazards that can affect process area buildings and equipment;
- identifying process hazards that can affect areas outside the facility;
- evaluating potential consequences of those hazards;
- developing means to eliminate hazards or manage the risks that those hazards initiate; and,
- addressing the findings and recommendations of required reports.

3.2.1 The Engineering Design

Under section 7 (2) [*Engineering design and siting*] of the OGPFR, the engineering design must include the following:

- a storage system as described in section 8 [*Storage system*];
- the source of emergency power and detail how it is protected from process and natural hazards to safely stop the processing facility operations;
- an emergency shut down system that initiates and maintains a fail-safe condition; and,
- a fire suppression system if recommended as per section 4 (3) [*Required reports*].

Under section 7 (3) [*Engineering design and siting*], the permit holder must ensure the engineering design conforms to the corrosion and erosion protection program required by the IMP under the processing facility management system. Also, the engineering design must conform to the leak detection program for liquids and gases required by the processing facility management system.

3.2.2 Ignited Vent Stacks and Flares Thermal Radiation Flux

Under section 7 (4) [*Engineering design and siting*] of the OGPFR, the permit holder must ensure a flare or ignited vent stack is sited so that calculated thermal radiation flux does not exceed the allowable thermal radiation flux for locations as defined by column 1 of the applicable table in Schedule 1.

The first table [*Allowable Thermal Radiation Flux Inside the Boundary*] in Schedule 1 identifies the maximum allowable thermal radiation heat flux in relation to workers, tanks, process equipment and buildings inside the boundary.

The second table [*Allowable Thermal Radiation Flux Outside the Boundary*] in Schedule 1 identifies the maximum allowable thermal radiation heat flux in relation to members of the public outside the facility boundary outside the boundary. The limits of the facility boundary are considered to be the area owned or leased by the permit holder (or alternately the area controlled by the permit holder).

The identified maximum allowable heat flux levels have been set to maintain equipment, tank and infrastructure integrity and ensure public and worker safety. The radiation heat flux from a flare or an ignited vent stack should be calculated using an acceptable, validated model.

Thermal radiation contours should be calculated using the wind speed producing the maximum distances, except for wind speeds that occur less than 5% of the time based on recorded data for the area, and the ambient temperature and relative humidity producing the maximum distances, except for values that occur less than 5% of the time based on recorded data for the area.

3.3 Storage System Design

In accordance with the section 8 [*Storage system*] of the OGPFR, the engineering design of the storage system should provide for the safe storage of petroleum, natural gas, the products of petroleum and natural gas and any other solids, and fluids including waste. The storage system should be protected from failure. The storage system should be designed to prevent spills from leaving the containment area, and minimize the danger of pooling in order to maintain the safe operation of the processing facility. To prevent leaks from a liquid storage tank, the storage system should have an impermeable secondary containment. The following standards are adopted by section 2 of the OGPFR:

- API-2510 Design and Construction of LPG Installations;
- API-2000 Venting Atmospheric and Low-Pressure Storage Tanks;

Other standards and best practices for atmospheric and low pressure petroleum storage tanks and LPG bullets in B.C. are included in the following American Petroleum Institute (API) documents:

- API-Recommended Practice 651 Cathodic Protection for Above-Ground Petroleum Storage Tanks;
- API-Recommended Practice 652 Lining of Above-Ground Petroleum Storage Tanks;
- API-Standard 653 Tank Inspection, Repair, Alteration, and Reconstruction;
- API-Standard 620 Design and Construction of Large Welded Low-Pressure Storage Tanks: construction of tanks with internal pressures of up to 15 psig;
- API-Standard 2350 Overfill Protection for Petroleum Storage Tanks;
API-Standard 2015 Cleaning Petroleum Storage Tanks;
API-Standard 2550 Measurements and Calibration of Petroleum Storage Tanks; and,
- For general requirements on underground tank inspections and abandonment, refer to CSA Z662, API- Recommended Practice 1604 and NFPA 30.

Truck-out load boxes are to be located within the secondary containment where it is practicable. For the storage of LVP hydrocarbon liquids (C5+) in a pressure vessel, either a containment area, or acceptable surface control measures should be in place to contain escaping liquids.

Where secondary containment is incorporated into the storage system it should have a capacity of at least the following:

- if secondary containment includes one tank only, 110% of the tank's capacity;
- if secondary containment includes multiple tanks, the sum of the capacity of the largest tank plus the greater of the following:
 - 10% of the capacity of the largest tank; or

- 10% of the total capacity of all other tanks in the secondary containment system.

3.4 General Requirements Respecting Construction

Section 9 [*General requirements respecting construction*] of the OGPFR applies to all construction activities. Permit holders should meet specific construction requirements as detailed in [Oil and Gas Activity Operations Manual](#) and submit a Notice of Construction Start in [KERMIT](#). Notices should be submitted prior to commencement of land clearing and/or the set-up of equipment on location and at least two (2) days before construction is to begin. The permit holder should construct as per codes and standards (defined as meaning all of the following that apply in the context: the codes and standards adopted under section 2 [*Adopted codes and standards*]; and the codes and standards referred to in section 3 (1) (c) [*Application for processing facility permit*]). The construction of the processing facility should not cause excessive noise or light. For more information reference Chapter 4 of the OGPFR Guidance, the [British Columbia Noise Control Best Practices Guideline](#), and the [British Columbia Light Control Best Practices Guideline](#).

3.5 Reports Respecting Changes and Updates

Under section 10 [*Reports respecting changes and updates*] of the OGPFR, the permit holder must report any changes or updates to the design and construction schedule. The permit holder in consultation with the Commission will determine if the scope of the change or update triggers a risk assessment or the submission of specific P&IDs. The Commission may request a meeting to review the changes and updates. The reports are to be submitted every 6 months, starting when the processing facility permit is issued, and ending when the permit holder first gives notice of operations, or when the facility permit is surrendered. The report is only required if a change in schedule or design warrants submission as determined after communication with the Commission.

In the event the engineering design is updated for the following reports as per section 10 (3) [*Reports respecting changes and updates*] in the OGPFR all of the following are required:

- submit to the Commission an updated design basis for the systems referred in section 3(1)(e) [*Application for processing facility permit*];
- ensure that a qualified professional completes an updated hazard identification study with respect to process hazards;
- ensure that a qualified professional completes a HAZOP/ safety integrity level study if the qualified professional is of the opinion that it is necessary given the results of the hazard identification study; and,
- submit to the Commission a report that includes the findings and recommendations of the studies referred to in the above.

3.6 Fire Related Hazards

Under section 11 [*Fire-related hazards*] of the OGPFR, the permit holder must ensure that buildings where processing occurs do not contain a source of ignitable or flammable gas or liquid unless all of the following requirements are met:

- air intakes are located outside the buildings in areas where ignitable or flammable gas or liquid is unlikely to be present;
- relief valves, burst plates, and other sources of ignitable or flammable gas or liquid are vented at a safe location;
- the buildings are cross-ventilated; and,
- any equipment in the buildings that could be a source of ignition is protected.

The permit holder must equip buildings where processing occurs with systems that are appropriate to detect, monitor and respond to:

- explosive, ignitable, flammable, toxic or noxious gases; and,
- fire, the products of combustion, or a rapid rise in temperature.

The use of the term “Processing” in the context of this section is viewed by the Commission as “an activity or operation of equipment or personnel determined by a qualified professional where a hazard related to a fire or release of product potentially exists.”

3.7 Modular Units

Under section 12 [*Modular units*] of the OGPFR, the Commission may request a report verifying that any modular unit in the processing facility has been constructed and tested in accordance with the quality assurance program under the management system. The report must be prepared by a third party acceptable to the Commission or by a qualified engineer.

3.8 Site Management after Construction

Section 13 (1) (a) (b) [*Site management after construction*] of the OGPFR defines the meaning of “**disturbed land**” as land that was disturbed during the construction of the processing facility and is not required for the safe and efficient operation of the facility. Under section 13 (2), the permit holder must manage the surface of the disturbed land by removing all structures that are not required for the safe operation of the processing facility, and by restoring the surface of areas to:

- eliminate hazards;
- enable weed control;
- enable precipitation run-off control; and,
- prevent erosion.

The management of “**disturbed land**”, should be carried out during construction, to the extent practicable, given weather, ground and other conditions, and completed as soon as practicable after operation commences, if not completed after construction.

4. Operating Requirements for a Processing Facility

4.1 Division 1 – Before Operation Begins

4.1.1 Pre-operation testing

Under section 14 [*Pre-operation testing*] of the OGPFR, prior to commencing operations in any part of the facility, the permit holder must inspect and test the process control, safety critical devices, and safety critical systems, to verify that they are operating in accordance with the engineering design.

CSA Z767-17 defines Process Safety Critical Equipment as equipment, instrumentation, controls, or systems whose malfunction or failure would cause or contribute substantially to the release of a hazardous material or energy or whose proper operation is required to mitigate the consequences of such release. Examples of Safety Critical Equipment and additional guidance on methods for identifying Safety Critical Equipment can be found in CAPP [Identification of Safety Critical Equipment](#) (SCE). Permit holders are responsible for evaluating which equipment should be classified as Safety Critical Equipment. Additional discussion regarding selection of Safety Critical Equipment can be found in the following paper [Is all Safety-Critical Equipment Critical to Safety?](#)

Before the operation of any part of a processing facility begins the permit holder should do all of the following:

- inspect and test components in accordance with the engineering design and the requirements of the codes and standards defined as meaning all of the following that apply in the context: the codes and standards adopted under section 2 [*Adopted codes and standards*] and the codes and standards referred to in section 3 (1) (c) [*Application for processing facility permit*];
- inspect and test all control and safety critical devices and systems to verify that the devices and systems are operating properly;
- inspect and test fire suppression systems, if any are included in the engineering design under the OGPFR section 7 (2) (d) [*Engineering design and siting*];
- conduct leak tests of equipment and piping systems; and,
- conduct any other inspections or tests reasonably necessary to ensure the processing facility is safe to operate.

The tests should be carried out following appropriate methodology as defined by the relevant codes and standards or best practices and verify that the systems operate in accordance with their performance specifications.

The permit holder must give the Commission a schedule of when the inspections and tests listed above will be conducted. The schedule should be submitted by email to the Facilities Engineering Dept. (OGCPipelines.Facilities@bcogc.ca) at least 30 days before any formal testing is to take place by the permit holder. Notification at this time will allow the Commission to identify tests that it may wish to attend. Regular communication between the permit holder and the Commission will ensure that the timing of the selected tests is well understood as the construction schedule evolves. The Commission will likely only witness a sample of the testing for the safety critical equipment and systems in the processing facility.

The Commission may require an inspection to assess the readiness to start prior to the commencement of operations. If the Commission decides that an inspection or test should be witnessed prior to the test being conducted, given risks to safety or the environment, or of potential product loss, the Commission official will send notice to the permit holder, usually by email.

In response to the Commission officials' notice, the permit holder must send notice with the date of the inspection or test, at least 7 days, but no more than 14 days before the actual inspection or test date. The permit holder must notify the Commission official at least 2 days in advance of any change to the proposed inspection or test date described above.

The permit holder must not begin operations of any part of a processing facility unless the Commission has witnessed any inspection or test identified above. Also, the permit holder must not begin operations of any part of a processing facility unless the results of all inspections and tests conducted are satisfactory and indicate that it is safe to operate the facility.

4.1.2 Signs

In accordance with section 15 [*Signs*] of the OGPFR, the permit holder must display signage at the facility. The purpose of this requirement is to provide basic facility information to the public that may be of general interest, or useful in the event of a complaint or emergency. Signs must include the following:

- the name of the permit holder;
- emergency notification information, including a telephone number;
- the legal description of the site;
- if the processing facility handles flammable gas, the flammable gas symbol from Schedule 2; and,
- if the processing facility handles gas containing 10 parts per million or greater of hydrogen sulphide, a poisonous gas symbol from Schedule 2.

4.1.3 Notice of Operation

Under section 16 [*Notice of operation*] of the OGPFR, before operation of any portion of the processing facility can begin, the permit holder must complete and submit to the Commission all of the requirements listed in section 16 (2) as listed below:

- A written notice to the Commission that the permit holder:
 - intends to begin operating the processing facility; and,

- has implemented the management system;
- a copy of the security management program referred to in the OGPFR section 6(2)(b)(i) [*Development of management system*]; and,
- a list completed by a qualified professional, of all safety critical devices at the processing facility.

The Commission will review the submitted documents described above, and either issue a written notice stating that the permit holder may begin operation of the processing facility as per the OGPFR section 16 (3)(b), or a written notice stating that the Commission requires additional time to review the information submitted under section 16 (2) (b) and (c), and section 14 (2) [*Pre-operation testing*]. The Commission also has the option to issue both a notice to begin operations on a portion of the facility, while still requiring more time to review information submitted to the Commission before allowing all of the facility to begin operations.

If for some reason the Commission does not respond to the processing facility permit holder after at least 14 days (after the above notice and records referred to in section 16 (2) of the OGPFR were submitted), with a notice that the permit holder may begin operations, or that the Commission requires more time to review the submitted documents, the processing facility permit holder has the below options:

- contact the Commission to discuss any concerns with the record submissions;
- wait until the Commission issues a written notice to begin operations; or,
- submit to the Commission a notice as per the OGPFR section 16 (4), at least 24 hours before the date that the permit holder intends to begin operations at the processing facility, and move ahead with commencing operations as stated in the notice.

The 14-day notice period allows the Commission time to review the material submitted by the permit holder before issuing a notice to begin operations. Permit holders are encouraged to make submissions as information becomes available, in advance of the 14 day notice period. This will assist the Commission in issuing timely decisions on notices of operation.

On receiving the notice from the permit holder, the Commission may decide to extend or reduce the notice period. This decision would be based on the quality, and content of the permit holder's submission. Should the submission not be to the Commission's satisfaction, the Commission will extend the 14 day period to give the permit holder an opportunity to seek further input from the Commission, and to resubmit required information.

4.2 Division 2 – Operation

4.2.1 Record Drawings

Under section 17 [*Record drawings*] of the OGPFR, the permit holder must submit record drawings to the Commission. Record drawings, including piping and instrumentation diagrams, process flow diagrams, metering schematics, and plot plan diagrams, must be signed and sealed by a person who is licensed or

registered as a professional engineer under the [Engineers and Geoscientists Regulation](#). The record drawings must be submitted within 9 months after the permit holder begins operations at the processing facility.

Permit holders should refer to [Information Bulletin 2010-14](#) for information regarding the Commission's expectations for the submission of record drawings. Permit holders should also review the content of the [Quality Management Guides](#) provided by Engineers and Geoscientists BC. Where proprietary or confidential information is contained, drawings should be marked as such and the permit holder should meet with the Commission to discuss handling of the confidential information.

4.2.2 General Requirements Respecting Operation

Part 4 – [Division 2 - Operation] of the OGPFR outlines the operational standards and practices that permit holders must adhere to in the operation of the processing facility.

The permit holder must operate the processing facility in accordance with the engineering design that has been permitted by the Commission and confirmed by the permit holder in the record drawings, the codes and standards (defined as meaning all of the following that apply in the context: the codes and standards adopted under section 2 [Adopted codes and standards] and the codes and standards referred to in section 3 (1) (c) [Application for processing facility permit]), and in the management system.

A processing facility permit holder must maintain a control room. The control room is required for the safe and efficient operation of the processing facility and for emergency situations.

The processing facility permit holder must ensure that the signs required in the OGPFR section 15 [Signs] remain posted throughout the operation of the facility. The permit holder must ensure that a warning symbol in Schedule 2 is not posted in any place where there is no hazard.

The processing facility must always be maintained in a condition that minimizes hazards, including hazards associated with pits, holes, equipment and storage of materials, and the site should be clean and free of garbage, debris and derelict equipment.

Under the OGPFR section 18 (4) [General requirements respecting operation], the permit holder must ensure that normal operations of the processing facility do not cause excessive noise or emanation of light. Permit holders should ensure that noise mitigation measures are built into the design and operating procedures. For more information refer to the [British Columbia Noise Control Best Practices Guideline](#). In some cases a noise management plan may be used where the specific thresholds in the guideline are unable to be met rather than the prescriptive requirement in the guideline. Operations should also comply with any noise-related conditions in the processing facility permit.

Under the OGPFR section 18 (4) [General requirements respecting operation], the permit holder must ensure that normal operations of the processing facility do not cause excessive emanation of light. For light

control, the Commission will be looking for information to indicate that the permit holder has done all that is reasonable to minimize light emissions to surrounding areas, without compromising the safety of workers or the facility's safe operation. For more information refer to the [British Columbia Light Control Best Practices Guideline](#). The permit holder should be managing lighting in both the core of the facility and other areas (such as roadways, docks, etc.). Permit holders should ensure that mitigation measures are built into the design. [CIE 150:2017 Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations](#) may be used by permit holders as guidance to meet regulatory requirements.

Mitigation measures that should be considered include:

- not using unnecessary lighting;
- avoiding using unnecessarily bright lights;
- use of automated sensors that shut down lighting in areas of no activity where it is safe to do so; and,
- re-angling, shading or screening of lighting.

4.2.3 Maintaining Safety

The permit holder should always be diligent in the management of the processing facility safety systems, and should not bypass, or disable the function of a safety critical device unless the following steps are taken:

- the purpose of the bypass or disablement is to carry out maintenance or commissioning of the processing facility;
- the processing facility is continuously monitored;
- the permit holder has established and documented work procedures sufficient to ensure that the operation can be conducted safely, and,
- the operation is conducted in accordance with those procedures referred to above.

The permit holder should lock or cap seal any valve or device that can bypass or disable the function of safety critical equipment. Documentation of the safety critical device inspection, testing, calibration, and status should always be current and accessible for operational safety purposes and any regulatory inspection or audit.

The permit holder should ensure that any solids or fluids containing toxic components are handled, treated and processed in a manner that is safe and minimizes hazards. If containment or process control is lost or compromised, the processing facility permit holder should ensure that all actions necessary to rectify the situation are taken as soon as practicable.

4.2.4 Notices of Equipment Start-up and Shutdowns

A processing facility permit holder must notify the Commission at least 24 hours before putting new or modified equipment into service, or beginning a planned shutdown of the processing facility or part of the processing facility. The purpose of this notification is to ensure that the Commission is aware of any potential impacts to people in the surrounding area and has the opportunity to conduct an inspection if deemed necessary. Generally, the notification before putting new or modified equipment into service is required where there is a significant impact to the facility rates, noise or associated non-routine flaring, such as a partial or full plant turnaround. The commissioning and start-up, or maintenance of one or two main plant compressors, commissioning of additional storage tanks, or single processing skids would typically not trigger this notification requirement. The notification must be submitted by email to: OGCPipeline.Facilities@bcogc.ca, with a brief summary of the event and the name and legal location of the facility. This notice allows the commission to coordinate an inspection where required, and to anticipate the potential associated flaring from the event.

4.2.5 Venting and Flaring

The Venting, Flaring and Relief system design basis is reviewed in the permit application stage of the project, in accordance with the OGPFR section 3 (1) (e) (i) [*Application for processing facility*]. The permit holder must only flare as specified in the permit, unless the flaring is required for emergency or maintenance purposes. Maintenance purposes include commissioning and start-up. The permit holder must only vent gas as specified in the permit, unless the vent gas has a heating value, volume or flow rate that is insufficient to support stable combustion (see below section 4.2.7 - Application of the Drilling and Production Regulation). All vented and flared gas volumes must be recorded (see below section 6.1) and reported in [Petrinex](#), Canada's Petroleum Information Network.

If venting or flaring occurs the permit holder should make all reasonable efforts to minimize the quantity of vented or flared gas, and the duration of venting or flaring. During normal operations, the permit holder must ensure that visible emissions are in accordance with USEPA method 22. When the flaring or venting event is taking place during emergency or maintenance operations, emissions should not be visible for more than 5 minutes in any 2-hour period. Flaring and venting emissions should not cause a material threat to life or health, off-lease odours, or injury to vegetation or wildlife.

Best practices, standards and guidelines for flaring and venting are available in the [Flaring and Venting Reduction Guideline](#). Permit holders should consider public and environmental concerns, economic alternatives and health impacts when evaluating the opportunity to eliminate or minimize venting at a processing facility. Permit holders should place particular emphasis on eliminating or minimizing venting during normal operation, planned shut-downs, maintenance and start-up.

If a permit holder has chosen venting over flaring or conservation they must demonstrate how they have met the requirements under of the OGPFR section 21 (1) [*Venting and flaring*]. The Commission considers the term flaring to refer to the combustion of gas in a flare stack or an incinerator unless otherwise specified. Continuous activities, such as combustion for a flare pilot light or incinerator, are required to be

permitted under the facility permit. Best practices, standards and guidelines for flaring and venting are available in the [Flaring and Venting Reduction Guideline](#). Permit holders should consider public and environmental concerns, economic alternatives and health impacts when evaluating the opportunity to eliminate or minimize flaring at a facility. Particular emphasis should be focused on eliminating or minimizing flaring during normal operation, planned shut-downs, maintenance and start-up.

4.2.6 Venting and Flaring Notification and Reporting

Under section 21 (3) [*Venting and flaring*] of the OGPFR, the permit holder must provide 24 hour notice to the Commission of a planned venting or flaring event if the quantity of gas is expected to exceed 10,000 m³ (where “m³” means one cubic metre of the substance measured at 101.325 kPa and 15°C). In addition, the permit holder must provide notice to the Commission within 24 hours if an unplanned event results in vented or flared gas in excess of 10,000 m³. Permit holders are recommended to use the Notice of Temporary Flaring/Incinerating for facilities available under supporting documents in Chapter 12 of the [Oil and Gas Activity Operations Manual](#) on the Commission’s website.

Continuous activities, such as combustion for flare pilot lights or incinerators are excluded from the notification requirement. Permit holders must maintain logs of all venting and flaring, including incinerating, that occurs at the processing facility. The venting and flaring logs should track volumes and identify recurring (non-routine) events. Recurring events should be investigated and repaired. The venting and flaring logs must be made available to the Commission upon request.

4.2.7 Application of the Drilling and Production Regulation

The following sections (listed below) of the [Drilling and Production Regulation](#) (DPR) apply to a permit holder with respect to an oil and gas processing facility. For fugitive emissions, permit holders should be directed to the [Fugitive Emissions Management Guideline](#). The other sections in the DPR that historically have applied to gas processing plants have been replaced by new sections in the OGPFR:

- Section 41.1 [*leak detection and repair*];
 - This section of the DPR includes a definition of a comprehensive survey and a screening survey related to leak detection methodology, how to determine the number of surveys that must be completed for a particular facility, and the leak repair protocols, including documentation requirements;
 - All processing facilities are required to complete three comprehensive surveys per year. Leaks detected must be repaired within 30 days of their detection, or if the repair requires the facility to be shut down, at the next turnaround of the facility. Records must be maintained of the survey date and method, and of the leak rate and repair date of any leaks identified;

- Sections 52.01 [definition] to 52.10 [sampling and pressure relief systems];
 - For the purpose of section 52.02 to 52.12 in the DPR, "**natural gas**" does not include propane;
 - A processing facility permit holder must comply with the applicable clauses within the DPR sections 52.01, 52.02, 52.03, 52.04, 52.05, 52.06, 52.07, 52.08, 52.09 and 52.10 which address methane emission reduction;
 - DPR section 52.10 directs a facility holder who operates a facility to ensure that sampling and pressure relief systems at the facility are installed and operated so that emissions of natural gas are minimized. This addresses both the design and operation of a processing facility;

- Section 52.12 [Measurement equipment];
 - A processing facility permit holder who operates a facility must ensure that the equipment and methods used to measure emissions at the facility are sufficient to measure the actual volumes and rates of emissions referred to in this Division, other than in section 52.04 (7) (c). This specific exempt section has specific requirements for compressors that are more flexible allowing for the determination of emissions volumes to within 10% of the actual volume as described below. The requirements for compressor emission recording begin on January 1, 2022 for a facility that uses a type A compressor or a type B compressor as per the section below:
 - Section 52.04 (7)(c): for each calendar year, the volume of natural gas emitted from the compressor during a period of 15 minutes that is representative of the normal operating conditions of the compressor;

For the purposes of section 21 (1) [Application of Drilling and Production Regulation] of the OGPFR in reference to the [Drilling and Production Regulation](#) sections listed above, a "facility" is to be read as a reference to a "processing facility", and, "facility permit holder," is to be read as a reference to a permit holder with respect to a gas processing facility.

5. Suspension and Decommissioning

5.1 Suspension of Operations

Under section 23 [Suspension of operations] of the OGPFR, "**suspension of operations**" means the non-operation of a processing facility or part of a processing facility for at least 12 consecutive months. Permit holders must immediately notify the Commission of a suspension of an entire facility with a Notice of Intent (NOI) if the suspension continues for more than twelve (12) consecutive months. The NOI must be submitted to the Commission within the twelve (12) month period of the suspension of operations. A partial

processing facility suspension, such as shutting down a compressor or dehydrator at a facility with multiple compressors or dehydrator packages, does not require a permit amendment or NOI to the Commission.

A suspension plan must be prepared by a qualified professional. In the event of a suspension of operations a processing facility permit holder must:

- implement the suspension plan; and,
- submit a copy of the suspension plan to the Commission.

In the event that processing operations are to re-commence after a suspension of operations the permit holder must notify the Commission at least 5 days before operations resume.

Suspending a processing facility requires both a suspension plan and updated schematics uploaded as attachments in KERMIT along with the NOI. The suspension plan ensures the safety and security of the facility. The suspension plan must include provisions to:

- incorporate a rationale for the suspension of operations, the plan and duration of suspension of operations, and if / how the associated pipelines and facilitates will also be suspended or deactivated in conjunction with the suspension;
- empty all fluid from vessels, storage tanks, underground tanks, chemical tanks, etc.;
- de-pressure the facility;
- dispose of corrosive, combustible or explosive fluids;
- minimize or prevent degradation of the plant or processing facility equipment, vessels and piping;
- maintain cathodic protection, if applicable;
- secure the plant or processing facility against unauthorized entry and vandalism, and monitor as appropriate;
- periodically have the plant or processing facility and site inspected by qualified persons;
- include an updated schematic with upstream and downstream facilities, showing pipelines coming in to or out of the processing facility; and,
- address any other concerns the Commission has identified.

5.2 Decommissioning of a Processing Facility

Under section 24 [*Decommissioning of processing facility*] of the OGPFR, if the operations do not resume within 2 years after a suspension of operations, the permit holder must:

- carry out a contaminated site assessment;
- have a qualified professional prepare a plan to remove any facilities and other equipment from the facility site, and remediate and restore the facility site;
- submit the decommissioning plan and a schedule of the activities under the plan to the Commission;
- implement the decommissioning plan, once it is approved by the Commission; and,
- notify the Commission at least 60 days before beginning the decommissioning process and on completing the decommissioning process.

For the purpose of section 24 (1) of the OGPFR the provisions in the [Dormancy and Shutdown Regulation](#) sections 7 [Assessment], 8 [Remediation], and 9 (1) (a) and (b) (i) [Restoration] apply to a processing facility. The permit holder must ensure that the decommissioning of a processing facility or part of a processing facility is carried out in a safe manner.

6. General

6.1 Division 1- Records

6.1.1 Construction and Post Construction Records

Under section 25 [Construction and post-construction records] of the OGPFR, the permit holder must keep construction and post-construction records of:

- compliance with OGPFR section 6 [Development of management system], Section 7 [Engineering design] and siting, and section 8 [Storage system];
- verification/inspection reports for section 12 [Modular units];
- records of results (commissioning documentation) for section 14 (1) [Pre-operations testing]; and,
- record drawings for section 17 [Record drawings]; piping and instrument diagrams, process flow diagrams, metering schematics, and plot plans.

6.1.2 Operating Records

Under section 26 [Operating records] of the OGPFR, the permit holder must keep operating records as follows:

- maintenance records under the IMP as referred to in section 6 (2) (b) (iii) [Development of management system] that show:
 - the date and type of inspection, testing, and maintenance activity that was performed on each component; and,
 - the date that a component is placed into, and if applicable, taken out of service.
- records relating to the relevant training, qualifications, and performance reviews of each person who performs work at the processing facility;
- a list of all safety critical devices;
- records of all venting and flaring events as per section 21 (3) [Venting and flaring]; and,
- records of all information and data with respect to a reportable incident under the Emergency Management Regulation.

6.1.3 Quantity Records

Under section 27 [*Quantity records*] of the OGPFR, the permit holder must keep quantity records showing the quantities of:

- materials that enter the facility for processing;
- non-waste materials produced by the processing facility; and,
- waste produced, flared or vented by or from the processing facility.

The permit holder must ensure the methods used to determine quantities are suitable for the purpose and must keep records of those methods and any supporting information and data. The permit holder must ensure that measurement equipment used to determine quantities is:

- suitable for its purpose;
- calibrated and maintained in good operating condition as outlined in the [BC Measurement Guideline](#); and,
- safe from adverse weather and interference by unauthorized persons.

Under this section the Commission currently requires the annual submission of inlet and marketable stream analyses via the eSubmission portal with a deadline of January 31st of each year.

6.1.4 Suspension Records

Under section 28 [*Suspension records*] of the OGPFR, the permit holder must keep records detailing the implementation of a suspension plan prepared under section 23 [*Suspension of operations*].

6.1.5 Record Retention Program

Under section 29 [*Record retention program*] of the OGPFR, the permit holder must have a record retention program in which all records required under a provision referred to in column 1 of the following table are retained for at least for the period or until the occurrence of the event referred to in column 2 of the table opposite the provision.

Item	Column 1 Records	Column 2 Retention
1	sections 25 (a), 26 (c) and 28 <i>[compliance, safety critical and suspension records]</i>	The processing facility is removed from the facility site.
2	sections 25 (b) and (c) and 26 (a) <i>[reports and records respecting modular units, pre-operational testing and maintenance]</i>	The equipment is removed from the facility site.
3	section 26 (b) <i>[employment records]</i>	For each person, one year after the person ceases to perform work at the processing facility.
4	section 26 (e) <i>[incident records]</i>	If there is an incident investigation: one year after the investigation is closed. If there is no incident investigation: 30 days after the incident ends.
5	sections 26 (d) 27 <i>[flaring, venting and quantity records]</i>	6 years after the record is made.

6.1.6 Production and Submission of Records

For the purposes of section 38 (1) (d) and (e) of the *Oil and Gas Activities Act*, the records referred to in this Division are the records that must be produced or submitted at the request of the Commission in accordance with that section.

6.2 Division 2 – Other

6.2.1 Implementation and Review of Management System:

An applicant of a processing facility must ensure that the management system applies throughout the life cycle of the facility, including design, procurement, construction, operation, maintenance, suspension and decommissioning activities and is reviewed and updated accordingly. The Commission can request permit holders to submit a copy of the management system and any related documents to evaluate the particular management system to ensure it fulfills the requirements outlined under section 6 *[Development of management system]* of the OGPFR.

6.2.2 Exemptions

The Commission may exempt oil and gas operators from one or more regulatory requirements including the OGPFR. Exemption requests will be handled on a case-by-case basis. Exemption requests can be submitted to the Commission prior to submission of an application, with the application, or after issuance of a permit. The process to applying for an exemption is to include the request within the permit

application or amendment with supporting information, or to submit a separate request with supporting information to the engineering mail box at OGCpipelines.facilities@bcogc.ca

Requests should include:

- Specific regulatory provision requiring an exemption;
- Rationale for exemption (explanation of why an exemption is required);
- Proposed plan showing mitigation strategies to reduce impacts, if required; and,
- Technical rationale that the processing facility can be operated in a safe and environmentally responsible manner to support the requested exemption.

Depending on the situation, additional information may be required, potentially including a meeting with BCOGC. All exemption requests must be reviewed and approved by the Commission. If exemptions are approved prior to the application, the exemption approval should be included in the application. Note: all exemption requests are issued separate from the application decision and issuance of a permit.

Transition:

There was a transition period for current permit holders of gas processing plants to be in compliance with the OGPFR where the permit was previously issued under the Drilling and Production Regulation (DPR). Details are provided below.

33(1) A person who holds a permit, issued before March 4, 2021 for the construction or operation of a gas processing plant within the meaning of the Drilling and Production Regulation,

(a) is deemed to hold a processing facility permit issued under this regulation until the earliest date that the permit expires or is surrendered or cancelled, and

(b) must comply

(i) with this regulation no later than March 4, 2022, and

(ii) with the DPR regulation until the date that the person begins to comply with this regulation, or March 4, 2022, whichever is earlier, and

(c) must, until March 4, 2022,

(i) continue to carry out operations in accordance with the integrity management program that applied to the gas processing facility under the Drilling and Production Regulation immediately before March 4, 2021, and

(ii) give to the commission, on request, information relevant to the requirement set out in subparagraph (i).

(2) This section is repealed March 5, 2022.

Individual permit holders of existing gas processing plants are encouraged to meet with the Commission engineering team to discuss the transition of existing plants at various phases.

The primary common requirement for all processing facilities in transition, not including the other applicable requirements of the regulation, is to develop and implement a management system.

Appendix 1- Processing Facility Groundwater Management Plan

Technical Guidance

At minimum the Processing Facility Groundwater Management Plan should include a perimeter groundwater monitoring program. The perimeter groundwater monitoring program shall be designed and prepared by a qualified professional (QP), registered with Engineers and Geoscientists of BC (EGBC). The QP shall have appropriate experience and expertise in the design of groundwater monitoring programs. The intent of perimeter groundwater monitoring is to provide a monitoring well infrastructure at the perimeter of the gas processing plant facility site area that permits groundwater sampling over the long term, providing data to (a) demonstrate compliance with results-based regulations for groundwater protection, and (b) establish baseline groundwater chemistry conditions.

The implementation of perimeter groundwater monitoring does not preclude any future requirements for investigative groundwater monitoring should an incident occur, and is separate from any other on-site groundwater monitoring requirements associated with specific activities (e.g., for saline water containment ponds as described in the Commission's documentation [Management of Saline Fluids for Hydraulic Fracturing Guideline](#)).

The following provides technical guidance regarding the Commission's expectations with respect to the perimeter groundwater monitoring.

Considerations for Monitoring Well Locations

- Potential considerations for determining the number and locations of perimeter groundwater monitoring wells include but may not be limited to:
 - coverage of all perimeter boundaries;
 - inferred or known groundwater flow direction;
 - site grading and cut and fill alterations;
 - locations and operational aspects of liquid storage and transfer infrastructure within the site boundaries;
 - surrounding receptor locations (e.g., water wells, surface water bodies, residential areas, environmentally sensitive areas); and,
 - any other factors as determined by the Qualified Professional.

Considerations for Monitoring Well Design

- Monitoring wells shall be designed and installed in accordance with the [BC Groundwater Protection Regulation](#), and using standard environmental investigation protocols such as those described in *British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (2003)*.
- Monitoring wells shall be installed and screened to permit the collection of representative groundwater samples from the shallowest “aquifer”, where “aquifer” is defined in the [Water Sustainability Act](#) (WSA) as:
 - a geological formation;
 - a group of geological formations; or
 - a part of one or more geological formations that is groundwater bearing and capable of storing, transmitting and yielding groundwater.
- The need for monitoring well installation within deeper aquifers may be considered based on site specific circumstances.
- Unless deemed warranted by the QP, the maximum recommended depth for perimeter monitoring wells is 30m.

Considerations for Groundwater Sampling and Analysis

- Groundwater sampling shall be conducted using standard environmental sampling and quality assurance/quality control protocols such as those described in *British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (2003)*.
- Groundwater sampling and analysis should be carried out at least once annually from all monitoring wells.
- The chemical analyses shall be selected to establish baseline conditions and with consideration of the potential contaminants of concern associated with the inventory of hazardous materials that will be stored.
- Once baseline conditions are established by data representing more than one sampling occasion, sampling programs may consider the use of representative indicator parameters for ongoing monitoring.
- Consideration of the following analytical parameters is recommended:
 - Routine water quality parameters (e.g., Major Cations and Anions, Total Dissolved Solids (TDS), Alkalinity, pH, Electrical Conductivity, Hardness);
 - Dissolved Metals;
 - Dissolved Gases (e.g., C1-C3);
 - Dissolved Hydrocarbons (e.g., Volatile Hydrocarbons (VHw) (C6 to C10), Benzene, Ethylbenzene, Toluene, Xylenes (BETX), Volatile Petroleum Hydrocarbons (VPHw) (C6 to C10 - BETX), Volatile Organic Compounds, Extractable Petroleum Hydrocarbons C10-C19

- (EPH_w10-19), Extractable Petroleum Hydrocarbons C19-C32 (EPH_w19-32), Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH), Polycyclic Aromatic Hydrocarbons);
- Amines and Glycols; and,
 - Analyses relevant to all Potential Contaminants of Concern (PCOC's) identified by the QP.

Reporting

Reports and data regarding groundwater sampling may be required by the Commission. If not required to be submitted, all information and data relevant to the groundwater monitoring shall be retained by the permit holder to be submitted to the Commission upon request.

Where relevant, submitted documentation should include:

- a description of methodologies used for monitoring well installation and groundwater sampling;
- graphical well logs with stratigraphic observations and monitoring well construction details;
- a site plan showing locations of monitoring wells relative to site boundaries, on-site infrastructure, and relevant surrounding features;
- water level measurements in monitoring wells;
- analytical results in tabular form with appropriate comparison criteria and standards;
- laboratory analytical reports; and,
- any other information or interpretation as deemed appropriate by the QP or required by the Commission.