

Waste Processing Facility Application Guidelines

PDB ENV 17

Issue Date: November 1, 2015

Issue Version: 1.0

Governing Legislation:

Act: The Oil and Gas Conservation Act

Regulation: The Oil and Gas Conservation Regulations, 2012

Record of Change

Revision	Date	Description
0.0	August 1, 2010	Original
1.0	November 1, 2015	Update to facilitate implementation of IRIS in 2015.

1. A submission in support of an application for a waste processing facility under section 8.01 of *The Oil and Gas Conservation Act* shall contain the following general site information:
 - (a) General company information, including:
 - (i) date of application;
 - (ii) name, address and phone number of the applicant;
 - (iii) name, address and phone number of the operator (if different from above);
 - (iv) the name of the facility;
 - (v) the legal land description of the facility site;
 - (vi) current land use and zoning;
 - (vii) proposed construction commencement and completion date;
 - (viii) proposed commencement of operations;
 - (ix) a discussion of the applicant's technical and financial qualifications to design, construct and/or operate a waste management facility - a verification must be provided that the business is registered to operate in the province; and
 - (x) an indication of whether an application for a waste disposal well or a cavern that will be associated with the project proposed in this application has been submitted to the department.
 - (b) A facility plot plan at an appropriate scale that clearly identifies:
 - (i) site topography, surface drainage patterns, local recharge and discharge areas, type of vegetation and tree covers;
 - (ii) on-surface or buried pipelines, utility lines, conduits, pits or tanks;
 - (iii) buildings, loading facilities or storage areas;
 - (iv) disposal or source wells, including identification of the proposed well that is to be associated with the waste processing facility;
 - (v) existing or abandoned monitoring wells or standpipes;
 - (vi) any areas containing buried fill material or waste;
 - (vii) any areas of known extensive or frequent spills; and
 - (viii) horizontal direction of shallow groundwater flow.
 - (c) The location of all surface waters and inferred areas of groundwater discharge within a 3 kilometres radius of the site.
 - (d) A summary of local groundwater and surface water users within a 3 kilometres radius of the site.
 - (e) A summary of the regional hydrogeology and geology for the area in which the site is located derived from existing data in the public domain.

- (f) The description of site-specific hydrogeology information as determined during the drilling and installation of monitoring wells, including the following:
 - (i) the description of the surface geology, including the type and thickness of strata;
 - (ii) the depth of the shallowest water bearing strata and the hydraulic conductivity of this zone;
 - (iii) the horizontal and vertical directions, rates and approximate velocities of the groundwater flow;
 - (iv) a description of the quality of the groundwater including pH, electrical conductivity (EC), major ions, total metals and total petroleum hydrocarbon (C₇-C₆₀ scan) using Gas Chromatography Flame Ionization Detector (GC/FID) or equivalent methods;
 - (v) the depth, location and type of any contaminant encountered, the probable source of the contaminant;
 - (vi) the rationale for the location, depth and screened interval for each monitoring well; and
 - (vii) detailed descriptions of groundwater monitoring well completion information, including construction materials and methods employed to develop the well, ground level elevation, depth to water, depth of well and screened intervals for each well.
- (g) The description of the soil including the following:
 - (i) the physical characteristics of the soil including thickness, texture, internal drainage characteristics, evidence of fracturing and estimated moisture content; and
 - (ii) the background chemical characteristics of the soil, including pH, EC, major extractable ions, cation exchange capacity, sodium adsorption ratio, total trace metals and total petroleum hydrocarbon (C₇-C₆₀ scan) using GC/FID or equivalent.
- (h) A description of how the surface run-off water will be controlled, accumulated, and discharged including, if applicable, the pond or dike design and sizing calculations for containment of a 1 in 10 years, 24-hours storm, and the path taken by the surface run-off discharge.
- (i) A description of how the quality of the surface soil, subsurface soil, surface water, groundwater, and ambient air quality will be monitored.

2. The submission shall include a detailed description the design features and operational procedures, including:
 - (a) A description of the oil-and-gas wastes (physical waste as that term is ordinarily understood in the oil and gas industry) that will be accepted for processing or treatment and their anticipated annual volumes;
 - (b) A description of the treatment and process technologies to be used including the specifications of the receiving, inlet measuring, treating, separating and recycling equipment, and their minimum and maximum flow capacities, retention times, and operating pressures and temperatures.
 - (c) An estimate of the annual volume of freshwater to be used in the operation of the facility and the fresh water source, including where applicable, a copy of the groundwater diversion permit or water withdrawal permit.
 - (d) A process flow schematic showing:
 - (i) the separation vessels, measurement points, vessel relief valves and piping, vessel drains, fuel lines and any other associated processes and equipment; and
 - (ii) the minimum and maximum operating pressure and temperatures for each vessels.
 - (e) A scale diagram showing:
 - (i) the location, size and equipment spacing of separating, heating, pumping, and compressing equipment; and
 - (ii) the location, size and construction material of storage tanks, area or systems and dikes.
 - (f) A description of the plans developed to monitor any leakage from tanks and other containment devices, including:
 - (i) the leakage monitoring system, including sampling frequency and test parameters;
 - (ii) the corrosion monitoring system; and
 - (iii) the management or control of tank inventory to minimize spills or overflows.
 - (g) A discussion of the method proposed for the disposal of waste solid, sludge and liquid materials.
 - (h) A description and example of the accounting procedure from the receipt to disposition of all products. This description shall include:
 - (i) the method used to verify the composition and volume of the incoming streams; and
 - (ii) the procedures used to measure and account for any recovered oil, water, and solids.

3. The application shall be accompanied by the following information:
 - (a) Written confirmation indicating that the landowner the land where the facility is to be sited has consented to the construction and operation of the facility.
 - (b) Verification that approval (a development permit) from the local authority has been obtained or in the process of being obtained.
 - (c) A description of the consultative process undertaken to inform the public, including:
 - (i) the names of the landowners/occupants personally contacted within a 0.5 kilometre radius of the proposed facility and any concerns they had regarding the proposed development;
 - (ii) a copy of the information package delivered to all landowners/occupants within a 2.0 kilometres radius of a proposed facility, as well as any resulting concerns about the proposed development and how these concerns will be mitigated; and
 - (iii) a map showing the landowner/occupant of all lands within 2.0 kilometres radius of the facility.
 - (d) A description of the plan developed to perform any planned or unplanned closure of the facility, or any part of it, at any point during its active life including:
 - (i) an estimate of the maximum inventory (waste and products) expected on-site and how these inventories will be eliminated;
 - (ii) an estimate of the time required to eliminate inventories;
 - (iii) a schedule of closure activities including the elimination of inventories, the dismantling of surface equipment, the abandonment of wells or pipelines and the reclamation of the facility;
 - (iv) a description of the post-closure monitoring; and
 - (v) an estimate of the expected year of final closure of the facility.
4. The submission shall be in written and illustrated form signed by an officer of the company making the application.
5. Submit the application through IRIS to the Ministry of the Economy.
6. A separate submission must be made to The Ministry of Environment according to their guidelines and requirements.