

## **Additional Information Requirements for Waste Disposal Facilities**

Pursuant to Section 5(2) of the *Environmental Impact Assessment Regulation* of the Clean Environment Act, this document is intended to assist proponents in preparing a registration submission for projects involving the above-mentioned sector. It should be read in conjunction with the General Information Requirements as outlined in the latest version of the Registration Guide. Note that the following items are requirements **in addition to** those outlined in the Registration Guide. The information requested in the Registration Guide must also be provided. For further assistance, please contact the Project Assessment and Approvals Branch, Department of Environment at (506)-444-5382.

After reviewing a registration submission, the Technical Review Committee may require other information beyond the items listed below and in the Registration Guide.

Note: If your project involves the construction or decommissioning of a facility designed exclusively for the treatment, incineration, disposal or recycling of hazardous waste please contact the Canadian Environmental Assessment Agency, Atlantic Region at (902) 426-0564 to determine if your project requires a comprehensive study under the Canadian Environmental Assessment Act.

### **Definition**

This guideline is applicable to projects involving the disposal of waste. All projects involving waste disposal facilities or systems must be registered under the *EIA Regulation*. These include but are not limited to municipal solid waste landfill sites\*, industrial landfills, tailing ponds, and waste incineration facilities.

\* Note: it is not anticipated that any new municipal sanitary landfill sites will be required in the Province of New Brunswick for the foreseeable future.)

A complete list of potential triggers for project registration is provided in Schedule "A" of the Regulation. To determine if registration is required for a specific project, please contact the Project Assessment and Approvals Branch at the number listed above.

### **1.0 THE PROPONENT**

See Registration Guide.

### **2.0 THE UNDERTAKING**

(ii) Project Overview:

- This description should include the type of waste material, its origin(s), the annual volume and tonnage of waste material, and the estimated life span of the project.
- If the purpose of the project is to treat contaminated material, the contaminants and their concentrations should be identified.

(v) Siting Considerations:

- For new municipal or industrial sanitary landfills, site selection should be made with reference to Site Selection Guidelines for Municipal and Industrial Sanitary Landfills (Province of New Brunswick, 1993)
- Provide a characterization of the geology and hydrogeology of the proposed site.
- Describe whether the proposed project would be located in a greenfield or a brownfield (previously developed) site and state the justification for the selected location.
- Characterize the potential for seismic activity at the site.
- Describe the anticipated socioeconomic issues resulting from the location of the facility.

(vi) Physical Components and Dimensions of the Project:

Provide a detailed description of the proposed project, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- Ensure that the site plan shows the locations of all physical components of the project.
- Describe the design of the facility including appropriate containment systems such as liners, leachate collection and/or treatment systems (if applicable), including as much detail about these components as possible.
- Provide a hydrogeological assessment of the surface and subsurface conditions in and around the facility. The assessment should include test pits, boreholes and/or monitoring wells and provide appropriate detail concerning stratigraphy, hydraulic conductivity, groundwater elevations, topography, flow directions and gradients at various depths. The information should be presented in sufficient detail to determine the flow path and ultimate receptor of a liquid contaminant if that contaminant were released in an uncontrolled fashion at the facility. To aid in interpreting the details, provide cross-sectional drawings of the site showing the stratigraphy, assumed groundwater surface(s) and hydraulic conductivities, where known. Provide a plan of current and future groundwater monitoring wells and surface water monitoring stations.

- If the proposed facility is a landfill, please provide a drawing indicating the setback distances to the environmental and socioeconomic receptors outlined in the Site Selection Guidelines for Municipal and Industrial Sanitary Landfills (Province of New Brunswick, 1993).

(viii) Operation and Maintenance Details:

Provide a detailed description of the proposed project's operation and maintenance characteristics, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to:

- Describe the nature and character of the wastes to be treated, recycled or disposed of. A full characterization of the waste stream is required in order to determine the expected contaminants and the order of magnitude of the expected concentrations of each contaminant in the waste.
- Provide a process description including a flow chart illustrating the movement of materials through the waste treatment system, and including details of the technologies to be employed.
- Based on the full characterization of the expected waste stream, and the technologies to be employed, the ability of the facility to treat these wastes to acceptable levels should be demonstrated.
- The volumes, chemical characteristics and planned discharge locations of process wastewater, storm runoff, leachate and domestic wastewater should be estimated.
- Provide a description of the locations, methods and volumes of waste storage.
- Describe the fate of (market for) any recycled material.
- Describe the proposed site drainage including any piping, containment and treatment including any wastewater treatment technologies to be employed.
- Indicate the process and potable water requirements and water sources.
- Describe any sewage treatment facilities that will be necessary.
- What are the annual power requirements and the proposed power source?
- What are the anticipated volumes and types of traffic associated with the movement of goods, services and personnel to and from the project site during the facility operation?
- Describe the fate of any treated materials (e.g. treated effluent, composted materials, etc.)

- Describe the expected treatment and/or disposal volumes on an annual basis.
- Indicate the anticipated annual volume of any generated leachate.

(ix) Future Modifications, Extensions, or Abandonment:

- A conceptual closure plan must be provided at the time of project registration.

### **3.0 DESCRIPTION OF EXISTING ENVIRONMENT**

Include all relevant environmental features as noted in the Registration Guide. Examples of issues that may be of particular relevance to this class of project include but are not limited to the following:

- Existing geological and hydrological conditions at the receiving or processing site.
- Past, current or future projects, activities and land uses in the project area whose effects may interact with those of the project under review.
- Information concerning current water quality (i.e. current contaminant loading) in any watercourse which will receive treated leachate, plus high, low and normal flow estimates for the watercourse.

### **4.0 SUMMARY OF ENVIRONMENTAL IMPACTS**

All anticipated impacts should be described and discussed. These will depend on the scope and complexity of the project as well as the project location. See the Registration Guide for further information. Examples of impacts resulting from this class of project may include but are not limited to the following:

- All air emissions that may result from the operation of waste disposal facilities should be characterized, including emissions from point sources (e.g., stacks or vents), fugitive emissions, and emissions from area sources (e.g., wood waste storage piles, road dust). Estimates of the range of emissions from the above sources for normal conditions and abnormal conditions (accidents and malfunctions) should be provided. The type and volume of any anticipated emissions of greenhouse gasses must also be identified. (See “Other Applicable Guidelines” below)
- Risks to groundwater and surface water resources from the operation of the facility should be understood and described by the proponent. Information on any proposed waste storage or chemical storage at the facility that may be a cause for water quality concerns should be provided. An estimation of whether the receiving surface water/groundwater quality will be significantly affected by the discharge of the leachate should be provided.

- In the case of facilities that will involve the operation of chemical processes (e.g., soil treatment facilities, incineration facilities, hazardous waste treatment facilities), appropriate dispersion modeling studies should be conducted in order to determine the potential for adverse impacts to ambient air and water quality on a local and regional basis.
- Noise and odour impact on adjacent sensitive properties should be predicted and evaluated.

## **5.0 SUMMARY OF PROPOSED MITIGATION**

Describe all mitigative measures that will be employed to minimize the potential environmental impacts identified above. These may include but are not limited to the following:

- Environmental monitoring programs;
- An outline of proposed emergency and/or spill response procedures as well as potential remediation measures in the event of a spill, leak or upset;
- Control and containment systems to be implemented as part of the project to protect the environment (for example leachate treatment to ensure that there will not be an impact on the receiving watercourse); and
- A conceptual Closure Plan.

## **6.0 PUBLIC INVOLVMENT**

See Registration Guide.

## **7.0 APPROVAL OF THE UNDERTAKING**

See Registration Guide.

## **8.0 FUNDING**

See Registration Guide.

## **9.0 SIGNATURE**

See Registration Guide.

## **10.0 SUBMISSION INSTRUCTIONS**

See Registration Guide.

## **OTHER APPLICABLE GUIDELINES**

- It may be appropriate, depending on the details of the waste disposal facility, to also consult the guideline: Additional Information Requirements for Wastewater Treatment Projects.
- The emission rates of each of contaminants during the operational phase should be well understood by the proponent. Information can be obtained from: a) operating experience and monitoring results from similar operations, b) the use of material and energy balances, and c) the use of published emission factors such as (USEPA (1995) “Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1: Stationary Point and Area Sources” (available online at <http://www.epa.gov/ttn/chief/ap42/index.html>) or USEPA (2000) “Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 2: Mobile Sources” (available online at <http://www.epa.gov/otaq/ap42.htm>) or Environment Canada (2003) “National Pollutant Release Inventory Website”, (available online at <http://www.ec.gc.ca/pdb/npri>).
- It is recommended that proponents prepare a detailed emissions inventory of the facility based on the above information sources in order to quantify the magnitude of the expected emissions that may result from the operation of the facility.
- For new municipal or industrial sanitary landfills, site selection should be made with reference to Site Selection Guidelines for Municipal and Industrial Sanitary Landfills (Province of New Brunswick, 1993).