

# Obtaining Approval to Construct, Modify and Operate a Large Public Drinking Water System in Yukon

Environmental Health Services (EHS) plays an important role in ensuring the delivery of safe drinking water to all Yukoners. This includes the overall administration and enforcement of the Yukon Drinking Water Regulation (August 21, 2007 pursuant to Section 24 of the *Public Health and Safety Act*). Most Yukoners obtain their drinking water from Large Public Drinking Water Systems (LPDWS). Working with the owners and operators of these systems is a priority for EHS. This document outlines the interaction and approvals that EHS requires during the process of constructing, modifying or operating any LPDWS.

## Step 1: Initiating the Approval Process

Involving EHS in the early stages of design and planning will help clients in managing timelines and budget considerations.

Under the Drinking Water Regulation, a client must obtain approval from a Health Officer to:

- construct a new LPDWS; or
- significantly modify an existing LPDWS.

Yukon does not have its own system guidelines. To assist clients in meeting the regulatory requirements, EHS recommends that clients consult and reference system design guidelines. A number of design guidelines are available from other Canadian jurisdictions, such as:

- Design Guidelines for First Nations Water Works, by the Department of Indian and Northern Affairs Canada; and
- Design Guidelines for Drinking-Water Systems, by the Government of Ontario.

The Drinking Water Regulation clearly outlines the information that EHS needs to start the approval process.

Under Sections 16 and 17 of the Regulation:

16. The owner shall submit to Environmental Health Services two complete sets of plans to construct or substantially modify (e.g., change in the method of disinfection, installation of new drinking water storage tank) a large public drinking water system that:

(a) is under the seal of a professional engineer; and

(b) includes:

- (i) a map which shows the location of the water system, including Global Positioning Coordinates for proposed well locations or water intakes, and potential sources of contamination to the groundwater wells or surface water intake,
- (ii) location of buildings, roads and other infrastructures within 150 metres from the actual or proposed site of the drinking water source,
- (iii) detailed design drawings and specifications,
- (iv) facility class,
- (v) proposed well driller, if applicable,
- (vi) information on water source and its protection, infrastructure and distribution system,
- (vii) water quality data,

- (viii) method of treatment, if applicable,
- (ix) identification of potential users,
- (x) provisions for record keeping, and
- (xi) any other information required by a Health Officer.

17. No person shall construct a large public drinking water system without approval from a health officer.

EHS will evaluate projects to construct or modify a LPDWS based on plans submitted at the following developmental stages:

- 1) Source Selection and Design Concept:** A Health Officer should be consulted as early as possible in the planning process. This process usually begins with the selection of the water source (i.e., surface water or ground water), and the initial design concept. At this stage it is essential that the design concept address source water characteristics including any health-related parameters that do not meet the *Guidelines for Canadian Drinking Water Quality*. EHS will identify any major concerns with the selected water treatment method.
- 2) Pre-design and Rationale for Design Considerations:** Along with design drawings, the system should be described in writing. All design parameters and key components of the system should be clearly defined.
- 3) Final Design Plans Approaching Completion:** These are the plans with drawings and specifications that are developed from the pre-design. Any significant changes need to be identified and described in writing with supporting rationale. At this stage a Health Officer will ensure that all public health concerns are addressed and that all legislative requirements have been met. Proper construction and operation following these design plans will yield a system that supplies safe drinking water.
- 4) Final Design Plans Prior to Tendering Process:** Barring minor changes, these are the plans that will be used to complete the project. At this stage a written summary should be submitted indicating how concerns identified by EHS in the previous stage have been addressed.

Review of these plans by a Health Officer is the final check that all necessary information has been provided, public health issues have been addressed, and all questions have been answered. These are the plans from which a Health Officer will base their approval to construct or modify a LPDWS.

## Step 2: Obtaining Approval

A Health Officer will be assigned as the lead for a specific project and will work through the approval process with all parties involved. To determine who the EHS project lead is for a particular project please contact Environmental Health Services at (867) 667-8391 or toll free in Yukon at 1-800-661-0408 ext. 8391.

The Health Officer will review submissions at various stages as outlined above. Please advise EHS of the date on which the submissions are anticipated so that EHS can schedule time for review by the Health Officer and/or consulting engineer. The exact time needed to review project plans will depend on a number of variables including the complexity of the project and the completeness of the information provided. The minimum amount of time that is needed to review a submission at each stage is ten (10) working days and the Health Officer will inform the proponent if the review is expected to take longer. A Health Officer will only grant approval for construction or modifications when plans for a project have been properly and thoroughly reviewed, and all questions and issues have been addressed.

All relevant observations, questions, and recommendations will be sent to the client in writing (i.e., letter or e-mail). Upon receipt of written approval from EHS, the construction or modification may begin.

### **Step 3: Submissions when Construction or Modification is Complete**

Section 19 of the Drinking Water Regulation (see below) outlines what submissions are needed once the approved construction or modification is complete. Providing this information to EHS after the construction or modification is the final step before a Permit to Operate can be issued.

19. Once a large public drinking water system has been constructed or substantially modified, the owner shall submit to Environmental Health Services
  - (a) a well log if applicable;
  - (b) one time only, the analysis of biological (e.g., bacteriological), chemical, physical and radiological parameters (full suite, as outlined in the Guidelines for Canadian Drinking Water Quality) of the drinking water after treatment for newly constructed systems, and at the direction of the health officer for modified systems; and
  - (c) any additional analysis or information required by a Health Officer.

### **Step 4: Obtaining the Permit to Operate a LPDWS**

When the approved modification or construction of a LPDWS is complete and all regulatory requirements have been met, the owner of the system must apply for a Permit to Operate prior to use. An application form must be completed and provided to the Health Officer assigned as project lead for the system. The Health Officer will review the application and will notify the owner whether the application has been approved, denied or deferred. If denied or deferred the Health Officer will provide reasons in writing. The Permit to Operate will be issued once the application has been approved.

### **Step 5: Retaining the Permit to Operate a LPDWS**

In order to retain a Permit to Operate the owner of a LPDWS must continue to meet the operational requirements set out in the Drinking Water Regulation. Operational requirements include but are not limited to: regular bacteriological sample submissions, maintenance of up-to-date records, annual report submissions, employing qualified staff and performing routine maintenance procedures. The Health Officer will provide the owner/operator with information with respect to the operational requirements specific to the system and will monitor the status of compliance.

Environmental Health Services  
2 Hospital Rd, Whitehorse, YT Y1A 3H8  
Ph: 667-8370 or 1-800-661-0408, ext. 8370  
Fax: 667-8322

