

Government of Alberta ■

Drinking Water Information Letter 2/2012

Drinking Water Safety Plans

Purpose

1. This Information Letter sets out Alberta Environment and Water's "road map" for introducing drinking water safety plans to all Environmental Protection and Enhancement Act (EPEA) regulated drinking water systems (a.k.a. waterworks system under EPEA).

Scope

2. This Information Letter applies to all drinking water systems holding an approval or registration from Alberta Environment and Water (AEW).

Background

3. The World Health Organization in their 4th Edition of the Guidelines for Drinking-Water Quality define a Water Safety plan as being "the most effective means of consistently ensuring the safety of a drinking-water supply through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer." In Alberta the term for a water safety plan is "Drinking Water Safety Plan".

4. A Drinking Water Safety Plan (DWSP) represents a system-wide approach to ensuring that the quality of water delivered to consumers is of good and consistent quality. To do this, it is necessary to consider the source of the water, how it is treated, and the storage and distribution of the treated water. A DWSP is based on a comprehensive assessment of the risk factors that could adversely affect the quality of the water delivered to consumers, and sets out how risk factors are to be monitored and managed. A DWSP is a location-specific assessment of a water supply system, from the source, or sources, of the raw water through to the points of delivery, considering risks and hazards, means to address and monitor the hazards, and procedures for managing and operating the system, under both normal and exceptional circumstances¹.

5. Traditionally the regulatory approach to maintaining the quality and safety of drinking water has largely been a prescriptive one, based on the ability of any

¹ This paragraph is taken from Chapter 15, Basic Water Treatment (4th Edition), Binnie and Kimber, Thomas Telford 2009.

given supply to meet standards (usually in the form of Maximum Acceptable Concentrations) set for a number of different chemical and biological parameters. Whilst it may be argued that this approach has successfully driven the investment programs for water authorities all over the world, it is not the whole story as it has not prevented a significant number of water supply incidents where large numbers of people have been infected and fatalities have occurred. There are a number of issues around the assumptions and the limitations of a sampling and analysis regime, but more importantly, the basis for such regimes is essentially reactive rather than proactive and consequently any concern may impact consumers before any effective action can be taken.

6. The most effective means of consistently ensuring the safety of a drinking water supply is through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer. This approach is termed a drinking water safety plan.

7. Alberta Environment and Water has developed a “template” for completing a drinking water safety plan for use by drinking water systems in Alberta. The template is published on the AEW website². The template is built as an MS-Excel spreadsheet and is broken into four main components (source water, treatment, distribution network and consumers’ premises) with supporting pages and summaries of key actions required and interventions to be undertaken.

8. Through late 2011 and early 2012, Alberta Environment and Water provided training workshops for operators in the concepts of drinking water safety plans and, specifically, on how to address the completion of the template in anticipation of changes to approval/registration requirements that will require the adoption and completion of a drinking water safety plan for all approved drinking water systems by December 31, 2013. On-going support is available, in the first instance, from Drinking Water Operations Specialists (DWOS) who can be contacted via AEW’s district or regional offices.

9. This Information Letter is to inform partners and stakeholders of Alberta Environment and Water’s adoption of the use of drinking water safety plans.

Details of Implementation of DWSP

10. On April 30, 2012, a revised requirement at section 1.13 will be placed in the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems; Part 1 – Standards for Municipal Waterworks (2012) replacing the existing requirement for a risk assessment. Approval and registration holders will be required to prepare a DWSP in accordance with the requirement in the Standards. Waterworks facilities in existence on June 1, 2012

² www.environment.alberta.ca/apps/regulateddwg/dwsp.aspx

will have until December 31, 2013 to prepare their DWSP. New facilities as of June 1, 2012 will have 12 months to prepare their DWSP.

Enquiries

11. Enquiries on this Drinking Water Information Letter should be addressed to the Drinking Water Specialist, Drinking Water and Wastewater Section, Regional Integration Branch (Dr Donald Reid, Donald.Reid@gov.ab.ca, 780-644-8061).