**Section 611.212 Groundwater under Direct Influence of Surface Water**

The Agency must require a CWS supplier to demonstrate under Section 611.201 whether it uses "groundwater under the direct influence of surface water". Based on the information the supplier provides, the Agency must determine whether a PWS uses "groundwater under the direct influence of surface water". The Agency must base this determination on specific factors:

a) Physical Characteristics of the Source. Whether the source is obviously a surface water source, such as a lake or stream. Other sources possibly subject to influence from surface waters include springs, infiltration galleries, wells, or other collectors in subsurface aquifers.

b) Well Construction Characteristics and Geology with Field Evaluation

1) The Agency may use the wellhead protection program's requirements, which include delineation of wellhead protection areas, assessment of sources of contamination, and implementation of management control systems, to determine if the wellhead is under the direct influence of surface water.

2) A well less than or equal to 50 feet deep is likely under the direct influence of surface water.

3) A well more than 50 feet deep is likely under the direct influence of surface water, unless it includes specific features:

A) A surface sanitary seal using bentonite clay, concrete, or similar material;

B) A well casing penetrating consolidated (slowly permeable) material; and

C) A well casing that is only perforated or screened below consolidated (slowly permeable) material.

4) A source less than 200 feet from any surface water is likely under the direct influence of surface water.

c) Any structural modifications to prevent the direct influence of surface water and eliminate the potential for Giardia lamblia cyst contamination.

d) Source Water Quality Records. Specific factors indicate that a source is under the direct influence of surface water:

1) A record of total coliform or fecal coliform contamination in untreated samples collected over the past three years;

2) A history of turbidity problems associated with the source; or

3) A history of known or suspected outbreaks of Giardia lamblia, Cryptosporidium, or other pathogenic organisms associated with surface water attributable to the source.

e) Significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH.

1) A variation in turbidity of 0.5 NTU or more over one year is indicative of surface influence.

2) A variation in temperature of nine Fahrenheit degrees or more over one year is indicative of surface influence.

f) Significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH, closely correlating with climatological or surface water conditions indicate surface water influence.

1) Evidence of particulate matter associated with the surface water; or

2) Turbidity or temperature data that correlates with that of a nearby surface water source.

g) Particulate Analysis. Significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens, such as Giardia lamblia, indicates surface influence.

1) "Large-diameter pathogens" are those over seven micrometers.

2) The supplier must measure particulates as the Guidance Manual for Filtration and Disinfection (91), incorporated by reference in Section 611.102, specifies.

h) The potential for contamination by small-diameter pathogens, such as bacteria or viruses, does not alone render the source "under the direct influence of surface water".

BOARD NOTE: This Section derives from the definition of "groundwater under the direct influence of surface water" in 40 CFR 141.2; from the Preamble at 54 Fed. Reg. 27489 (June 29, 1989); and from the USEPA Guidance Manual for Filtration and Disinfection (91).

(Source: Amended at 47 Ill. Reg. 16486, effective November 2, 2023)