

Subject:	Discontinuing Chlorination or Ultraviolet Light at Groundwater Systems	Date:	3/2/15
Unit:	Technical services (jn, tp)	Revised:	10/14/19
<p><u>Purpose & Scope:</u> The purpose of this procedure is to provide consistent guidance to DWS and Partner Agency staff on the requirements to approve the removal of chlorination for 4-log viral inactivation, residual maintenance chlorination, or ultraviolet light (UV) at groundwater systems. Note: the removal of chlorination for 4-log viral inactivation is authorized by OAR 333-061-0032(6)(i).</p>			

Summary of Procedure:

The criteria to allow removal of treatment are:

- *No source water significant deficiencies; and*
- *Regional hydrogeologist review of source; and*
- *Assessment monitoring (either 12 consecutive monthly samples for a source susceptible to fecal contamination or one annual sample for sources not susceptible to fecal contamination) – * see definition of susceptible at end of procedure; and*
- *(For 4-log only) corrective action of presumed fecal contaminant source, such as abandoning a nearby septic system, that was present at the time the source was determined to be confirmed E. coli-positive.*

Note 1: Pursuant to OAR 333-061-0025, if the water system has removed chlorination or UV with or without regulatory agency approval, and the water system is exceeding Maximum Contaminant Levels, triggering coliform investigations, or having public health hazards as a result of the removal, the water supplier must reinstall the treatment.

Note 2: All groundwater sources that are treated by the same treatment plant and enter the distribution system through a common entry point must meet the criteria

outlined below in order to approve removing chlorination or UV. If any sources do not meet the criteria, the existing treatment needs to be continued.

Note 3: Systems that were required to install chlorination or UV due to persistent total coliform detections in the distribution system per OAR 333-061-0032(6)(g) may not use this procedure to remove chlorination or UV unless the cause of the coliform positives in the source or distribution system has been identified and corrected.

A. Receiving and Processing the Request

- a. In order to process the request, the regulatory agency needs to provide written verification that there are no source (well or spring) significant deficiencies, such as the lack of a screen on a well vent or a spring without watertight construction (documentation may consist of the most recent water system survey or recent photograph or written documentation of a corrected source water significant deficiency).
- b. The regulatory agency should conduct an archived file history review (i.e. older than the files in the Portland system file) to determine if the chlorinator or UV was required previously and the reason why.
- c. If there is no completed source or well evaluation from 2009 or later (see Groundwater/GWUDI Source Details page on Data Online), regulatory agency staff will prepare a request for an as-built well or spring construction review by the Regional Hydrogeologist using the following template (Source Evaluation Request Form) currently located in the following folder {(Portland I):\DWS\FS\TS Unit Forms-Handouts-Manuals\Plan Review}. The request will need to include plans for the well or spring, any nearby potential contaminant sources identified in OAR 333-061-0050 (2)(a)(E), and any surface water within 500 feet of the source. Note in the comments field at the bottom of page 1 the nature of the request to discontinue treatment. (If the PWS has already completed 12 months of source water

monitoring, a source evaluation request is not necessary. Monthly assessment monitoring results can be viewed on the Groundwater/GWUDI Source Details page. Proceed to item C, Evaluation of Source Water Monitoring Results.)

- d. The Regional Hydrogeologist will review the request to determine if the groundwater source is susceptible to fecal contamination and whether 12 months of source assessment monitoring are required before the request can be granted. The results will be forwarded to Tech Staff and the regulatory agency, if applicable.

B. Determining the Requirements of the Request and Communication to the Water System

- a. If the Hydrogeologist determines that 12 months of assessment monitoring are required, they will also determine if the system has completed the required monitoring.
- b. If the Hydrogeologist does not require 12 months of assessment monitoring, the system must still submit a minimum of one raw water source assessment sample.
- c. Determining whether minimum requirements have been met:
 - i. If the required monitoring has been completed (a monthly result from each of the 12 months or one result), and the results from all monthly and annual assessment samples are all coliform absent, and there are no significant source deficiencies proceed to D.
 - ii. If the sampling has not been completed, the Regulatory Agency will communicate the requirements to the water system.

- iii. If there are source water significant deficiencies, the Regulatory Agency will notify the water system that the request cannot be approved.

C. Evaluation of the Source Water Monitoring Results

- a. Any *E. coli* positive sample result, unconfirmed or otherwise, will automatically result in the request being denied.
- b. If total coliform was detected in the source, the request to remove chlorination or UV will be denied unless the water system can show it was caused by a source deficiency or a sampling error. Any identified source deficiencies or sampling errors must be corrected and subsequent source testing must be free of coliform prior to approving removal of chlorination or UV. Any sampling error would require prompt follow-up sampling with coliform absent results with identification of the cause of the sampling error, to allow the removal of treatment.

D. Approval or Denial of Request, and Notification to the Water System

- a. Regulatory agency staff will communicate any approval or denial to the water system in writing. Note that triggered source water monitoring is still required for the water system if the chlorination or UV is removed. The system shall update their coliform sampling plan appropriately.
- b. The regulatory agency will complete a contact report for each approval or denial of a request to remove treatment.
- c. Upon approval, regulatory agency staff will need to coordinate with DMCE to remove appropriate treatment processes, and inactivate the treatment plant on SDWIS, with comments explaining the date and nature of the discontinued treatment. Upon approval, regulatory agency staff will need to coordinate with DMCE and the Regional

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Hydrogeologist, to close any open assessment source sampling schedules, and any DBP schedules for chlorinating Community and Non-Transient Noncommunity systems.

*Susceptible to fecal contamination occurs when the source is highly sensitive to contamination and a fecal contaminant source is present within the 2-year Time-of-Travel Zone. Highly sensitive to contamination occurs when one or both of the following characteristics are highly sensitive:

- Construction characteristics (does the source meet current construction standards? is the casing seal of appropriate material and depth?)
- Aquifer characteristics (is the aquifer confined?, made up of shallow fractured bedrock, or is it contaminated?)