

Subject:	Arsenic sampling and follow-up at TNC and OVS water systems	Date:	6/14/2012
Unit:	Technical Services & Partners	Revised:	1/25/2016, BG 2/10/2020, MB 3/8/2022, DH/PR
Purpose & Scope: Review arsenic sampling for TNC and OVS systems to evaluate and follow up on potential health risks to consumers.			
Procedure/Process: See below.			

Background: In 2001, the EPA lowered the maximum contaminant level (MCL) for arsenic from 0.050 mg/L to 0.010 mg/L based on health concerns from chronic or long-term exposure to low levels of arsenic in drinking water. The new arsenic MCL became enforceable in 2006. Transient Non-Community (TNC) and Oregon Very Small (OVS) systems are not required to comply with the MCL because they primarily serve a transient population. However, there is risk when a TNC or OVS water system serves full-time employees or residents. TNC and OVS water systems are required to sample for arsenic one time at the entry point to the distribution system per OAR 333-061-0036(2)(a)(iii). The intent of this procedure is to ensure that TNC and OVS systems have sampled for arsenic, and if so, determine whether those results are acceptable to meet the current MCL. TNC and OVS systems with arsenic in drinking water at or above the MCL need to be aware of the potential health risks associated with chronic and acute exposure so they may notify the consumers they serve.

Procedure: Review the water system’s arsenic results to determine whether data is acceptable or another sample is needed. If arsenic result is at or above the MCL, the appropriate regulating agency should discuss the public health risks and importance to communicate arsenic information to consumers.

A. The scenarios to evaluate for TNC and OVS systems:

- If no arsenic result is displayed in [Data Online](#), the water supplier must collect a sample to be analyzed by an accredited laboratory. The result needs to be submitted to DMCE for compliance.
- If the arsenic result was collected before 2001, it may have been analyzed with an older method that is no longer acceptable, meaning a non-detect result may be at the current MCL. Unacceptable methods are EPA 200.7 and SM 3120B. If the water supplier cannot confirm an acceptable method was used to analyze the sample, another sample should be collected to verify arsenic is below the current MCL.

B. When a system’s arsenic result is at or above the MCL of 0.010 mg/L, the following steps and options must be discussed with the water system’s owner/operator:

- 1) Although not required, encourage the water supplier to begin quarterly sampling (see OAR 333-061-0036(2)(a)(D)). Additional sample results will confirm the initial result and may also show arsenic levels change seasonally. Groundwater systems collect for a minimum of two quarters, whereas water systems supplied by surface water sources collect for a minimum of four quarters.

- 2) Provide the water supplier with a copy of the [Arsenic in Drinking Water](#) health effects handout so it can be made available to persons served by the water system.
- 3) Water suppliers that collect quarterly samples will want to average those results. If the average continues to be over the arsenic MCL, public notice should be provided to consumers, especially full-time employees and residents, to inform them of the MCL exceedance and potential health risks (see OAR 333-061-0042(2)(d)). The [chemical contaminant public notice template](#) should be modified to communicate the arsenic MCL and health effects information.
- 4) Options to discuss with the water supplier may include:
 - a. Using a temporary known safe water source for drinking water (such as bottled water).
 - b. Develop or connect to another safe water source (such as a nearby public water system).
 - c. Install treatment to remove or reduce arsenic (see attached list of treatment types).

C. When a **system's arsenic result is over the acute level of 0.035 mg/L**, the following steps and options must be discussed with the water system's owner/operator:

- 1) Water suppliers should be informed that arsenic over 0.035 mg/L is not a federal health advisory level. A federal health advisory is issued based on an OHA public health toxicologist's literature review and assessment.
- 2) Again, although not required, encourage quarterly sampling for reasons stated above in section [B-1](#).
- 3) It is imperative to directly deliver and/or post the public notice to inform **all users** that arsenic sampled over the MCL at acute levels, which means young children, especially infants, should IMMEDIATELY STOP DRINKING THE WATER due to increased health risk (see [Drinking Water Warning](#) under [Public Notice Resources & Templates](#)). Arsenic over 0.035 mg/L has been associated with health effects in children after very short-term exposure (two weeks or less) because children drink more water per body weight than adults and they pass through important developmental stages, especially during brain development.
- 4) Using an alternate known safe water source on a temporary basis should be strongly encouraged until the arsenic issue is resolved.
- 5) Provide a copy of the [Arsenic in Drinking Water](#) health effects handout to the water supplier.
- 6) Other options to help resolve the issue are listed above in section [B-4](#).

D. When a **TNC or OVS system has treatment installed for arsenic reduction**; collecting an arsenic sample annually is strongly encouraged to ensure the treatment system is operating properly. Without regular sampling, the treatment system could fail, and the owners/consumers would not know it, leading to unwanted exposure.