

## Guidelines for Resolving Bacteriological Problems

Public water systems that have a positive bacteriological water sample from the distribution system must conduct repeat sampling in accordance with the requirements specified in the California Code of Regulations (CCR). Each public water system is required to maintain and follow a Bacteriological Site Sampling Plan to guide the system through routine sampling and repeat sampling in the event of a positive sample. In the event of a positive water sample, the water system should follow their Sample Site Plan and contact this office to discuss the problem.

To investigate the potential cause of the positive water sample, the system operator should review both the system facilities and the sampling procedures. The water system may need the technical assistance of an engineer, water treatment expert or pump company to evaluate the system. This review should include the following:

**Source review:** Is there a problem with the source water prior to treatment? Does the well produce water that contains coliform bacteria? Is the well construction adequate? Are there openings on the wellhead that may allow contaminants to enter the well casing? Is the well properly located with respect to sources of contamination? Will disinfection of the well be necessary to eliminate coliform bacteria? Has any recent work been done on the well or well pump?

**Treatment review:** Is the treatment system operating normally? Are records maintained which document the recent operation of the treatment system? Is there an adequate chlorine residual in the system? Has chlorine residual in the system been monitored and recorded on a regular basis? For surface water systems: Are turbidity performance standards being met? Has there been a breakdown in any part of the treatment process?

**Distribution system review:** Has the system been depressurized for repairs? Are there any significant leaks that might allow infiltration into the distribution system? Is the system adequately protected from cross-connections?

**Storage tank review:** What is the current interior condition of each storage tank? Is there an excessive amount of sediment inside of a tank? Have any contaminants entered a storage tank through an unsealed opening, broken screen or other means? When was the last time that the storage tank was cleaned and disinfected? Is it necessary to disinfect the storage tanks?

**Sampling procedures review:** Was the sample properly collected? Was the sample bottle in proper condition? Was the sample collected from an appropriate sample tap? Avoid swing faucets (commonly use in kitchens) and sample taps with aerators which tend to harbor coliform bacteria. Refer to Technical Document #32 – Collecting Bacteriological Water Samples.