C-22

Water Quality Monitoring and Compliance Requirements

1. Monitoring Requirements

A summary of the minimum monitoring requirements for lead (Pb) & copper (Cu) tap samples and water quality parameter (WQP) samples for systems serving over 50,000 persons.

Required Monitoring for Water Quality Parameters

Entry Point

Collect one sample bi-weekly at each entry point to the distribution system for the following parameters:

- pH
- alkalinity and the dosage rate of the chemical used to adjust alkalinity – when alkalinity is adjusted as part of optimal corrosion control
- phosphate concentration and the dosage rate of phosphate chemical – when phosphate chemical is added as part of corrosion control. Specify whether phosphate measurements are either as PO_4 or as P
- silica concentration and a dose rate of silicate chemical – when silicate-containing chemical is added as part of corrosion control

Distribution System Sites

Collect two samples at each distribution sample site during each monitoring cycle for the following parameters:

- pH
- alkalinity
- phosphate or silica, if applicable
- calcium – when calcium carbonate stabilization is used as part of corrosion control

Note: Distribution system samples must be collected evenly throughout the monitoring cycle to reflect seasonal variability.

Population Served	Standard Monitoring (Sample Sites)	Reduced Monitoring (Sample Sites)
>100,000	25	10
10,001 to 100,000	10	7
3,301 to 10,000	3	3
501 to 3,300	2	2
101 to 500	1	1
<101	1	1

Required Monitoring Frequencies

1. After Installation of Corrosion Control Treatment (CCT)

Standard monitoring (SM) for Pb & Cu tap samples and WQP samples for two consecutive 6-month cycles (for 1 year)

2. After the Designation of Optimal Water Quality Parameters (OWQP)

Pb & Cu Tap Sample Monitoring	WQP Monitoring
• SM for two consecutive 6-month cycles (for 1 year) • Annually at the reduced number of Pb & Cu tap sample sites if approved by the State for three consecutive monitoring cycles and meets OWQP (for 3 years) • Every three years at the reduced number of tap sample sites if approved by the State	• SM for two consecutive 6-month cycles (for 1 year) • Every 6-month cycle at the reduced number of WQP sample sites for three consecutive years • Annual monitoring at the reduced number of WQP sample sites for three consecutive years • Every three years at the reduced number of WQP sample sites unless standard monitoring is triggered

Note, not all steps will be required for every system.

2. Compliance Determination with WQP Values Designated for the Optimal Corrosion Control Treatment (OCCT)

- An excursion occurs when a "daily value" for a WQP at a sampling location is below the minimum or outside the range of values designated by the State.

- Multiple excursions that occur on the same day are only counted once. For example:

  Example 1: A system had excursions for pH and alkalinity on the same day – counts as one excursion.

  Example 2: A system had excursions for pH at multiple sample sites on the same day – counts as one excursion.

- The duration of an excursion is the number of days that elapse starting with the day the excursion first occurs, until the day the daily value is within the OWQP range or above the OWQP minimum for that WQP. These dates are based on the date the system collected the sample, not the date the system received the sample results.

  Example 3: A system had an excursion with a pH value at one of its DS sites one week ago (e.g. a week ago Monday). The next time the system measured pH at the same location was today (let's say Monday) per its routine schedule, and pH was within the designated pH range – this system had 7 excursions as 7 days elapsed between the pH measurements.

- Compliance with the OWQPs is determined on a 6-month basis. When a system has more than 9 days of excursions in any 6-month compliance period, the system is in violation and required to go back to SM for Pb & Cu tap samples and WQP samples according to the "2. After the Designation of Optimal Water Quality Parameters" schedule in the table above.

- Systems with Multiple Treatment Plants – If a system has multiple treatment plants with different OWQP specifications and the plants are not interconnected, the plants should be treated as separate systems to assess compliance with OWQPs.

  Example 4: Assume that a system has two treatment plants. Excursions that exist at Treatment Plant 1 would be considered separately from any excursions that occur at Treatment Plant 2. Thus, if the system had 6 days during a 6-month period with excursions at Treatment Plant 1 and 7 days with excursions at Treatment Plant 2 during the same 6-month period, the system would be in compliance because neither plant has exceeded the 9-day excursion limit.

3. Required Actions Following a Violation with the OWQPs

- Report the violation to the State within 48 hours of determining the noncompliance.
- Tier 2 public notification is required (within 30 days).
- Include a discussion of the violation in the Annual Water Quality Report.