

Guidance to Implement Secondary Maximum Contaminant Levels

The CV-SALTS Salt and Nitrate Management Plan (SNMP) *Guidance to Implement Secondary Maximum Contaminant Levels* (SMCL Policy) recommends that the Central Valley Water Quality Control Plans (Basin Plans) be amended to clarify how secondary maximum contaminant levels (SMCLs) are addressed in discharge permits.

Purpose and Need for the Policy

The SMCLs are enforceable, drinking water standards primarily intended to protect public welfare by addressing qualities such as odor, taste, and appearance. Compliance with SMCLs also minimizes risk of corrosion of pipes, fixtures, valves, other plumbing materials, and household appliances. Per the U.S. Environmental Protection Agency, SMCLs are not intended to address human health concerns. The Basin Plans include SMCLs as water quality objectives for protection of the Municipal and Domestic Supply (MUN) beneficial use by referencing Tables 64449-A and 64449-B of Title 22 of the California Code of Regulations (CCR). This incorporation by reference to Table 64449-B has led to some confusion with respect to application of the SMCLs because it does not include reference to other provisions of Title 22 that further explain how the SMCLs in Table 64449-B should be implemented. To address this confusion and clarify other aspects of SMCL implementation through discharger permits, the SNMP includes recommendations for amendments to the Basin plans for interpreting and implementing the SMCLs. These recommendations do not propose changes to any of the numeric values specifically adopted as SMCLs in Title 22 CCR.

Policy Summary

This Policy clarifies how SMCLs are to be interpreted and used as water quality objectives when the Central Valley Water Board is developing Waste Discharge Requirements or Conditional Waivers (WDRs/Waivers) that authorize discharges to surface water or groundwater. The Policy addresses two types of SMCLs:

- Salinity-related constituents, including total dissolved solids (TDS) or electrical conductivity (EC), chloride and sulfate in Table 64449-B; and
- Other types of constituents, including organics, metals, and other general constituents in Table 64449-A.

With regards to these various types of SMCL constituents, the Policy recommends clarifications in the following key areas:

Interpretation of Salinity-related Constituents – The Basin Plans incorporate by reference (from 22 CCR §64449) SMCLs in the Chemical Constituent sections in Chapter III: Water Quality Objectives. The only portions of 22 CCR related to SMCLs and currently incorporated into the Basin Plans are Tables 64449-A and 64449-B. Table 64449-B includes “Recommended,” “Upper,” and “Short Term” concentrations for TDS or EC (or Specific Conductance), chloride, and sulfate. While the Basin Plans include SMCLs as water quality objectives for protecting the MUN beneficial use, the Basin Plans do not include

text from 22 CCR §64449 that provides guidance for how to use the applicable “Recommended,” “Upper,” or “Short Term” concentrations as water quality objectives. The lack of guidance on these tiered numeric values in Table 64449-B has led to inconsistent application in WDRs/Waivers.

Measuring Compliance with SMCLs – The Basin Plans do not provide guidelines regarding the appropriate sampling method for evaluating WDR/Waiver compliance with the SMCLs. Specifically, should compliance with an SMCL be determined from a filtered or unfiltered water sample?

Historically, drinking water suppliers and wastewater dischargers comply with SMCLs using the total recoverable metals in a sample that undergoes no additional filtration after it has been collected. This approach is inconsistent with federal law that requires most community water systems to filter surface water prior to delivery. For wastewater dischargers to continue to rely on unfiltered samples to assess compliance with SMCLs in the receiving water may overestimate the potential aesthetic impact on the actual quality of downstream drinking water delivered to consumers after treatment. In addition, for discharges to groundwater, filtration through natural soils or man-made systems significantly reduces the concentration of TDS, including aesthetically objectionable minerals such as iron, manganese, and aluminum. Evaluating SMCL compliance using an unfiltered sample collected near the point of discharge fails to take into consideration the natural soil filtration that will occur as water percolates through the vadose zone. Instead, analyzing a filtered sample, collected near the discharge, more accurately characterizes groundwater quality as it will likely appear when it is later extracted for public water supply.

Given these circumstances, the Policy clarifies that selected SMCLs in Table 64449-A should have compliance assessed with a filtered sample for aluminum, color, copper, iron, manganese, silver, turbidity and zinc. The remaining Table 64449-A constituents not included in this list should have compliance assessed with an unfiltered sample.

Compliance Assessment Time Period – The Basin Plans do not currently provide guidance on the assessment period that should be used to determine compliance with SMCLs. For drinking water systems, determining compliance with the SMCLs varies depending on the source of water: (a) for groundwater sources compliance is based on a single sample collected once every three years; (b) for surface water sources compliance is based on a single annual sample. The Policy recommends that the Basin Plans be amended to incorporate text that defines the assessment period for determining compliance with SMCLs in WDRs/Waivers. Specifically, language should be added to Basin Plan Chapter IV: Implementation to state that an evaluation of compliance with SMCLs in Tables 64449-A and 64449-B shall be, at a minimum, based on an annual average of collected samples from the point of compliance.

Implementation in Discharge Permits

In addition to the clarifications described above, the Policy provides guidance to the Central Valley Water Board with regard to the factors that may be considered when developing discharge permit language. The policy recommends that these factors be incorporated into Chapter IV: Implementation in each of the Basin Plans.

More information on this policy and other SNMP recommendations may be found at:

www.cvsalinity.org