



Procedures for Establishing and Reviewing Drinking Water Maximum Contaminant Levels (MCLs)

Division of Drinking Water & Environmental Management
CA Department of Public Health

Maximum Contaminant Levels: What are They?

- ▶ Primary Maximum Contaminant Levels (MCLs) are enforceable drinking water standards
 - Adopted by CDPH through the regulatory process
 - Not less stringent than federal standards
 - Set as close as technologically and economically feasible to Public Health Goal (PHG)
 - Must consider technologic & economic feasibility
- ▶ Primary emphasis: public health protection

Establishing/Reviewing MCLs

- ▶ Establish new MCL if one does not exist (e.g., MTBE, perchlorate)

- ▶ Every 5 years evaluate existing MCLs, using comprehensive review criteria, and annually identify those planned for review:
 - Is PHG lower than existing state MCL?
 - Is there new scientific evidence indicating the substance may present a different risk than previously determined?
 - Are there any changes in technologies or costs that would affect the feasibility of a lower standard?
 - Significant trends in contamination levels indicated by recent occurrence data?

Establishing the MCL

To determine technological and economic feasibility, CDPH goes through the following steps:

- Receives the PHG from OEHHA
- Selects possible draft MCL concentration or concentrations for evaluation
- Evaluates the occurrence data
- Evaluates available analytical methods and estimated monitoring costs at a draft MCL concentration(s)
- Estimates population exposures at the draft MCL concentration(s)

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Establishing the MCL

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- Identifies best available technologies for treatment
- Estimates treatment costs at the draft MCL concentration(s)
- Reviews the costs and associated health benefits that result from treatment at the draft MCL concentration
- Proposes the draft MCL concentration

Then the proposed MCL moves through the formal rulemaking process.

Rulemaking Procedural Steps:

- ▶ Department drafts regulations text & required documents.
- ▶ Review by the Department of Finance.
- ▶ Submittal to the Office of Administrative Law (OAL) for review and approval prior to publication in the California Regulatory Notice Register. This announces availability of the regulation for the public comment period.
- ▶ A 45-day public comment period.
- ▶ There may be a second, 15-day public comment period, but only if changes are made in response to comments from the prior public comment period.

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Rulemaking Procedural Steps

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- ▶ Preparation of responses to comments and the final regulations package.
- ▶ Submittal to OAL for final review for Administrative Procedure Act compliance—this can take up to 30 working days.
- ▶ Unless an alternative effective date was established pursuant to Government Code section 11343.4(b), following OAL approval, the regulation is filed with the Secretary of State and becomes effective according to the following schedule:
 - January 1 if the regulation or order of repeal is filed on September 1 to November 30, inclusive.
 - April 1 if the regulation or order of repeal is filed on December 1 to February 29, inclusive.
 - July 1 if the regulation or order of repeal is filed on March 1 to May 31, inclusive.
 - October 1 if the regulation or order of repeal is filed on June 1 to August 31, inclusive.

Cost Benefit Analysis (CBA)

- ▶ Department performs an extensive cost–benefit analysis at various possible MCLs, considering:
 - Occurrence of chemical in drinking water sources statewide
 - Treatment feasibility & costs
 - Costs of monitoring, analysis, & contaminant removal/disposal
 - Potential population exposed/affected
- ▶ The CBA is required by statute and is a critical piece of draft regulations package

Steps in the CBA

Occurrence:

- ▶ Use statewide monitoring data (available if contaminant is already regulated, or from data obtained from unregulated contaminant monitoring requirement (UCMR)).
- ▶ Identify affected sources by system size (<200 service connections (SC); 200–<1,000 SC; 1,000–<10,000 SC, or >10,000 SC). The concentration of the contaminant in each source and the size of the population exposed will be used in later calculations.

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Steps in the CBA

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Consider possible MCL concentrations.

- ▶ Consider PHG from OEHHA (PHG will be based on cancer or non-cancer endpoint)
- ▶ Compare PHG with Detection Limit for Purposes of Reporting (DLR, which will be part of the regulation).
- ▶ If $DLR > PHG$, then draft proposed MCLs will not be below DLR for CBA.

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Steps in the CBA

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- ▶ Pick several draft possible MCLs, for example, 1, 2, 5, 10, 20, and 50 ppb.
- ▶ For each draft possible MCL, determine the number of affected sources above that concentration and calculate the theoretical excess cancer cases per year (or non-cancer risk), based on the average concentration in the source, its population size, and the risk (derived from the PHG). This represents the number of theoretical excess cancer cases or other effects avoided.

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Steps in the CBA

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- ▶ Determine the annualized costs of monitoring, analysis, and treatment (capital, operations and maintenance) for the contaminant for affected sources (for small water systems (SWS) and large water systems (LWS)).
- ▶ Calculate estimated costs of annual treatment per theoretical excess cancer case (or other non-cancer endpoint) avoided for SWS and LWS for each draft possible MCL.

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Steps in the CBA

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From the calculations of the CBA (cost per theoretical cancer case avoided), determine the draft possible MCL that satisfies the requirement of being as close to the PHG as is technologically and economically feasible.

MCLs & PHGs Facts

Federal MCLs	79
CA MCLs	90
Public Health Goals	92
MCLs same as or below PHGs	37
CA MCLs lower than Federal MCLs	24
Federal MCLs lower than CA MCLs	0
How many MCLs established/revised since 2005?	12 (5 new; 7 revised)

Questions?