**State Water Resources Control Board**

**Perchlorate Detection Limit for Purposes of Reporting (DLR) Regulations**

# Economic and Fiscal Impact Statement, STD 399 - Attachment A

## Economic Impact Statement

### Section A Estimated Private Sector Cost Impacts (p. 1):

1. Regulation Impacts  
   The proposed regulation directly impacts public drinking water systems. Public water systems (PWS) are utilities, not businesses or individuals and, pursuant to Government Code Chapter 3.5, Article 2, Section 11342.610(b)(8), are specifically excluded from the definition of small businesses. However, the State Water Resources Control Board (State Water Board) recognizes that a small number of the identified PWS likely provide water solely to businesses and that PWS often provide water to businesses. The State Water Board also recognizes that costs associated with monitoring would likely be passed on to a water system’s customers, which may include individuals and businesses.

During Phase I, the new cost to customers is attributed to increased monitoring frequency. In summary, it is expected that 2,346 PWS will have sources that will now require a change in monitoring frequency from routine (once every three years) to increased (quarterly) (see Appendix, Table I and II).

During Phase II, the new cost to customers is attributed to Phase I costs plus an increased cost per analysis. There is no change to any PWS monitoring frequencies from Phase I (see Table I and II).

Even though the proposed regulation does not directly affect businesses or individuals, those entities may be indirectly impacted. Similarly, no reporting is required of businesses, but reporting of monitoring results would be required of the PWS, and such reporting is necessary for health, safety, or welfare of the people of the state to ensure compliance with the drinking water maximum contaminant level (MCL). Those costs for reporting were considered as part of the monitoring costs.

1. Businesses Impacted  
   As noted above, the regulation directly impacts only PWS, which are not considered businesses or individuals and are excluded from the definition of a small business (Gov. Code § 11342.610(b)(8)). The State Water Board does recognize that indirect impacts to businesses may occur from increased water rates due to the monitoring costs to PWS being passed on to their customers.

For Phase I of the proposed regulation, the State Water Board identified 27 counties with prior detections of perchlorate. Within the 27 counties, there are a total of 2,346 PWS with no perchlorate detections during the review period, all of which are either community water systems or non-transient non-community water systems. These PWS own a total of 7,194 drinking water sources that are expected to incur cost increases as the result of increased monitoring frequencies. The State Water Board estimates that 3,257 of those sources are privately owned and 3,735 are locally owned by public agencies such as municipal water systems. The private water systems may also be businesses, such as a mobile home park, restaurant, or processing plant, which will incur indirect impacts and the private and public agency water systems are likely to include businesses within their service areas.

In Phase II, all monitoring frequencies for all PWS are expected to remain unchanged from Phase I, and any new cost impacts are due to the increase in per-analysis cost from $56 to $224. Therefore, all PWS with sources that require monitoring for perchlorate, regardless of the monitoring frequency, will be impacted. In summary, the new sample analysis cost impacts 2,346 PWS (7,194 sources) identified in Phase I, as well as 1,501 PWS (4,849 sources) that are expected to remain on routine (once per three years) monitoring frequencies (see Appendix, Table I).

The types of businesses expected to be indirectly impacted consist of every type of business that requires potable drinking water for either their customers, employees, or processes/operations.

The State Water Board also does not have a means of estimating the percentage of businesses that meet the definition of a small business.

1. Businesses Created and Eliminated  
   As noted above, the regulation directly impacts only PWS, which are not considered businesses or individuals, and are specifically excluded from the definition of a small business (Gov. Code § 11342.610(b)(8)). Regardless, the proposed regulation is not expected to create or eliminate any businesses. However, businesses providing laboratory analytical services for required monitoring may experience increased demand and there may be opportunities for companies to develop new analytical methods and treatment technologies to detect and address perchlorate.
2. Geographic Extent of Impacts  
   The impact is statewide. Monitoring is required by all community and non-transient, non-community PWS; however, certain geographic areas were identified in the CEM, based on available data, as likely being more impacted by perchlorate and a revised DLR than others. For statewide monitoring, it is unlikely that each source that has not previously had a perchlorate detection would experience increased monitoring frequency requirements but all would be subject to an increased cost per sample analysis as projected in Phase 2 of the proposed regulation.
3. Jobs Created and Eliminated  
   The frequency of drinking water sampling and analysis for perchlorate is expected to increase. It is expected that current laboratory staffing would absorb the increased workload with minimal alteration to the analytical process. Therefore, the proposed regulation is not expected to result in the creation or elimination of jobs within the state.

### Section B Estimated Costs (p. 2):

1. Lifetime Costs  
   Cost to businesses and individuals are assumed to result from PWS passing on the costs of compliance to their customers. The regulation does not have an end-date and therefore will not have a lifetime cost; however, the lifetime cost without considering economic variability can be estimated over 20 years (see Appendix, Table II).

For Phase I, the estimated cost impact is due to 7,194 sources shifting from monitoring once every three years to monitoring once per quarter. Therefore, cost estimates are presented as new costs, not as additional cost differences. Phase I has an annual cost of **$1,611,456.**

For Phase II, the total annual cost is derived from sum of the increased cost per analysis for the sources with increased monitoring schedules (4 analyses /annually) and the sources with routine monitoring (1 analysis/ every 3 years). In Phase II, all sources will have a cost per analysis of $224. This cost impacts 7,194 sources switching to quarterly monitoring in Phase I, 304 sources already on quarterly monitoring, and 4,849 sources expected to remain on routine monitoring.

Two costs, 304 sources already on quarterly monitoring (**$272,384**)and 4,849 sources expected to remain on routine monitoring (**$362,059**) were not quantified in the Addendum to the Initial Statement of Reasons. This information will be explained in the Final Statement of Reasons.

Phase II has an estimated annual cost of **$7,080,267 ($6,445,824 + $272,384 + $362,059)**.

Phase I, which occurs for the first three years has an estimated cost of **$4,834,368** (**$1,611,456** X 3 years), and Phase II, which occurs for the subsequent 17 years has an estimated cost of **$120,364,533** (**$7,080,267** X 17 years).

The estimated lifetime cost is **$125,198,901**, which is the sum of costs for Phase I and Phase II ($4,834,368 + $120,364,533).

(a): Small Business Costs  
As noted earlier, PWS are excluded from the definition of a small business. Additionally, the State Water Board does not track the number or types of businesses either associated with or within the service area of PWS.

(b): Typical Business Costs  
A typical business associated with or within the service area of a PWS may incur indirect costs resulting from the PWS passing on costs to comply with this regulation (see Appendix, Table III). The geographically estimated water systems with impacted sources could incur increased monitoring costs estimated at **$224** per source annually for the first 3 years with the 0.002 mg/L DLR in effect until January 1, 2024 and thereafter, sources subject to increased monitoring (quarterly) would incur a new annual cost of **$896** and sources that are subject to routine (once per three years) monitoring would incur a new annual cost of **$224**. Ongoing annual costs are dependent upon whether the sources of a PWS continue to show a detectable concentration above the proposed DLR. These costs may be passed on to businesses and individuals.

(c): Typical Individual Costs  
Based on the CEM contained in the ISOR and its addendum, the State Water Board assumes that an additional 2,346 PWS (see Table I and II) could require *increased monitoring (i.e., once per quarter)*. The State Water Board estimates that the annual cost to an individual in each household would be about $8.96/year for the first three years and $35.84/year thereafter (see Appendix, Table III). For the remaining sources statewide on *routine monitoring (i.e., once per three years)*, the annual cost to an individual will not change from baseline for the first three years and has a mode value of $8.96/year thereafter. Ongoing annual costs are dependent upon whether a PWS has a detectable concentration above the proposed DLR. The cost estimate assumes the worst-case scenario cost associated with quarterly monitoring.

(d) Other Economic Costs  
Please see explanations for a, b, and c. Laboratories may choose to discontinue conducting drinking water perchlorate analyses, but if laboratories choose to continue, they may have to purchase new instrumentation to implement other analytical testing methods. Based on current analytical rates charged for methods with demonstrated capabilities to reliably quantify to 0.001 mg/L, cost per analysis could increase to approximately four times that of the method most widely used today to quantify to 0.002 mg/L. Some accredited laboratories may refine their standard protocols to support reliable quantitation to 0.001 mg/L and be able to continue to analyze drinking water samples without significant investment in new instrumentation; these laboratories might maintain costs closer to the current cost per analysis. In either case, these costs would pass from the laboratory to the public water system and eventually to the consumer and, in combination with estimated monitoring frequencies, are the basis of the responses provided in B.1.a, b, and c.

1. Industry-Specific Costs  
   Although industries served by the impacted PWS will not be directly affected, they may experience minimal increased water rates, as described above. No specific industry would be affected more than others, although industries that use a lot of water may be more impacted than industries that do not.
2. Annual Business Reporting Costs  
   The State Water Board has determined that the proposed regulations would not require reports from businesses to the extent that PWS are not considered businesses pursuant to Government Code Section 11342.610(b)(8). Additionally, the regulation is not anticipated to impose reporting requirements of any significance beyond already existing reporting requirements. PWS are already required to monitor for perchlorate and report the results to the State Water Board, and this regulation could increase the monitoring frequency. Any costs for the reporting are already included in the estimate for the monitoring. To the extent that this regulation is requiring reporting by businesses, that reporting is necessary for health, safety, or welfare of the people of the state.
3. Need for California Regulation in Absence of Federal Regulation  
   There is no existing federal regulation addressing perchlorate in drinking water. Should the United States Environmental Protection Agency promulgate any drinking water standard for perchlorate, Health and Safety Code (HSC) section 116270 states California’s legislative intent to establish a program that is more protective of public health than the minimum federal requirements. HSC 116365 further requires the State Water Board to adopt primary drinking water standards for contaminants at levels as close as feasible to the corresponding public health goal, placing primary emphasis on the protection of public health, and meeting, to the extent technologically and economically feasible, specified conditions.   
     
   California’s public health goal for perchlorate is 0.001 mg/L. The perchlorate DLR is a monitoring and reporting element of California’s primary drinking water standard for perchlorate. As there is no technological barrier to reliably quantifying perchlorate in drinking water to concentrations as low as 0.001 mg/L, the State Water Board is obliged to set the perchlorate DLR as close to the public health goal of 0.001 mg/L as is economically feasible.

### Section C Estimated Benefits (p. 2):

1. Summary of Benefits  
   The established MCL for perchlorate supports the Health and Safety Code's intent to ensure the water delivered by PWS is pure, wholesome, and potable. By revising the DLR, overall understanding of the public health protection afforded by the current MCL can be determined through performance evaluations of existing treatment and by thorough evaluation of perchlorate occurrence in drinking water sources in California. Ultimately, a revised DLR offers the capability of determining the technical and economic feasibility for potentially lowering the MCL for perchlorate to provide additional public health protection.
2. Basis of Benefits  
   The State Water Board is responsible for adopting primary drinking water standards, which must be set in accordance with the requirements of Section 116365 of the California Safe Drinking Water Act (SDWA) ( Health and Safety Code, div. 104, pt. 12, ch. 4, §116270 *et seq*.). Section 116365 requires that the MCL be set as close as feasible to the public health goal placing primary emphasis on the protection of public health, and that to the extent technologically and economically feasible, avoids any significant risk to public health. The DLR is a parameter that is set by regulation for each reportable chemical and would be an important element when considering whether it is technologically feasible to lower the MCL closer to the public health goal.
3. Lifetime Benefits  
   A lower DLR would allow for earlier indication of perchlorate and allow for treatment mitigation for drinking water sources with perchlorate contamination. Reduction in the health impacts are not measurable, therefore the potential health benefits cannot be financially quantified. As noted above, it is also one of the first steps in determining if it is feasible to lower the MCL for perchlorate, which would have potential benefits to the health and welfare of California residents.
4. Expansion of California Businesses  
   Businesses providing laboratory/monitoring services may expand in size and/or number. There are also opportunities for companies to be expanded in response to the increased demand to develop new analytical technologies to address the lower detection requirements for perchlorate. However, given that there are existing laboratory analytical methods for detecting perchlorate, the extent of possible expansion of businesses cannot be predicted, and the State Water Board does not anticipate the creation or elimination of any businesses.

### Section D Alternatives to the Regulation (pp. 2-3):

1. Alternatives Considered   
   The State Water Board, in its March 6, 2020 Notice of Proposed Rulemaking, initially proposed a DLR of 0.002 mg/L, with an alternative of 0.001 mg/L initially rejected on the basis of insufficient current laboratory capacity at this level. Based on public comments received, the State Water Board has reconsidered that alternative. As there is no technological barrier to 0.001 mg/L, the State Water Board revised the regulation proposal to include phased, or stepped, implementation to allow time to develop the necessary laboratory capacity at the 0.001 mg/L level. The proposed regulation is primarily now what was, initially, the alternative, with the alternative now what was, initially, the proposed regulation. A DLR of 0.001 mg/L was considered since it is equal to the public health goal and could afford the data necessary to evaluate development of a future MCL that is closer to the public health goal. To comply with a DLR of 0.001 mg/L, a laboratory would have to use a more sensitive validated analytical method. While currently more than 80% of California laboratories analyzing for perchlorate in drinking water are using methods capable of reliably quantifying to 0.002 mg/L, only about 20% of laboratories are accredited for methods capable of reliably quantifying to 0.001 mg/L.

For comparison, the current DLR of 0.004 mg/L was established based on a capacity of greater than 75% of the accredited laboratories currently offering adequately sensitive analytical methods. Sufficient laboratory capacity at the 0.001 mg/L performance level does not currently exist, so a DLR of 0.001 mg/L is not immediately feasible. Therefore, this alternative was incorporated into the current proposed regulation to offer a two-phase approach to revising the DLR, with a 3-year timeline provided to allow development of laboratory capacity at the 0.001 mg/L level. No other alternatives were considered.

1. Costs and Benefits for Regulation and Alternative  
   The proposed regulation does not have an end-date and therefore will not have a lifetime cost; however, the estimated total cost (see Table II) for each year is **$1,611,456** for the first 3 years and approximately **$7,080,267** ($125,198,901 / 17 years) per year thereafter. Current per-analysis costs associated with the 0.001 mg/L proposed regulation are approximately four times greater than the alternative of 0.002 mg/L. The alternative regulation has an estimated annual cost of **$1,611,456** for the duration of the alternative regulation.

The State Water Board presents a conservative, worst-case cost estimate for projected increased monitoring frequencies and using currently available laboratory service and analysis rates.

The benefit from reduction of health risk cannot be quantified since the perchlorate MCL will remain unchanged for both the proposed regulation and Alternative 1. An additional nonquantifiable benefit includes consumer confidence and education afforded through the reporting of lower concentrations of perchlorate.

1. Comparison Quantification Issues  
   As discussed at B.1, total lifetime cost for this regulation cannot be estimated as the regulation does not have an end-date and it would be speculative to further attempt to predict the number of PWS that might eventually be required to conduct additional monitoring.   
     
   The State Water Board is unable to quantify the variety of potential laboratory industry market responses to the proposed regulation and alternative. The State Water Board cannot predict and quantify how many laboratories will choose to upgrade instrumentation and methodology for the proposed regulation of 0.001 mg/L, how many may choose to cease analysis of perchlorate, how many may choose to subcontract perchlorate analyses, how many may choose to refine their protocols to support reliable quantitation to 0.001 mg/L and avoid costs associated with instrumentation acquisition, and how these decisions and their timing would be impacted by either the proposed regulation or its alternative.   
     
   Overall demand for drinking water perchlorate analyses is expected to increase with either the proposed regulation or the alternative; it is expected to specifically increase at the 0.001 mg/L quantitation level for the regulation. While it is possible that costs to perform analyses to report perchlorate at 0.001 mg/L may decrease with an increased supply of laboratories performing analyses at that level, the State Water Board is unable to predict or quantify that impact.
2. Consideration of Performance Standard  
   The DLR is a performance standard. Any analytical method that can meet the DLR can be used, provided the laboratory is accredited by California’s Environmental Laboratory Accreditation Program to perform that method. Currently, there are three methods that can meet the proposed DLRs of 0.002 mg/L and 0.001 mg/l. If new analytical laboratory methods are validated to meet the proposed DLR, those methods could also be used in the future. Of the accredited laboratories surveyed, 84% report perchlorate results using EPA Method 314.0.

## Fiscal Impact Statement

### Section A Fiscal Effect on Local Government (p. 4):

*Since calculations and assumptions of the fiscal impacts are based on the current year and the two subsequent Fiscal Years, they are derived from the fiscal changes that occur during Phase I of the proposed regulation. These can be found on Table 3 of the ISOR.*

| System Ownership | Number of Affected Sources | % of All Affected Sources | Estimated Annual Cost |
| --- | --- | --- | --- |
| Federal | 96 | 1.3% | $21,504 |
| State | 92 | 1.3% | $20,608 |
| Local | 3,735 | 52% | $836,640 |
| Private | 3,257 | 45% | $729,568 |
| Mixed (Private/Public) | 5 | 0.1% | $1,120 |
| Blank  (Not Designated) | 9 | 0.1% | $2,016 |
| Totals: | 7,194 | 100% | $1,611,456 |

1. Non-reimbursable Expenditures in Current State Fiscal Year  
   Fiscal Impact on Local Government: $836,640 annually in direct impacts to PWS run by local government, which are not reimbursable by the State pursuant to Article XIIIB, Section 6 of the California Constitution. This value was determined using total estimated annual costs of complying with this regulation multiplied by the number of PWS that are operated by local governments (obtained from the State Water Board’s databases).

(e) The publicly owned systems can pass on the costs in increased service charges, fees, or assessments. This estimate represents the greatest cost to local government based on detections above the DLR. The proposed regulation does not significantly impact local government costs or tax revenue.

These costs are not reimbursable because the regulation does not impose unique requirements on local governments; the regulation applies equally to both publicly owned and privately-owned water systems.

### Section B Fiscal Effect on State Government (p. 5):

1. Fiscal Impact on PWS Owned by State Government: $20,608 annually for PWS owned by the state, which is anticipated to be absorbable by State agencies within their existing budgets. This value was determined using total estimated annual costs of complying with this regulation for those PWS that are operated by state government (obtained from the State Water Board’s databases).

These costs are associated with compliance for state government entities that have public water systems subject to these regulations. The State Water Board does not anticipate this regulation will result in any increased costs/workload for state water board staff to implement these regulations.

The State Water Board estimates that there will be no change to the Division of Drinking Water’s (DDW) Safe Drinking Water Account fees and caps. The fees, caps, and annual adjustments are specified in statute under California Health and Safety Code, Sections 116565, 116577, 116585, and 116590.

Fiscal Impact on State Water Board and other State Agencies: The State Water Board’s DDW oversees the estimated 92 state-owned water sources impacted by the proposed regulation. The initial impact of the proposed regulation would have an insignificant impact on staffing resources, which could be accommodated through redistribution of existing staff at the District office level.

**APPENDIX**

Table I – Community Water Systems (CWS) and Non-Transient, Non-Community (NTNC) Public Water Systems (PWS) and Sources

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Designated CWS or NTNC** | **Already on increased (quarterly) monitoring schedules)** | **In counties with prior detections, NOT already on increased (quarterly) monitoring schedules)** | **Subtotal a** | **In counties without prior detections, NOT EXPECTED to require increased monitoring** | **Total Statewide** |
| **PWS** | 77 | 2,346 | 2,423 | 1,501 | 3,924 |
| **Sources** | 304 | 7,194 | 7,498 | 4,849 | 12,347 |

1. Expected to be on quarterly monitoring throughout the regulation

Table II – Summary of Costs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | ***Cost per Source Analysis*** | ***PWS on Increased Monitoring (Quarterly)*** | ***Sources on Increased Monitoring (Quarterly)*** | ***PWS on Routine Monitoring d (1/3 years)*** | ***Sources  on Routine Monitoring d (1/3 years)*** | ***Total Analyses per Year e*** | ***Analytical***  ***Costs for Quarterly Monitoring,***  ***Annually*** | ***Analytical***  ***Costs for Routine Monitoring,***  ***Annually*** | ***Total***  ***Analytical Costs,  Annually*** | ***Change from Baseline*** | ***Duration (years)*** | ***Total Added Cost*** | ***Lifetime Annual Average*** |
| Current Regulation a | $56 | 77 | 304 | 3,847 | 12,043 | 5,230 | $68,096 | $224,803 | $292,898 | -- | -- | -- | $292,899 |
| Phase I b | $56 | 2,346 | 7,194 | Negligible  Cost  Savings f  (- 2, 346) | Negligible  Cost Savings g  (-7,194) | 28,776 | $1,611,456 | Negligible Cost  Savings g | $1,611,456 | $1,318,557 | 3 | $4,834,368 |  |
| Phase II c | $224 | 2,423 | 7,194 + 304  (7,498) | 1,501 | 4,849 | 31,608 | $6,445,824 + $272,384  ($6,718,208) | $362,059 | $7,080,267 | $6,787,368 | 17 | $120,364,533 |  |
| Phase I and Phase II (Sum) |  |  |  |  |  |  |  |  |  |  | 20 | $125,198,901 | $6,259,945 |
| Alternative 1 - Not Adopted  (original proposal) | $56 | 2,346 | 7,194 | Negligible  Cost  Savings f  (- 2, 346) | Negligible  Cost Savings g  (-7,194) | 28,776 | $1,611,456 | Negligible Cost  Savings g | $1,611,456 | $1,318,557 | 20 | $32,229,120 | $1,611,456 |

1. Current Regulation (DLR = 0.004 mg/l)
2. Adopted Regulation (DLR = 0.002 mg/l; approval through 12/31/2023)
3. Adopted Regulation (DLR = 0.001 mg/l; /1/2024 forward)
4. Conservatively assumes all sources are groundwater
5. (sources with quarterly monitoring x 4 samples per year) + (sources with monitoring once every three years divided by 3)
6. PWS that are subject to new costs as the result of being moved from routine (once per three years) monitoring to quarterly monitoring
7. Sources that are subject to new costs as the result of being moved from routine (once per three years) monitoring to quarterly monitoring

Table III – Breakdown of Costs

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | ***Cost per Source Analysis*** | ***Total Sources*** | ***Frequency per year*** | ***Cost per Source Analysis- Frequency*** | ***Range  # of Sources per  PWS*** | ***Range Cost per PWS, annually c,d*** | ***Range  Cost per Person, annually e*** | ***Mode Cost per Person, annually*** | ***Duration (years)*** |
| Phase I a - On Increased Monitoring (Quarterly) | $56.00 | 7,498 | 4 | $224.00 | 1 - 206 | $224.00 - $46,144.00 | $0.001 - $44.80 | $35.84 | 3 |
| Phase I a - No Change to Monitoring Frequency | $56.00 | 4,849 | 1 | $56.00 | 1-736 | No Change from Baseline | No Change from Baseline | $8.96 | 3 |
| Phase II b - On Increased Monitoring (Quarterly) | $224.00 | 7,498 | 4 | $896.00 | 1 - 206 | $896.00 - $184,576.00 | $0.004 - $179.20 | $143.36 | 17 |
| Phase II b - No Change to Monitoring Frequency | $224.00 | 4,849 | 1 | $224.00 | 1-736 | $224.00 - $164,864.00 | $0.002 - $5,152.00 | $35.84 | 17 |
| Alternative 1 - Not Adopted  (original proposal) | $56.00 | 7,498 | 4 | $224.00 | 1 - 206 | $224.00 - $46,144.00 | $0.001-$44.80 | $35.84 | 20 |
| Alternative 1 - Not Adopted  (original proposal) | $56.00 | 4,849 | 1 | $56.00 | 1-736 | No Change from Baseline | No Change from Baseline | $8.96 | 20 |

1. Adopted Regulation (DLR = 0.002 mg/l; approval through 12/31/2023)
2. Adopted Regulation (DLR = 0.001 mg/l; /1/2024 forward)
3. Based on sources expected to be impacted by new quarterly monitoring schedules in Phase I continuing in Phase II, then the new costs per analysis in Phase II.
4. Calculation = Cost per Source Analysis-Frequency multiplied by Number of Sources in PWS
5. Calculation = Cost per PWS divided by Population Served by PWS