



# COACHELLA VALLEY WATER DISTRICT

*Established in 1918 as a public agency*

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May 14, 2020

Ms. Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor  
Sacramento, CA 95814

Submitted via email: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Dear Ms. Townsend:

Subject: Comment Letter – White Paper Discussion on Economic Feasibility in Consideration of a Hexavalent Chromium Drinking Water Maximum Contaminant Level

Coachella Valley Water District (CVWD) is an independent special district formed in 1918, specifically to protect and conserve local water sources in the Coachella Valley. Since then, the CVWD has grown into a multi-faceted agency that delivers irrigation and domestic water, collects and recycles wastewater, provides regional storm water protection, replenishes the groundwater basin and promotes water conservation for a population of about 300,000 in the Coachella Valley. CVWD's largest domestic water system is the product of dozens of small water system consolidations. In addition to providing some specific suggestions for the subject White Paper, CVWD would like to share its unique experience that demonstrates the importance of evaluating economic feasibility when considering a drinking water maximum contaminant level (MCL) for hexavalent chromium (Cr6).

## CVWD Experience and Compliance Period Costs

Cr6 occurs naturally in the minerals and groundwater found adjacent to the San Andreas fault system that divides the Coachella Valley groundwater basin. As such, about one-third of CVWD's 100 or so wells distributed over a 50 square mile area exceeded the California Department of Public Health (CDPH) Cr6 MCL of 10 micrograms per liter (ug/L) adopted in July 2014. Having performed some of the earliest research that exists on drinking water Cr6 occurrence and treatment, CVWD knew that different technologies had different constraints and that treatment decisions couldn't be made until the MCL was known. CVWD's experience installing and operating strong base ion exchange treatment to reduce both arsenic and Cr6 levels also made it easy to determine it would be infeasible to meet the unexpected 6-month period that CDPH provided before the MCL became effective for enforcement. The California Environmental Quality Act (CEQA) process required to evaluate alternatives for a project of this size would take more than a year to complete and then several years to complete the design and construction. Instead of having a clear roadmap and a feasible 5-year schedule to achieve compliance with a new MCL, as was the case when U.S. Environmental Protection Agency

(EPA) lowered the arsenic MCL, CVWD faced the potential liability of serving drinking water that violates a MCL, which added multiple layers of complexity and costs to CVWD's response plan.

CVWD initiated a costly process to reduce this potential non-compliance liability consisting of multiple parallel paths: 1) pilot testing, designing, and permitting best available technology (BAT) for impacted wells, 2) legislation to obtain an appropriate compliance period, and 3) a point-of-use treatment variance option. About the same time CVWD successfully identified a feasible point-of-use treatment option, SB 385 (Hueso) was adopted allowing water systems to submit compliance plans to avoid violating the Cr6 MCL. However, prescriptive requirements used by the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) to implement SB 385 mandated actions based on existing BAT instead of building in time to evaluate innovative alternative technologies. CVWD's identification of an innovative treatment option needed to occur in parallel with plans to implement BAT identified in the compliance plan – resulting in significant duplicative planning costs. This experience reveals a critical and costly flaw in State drinking water regulations that fail to provide reasonable compliance periods.

While waiting to learn if DDW would appeal the court's decision to vacate the Cr6 MCL, two CVWD milestones were achieved that illustrate the increased costs associated with proposed MCL's that lack adequate compliance periods. First, CVWD successfully completed all pre-construction activities (CEQA, design, permitting, and funding approval) and construction contracts were ready for execution to initiate Tier 1 construction of 30 ion exchange treatment facilities identified in CVWD's Cr6 compliance plan at a cost of about \$200 million. The cost to achieve this milestone was about \$14 million. Almost simultaneously, CVWD learned of a promising alternative Cr6 treatment technology using stannous chloride to reduce Cr6 levels found in drinking water. Three weeks later, CVWD completed bench testing that confirmed the viability of this alternative technology on water from CVWD wells. CVWD then completed simulated distribution system tests and obtained DDW's approval to perform a full-scale demonstration project for one of CVWD's public water systems. CVWD successfully completed the full-scale demonstration of Cr6 reduction below 10 ug/L using stannous chloride throughout a chlorinated public water system in March 2019, approximately 18 months after the Cr6 MCL was withdrawn.

It is well known that the establishment of a new drinking water MCL often triggers the investment in research and testing needed to develop innovative treatment technologies that are better than BAT identified in the proposed MCL. EPA identified activated alumina as BAT in the final arsenic rule but better technologies using coagulation filtration, iron-based adsorptive media, and ion-exchange developed during the 5-year compliance period and were far more likely to be used than activated alumina. This was our experience when complying with the arsenic MCL and fortunately EPA's 5-year compliance period allowed for this maturation of technologies so that we avoided the costly development of BAT that would have been outdated by the time it was installed. The CDPH's 2014 Cr6 MCL became effective for enforcement 6-months after promulgation forcing CVWD to spend \$14 million on duplicative compliance options including developing a shovel-ready project to install BAT prescribed in the regulation that for CVWD now appears to be outdated technology.

The White Paper does not address compliance periods when considering the economic feasibility of the proposed Cr6 MCL. CVWD's experience described above is the reason why the Federal Safe Drinking Water Act (SDWA) 1996 amendments included provisions to ensure new EPA drinking water MCLs included reasonable compliance periods. CVWD believes it is essential that DDW use compliance periods for proposed MCLs that are consistent with the Federal SDWA requirements. Besides the added cost implications, inadequate compliance periods can result in water systems removing wells from service and using other ill-advised measures to maintain compliance but can put communities at greater risk when something unexpected causes water demands to exceed supply. The White Paper should acknowledge that proposed MCLs with reasonably achieved compliance periods promote innovation, reduce compliance costs, and make new MCLs more economically feasible.

### Economic Feasibility Analysis Framework

In the White Paper and at the public workshop on the White Paper, DDW asked for stakeholder input and indicated that the White Paper is intended to start a dialogue on the important issue of economic feasibility. CVWD submits these comments in that spirit and with the intent of helping DDW arrive at an approach to economic feasibility that protects public health and promotes a sustainable public water supply.

The White Paper can be improved by ensuring it provides the framework for how an economic feasibility assessment will be completed for the Cr6 MCL. The current version of the White Paper focuses on constraints, limitations, complexities, beyond scope issues, and dilemma's. CVWD believes that it should, instead, describe steps, approaches, calculations, assumptions, thresholds, and tools that can be used to successfully complete the economic feasibility analysis.

The framework should start by describing the initial MCL feasibility assessment step that should use a checklist to identify the information needed to develop an MCL and complete the economic feasibility analysis (e.g., occurrence data, treatment technologies, test method detection capability and laboratory capacity, risk assessments, etc.). The framework steps should then work towards answering two key questions: 1) do proposed MCLs provide health benefits that justify the costs, and 2) is the MCL affordable? A Cost Benefit Analysis (CBA) is essential to answer the first question and the community and State level affordability assessments can be used to answer the second question. The framework should clearly describe how the information identified in the initial feasibility assessment would be used to complete the CBA and affordability assessments.

### Cost Benefit Analysis

The White Paper provides a detailed list of potential problems with performing the CBA rather than describing the best approach to perform the CBA, or how DDW plans to use the CBA when evaluating proposed MCLs. It is not clear if DDW even plans to use a CBA when evaluating the economic feasibility of a proposed Cr6 MCL based on the White Paper's finding that, "...a cost-benefit approach is not feasible because of its inability to accurately account for and monetize the benefits and impacts of selecting one MCL versus another." At the workshop on the White Paper, DDW staff stated in their presentation that the SWRCB is not required to do CBA. (See April 27, 2020 Workshop Presentation, p. 25 (stating that "The State Water Board does not perform a Cost-Benefit analysis."))

CVWD believes the CBA is an essential and required<sup>1</sup> element to determine if a potential MCL represents a meaningful and economically sound way to reduce public risks. CBA's are routine assessments that are widely used for regulatory determinations. EPA's 2014 Guidelines for Preparing Economic Analyses is a good reference for approaches that can be used to address uncertainties and other constraints identified in the White Paper.

Occurrence data is essential to estimating the cost component for a CBA. Unlike most unregulated contaminants, DDW has well developed occurrence data as a result of the 2014 Cr6 MCL. There will still be uncertainties and data gaps and, as we learned from prior Cr6 occurrence studies, most impacted sources are groundwater and there is a very strong correlation between total Cr and Cr6 in groundwater. This total Cr data should be used to help fill in missing occurrence information rather than excluding these water systems from the cost estimates. For identifying impacted sources at each proposed MCL, CVWD recommends that impacted sources include sources that satisfy one or both triggers: 1) an average Cr6 level greater than 90% of the proposed MCL, and/or 2) the highest historical result exceeds the proposed MCL. CVWD performed extensive Cr6 monitoring for dozens of wells as often as weekly and found the use of both of these thresholds is the best tool to capture all impacted sources.

The key to calculating the best estimate for benefits is to ensure the best available risk assessment information is used. The Office of Health Hazard Assessment (OEHHA) determined in 2016 that the Cr6 Public Health Goal (PHG) established in 2010 needs to be reviewed based on substantial new available health risk assessment information. It is essential that the economic feasibility analysis and MCL development for Cr6 be based on the results of OEHHA's ongoing review of the Cr6 PHG.

The CBA should assess multiple proposed MCLs to identify the incremental benefits and costs associated with each MCL option. This part of the assessment is important because as the proposed MCL decreases the costs increase due to the increased number of impacted sources, often associated with small water systems which have higher costs and lower benefits. This incremental assessment is an important tool to identify the point when the MCL becomes unaffordable or when the costs do not justify the benefits.

### Economic Feasibility and Affordability

There is currently an ongoing national dialogue on the challenge that rising costs for water-related services pose for community and household affordability. In California, the cost of tap water has increased by approximately 45% over the past two decades. According to the United Ways of California, more than one in three California households—over 3.8 million families (37%)—do not earn sufficient income to meet basic needs. Affordability challenges should be given careful consideration in the development of MCLs. This is a particular issue for CVWD. CVWD's jurisdictional boundary and drinking water service areas includes many Disadvantaged

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<sup>1</sup> Whether called CBA or described as “balancing”, comparing the benefits of an MCL to the costs of the MCL is inherent in the economic feasibility analysis required by Health and Safety Code section 116365. As one court has described it, the MCL process “involves a balancing of public health concerns with questions of technological feasibility and cost.” (*In Re Groundwater Cases* (2007) 154 Cal.App.4th 659, 679.) The State Board must perform this analysis of costs and benefits in order to arrive at an MCL that is consistent with Health and Safety Code section 116365.

Communities (DACs) or Severely Disadvantaged Communities (SDACs) that have either been consolidated or may be consolidated into one of CVWD's water systems. These community residents are under significant income stress, and increases in the cost of water creates daunting affordability challenges.

As described by DDW, several agencies, organizations, and experts have put forth various metrics for assessing household affordability. CVWD agrees with DDW that no one metric or threshold is sufficient for identifying affordability concerns. CVWD believes the DDW should apply a range of metrics to evaluate affordability. These metrics should be applied to individual communities and across system sizes and should be identified in the White Paper.

Potential household affordability metrics include those recently put forth by the American Water Works Association, Water Environment Federation, and National Association of Clean Water Agencies. Additionally, DDW can determine the number of affected community water systems (and the population or connections they serve) that are designated as DACs or SDACs, consistent with the methodology adopted by State agencies.

DDW should identify sustainable strategies to bridge affordability gaps. Solutions should be tailored to the needs of individual water systems and account for the limitations of current alternatives to source water treatment. To the extent that state funding (e.g., through grants or loans) is identified as a means to address system needs, DDW should establish that the funding or financing sources have the capacity to accommodate associated demand, and is therefore a viable solution. For this approach to be viable, funding must be identified for appropriate studies and tests to select, design, and install necessary capital facilities, as well as the funding needed to operate and maintain these facilities. There are too many failed examples where funding was provided to install treatment facilities that water systems did not have the technical, managerial or financial capability to continue operating. Relying on funding programs that are not sufficiently funded to meet the needs of local communities, or that have administrative burdens to entry that make the funding source illusory, it not an appropriate public policy.

The SWRCB's new Safe and Affordable Funding for Equity and Resilience (SAFER) program will help to meet the goals of safe, accessible, and affordable drinking water for current MCLs. The dialogue about economic feasibility of potential future MCLs for contaminants such as Cr6 will certainly impact the SAFER program, and must be further considered to understand statewide cost implications. It would be informative for the scale and use of SAFER when performing the economic feasibility analysis to be comprehensively described in the White Paper framework.

CVWD believes that when California's legislature required that MCLs be both technically and economically feasible that it intended for the residents impacted by the MCL to be able to afford the increased cost associated with receiving drinking water that meets the new MCL. A MCL that makes drinking water unaffordable for a community it not economically feasible. Instead, the White Paper finds it is not acceptable to establish economic feasibility criteria based on what is economically feasible for the most disadvantaged water systems. This is a systemic failure by the White Paper to address one of the key objectives needed to satisfy the court's order vacating the prior Cr6 MCL. CVWD does not see small water systems as a dilemma as described in the

White Paper. Simply put, if a proposed Cr6 MCL of 10 ug/L is not affordable for these water systems, then raise the proposed MCL to a level that is affordable.

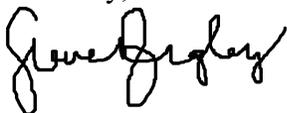
### Summary

CVWD believes the current Cr6 MCL development process is on a similar trajectory that resulted in the 2014 Cr6 MCL that was found lacking by the court. This process has not been coordinated with OEHHAs ongoing review of the Cr6 PHG. SB 385 provisions sunsetted in January 2020 leaving water systems with no feasible approach to comply with a proposed Cr6 MCL that fails to provide reasonable compliance periods needed to evaluate, select, and implement the compliance approach that works best. Based on the White Paper, DDW believes it is not feasible to conduct the required CBA and that a well-defined framework for performing the economic feasibility analysis is not needed. Rather than ensuring small water systems annualized costs are properly considered, DDW is proposing to either exclude these water systems from the economic analysis or to mask their affordability challenges by averaging small system compliance costs with all other water systems. CVWD encourages DDW to change its current course by incorporating the recommendations provided in these comments into a revised White Paper.

CVWD also supports the recommendations to improve the White Paper prepared by Corona Environmental Consulting, Inc. (Corona) submitted in separate comment letters. DDW should incorporate into their revised White Paper the product of Corona's ongoing work to develop a detailed framework and example economic feasibility analysis for the proposed Cr6 MCL. CVWD also believes the guidance provided in the White Paper is likely to be the template for future DDW MCLs and, as such, is too important to only be a staff product. CVWD hopes the members of the SWRCB have the opportunity to consider the White Paper during a future public hearing prior to its' use by DDW for the Cr6 MCL.

If you have any questions, please call me at extension 2286.

Sincerely,



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File: 0566.02

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