COACHELLA VALLEY WATER DISTRICT
Established in 1918 as a public agency

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December 31, 2020

Attn: Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Flo or
Sacramento, CA 95814

Submitted via email: commentletters@waterboards.ca.gov

Dear Ms. Townsend:

Subject: Comment Letter – Hexavalent Chromium MCL Costs

The Coachella Valley Water District (CVWD) appreciates the opportunity to comment along with other stakeholders who may be affected by the State Water Resources Control Board (SWRCB) work to estimate costs to comply with a proposed hexavalent chromium maximum contaminant level (MCL). CVWD provides domestic water, wastewater, recycled water, irrigation/drainage, regional stormwater protection and ground management services to a population of about 300,000 throughout the Coachella Valley.

Enclosed are CVWD comments provided on December 8, 2020 during the SWRCB workshop on the Hexavalent Chromium MCL Estimate of Costs. In addition to the enclosed comments, CVWD wishes to provide the following comments for your consideration:

1. Methodology and Assumptions Lack Technology Descriptions. The most important information SWRCB staff intended to communicate with the subject documents are estimated costs to implement various treatment technologies to meet multiple proposed hexavalent chromium (Cr6) MCL options. Six treatment technologies are identified but only with abbreviations (e.g., WBA, RCF, and SBA). While an assumption can reasonably be made that "SBA" is an abbreviation for Strong Base Anion and refers to a type of ion exchange resin used, it is unknown what SBA treatment methodology was used to develop the cost estimates. For example, SBA can be designed and operated as a single-pass media or the media can be regenerated and reused multiple times. Media regeneration can occur on-site or the media can be regenerated off-site. Variable characteristics can apply to waste brine generated that may require different levels of treatment or different disposal locations that can significantly impact treatment costs. Each of these different methodologies are associated with numerous constraints often driven by local conditions involving well site and water quality characteristics. A detailed description of each of the six treatment technologies and the numerous assumptions that are unique to each technology used to develop the estimated treatment costs needs to be added to the Methodology and Assumptions so that the public and impacted water agencies can provide meaningful input on these tables.

2. Methodology and Assumptions Produce Biased Results. One of the SWRCB general assumptions is that water would be treated to a level equal to 80 percent of the selected MCL except for the SBA technology which would be treated to below the detection limit for reporting (DLR). There is no explanation for why a different assumption is used for SBA. SBA treatment, like the remaining treatment technologies, are routinely designed and operated to reliably treat water to meet some percentage of the MCL, typically 80 percent. CVWD's three existing SBA treatment plants designed to remove naturally occurring arsenic and Cr6 have been operated to maintain arsenic levels in treated water below 80 percent of the 10 microgram per liter (ug/L) MCL for over 10 years. Similarly, CVWD's Cr6 compliance plan included shovel ready design plans for 20 SBA treatment plants that targeted 80 percent of the 10 ug/L MCL. When compared to treating below the DLR, the target of 80 percent of the MCL provides capital cost savings associated with partial stream treatment and operational cost savings by allowing longer run times before regeneration. It appears this unjustified general assumption is the reason that SWRCB staff failed to develop SBA treatment costs for any MCL option other than 1 ug/L. This assumption has the effect of masking the cost savings that can be achieved at the four MCL options that are higher than 1 ug/L for SBA treatment and will act to bias future cost benefit assessments to disproportionally favor the 1 ug/L option.

3. Incomplete Treatment Costs Table. This table provides incomplete cost estimates for treatment technologies identified to reduce Cr6 levels below five proposed Cr6 MCL options. Treatment costs are missing from this table for Cr6 MCL options above 1 ug/L for the following three identified treatment technologies: 1) RCF (w/ vacuum MF), 2) RCF (w/ pressure MF), and 3) SBA. Each of these treatment technologies can be designed and operated more cost effectively to meet the identified MCL options above 1 ug/L. The estimated costs to meet identified MCL options above 1 ug/L should be added to the Treatment Costs table for RCF (w/ vacuum MF), RCF (w/ pressure MF), and SBA.

4. Inaccurate Treatment Cost Equations Table. There are significant problems with at least one of the cost equations provided in this table. For example, applying the best fit capital cost equation provided for the SBA treatment technology for a 2,000 gallon per minute (gpm) well results in a calculated cost of $3,874,200. However, the Treatment Cost Table reports a capital cost of $5,064,000 for this same 2,000 gpm SBA treatment facility. This is a 24% difference between the information provided in these two tables for the same 2,000 gpm SBA treatment facility. Calculating SBA capital facility costs for the remaining differently sized well facilities results in cost differences between information provided in these tables that range up to 29%. CVWD has considerable concern in effectively utilizing the equations provided to provide estimates of treatment costs for the selected technologies. These equations need significant evaluation and corrections before use.

5. Methodology Underestimates Treatment Costs for WBA and SBA Technologies. As noted in the enclosed comments, the estimated costs generated using the SWRCB staff treatment cost equation to implement WBA treatment for CVWD's Improvement District No. 8 (ID-8) water system to meet a 10 ug/L Cr6 MCL are about 80% lower than the present day adjusted guaranteed maximum price (GMP) obtained to implement a shovel ready WBA treatment project for this water system to meet the 10 ug/L MCL adopted in 2014. In addition, we have calculated a total capital estimated cost of $115,808,343 using the SWRCB staff treatment cost equation to implement SBA treatment for CVWD's largest public water system to meet a 10 ug/L Cr6 MCL. This amount is 128% lower than the present day adjusted GMP amount of $264,200,000 to implement a shovel ready SBA treatment project to satisfy the same 10 ug/L Cr6 MCL. These two examples of shovel ready project costs demonstrate SWRCB staff treatment cost equations significantly underestimate actual costs to implement the WBA and SBA technologies to meet a 10 ug/L Cr6 MCL.

6. Health Effects Table Masks True Cost Impact. This table reports an average monthly cost per service connection for multiple categories of water system sizes and for multiple different Cr6 MCL options. For the 1,000-9,999 service connection category, the table lists an average monthly cost of $35 per service connection to meet a 10 ug/L Cr6 MCL. Using the SWRCB staff cost equation for our ID-8 water system, the average monthly cost per service connection is $299 and this cost increases to $538 using the shovel ready project cost mentioned above, which is 15 times higher than the $35 amount provided in the SWRCB staff Health Effects Table. This table needs to be revised to show the full range of water system cost impacts rather than only showing the estimated statewide average amount calculated for each category and this range should account for the range of costs associated with different treatment technologies rather than only using the SBA treatment cost. This same discrepancy is observed in the community and non-community water systems treatment cost tables and the charts and figures produced to evaluate these cost impacts.

Your consideration of these comments is appreciated. Please contact me at sbigley@cvwd.org or extension 2286 if you have any questions.

Sincerely,

Steve Bigley
Director of Environmental Services

Enclosure/1/as

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