

Calif. To Make Waves With New Drinking Water Standard



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Law360, New York (February 28, 2014, 3:24 PM ET) -- On Dec. 17, 2013, Judge Evelio Grillo of the Alameda County Superior Court ordered the California Department of Public Health ("CDPH") to finalize regulations establishing drinking water standards for hexavalent chromium ("Cr-6") by the spring of 2014. The court held that CDPH must submit a final primary drinking water standard (i.e., a maximum contaminant level or "MCL") to the Office of Administrative Law ("OAL") for review and publication by one of two alternative dates: by April 15, 2014, if the CDPH does not determine that any of the public comments on its proposed standard requires it to modify the standard in a way necessitating a new 15 day public comment period under the Administrative Procedures Act; or by June 15, 2014, if the CDPH determines that it will modify the standard in such a way.[1] The OAL must then review and approve or reject the standard within 30 days.[2] Thus, a final enforceable rule is expected as soon as May 15, 2014, but no later than July 15, 2014.

The court's ruling provides long-awaited clarity to the timeframe for California's proposed regulations on Cr-6 — the first in the nation. In 2001, the California State Legislature directed CDPH to issue a Cr-6 MCL by Jan. 1, 2004.[3] After CDPH failed to meet that deadline, the Natural Resources Defense Council and the Environmental Working Group sought a writ of mandate commanding the CDPH to issue the regulation promptly. In July 2013, Judge Grillo issued an interim order directing CDPH to submit its proposed standard to the OAL in August 2013.[4] This article will first describe the development of the regulatory framework governing the adoption of the MCL to help frame the context for the current proposed rule. We then provide a summary of the proposed rule and the comments submitted to CDPH.

Finally, we look at the next steps in the rule's finalization and offer thoughts on the potential implications of the groundbreaking Cr-6 MCL.

Background and Regulatory Framework

The Clean Water Act requires that California adopt water quality standards at least as stringent as those adopted by U.S. Environmental Protection Agency. California meets these obligations under a regulatory program to assess drinking water in the state, the Calderon-Sher California Safe Drinking Water Act of 1996.[5] The act requires the Office of Environmental Health Hazard Assessment ("OEHHA") to develop public health goals ("PHGs") for contaminant levels of harmful chemicals in drinking water.[6]

PHGs are the maximum allowable concentrations of chemicals in drinking water that are not expected to cause adverse health effects as a result of long term exposure.[7] California Health and Safety Code § 116365 requires the CDPH to set MCLs as close as feasibly possible to their corresponding PHGs.[8]

In February 1999, OEHHA set a PHG for total chromium at 2.5 ppb noting that studies had shown that Cr-6 posed a potential cancer risk when consumed.[9] After OEHHA released this PHG, the CDPH determined that Cr-6 was an unregulated chemical, identified it for on-going monitoring, and flagged both total chromium and Cr-6 standards for reassessment.[10]

In 2000, public concerns over Cr-6 levels in California's drinking water put significant pressure on lawmakers to review current drinking water standards.[11] In September 2000, then Gov. Gray Davis signed into law Senate Bill 2127, which required OEHHA to assess Cr-6 levels in the San Fernando Basin Aquifer and their potential risk to the public.[12]

In August 2001, the Chromate Toxicity Review Committee, a panel of experts convened by the University of California, determined that the study behind the 1999 PHG of 2.5 ppb for total chromium did not support the conclusion that orally ingested Cr-6 is a carcinogen.[13] The review committee acknowledged that "[d]efinitive data on the potential carcinogenicity of orally ingested Cr(VI) should be provided by a planned NTP [National Toxicity Program] study, but these results will not be available for several years." [14] The NTP, an interagency organization which aims to evaluate public health concerns by supplying modern toxicology and molecular biology results for contaminants, began a long-term study to evaluate the carcinogenic effects of Cr-6 shortly thereafter.[15]

In October 2001, Gov. Davis signed into law Senate Bill 351, which required the CDPH to adopt a MCL for Cr-6 by Jan. 1, 2004.[16] OEHHA subsequently withdrew its PHG for total chromium, announcing that it would develop a new standard.[17] In May 2007, the NTP reported that its long-term Cr-6 studies demonstrated sufficient proof of carcinogenicity in rodents to establish it as carcinogenic to humans.[18] Based on these studies, in July 2011, following several revised drafts, the OEHHA released a final PHG for Cr-6 of .02 ppb.[19]

Because the CDPH is required to use PHGs to develop a MCL for Cr-6, the MCL process had been delayed until OEHHA released its new PHG.[20] However, in August 2012, the Natural Resources Defense Council sought a writ of mandate ordering CDPH to issue a MCL promptly.[21] Then on July 18, 2013, Judge Grillo of the Alameda County Superior Court directed the CDPH to issue a draft MCL before Sept. 1, 2013.[22] The CDPH submitted its draft Cr-6 MCL of 10 ppb for public comment beginning on Aug. 23, 2013, and the 45-day public comment period closed on Oct. 11, 2013.

Summary of Proposed Rulemaking

As explained above, once the OEHHA develops a PHG for a particular contaminant, the CDPH uses it to develop or update California's MCL.[23] PHGs are advisory guidelines and not binding on the ultimate formation of a MCL, however, the CDPH is required to set the ultimate MCL as close to the corresponding PHG as feasibly possible.[24] To determine what is feasibly possible, the CDPH considers the potential adverse health effects of a contaminant in addition to any economic factors that would influence a restriction, such as the technical feasibility of testing and removal from the water supply.[25]

In determining the feasibility of a MCL level, the CDPH may also take into account the financial impact of increased regulation.[26]

Substantive Provisions

In this case, CDPH's proposed MCL requires community water systems and nontransient, noncommunity water systems (i.e., noncommunity water systems that regularly serve at least the same 25 persons over six months per year) to monitor for Cr-6, comply with the Cr-6 MCL of 10 ppb and report the results of their monitoring.[27] Such monitoring must begin within six months of the effective date of the regulation; however, groundwater monitoring performed no more than two years prior to the effective date may be used to satisfy this requirement as long as such monitoring otherwise complied with the requirements in California Code of Regulations § 64432.[28]

If total chromium results (which represent the combination of both Cr-6 and nontoxic trivalent chromium) for routine monitoring measure less than 10 ppb, total chromium results may be used in lieu of Cr-6 monitoring.[29] CDPH may, based on a water system's operations and the extent to which its chromium monitoring results exceed 10 ppb, require a water system operator to conduct a CDPH-approved distribution system chromium speciation study, which must include (but would not be limited to) quarterly monitoring of chromium, Cr-6 and water quality parameters affecting speciation.[30]

Best Available Technology and Violations

The rulemaking also specifies best available technologies ("BAT") for Cr-6 removal from water systems.[31] It identifies such BAT as coagulation/filtration, ion exchange and reverse osmosis.[32] The BAT for Cr-6 further requires that Cr-6 must be reduced to trivalent chromium prior to any coagulation/filtration.[33]

Violation notices to the public must include language reporting that drinking water containing Cr-6 in excess of the MCL over many years may result in an increased cancer risk.[34] A water system will be required to include in its consumer confidence report, among other things, a likely source for any Cr-6 detected. If no such source is specified, systems that detect any amount of Cr-6 would be required to select and report one or more of the likely sources of Cr-6, defined in the regulation as discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, textile manufacturing facilities and erosion of natural deposits.[35]

CDPH-Estimated Financial Impacts

If enacted, by CDPH's estimation, the proposed rulemaking's impacts could cost local government \$16.5 million annually and state government \$1.8 million annually.[36] CDPH also estimates an annual cost of \$1 million to privately owned water systems.[37]

CDPH does purport to take into account additional costs for "pH adjustment in the finished water ... as well as the cost of residual disposal" in the capital and O&M cost calculation it provides.[38] The Initial Statement of Reasons concludes that while "some of these water systems may be able to meet the MCL by blending their drinking water supplies as already occurs during drinking water distribution, at minimal cost ... if these sources were to be treated using weak base anion exchange with disposable resin" the annualized treatment (capital and O&M costs) could range between \$13.5 and \$101.2 million per water system, depending on the size of the system.[39] Although CDPH estimates these costs in the body of the initial statement of reasons, it does not include them in its Fiscal Impact Estimate or Cost Impact on Representative Private Person or Business in its Notice of Proposed Rulemaking.[40]

Summary of Public Comments

According to testimony provided during the Superior Court proceedings,[41] CDPH received over 18,000 written submissions during the comment period and took approximately 30 oral comments at each of two public hearings.

Comments included technical and fiscal analyses from water agencies and trade associations in addition to thousands of comments from the general public.[42] Many parties, including water agencies and municipalities throughout California, have contended that CDPH underestimated the cost of compliance for the proposed MCL by not accurately estimating the number of impacted sources, using an incorrect statewide average water usage rate and estimated peaking factor, not including land acquisition and building construction costs and not including treatment costs for sources within 80 percent of the MCL.[43]

Several water agencies and municipalities expressed concerns about the high cost of compliance,[44] with one agency estimating the cost of compliance to be 50-80 percent of its current operating budget.[45] Parties also suggested a regulatory approach for the proposed MCL which would include an initial grace period,[46] establishing a framework for water compliance, clarifying the regulatory intent of grandfathering provisions and speciation studies, considering the affordability of compliance for communities and considering water supply management impacts.[47] Parties have also expressed concern that reporting requirements under the proposed MCL differ from pre-existing EPA reporting requirements, increasing the compliance burden on water agencies.[48]

In support of a higher Cr-6 MCL, various parties also cited new scientific information related to the toxicity of Cr-6 that was developed, peer reviewed and published after the PHG was issued.[49] More specifically, commenters, including several municipalities, contend that the research supports conclusions contrary to those reached in the OEHHHA health risk assessment — namely that Cr-6 is not carcinogenic at exposure levels that can reasonably be expected to occur in California drinking water. The research also suggests that CDPH could select a higher MCL for Cr-6 and remain protective of public health.[50]

In contrast, certain environmental groups contended the proposed MCL of 10 ppb severely underestimates public health risks because it does not protect against noncancer health risks, citing studies showing adverse noncancer health effects in rats from Cr-6.[51] In support of their position, the various environmental groups cited a 2008 National Toxicology Program ("NTP") study that allegedly showed liver inflammation was significantly higher in a group of female rats receiving the lowest dose (14.3 mg/L) of Cr-6 in water when compared to the control group.[52] The letter concludes, "[I]t is probable that adverse effects would also occur at lower doses, and the researchers could not establish a No Observed Adverse Effect Level ("NOAEL") for this endpoint." [53] Other commenters criticized the CDPH for placing too much emphasis on costs of compliance and under-emphasizing impacts to affected communities.[54]

Next Steps and Implications

Now that the comment period on the draft MCL has closed, the CDPH may make changes to the MCL based on received comments and will publish a final MCL.[55] As explained above, the Superior Court has directed that the CDPH submit the final MCL for review and publication by one of two alternative dates: by April 15, 2014, if the department does not determine that any of the public comments on its proposed standard requires it to modify the standard in a way necessitating a new 15-day public comment period under the Administrative Procedures Act; or by June 15, 2014, if the department determines that it will modify the standard in such a way.[56] The OAL must then review and approve or

reject the standard within 30 days.[57] Thus, a final enforceable rule is expected as soon as May 15, 2014, but no later than July 15, 2014.

A final Cr-6 MCL will have significant impacts on California consumers, both residential and corporate. Water purveyors have indicated that they will incur steep costs in order to reduce Cr-6 in drinking water systems, and those costs will be passed on to all customers of those water purveyors, whether or not they require drinking water.[58] Also, funding for improvements to meet this nondiscretionary standard will likely divert funds from other water projects that are important to Californians (for example, nitrate and arsenic reduction projects). While the CDPH estimated that the annual fiscal impact of the proposed regulation will be \$16.5 million on local government, \$1.8 million on state agencies and \$1 million on privately owned water systems,[59] water purveyors have questioned CDPH's numbers and estimate that costs could reach as high as \$500 million.[60]

Further, entities involved in environmental cleanups in California may need to take the new Cr-6 MCL into account when developing and implementing remedial actions, although it is also possible at specific sites that the new Cr-6 MCL will not alter compliance with applicable or relevant and appropriate requirements, or remedial action objectives/levels.[61]

The MCL could also have significant impacts on the regulation of Cr-6 outside of California. The EPA has been working with the New Jersey Department of Environmental Protection and the California Environmental Protection Agency to develop a draft integrated risk information system ("IRIS") assessment for Cr-6.[62] Similar to California's requirement that OEHHA develop a PHG before the CDPH constructs a MCL, the EPA also requires that an IRIS assessment be developed before it establishes a federal MCL for Cr-6.[63]

Over the course of an IRIS assessment, the EPA reviews and analyzes scientific studies to determine if contaminant level standards should be addressed at a federal level. For chromium this includes determining if it is necessary to add a Cr-6 specific standard.[64] Currently, the EPA continues to review evidence and has not scheduled a date when it will release the official IRIS assessment.[65] The passage of California's MCL could jump start action at the federal level.

Conclusions

Cr-6 remains an important issue in California and the draft MCL has generated significant interest throughout the state as well as nationally. Depending on where the final MCL is set, there could be significant financial impacts. Technology to reduce Cr-6 in drinking water sources currently exists, but treatment systems are expensive and not widely available.[66]

Depending on where the final MCL is set, water municipalities may be required to outfit their facilities with new and costly filtration systems, which would raise the overall cost of water prices for domestic and corporate consumers.[67] Finally, the final California MCL will set the framework for regulation of Cr-6 throughout the country, making this one of the most important water quality rulemakings in some time. The coming months promise to be an exciting time as new developments unfold in this emerging area of water policy.

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[1] NRDC v. California Department of Public Health, Cal. Super. Ct. No. RG12643520 , Dec. 17, 2013 Order at 2-3 (judgment entered February 3, 2014).

[2] Cal. Gov. Code § 11349.3(a).

[3] SB 351 (codified at Cal. Health & Safety Code § 116365.5).

[4] NRDC v. California Department of Public Health, Cal. Super. Ct. No. RG12643520 , Jul. 26, 2013 Order.

[5] OEHHA, Adoption of 27 Public Health Goals for Chemicals in Drinking Water (1997-1998), available at <http://oehha.ca.gov/water/phg/adopted.html>.

[6] Id., CAL. HEALTH & SAFETY CODE at § 116365(b)(3)(c), supra n. 6.

[7] OEHHA, Adoption of 27 Public Health Goals for Chemicals in Drinking Water (1997-1998), supra n.18.

[8] CAL. HEALTH & SAFETY CODE at § 116365(a), supra n. 6.

[9] OEHHA, CAL. ENV'T PROT. AGENCY, Public Health Goal for Chromium in Drinking Water (Feb. 1999), available at http://oehha.ca.gov/water/phg/pdf/chrom_f.pdf.

[10] CAL. DEP'T PUB. HEALTH, Chromium-6: Timeline for Drinking Water Regulations (Jan. 9, 2013), available at <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Chromium6timeline.aspx> (at this time, the CDPH was known as the California Department of Health Services).

[11] Id.

[12] Senate Bill No. 2127, Schiff, ch. 868 (Sept. 29, 2000), available at <http://legix.info/us-ca/measures;1999-00;sb2127>.

[13] Chromate Toxicity Review Committee, Scientific Review of Toxicological and Human Health Issues Related to the Development of a Public Health Goal for Chromium (VI) (Aug. 31, 2011) at 3, available at http://oehha.ca.gov/public_info/facts/pdf/crpanelrptfinal901.pdf.

[14] Id.

[15] CAL. DEP'T PUB. HEALTH, Chromium-6: Timeline for Drinking Water Regulations, supra n. 23. See also National Toxicology Program, About the NTP, available at <http://ntp.niehs.nih.gov/?objectid=7201637B-BDB7-CEBA-F57E39896A08F1BB> ("The program was created as a cooperative effort to (1) coordinate toxicology testing programs within the federal government, (2) strengthen the science base in toxicology, (3) develop and validate improved testing methods, (4) provide information about potentially toxic chemicals to health, regulatory, and research agencies, scientific and medical communities, and the public." Federal and state regulatory agencies use NTP data when assessing whether and how to regulate contaminants.)

[16] Senate Bill No. 351, Ortiz, (Feb. 20, 2001), available at http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/chromium/sb_351.pdf.

[17] Press Release, Office of Environmental Health Hazard Assessment, OEHHA Withdraws Public Health Goal for Chromium (Nov. 9, 2001), available at http://www.oehha.ca.gov/public_info/press/nochromphg.html.

[18] National Institutes of Health, NTP Technical Report on the Toxicity Studies of Sodium Dichromate Dihydrate (CAS No. 7789-12-0) (Jan. 2007), available at http://ntp.niehs.nih.gov/ntp/htdocs/ST_rpts/TOX072.pdf.

[19] California Office of Environmental Health Hazard Assessment, Public Health Goal for Hexavalent Chromium (CR VI) in Drinking Water (July 2011), available at <http://oehha.ca.gov/water/phg/pdf/Cr6PHG072911.pdf>.

[20] CAL. DEP'T PUB. HEALTH, Comparison of MCLs and PHGs for Regulated Contaminants in Drinking Water, available at <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx>.

[21] NRDC v. California Department of Public Health, Cal. Super. Ct., Case No. RG12643520, Petition for Writ of Mandate (Filed Aug. 14, 2012).

[22] NRDC v. California Department of Public Health, Cal. Super. Ct., Order No. RG12643520 (Filed July 26, 2013) at *2.

[23] CAL. HEALTH & SAFETY CODE § 116365(a), *supra* n. 5.

[24] *Id.*

[25] *Id.* at §§ 116365(a), (b).

[26] *Id.*

[27] CAL. CODE. REG. tit. 22, §§ 64431, 64432(a)-(d) (proposed).

[28] *Id.* at §§ 64432(b), 64432(b)(1) (proposed).

[29] *Id.* at §64432(b)(2) (proposed).

[30] *Id.* at §64432(p) (proposed).

[31] *Id.* at §64447.2, Table 64447.2-A. (proposed).

[32] *Id.* (proposed).

[33] *Id.* (proposed).

[34] *Id.* at §64465, Appendix 64465-D. (proposed).

[35] *Id.* at §64481(d)(2)(l), Appendix 64481-A. (proposed).

[36] CAL. DEP'T PUB. HEALTH, Notice of Proposed Rulemaking, Subject: Hexavalent Chromium MCL (DPH-11-005), *supra* n. 11, at 10-11.

[37] *Id.*

[38] CAL. DEP'T PUB. HEALTH, Initial Statement of Reasons, Subject: Hexavalent Chromium MCL (DPH-

11-005) at 18.

[39] *Id.* at 19.

[40] CAL. DEP'T PUB. HEALTH, Notice of Proposed Rulemaking, Subject: Hexavalent Chromium MCL (DPH-11-005), *supra* n. 11, at 10-11.

[41] NRDC v. California Department of Public Health, Cal. Super. Ct., Case No. RG12643520, Order Directing Issuance of Writ of Mandate (Filed Dec. 17, 2013) at 21.

[42] *Id.* at 21-22.

[43] See e.g. Comment of Association of California Water Agencies (Oct. 10, 2013), available at http://www.acwa.com/sites/default/files/page/2013/10/acwa-comment-letter-crvi-mcl-dph-11-005_0.pdf.

[44] See e.g. Comment of East Bay Municipal Utilities District (Oct. 9, 2013); Comment of Coachella Valley Water District (Oct. 10, 2013); Comment of City of Riverside, CA (Oct. 11, 2013); Comment of City of Vacaville, CA (Oct. 8, 2013); Comment of City of Winters, CA (Oct. 10, 2013); Comment of City of Woodland, CA (Oct. 10, 2013).

[45] Comment of Alameda County Flood Control and Water Conservation District, Zone 7 (Oct. 8, 2013).

[46] See e.g. Comment of Asm. Dan Logue (Oct. 9, 2013).

[47] See e.g. Comment of California Association of Mutual Water Companies (Oct. 11, 2013).

[48] See e.g. Comment of San Francisco Public Utilities Commission (Oct. 7, 2013).

[49] See e.g. Comment of American Chemistry Council and California Manufacturers and Technology Association (Oct. 10, 2013), Comment of The Policy Group on behalf of the National Association for Surface Finishing (Oct. 11, 2013).

[50] See e.g. Comment of Desert Water Agency, Palm Springs, CA (Oct. 3, 2013); Comment of City of Glendale, CA (Oct. 3, 2013); Comment of City of Glendora, CA (Oct. 7, 2013); Comment of City of La Verne, CA (Oct. 7, 2013); Comment of City of Monrovia, CA (Oct. 11, 2013); Comment of Brownstein Hyatt Farber Schreck LLP on behalf of the Cities of Oxnard, CA and Fresno, CA and several water companies (Oct. 11, 2013); Comment of Valencia Heights Water Company (Oct. 9, 2013).

[51] Comment of NRDC, Clean Water Action, Center for Public Environmental Oversight, Environmental Working Group, and Integrated Resource Management (Oct. 11, 2013).

[52] *Id.*

[53] *Id.*

[54] See e.g. Comment of California Rural Legal Assistance (Oct. 10, 2013).

[55] CAL. DEP'T PUB. HEALTH, Drinking Water Regulations- Process, *supra* n. 64.

[56] NRDC v. California Department of Public Health, Cal. Super. Ct. No. RG12643520, Dec. 17, 2013 Order at 2-3.

[57] Cal. Gov. Code § 11349.3(a).

[58] See e.g. Comment of Association of California Water Agencies (Oct. 10, 2013), available at http://www.acwa.com/sites/default/files/page/2013/10/acwa-comment-letter-crvi-mcl-dph-11-005_0.pdf.

[59] CAL. DEP'T PUB. HEALTH, Notice of Proposed Rulemaking, Subject: Hexavalent Chromium MCL (DPH-11-005), supra n. 38 at 10-11.

[60] Comment of Coachella Valley Water District (Oct. 10, 2013).

[61] Comprehensive Environmental Response, Compensation, and Liability, 42 U.S.C. §9621(d)(2)(A)(ii) (1980), available at <http://uscode.house.gov/download/pls/42C103.txt>.

[62] EPA Office of Water, EPA 815-F-10-005: Chromium-6 in Drinking Water (Dec. 2013), available at <http://water.epa.gov/drink/contaminants/basicinformation/upload/Chromium6inDrinkingWater.pdf>

[63] ENV'T PROT. AGENCY, Regulating Public Water Systems and Contaminants Under the Safe Drinking Water Act, available at <http://water.epa.gov/lawsregs/rulesregs/regulatingcontaminants/basicinformation.cfm>.

[64] ENV'T PROT. AGENCY, Chromium in Drinking Water, supra n. 5; Integrated Risk Information System (IRIS), ENV'T PROT. AGENCY IRIS Toxicological Review of Hexavalent Chromium (2010 External Review Draft), available at http://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=221433.

[65] Id.

[66] ENV'T PROT. AGENCY, EPA's recommendations for enhanced monitoring for Hexavalent Chromium (Chromium-6) in Drinking Water, available at <http://water.epa.gov/drink/info/chromium/guidance.cfm>.

[67] Malcom Pirnie, Inc., The Treatment of Hexavalent Chromium in the City of Glendale Groundwater Supply: Phase III Demonstration-Scale Treatment Technologies, City of Glendale Water and Power (2008), available at http://www.glendalewaterandpower.com/pdf/chromium6reportappendices/E1_PhaseIIIBridgeStudy-SandTReport.pdf.