



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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JUL 16 2013

Peter Butler, Chair
Water Quality Control Commission
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Re: EPA Action on Revisions to Regulation 31

Dear Mr. Butler:

The U.S. Environmental Protection Agency (EPA) Region 8 has completed its review of water quality standards revisions adopted by Colorado's Water Quality Control Commission (Commission). The revisions modified the basic standards for organic chemicals in the *Basic Standards and Methodologies for Surface Waters* (Regulation #31, Section 31.11). The revisions were adopted on September 11, 2012 and submitted to the EPA Region 8 for approval with a letter dated September 27, 2012. The submission letter included an Opinion of the Attorney General certifying that the standards were duly adopted pursuant to State law. Receipt of the revised standards on October 3, 2012 initiated the EPA's review pursuant to Clean Water Act § 303(c). The EPA has completed its review of the revisions, and this letter is to notify you of our action.

CLEAN WATER ACT REVIEW REQUIREMENTS

The CWA § 303(c)(2) requires States and authorized Indian Tribes to submit new and revised water quality standards to the EPA for review. The EPA is required to review and approve or disapprove the revised standards pursuant to CWA § 303(c)(3). The Region's goal has been, and will continue to be, to work closely and collaboratively with States and authorized Tribes throughout the standards revision process so that submitted revisions can be approved by the EPA.

TODAY'S ACTION

I am pleased to inform you that today the Region 8 is approving, without condition, the new and revised water quality standards identified above. The adopted revisions, and the basis for our action, are summarized below.

Adopted Revisions

The revisions to Section 31.11 of the *Basic Standards and Methodologies for Surface Waters* include new and revised numeric basic standards for organic chemicals. Revisions were adopted for the following organic chemicals:

- Acetone. A new water supply standard (6300 µg/L) was adopted based on the reference dose (0.9 mg/kg-day) in EPA's Integrated Risk Information System (IRIS).
- Acrylamide. For this mutagenic carcinogen, a revised water supply standard (0.022 µg/L) was adopted using the IRIS slope factor and age-dependent adjustment factors.¹
- Bromobenzene. A new water supply standard (56 µg/L) was adopted based on the reference dose (0.008 mg/kg-day) in IRIS.
- Carbon tetrachloride. Revised water supply (0.5 to 5 µg/L), water + fish (0.43 µg/L) and fish ingestion (3.0 µg/L) standards were adopted based on the IRIS slope factor (0.07 kg-day/mg).
- Chlordecone. A new water supply standard (0.0035 µg/L) was adopted based on the IRIS slope factor (10 kg-day/mg).
- 1,2-Dibromoethane. A new water supply standard (0.018 µg/L) was adopted based on the IRIS slope factor (2 kg-day/mg).
- 1,2-cis Dichloroethylene. A revised water supply standard (14 to 70 µg/L) was adopted based on the reference dose (0.002 mg/kg-day) in IRIS.
- Dichloromethane (methylene chloride). For this mutagenic carcinogen, a revised water supply standard (5 µg/L) was adopted based on the Safe Drinking Water Act (SDWA) Maximum Contaminant Level (MCL). The MCL is slightly more stringent than the risk based value (5.6 µg/L) calculated using the IRIS slope factor and age-dependent adjustment factors.
- 1,4-Dioxane. A revised water supply standard (0.35 µg/L) was adopted based on the IRIS slope factor (0.1 mg/kg-day).
- Ethylene glycol monobutyl ether (EGBE or 2-Butoxyethanol). A new water supply standard (700 µg/L) was adopted based on the reference dose (0.1 mg/kg-day) in IRIS.
- Flourene. The water + fish standard was changed to 280 µg/L to equal the water supply standard (also 280 µg/L). Both values are based on the reference dose (0.04 mg/kg-day) in IRIS. Both values are more stringent than the water & organisms CWA § 304(a) criterion recommended by EPA (1,100 µg/L) because a relative source contribution factor (0.2) was included in the calculation.

¹ Discussed in the WQCD pre-hearing statement (Exhibit 5).

- Hexachloroethane. Revised water supply (0.88 µg/L), water + fish (0.5 µg/L) and fish ingestion (1.2 µg/L) standards were adopted based on the IRIS slope factor (0.04 kg-day/mg).
- 2-Hexanone. A new water supply standard (35 µg/L) was adopted based on the reference dose (0.005 mg/kg-day) in IRIS.
- Nitrobenzene. Revised water supply (14 µg/L), water + fish (14 µg/L) and fish ingestion (2,800 µg/L) standards were adopted based on the reference dose (0.002 mg/kg-day) in IRIS.
- Pentachlorophenol. Revised water supply (0.088 to 1.0 µg/L), water + fish (0.080 µg/L) and fish ingestion (0.91 µg/L) standards were adopted based on the IRIS slope factor (0.4 kg-day/mg).
- Perchlorate. A new water supply standard (4.9 µg/L) was adopted based on the reference dose (0.0007 mg/kg-day) in IRIS.
- Tetrachloroethylene (PCE). A revised water + fish standard (5 µg/L) was adopted based on the SDWA MCL. The MCL is more stringent than the risk based value (13 µg/L) calculated using the IRIS slope factor (0.0021 kg-day/mg). A revised fish ingestion standard (62 µg/L) was adopted based on the IRIS slope factor.
- Trichloroacetic acid. A new water supply standard (0.52 µg/L) was adopted based on the IRIS slope factor (0.067 kg-day/mg).
- 1,2,3-Trichloropropane. For this mutagenic carcinogen, a revised water supply standard (3.7×10^{-4} µg/L) was adopted using the IRIS slope factor and age-dependent adjustment factors.

Basis for EPA's Action

The EPA's water quality standards regulation requires that States adopt water quality criteria that protect designated uses, based on sound scientific rationale (40 CFR § 131.11(a)(1)). Generally, the new and revised basic standards for organic chemicals incorporated into Section 31.11 of the *Standards and Methodologies for Surface Waters* are based on a defensible method (WQCC Policy 96-2) and the current risk assessment information in IRIS.

For the mutagenic carcinogens (acrylamide, 1,2,3-trichloropropane), the decision to use age-dependent adjustment factors resulted in more stringent basic standards (i.e., compared to values calculated without age-dependent adjustment factors).

For dichloromethane (methylene chloride) and tetrachloroethylene (PCE), the decision to adopt ambient standards equal to the SDWA MCL resulted in more stringent basic standards (i.e., compared to values calculated using the IRIS cancer slope factor).

Several of the revised water supply standards (carbon tetrachloride, 1,2-cis dichloroethylene, pentachlorophenol) are now expressed as a range of concentrations. This “hybrid approach” has been used previously by the Commission, with the EPA’s approval (e.g., see the EPA’s February 23, 2005 action letter). The low end of the concentration range (revised as a result of this rulemaking) is a strictly health-based value, and the high end of the concentration range (not modified as a result of this rulemaking) is equal to the SDWA MCL. A footnote explains that effluent limits in discharge permits are to be set using the first value, provided that no effluent limit shall require an end-of-pipe effluent concentration more restrictive than the second value in the range. It is further explained that waters will be considered in attainment of the standard, and not included on the Section 303(d) list, so long as the existing ambient quality does not exceed the second number in the range. Although the Region has recommended, and will continue to recommend, water supply basic standards based purely on health risk, the Region has determined that the Commission’s decision was reasonable and within the range of options that the EPA has recognized for the protection of water supplies. Specifically, the EPA has long recognized that MCLs may be adopted as ambient water quality criteria in order to protect water supply designated uses. For example, the EPA’s Water Quality Standards Handbook states that, when setting ambient water quality criteria for the protection of ambient waters used as water supplies, “States have the option of applying MCLs...” (see the *Water Quality Standards Handbook, Second Edition*, Chapter 3, Section 3.2.4). The revised standards for carbon tetrachloride, 1,2-cis dichloroethylene, and pentachlorophenol will apply only to water supply segments where fish consumption is not an exposure route of concern. Because the revised standards are more stringent than using only the MCL, the Region believes the revisions are consistent with the range of options available to States for setting numeric standards to protect water supply uses.

Based on review of the evidence submitted to the Commission, the EPA concludes that the new and revised numeric standards for organic chemicals are protective of designated uses, and consistent with the requirements in the EPA’s water quality standards regulation (40 CFR § 131.11(a)(1)). Accordingly, the revisions are approved.

ESA Consultation

It is important to note that the EPA’s approval of State standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA). For ESA Section 7(a)(2) to apply, the EPA must be taking an action in which it has sufficient discretionary federal involvement or control to protect listed species. Human health water quality criteria are designed to protect humans, not plants and animals. The EPA’s discretion to act on Colorado’s submission is limited to determining whether the criteria ensure the protection of the designated uses upon which the criteria are based (i.e., use by humans). Therefore, today’s EPA approval is not subject to ESA Section 7(a)(2) consultation requirements.

CONCLUSION

The new and revised basic standards for organic chemicals are approved. The EPA Region 8 thanks the Commission and the Division for their efforts to review and revise Colorado water quality standards. Questions regarding this letter may be directed to David Moon, the Region's water quality standards coordinator, at 303-312-6833.

Sincerely,



Martin Hestmark

Assistant Regional Administrator

Office of Ecosystems Protection and Remediation



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