

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 33 - CLASSIFICATIONS AND NUMERIC STANDARDS FOR UPPER COLORADO RIVER BASIN AND NORTH PLATTE RIVER (PLANNING REGION 12)

5 CCR 1002-33

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

33.6 TABLES

(2) Abbreviations:

(c) Temporary Modification for Water + Fish Chronic Arsenic Standard

- (i) The temporary modification for chronic arsenic standards applied to segments with an arsenic standard of 0.02 µg/l that has been set to protect the Water+Fish qualifier is listed in the temporary modification and qualifiers column as As(ch)=hybrid.
- (ii) For discharges existing on or before 6/1/2013, the temporary modification is: As(ch)=current condition, expiring on 12/31/~~2021~~2024. Where a permit for an existing discharge is reissued or modified while the temporary modification is in effect, the division will include additional permit Terms and Conditions, which may include requirements for additional monitoring, source identification, and characterization of source control and treatment options for reducing arsenic concentrations in effluent.
- (iii) For new or increased discharges commencing on or after 6/1/2013, the temporary modification is: As(ch)=0.02-3.0 µg/l (Trec), expiring on 12/31/~~2021~~2024.
 - (a) The first number in the range is the health-based water quality standard previously adopted by the Commission for the segment.
 - (b) The second number in the range is a technology based value established by the Commission for the purpose of this temporary modification.
 - (c) Control requirements, such as discharge permit effluent limitations, shall be established using the first number in the range as the ambient water quality target, provided that no effluent limitation shall require an “end-of-pipe” discharge level more restrictive than the second number in the range.

33.63 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 9, 2019 RULEMAKING; FINAL ACTION JANUARY 13, 2019 EFFECTIVE DATE JUNE 30, 2020

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

BASIS AND PURPOSE

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2021 to determine whether the temporary modification should be modified, eliminated, or extended.

For the temporary modifications set to expire after the effective date of this hearing, the commission reviewed progress toward resolving the uncertainty in the underlying standard and/or the extent to which conditions are a result of natural or anthropogenic conditions, and evaluated whether the temporary modifications were still necessary.

A. Temporary Modifications for Standards Other than Arsenic

The commission extended the following temporary modification:

Blue River Segment 14 (COUCBL14): temporary modification of the chronic molybdenum standard (expires 6/30/2023). The commission extended this temporary modification from 6/30/2020 to 6/30/2023 to provide time for information to become available to support development of an updated molybdenum standard to protect the Water Supply use. In addition, Climax Molybdenum Company continues to make progress to investigate molybdenum sources/source control, influent control measures, water management alternatives, available blending, potential treatment and treatment optimization options, and the expected effluent quantity and quality that could be achieved with each alternative.

An extension of the temporary modification is needed due to the delay in the release of the updated version of the Agency of Toxic Substances and Disease Registry's (ATSDR) draft toxicological profile for molybdenum, which will inform development of an updated molybdenum table value standard. It is unknown when the ATSDR toxicological profile will be available, which has resulted in the indefinite continuation of the commission's consideration of a revised molybdenum standard. As a result of this delay, the commission extended the "current condition" temporary modification to June 30, 2023. When the ATSDR toxicological profile becomes available, a hearing to consider a revised molybdenum standard will be scheduled expeditiously.

During the 2018 temporary modifications rulemaking hearing (see 33.61), the commission directed the division to develop a numeric operative value(s) to replace the existing narrative operative value of "current condition" if this temporary modification was extended. The intended purpose of this change was to establish a baseline condition which must be preserved in Blue River Segment 14 and facilitate future evaluations of status quo preservation in the waterbody and effluent. However, due to differences in statistical methods and the form of molybdenum used in standards assessment versus permitting, the commission determined that adoption of a numeric operative value may inadvertently cause permit compliance issues, and therefore retained the narrative "current condition" operative value for this temporary modification. Maintenance of status quo will instead be addressed through enforceable discharge permit limits (WQCD Exhibit L) and evaluation of instream and effluent data, with the baseline instream and effluent condition characterized in this and previous (33.61) statement of basis. [In addition, the division will evaluate loading and may include permit limits or conditions in permitting as](#)

[appropriate \(per 31.9\(4\)\) to address loading concerns to maintain status quo and protect existing uses.](#)

To address the requirement to maintain status quo in effluent, the division has developed implementation guidance to translate narrative “current condition” temporary modifications into numeric limits in discharge permits using past performance data as a baseline. Climax restarted operations and began producing molybdenum concentrate in May 2012. The “current condition” temporary modification was adopted in June 2014, after operations resumed at Climax. For the purposes of molybdenum in Segment 14, the relevant baseline is the water quality condition represented by data collected from May 2012 to June 2014, when the temporary modification was originally adopted. While enforceable numeric effluent limits will be developed by the division using the division’s implementation method (WQCD Exhibit L), to facilitate the commission’s evaluation of effluent status quo maintenance during future reviews of this temporary modification, the 50th and 95th percentiles of effluent molybdenum concentrations (at Outfall 001A) from the May 2012 to June 2014 period of record are 490 µg/L and 1610 µg/L, respectively. Use of the ambient standards assessment methodology to compare the baseline period effluent quality (May 2012 to June 2014) to current effluent quality (July 2014 to July 2019) indicates that the lower confidence limit of the 50th and 95th percentile molybdenum concentrations are currently not higher than the baselines. Based on this information, at this time, the commission finds “status quo” is currently being preserved in effluent.

To address the requirement to maintain status quo instream, the 50th percentile molybdenum concentration of 170 µg/L in Tenmile Creek from the May 2012 to June 2014 period of record will be used as a baseline to compare to data collected after the temporary modification was adopted in June 2014. Comparisons are to be conducted using the ambient standards assessment technique in Appendix B of the 303(d) listing methodology and using water quality data from the two sites on Tenmile Creek near Frisco (Climax site “Frisco 3rd Ave” and Denver Water site “Ten Mile Creek above Dillon”). Use of the ambient standards assessment methodology to compare the baseline period water quality (May 2012 to June 2014) to current water quality (July 2014 to September 2019) indicates that the lower confidence limit of the 50th percentile molybdenum concentration is currently not higher than the baseline. Based on this information, at this time, the commission finds “status quo” is currently being preserved instream.

Climax will continue to study molybdenum source management and treatment to identify options that are technically and economically feasible, and will further its investigations into options to maintain water quality at the best level that is reasonably achievable; this information may be used by the division to develop permit limitations or other permit conditions, per 31.9(4)(c). The commission also expects that Climax will continue to provide written reports detailing its ongoing molybdenum investigations to all stakeholders each year by July 1. Further, the commission encourages Climax to continue sharing information and data with the public and interested parties on a routine and ongoing basis.

B. Temporary Modifications for Arsenic

The temporary modification of the chronic arsenic standard, which applies to numerous segments with a standard of 0.02 µg/l to protect the Water + Fish use, was extended from 12/31/2021 to 12/31/2024. No changes were made to the temporary modification operative values at 33.6(2)(c). For discharges existing on or before 6/1/2013, the temporary modification remains at As(ch)=current condition and numeric effluent limits will be developed by the division using the division's implementation method (WQCD Exhibit L). For new or increased discharges that commence on or after 6/1/2013, the temporary modification remains at 0.02–3.0 µg/L (total recoverable). The extension provides time to resolve the uncertainty in the underlying standard for arsenic to protect human health. Significant uncertainty remains regarding the appropriate standard to protect the use and the extent to which ambient levels of arsenic are the result of natural or irreversible conditions. In addition, there is widespread instream non-attainment of the underlying standard and predicted or demonstrated compliance problems with permit limits based on the underlying standard, as demonstrated in the division’s Prehearing Statement.

It is anticipated that the uncertainty regarding the appropriate underlying standard for arsenic to protect human health will be resolved by June 2024, with the adoption of new statewide arsenic use-based standards. The division presented (WQCD Exhibit E) a detailed plan to resolve the multifaceted uncertainty for arsenic. The plan includes conducting a field study to investigate the proportion of inorganic (versus total) arsenic in the tissue of fish collected from Colorado waters, deriving a bioaccumulation or bioconcentration factor for arsenic, appropriate for use in Colorado, and characterizing ambient levels of arsenic in surface waters and groundwater statewide. As discussed below, the division will also be gathering, through permit requirements, targeted data from facilities benefiting from the arsenic temporary modification (WQCD Exhibit D). These data will help the division to better understand the contribution of arsenic in effluent from permitted facilities to ambient levels of arsenic in Colorado waters and will inform the extent to which ambient levels of arsenic are the result of natural or irreversible conditions.

Effluent arsenic concentration data from facilities throughout the state demonstrate that many facilities will likely have issues meeting effluent limits based on the anticipated revised arsenic water quality standard to protect human health. As a result, there is a widespread need to make progress to understand sources of arsenic and options for source control and treatment. To ensure such progress is made, when implementing the “current condition” temporary modification in permits, the division will include additional permit Terms and Conditions, which may include requirements for additional monitoring, source identification, and characterization of source control and treatment options for reducing arsenic concentrations in effluent (WQCD Exhibit D). Under the duration of the temporary modification, facilities would not be required to implement facility improvements to meet a specified effluent limit; however, facilities may be required to evaluate arsenic source control and treatment options for their facility. For purposes of evaluating options to reduce arsenic concentrations in effluent, the arsenic treatment removal recognized in the 2013 Arsenic Rulemaking (3 µg/L) can be used as a point of reference until the uncertainty in the underlying standard is resolved. Implementation guidance for these requirements was included in WQCD Exhibit D. These requirements are reasonable and would not cause undue economic burden for facilities, but will ensure that progress is being made toward future attainment of the underlying standards and protection of the classified uses. Implementation of these requirements would function to increase the amount of time facilities would have for long-term planning and encourage data collection that would facilitate implementation of the most appropriate source reduction and treatment options and selection of the most appropriate regulatory pathways once the new underlying standard is adopted for arsenic.

C. Implementation of Current Condition Temporary Modifications into Permits

Several parties to the hearing raised concerns regarding the implementation of current condition temporary modifications into permits, as described in WQCD Exhibit L. The commission was persuaded that the division has existing legal authority to proceed with implementation of these temporary modifications in the absence of a rule or policy addressing this specifically. However, the commission believes it would be beneficial to develop a policy, and therefore requested that the division work toward developing a division policy about how the division will proceed with implementing current condition temporary modifications into permits. The commission requested that the division report back to the commission next year, potentially as part of the division’s annual update to the commission regarding the 10-Year Water Quality Roadmap, regarding what the division believes is a reasonable timeline and process for developing such a policy. The commission encouraged the division to continue with its current efforts at transparency and implementation of current condition temporary modifications consistent with the evidence presented in the rulemaking, including Exhibit L, into permits prior to the development of a policy.
